ORGANISATIONAL FACTORS THAT CAN AFFECT EMPLOYEE ACCEPTANCE OF NEW INFORMATION TECHNOLOGY

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TABLE OF CONTENTS

		Page No.
Abstract		i
Declaration		iii
Acknowledgements		iv
Chapter 1:	Organisational Change and Information Technology	1
Chapter 2:	Broad Overview of Organisational Change	13
Chapter 3:	Human Factors Influencing Organisational Change	49
Chapter 4:	Employee Acceptance of Change	59
Chapter 5:	Acceptance of Change Involving New Technology	85
Chapter 6:	Research Methods in Organisational Change	95
Chapter 7:	Study One: Exploratory Case Studies to Determine Key Factors that Contribute to Successful Information Technology Implementations	105
Chapter 8:	Study Two: A Qualitative Study to Determine Factors that Influence Employee Acceptance of Organisational Change as Determined by Employees	171
Chapter 9:	Study Three: A qualitative and Quantitative Pilot Study to Further Explore Factors that Influence Employee's Acceptance of Organisational Change in the Area of New Technology	215
Chapter 10:	Study Four: A Quantitative and Qualitative Study Exploring Organisational Factors Affecting Employee Acceptance of New Information Technology	303
Chapter 11:	Study Five: Expanded Quantitative and Qualitative Study to Assess Organisational Factors that Affect Employee Acceptance of New Information Technology	363
Chapter 12	General Discussion	429
Appendices		
Bibliography		

ABSTRACT

The aim of this thesis was to investigate organisational factors that can affect employee acceptance of organisational change involving new information technology. Five studies were undertaken using organisations that had implemented new information technology systems.

The first study involved an analysis of ten consultant reports to explore organisational factors associated with successful and unsuccessful implementations of new technology. Study Two used a semi-structured interview to further investigate these factors in employees of an organisation that had implemented new technology change. In Study Three a questionnaire based on the results of Studies One and Two was given to employees of an organisation involved in a new technology change implementation. The results, while based on a small sample, suggested that factors such as communication, leadership, organisational culture and work and family relationships affect user acceptance of new technology.

Study Four explored some of the factors identified in Study Three on a larger sample. In addition to supporting the importance of these factors, the results suggested that there were differences between different levels of staff in the way these factors affected their acceptance of technology change programs.

Study Five further explored differences between different levels of staff in the way organisational factors affected their acceptance of a technology change program. The results, which were based on a larger sample of employees from the same organisation but in a different capital city, confirmed the influence of the organisational factors in Study Four and again suggested that there were differences in their effects on different levels of employees in the organisation.

The results of the five studies suggest that organisations can assist employees to better accept new information technology change by paying careful attention to the

organisational factors investigated. For example, the results suggest that communication should describe the rationale and benefits of the change and that it should also be regular and use several different mediums to ensure that it is received. Training should be in the context of employees' work and trainers should be knowledgeable and consistent. Managers need to have had sufficient coaching to facilitate the change and respond to employees in ways that enhance their acceptance and build their confidence. Working relationships need to be monitored and supported since some groups might find themselves in new roles that require new skills and working relationships. The organisational culture also needs to be carefully monitored and steps like those above taken to prevent it from being altered in negative ways that affect employees' acceptance of the change process. Finally, the results suggest that a successful implementation of new technology will require monitoring of the change process at different levels of employees in the organisation.

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CHAPTER 1: ORGANISATIONAL CHANGE AND INFORMATION TECHNOLOGY

Introduction

Since the end of the eighteenth century the process of industrialisation has been associated with technological change. However, many major technological transformations were also determined by a combination of socio-political and economic factors (Hobsbawn, 1969). Boyle, Wheale & Surgess (1984) suggest that there is a complex interplay between the design, development and application of technology and the socio-economic environment under which these changes occur. In turn the socio-economic environment is influenced by political considerations arising at the individual, group, local, national and global level. As Charles Boyle and colleagues note:

> *Technology even more than science is intimately shaped by socio-economic pressure and is permeated by the culture in which it is created and used. By technology we mean the knowledge, skill and equipment used for various purposes, including industrial production: it thus covers both 'software' and 'hardware'.* (Boyle, Wheale & Surgess, 1984, 3-4).

The purpose of this chapter is to briefly outline the history of technology and the relationship between technology and work. In order to do this, a description is provided of the consequences of technological and industrial change for the organisation and control of work. The influence of political and contextual conditions in shaping the consequences of change for the emergence of new forms of work organisation is also discussed.

Changes in industrial production

In examining changes in industrial production, Gill (1985) provides a description of three different functional activities that, he suggests, are central to all production processes. First, raw materials are transformed into products through physical labour or by machinery driven by some form of power. Second, materials are transferred between machines and/or manual workstations. Third, the transformation and transfer of production operations are coordinated and controlled by the use of human labour or through the use of information technologies.

In discussing the evolution of automation in the manufacturing environment, researchers have used the above descriptions to identify three broad phases of mechanisation; Primary mechanisation, Secondary mechanisation and Tertiary mechanisation. (Clutterbuck & Crainer, 1990; Gill 1985; Henriques, 1979; McLoughlin & Clark, 1994).

Primary mechanisation: The transformation of raw materials into products occurs through the use of steam power to drive machinery (Henriques, 1979).

Secondary mechanisation: The transfer of tasks and the running of continuous-flow assembly lines occur through the use of machines that are powered by electricity (Clutterbuck & Crainer, 1990).

Tertiary mechanisation: The control, co-ordination and transformation of materials and job tasks occur through the use of modern communication and information technologies (McLoughlin & Clark, 1994).

Primary mechanisation and the Industrial Revolution

Primary mechanisation started with the mechanisation of the textile industry in the late eighteenth century and formed part of the British Industrial Revolution. With the use of the steam engine, society was transformed from a mainly agricultural society into an industrial economy. The abundance of coal and iron ore provided materials for the construction of bridges, canals and ships and the development of railways. In the early stages of the industrial revolution the new industrial owners achieved great wealth; however, the working families came under much hardship as they often had to work long hours in poor working conditions for low pay. During these times, child labour was also common and many children suffered the consequences of industrial accidents and associated diseases. Many accidents were caused from fatigue and there were many complaints of children being mis-treated (Henriques, 1979). Henriques describes how children were treated during this time:

"There were accidents and industrial diseases. Machines were too close together and children, drowsy from fatigue, caught their hands, or lost their fingers while cleaning moving machinery during meal times. There were many complaints of ill-treatment. Sometimes over-lookers were blamed, while the master was a remote figure, who neither knew nor cared."

(Henriques, 1979, 76-7)

Littler (1982) suggests that in the nineteenth century, workshop relations were dominated by three different types of internal contract. These were:

1. The familial system. This is where skilled spinners (in the cotton industry) would be put in charge of machines and would recruit their own children to do the work.
2. The master craftsman based system. This is where a skilled craftsman would recruit workers and would then be in charge of production, determining hours worked, rates of pay and discipline the workers.
3. Third the gang boss system. This was mainly associated with the docks and coalmines. The 'ganger' would have similar control responsibilities to the master craftsman, although his position was far more perilous and was based on the employer-ganger personal relationship instead of craft and skills as those above.

Typically the internal contractor would take on a certain project at a given price, and would often make a profit on the job (Hobsbawn, 1969). The leading hand or master craftsman would usually be responsible for the pace of work and the behaviour of the employees (Melling, 1981). These leading hands had the power to hire and fire, set wages for their employees and plan the employee's work (Child, 1975).

With the growth of factories, there was a need to introduce middle men in order to use more direct forms of supervision in an attempt to reduce overall costs and improve output and efficiency by disciplining workers and improving their work performance (Melling 1981).

During this time, management used technology to redefine labour's potential to increase output, and supervision was used as a means of realising that potential. By the 1870's the sub-contractor was replaced by directly employed workers (Littler, 1982). In most workplaces these supervisors held an "undisputed" position of power over the other workers. These supervisors did not employ their own labour but rather their main source of income was in the form of wages. Essentially, contractors either became direct employees, semi-supervisors (eg leading hand) answerable to the organisation's supervisors, or they became 'submerged work group leaders' (Littler, 1982).

Although technology was a major component in the transition from an agricultural centred society to an industrial economy, it was one of many significant changes. The organisation of work in factories achieved greater productivity through the introduction of discipline and controlled work regimes. Governmental and trade union intervention also had a great influence on the way the work regimes changed, especially in regard to the introduction of the ten-hour work day and concern over how child workers were being treated (McLoughlin & Clark, 1994).

Secondary mechanisation and the arrival of mass production

Secondary mechanisation arrived in the early part of the twentieth century. The continuous-flow assembly line emerged as companies engaged in the mass production of cheap goods that were previously unavailable or too costly for the average family. During this time, wages increased and markets multiplied with the mass production of standardised affordable goods (Clutterbuck & Crainer, 1990).

In the 1890s, secondary mechanisation started to take hold, finally reaching maturity under the new fixed-speed moving assembly lines of Henry Ford in the twentieth century (Hosbawn, 1969). At this time, there was also a detailed division of labour and short-task cycle times were introduced (Gill, 1985). Mass-production and the breaking down of work tasks were associated with the rise in scientific management (Braverman, 1974). Taylor (1911) was one of the main advocates of this new form of work organisation and supported the application of scientific methods in order to solve

organisational problems. Taylor believed that through the systematic study of work it would be possible to identify the best way of performing a task. As Taylor stated:

> *"Under scientific management absolutely every element in the work of every man in your establishment, sooner or later, becomes the subject of exact, precise, scientific investigation and knowledge to replace the old 'I believe so' and 'I guess so'. Every motion, every small fact becomes the subject of careful, scientific investigation."*
>
> (Taylor reprinted in Pugh 1990, 210).

Taylor envisaged using this information to ensure that employees worked to their full capacity by redesigning organisational structures. Taylor believed that inefficiencies could be reduced and that increased production could be used to benefit both the employer (through increased profits) and employee (through increased wages). While there is considerable debate concerning the extent and uptake of scientific management, Taylorist forms of work organisation can be found throughout the industrialised world (Littler 1982; 1983).

The automobile industry was a leading example of technological advancement under secondary mechanisation. Researchers have explored employees' experience of working under automotive assembly line production (e.g. Walker & Guest, 1952; Touraine, 1955). Blauner (1964) found that job fragmentation and the simplification of tasks due to technological progress could be linked to worker isolation. Blauner (1964) also conducted research into four industries, which represented different levels of technological sophistication (eg printing, cotton-spinning, motor cars and petrochemicals) and found that under traditional craft-style industries, work retained social meaning. In contrast, work under mass production became meaningless and employees felt increasingly isolated, self-estranged and alienated from the work they were doing.

The time of Blauner's study pre-dates the major uptake of computer and information technologies. As such, it was not able to detail the consequence of introducing the more

recent electronics-based communication and information technologies involved in tertiary mechanisation.

Tertiary mechanisation: computer and information technologies

Tertiary mechanisation, which was taken up by industry in the late 1970's following further developments in microelectronic technology, is the third broad phase of control and has been ongoing since the 1950s. The 'computer-on-a-chip' radically transformed the capabilities of computers and has led to an increase in applications that can schedule and coordinate production operations (McLoughlin & Clark, 1994).

The developments in information and communication technologies have brought changes to the nature of work across all industrial sectors. The emergence of new telecommunication infrastructures such as satellites and modern optical fibre cables provides new configurations for worldwide information distribution and processing systems.

Some of the major capabilities of these new communication and information technologies can be summarised as follows:

Information capture: Information capture involves the gathering, collecting, monitoring, detection and measurement of information that occurs through the use of automatic electronic sensors either via human input, or by a combination of manual input and active sensoring (McLoughlin & Clark, 1994).

Information storage: Information storage refers to the ability of systems to store information for retention in an electronic memory from which information can be retrieved at a later date (McLoughlin & Clark, 1994).

Information manipulation: Information manipulation refers to the range of processing tasks that can be carried out automatically to format or analyse numerical, textual and graphical material (McLoughlin & Clark, 1994).

Information distribution: Information distribution refers to the ability to transmit amounts of information across local, national and worldwide networks, where the information can then be displayed, printed and or processed (McLoughlin & Clark, 1994).

McLoughlin & Clark (1994) suggested that computer and information technologies are an important phase in process innovations and due to their widespread application, will be of central importance to organisations. McLoughlin & Clark stated that:

> *For the UK it has been estimated that, by the end of the 1980's, 52,500 systems had been installed at a cost of around 2 billion.....By the year 2,000 the world IT industry is expected to be worth $600 billion, and to overtake oil as the largest industry.*
>
> (McLoughlin & Clark, 1994, 25-7)

However, since the year 2001 the worldwide ICT spent $2.4 Trillion (Executive Summary, Digital Planet 2002: The Global Information Economy).

Emerging Uncertainties

Whilst an intense interest developed in regard to information technology, much uncertainty also emerged at this time (Barron & Curnow, 1979; Bjorn-Anderson, 1983; Blackler, 1988; Blumberg & Gerwin, 1984; Davis & Taylor, 1975; Leavitt & Whisler, 1959; Nora & Minc, 1978; Wernecke, 1985; Wynne & Otway, 1982). People were mainly concerned about potential job losses, increased centralisation, job simplification and resistance to new technology. These issues are described in more detail below.

Extensive Job Loss

One prediction in Britain was that between four and five million people would lose their jobs due to the implementation of new technologies before 1990 (Barron & Curnow, 1979). These predictions extended to France, where Nora & Minc (1978) predicted

similar loss of office jobs by the end of the century. As will be discussed shortly, these predictions did not eventuate.

Increased centralisation of organisations

There were also fears that computing technologies within organisations would lead to an increased centralisation of decision-making, leaving the power with senior management. For example, Bjorn-Anderson (1983) suggested that microelectronic technologies had the capacity to implement substantial shifts in power within organisations and this could support the centralisation of decision-making among senior management.

Trends towards job simplification

Researchers reported that there could be a deskilling of shopfloor jobs (Blumberg & Gerwin, 1984). There were also predictions that deskilling would occur for other groups such as female workers (Wernecke, 1985). It was also suggested that office work could be the victim of mechanisation (Burns, 1980) and that managerial work was also open to deskilling with the new technologies (Wynne & Otway, 1982).

Resistance to technologies

It seemed likely that there would be widespread resistance to the introduction of new technology. For example, Barron & Curnow (1979) suggested that democratic societies made it possible for resistant groups to control or stop the rate of technological change. The fear of resistance included managers fearing trade union resistance (MORI, 1979).

Outcomes of these predictions

Not all the predictions about the impact of information technologies were negative. Some researchers at the time were arguing that the effects of new technologies were not predetermined (Davis & Taylor, 1975). However the general public listened to the 'scare' predictions mainly for the following reasons (Blackler, 1988):

Firstly, economic imperatives were seen to be an important factor in determining the direction of developments. As the price of the technologies began to fall, it was believed that outstanding short-term benefits to organisations were possible.

Secondly, there were expectations that computing technologies would be used to increase central control within organisations. These early predictions were supported by Leavitt & Whisler (1959), who predicted that centralised information systems would support senior management within organisations.

Thirdly, the rigid job designs within organisations supported the deskilling hypothesis. These predictions of employees being deskilled were derived from Braverman's (1974) predictions of widespread deskilling of shopfloor workers. Braverman's (1974) model of change will be discussed in detail in the next chapter.

Fourthly, there was a perception that employees had to adapt to new technologies. For example, in the late 1970s the key task for management was understood to be:

> "*How can people be encouraged to adapt to the new technologies?*' rather than '*How can the technologies be adapted to the needs of their users?*"
>
> (Blackler, 1988, 116)

Slogans used by politicians in the UK provide an example of how people were feeling at the time:

> '*Automate or liquidate*'; '*modernise or fossilize*' (Blackler, 1988, 116)

Fortunately, many of the pessimistic predictions have not occurred. For example, Northcott, Fogarty & Trevor (1985) conducted research that found that job losses did not occur on the scale that was predicted, although they suggested that future job losses could occur. Buchanan & Boddy (1983) found differing organisational effects associated with information technologies. For example, technology had been associated with increased centralisation in some cases and decentralisation in others. It was also

found that in regard to job design, deskilling had occurred in some instances while in others, employees increased their skill level (Bjorn-Anderson, 1983).

Research suggests that there are a number of reasons why the pessimistic predictions did not come to fruition. The first reason is the extent of usage of new technology. Northcott, Fogarty & Trevor (1985) found that the job losses due to new technologies were not yet apparent, expected savings were often unrealistic and the numbers of indirect job gains were underestimated. In fact, Daniel (1987) found that jobs in information technology became very popular.

Secondly, because the technologies were unfamiliar to many managers, they used them as little as possible (Buchanan & Boddy, 1983).

Finally, research also indicated that when technology was introduced it was done in a way to cause minimal disruption (Daniel, 1987).

Summary

This chapter has briefly outlined the history of technology, the relationship between technology and work, and how political and social influences have altered the concept of work and technology.

The first changes in industrial production were in the manufacturing environment. Gill (1985) suggests that the changes comprised primary mechanisation, which involved the use of steam power to drive machinery to accomplish the transformation of raw materials into products, secondary mechanisation, which involved the use of machines powered by electricity to accomplish the transfer of tasks to run continuous-flow assembly lines and thirdly, tertiary mechanisation, which involved the use of modern communication and information technologies to control and co-ordinate the transformation and transfer of materials, work pieces and job tasks. Gill (1985) suggests that some of the principle capabilities of these new communication and

information technologies can be summarised as information capture, information storage, information manipulation and information distribution.

During the early 1980's an intense interest developed in information technology but this was accompanied by much uncertainty (Blackler, 1988). Some of the concerns were in regard to extensive job losses (Barron & Curnow 1979; Nora & Minc, 1978), fears that organisations would become centralised (Blumberg & Gerwin 1984), fears of trends towards job simplification and concerns about resistance to the technologies (Barron & Curnow, 1979). However, many of these concerns did not eventuate.

CHAPTER 2: BROAD OVERVIEW OF ORGANISATIONAL CHANGE

Introduction

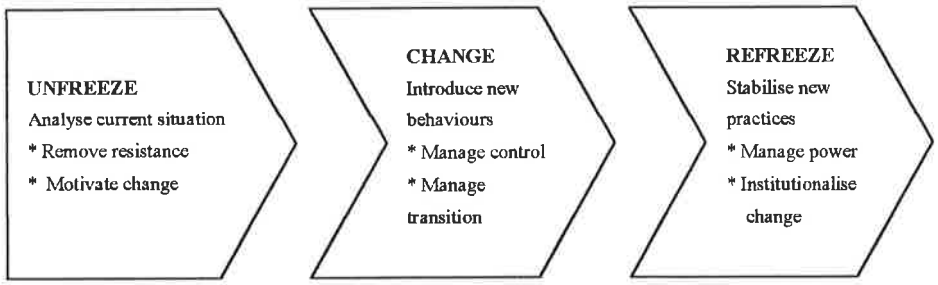
Many organisations are experiencing radical transformative change in response to the need to realign organisational structures, improve organisational cultures, strategies and technology in response to demands from their competitors (Dunphy & Stace, 1990; Gilmore, Shea & Useem, 1997; Terry & Callan, 1997;). Along with the abovementioned changes organisations are continually updating and transforming their technology in order to support new organisational structures (Agarwal & Karahanna, 2000; Dawson, 1996). Many researchers have proposed models of organisational change in an attempt to provide a better understanding of the change process and to assist managers in their facilitation of change (Braverman, 1974; Dawson, 1994; Dunphy & Stace, 1990; Lewin, 1951; Woodward, 1980). The purpose of this chapter is to explore these models starting from early models and moving forward to more recent models of change that have emerged from the business world.

Models of Change

Kurt Lewin's Three Stage Process Model

Kurt Lewin's three-stage process is one of the best known stage models to describe the change process (Lewin, 1951). Lewin, a German-born psychologist, has had a major influence on research within the behavioural sciences and in the development of tools for the management of change. Lewin's theory suggests that change occurs when supporting forces outweigh restraining forces. When this is applied to organisational change, his three stage model of unfreezing, change and refreezing has been used to focus on how organisations can generate supporting forces and eliminate restraining forces in order to successfully implement change. Lewin's (1951) three stages are shown in Diagram 1 and are discussed below:

Diagram 1: A model of Lewin's Field Theory



(Ivancevich, Olekalns & Matteson, 1997, 626)

Stage One: Unfreezing

The first stage of Lewin's Field Theory is the "Unfreezing" stage. In this stage, the organisation needs to generate the motivation to change in an attempt to overcome resistance. One way of achieving this is to demonstrate that the current business processes are inefficient. This may be done through feedback provided by individuals or statistical data related to organisational performance; for example, low productivity, high staff turnover or high absenteeism. These types of data can provide the organisation with evidence that change is required. Lewin (1951) suggested that it is important at this stage that employees understand the reason for change. The aim of this first stage is to generate dissatisfaction with the current state and then to increase the forces supporting change (Lewin, 1951).

Stage Two: Changing

The second stage of Lewin's Theory is the "Changing" stage. Lewin suggests that if the unfreezing stage has been successful, the employees and management within the organisation should be ready for change. It is in the "Changing" stage that the change is actually implemented. During this stage the employees may have to learn new skills and/or acquire new values, attitudes and behaviours. The implementation stage is often the most difficult and needs to be managed carefully. Lewin also suggests that during this stage, restraining forces are building and efficiency may be declining as

new skills are being developed. Employees can also experience high levels of stress during this stage of the change process and this also needs to be managed carefully (Lewin, 1951).

Stage Three: Refreezing

The third stage is the "Refreezing" stage. The purpose of this stage is to integrate the new skills, behaviours and attitudes into the organisation. The change process is often still vulnerable at this stage and Lewin suggests that the organisation needs to address two specific issues. Firstly, the organisation must reinforce the new behaviours either by incentives or rewards, or both. Secondly, the organisation must monitor the situation for new problems related to the change. The organisation must realise that not all new systems and work processes will work perfectly and it must have in place feedback mechanisms for identifying and reporting problems (Lewin, 1951).

Lewin's Field Theory provides a framework in which to consider the change process and to address the issue of resistance. The issue of resistance will be discussed in detail in the next chapter.

Criticisms of Lewin's Theory

One of the main criticisms of Lewin's Field Theory is that there has been no empirical evidence for it (Allan 1995; McLoughlin & Clark 1994). For example, researchers have argued that organisations are never frozen, much less refrozen as they are changing entities (Kanter, Stein & Jick, 1992). Another criticism is that linear models such as Lewin's often do not correlate with the actual unfolding of organisational change within organisations (Buchanan & Boddy, 1992).

Braverman's Labour Process Model: Capitalism, technology and management control

In Harry Braverman's model, technological change is examined in relation to the labour process and the worker rather than in terms of an engineering approach toward the technical artefact (Braverman, 1974). Braverman notes:

"One is focused at the outset to choose between two essentially different modes of thought. The first is the engineering approach, which views technology primarily in its internal connections and tends to define the machine in relation to itself, as a technical fact. The other is the social approach that views technology in its connection with humanity and defines the machine in relation to human labour, and as a social artefact" (Braverman 1974, 184).

Braverman focuses on the class conflict that is commonly found in modern capitalist societies. Following Karl Marx, Braverman viewed capitalism as a mode of production based on two social classes; namely 'capital' and 'labour' where capital seeks to continuously increase the productivity of labour (Braverman, 1974).

In Braverman's view, Management's strategies of labour control are developed for the purpose of transforming labour power (a worker's capacity to work) into labour (work). The purpose is to create a system where workers produce commodities that provide management with a profit. The process by which employees create value that exceeds the payment of labour is known as "valorisation" (eg value surplus) that makes the process capitalist (Thompson, 1983).

Braverman (1974) suggests that one of the major advantages the industrial assembly line offers management is the control it has over the pace and design of work. Braverman (1974) argues that what is important is not the technology, but the way it is applied by management (to facilitate the separation of control from execution) in their search for 'economic efficiency'. Furthermore, he argues that management's use of modern machinery attempts to use the skills traditionally acquired and owned by employees, thereby degrading work and incorporating skilled knowledge into a new form of capital which he describes as dead labour (Braverman, 1974). As such, he claims that it is not technology that determines outcomes, but the way in which it is used under capitalism (Braverman, 1974). In other words, while Braverman acknowledges that technology could be used in a manner that does not degrade work, he suggests that under the capitalist mode of production the tendency is to

'dehumanise labour' in an attempt to increase productivity (Braverman, 1974). Braverman notes:

> *"In reality, machinery embraces a host of possibilities, many of which are systematically thwarted, rather than developed by capital. An automatic system of machinery opens up the possibility of the true control over a highly productive factory by a relatively small corps of workers, providing these workers attain the level of mastery over the machinery offered by engineering knowledge, and providing they then share out among themselves the routines of the operation, from the more technically advanced to the most routine"* (Braverman, 1974, 230)

Thus, while Braverman recognises that technology could be used in a manner that did not degrade work, under the capitalist mode of production the tendency is to create 'dehumanised prisons of labour' in the competitive pursuit of increased productivity (Braverman, 1974).

Criticisms of Braverman's Model

Thompson (1983) and Wood (1983, 1989) suggest that one of the main weaknesses in Braverman's theory is his emphasis on "Taylorism" as the vehicle for degrading work and increasing management control over labour. For example, Littler (1982) reports that the uptake of Taylorism was varied and that in Europe and Australia only a modified version of Taylor's scientific management was introduced. In respect to Braverman's concept of deskilling, Friedman (1977) suggests that employers may control labour in other ways other than deskilling. Braverman has also been criticised for assuming that management is a homogenous group, when in reality management groups often find themselves in conflict with other members within their team and other management teams (Burawoy, 1979). In addition, Rose (1988) questions Braverman's neglect of the issue of employee resistance. McLoughlin & Clark (1994) summarise the issues associated with Braverman's theory as follows:

"It appears that, stimulating and controversial though it has been, labour process theory, and in particular Braverman's rather mechanistic deskilling thesis, has failed to provide an adequate alternative framework for analysing technological change at work in the late twentieth century". (McLoughlin & Clark, 1994, 48).

Contingency Theory: technology as a determinant of work and organisation structure.

Woodward (1980) carried out a study of technology at work with one hundred production firms in Essex, England. Woodward carried out these studies over a ten-year period during 1953 to 1963, and focussed on technology as the most significant contingency determining organisational structure. Her study concluded that during each stage of the development of technology a particular form of organisational structure is required to ensure that the organisation succeeds. Woodward summarises this as follows:

"the main conclusion reached through this research project was that the existence of the link between technology and social structure first postulated by Thorstein Veblen (1904) can be demonstrated empirically... ...Technology, although not the only variable affecting organisation, was one that could be isolated for study without too much difficulty....Among the organisational characteristics showing a direct relationship with technical advance were: the length of the line of command; the span of control of the chief executive; the percentage of total turnover allocated to the payment of wages and salaries, and the ratios of managers to total personnel, of clerical and administrative staff to manual workers, of direct to indirect labour, and of graduate to non-graduate supervision in production departments"

(Woodward, 1980, 50)

Through her research, Woodward (1980) identified eleven different types of production systems (technology) used by organisations. She grouped these into three main categories:

1. Unit and small batch production systems

2. Large batch and mass production systems

3. Automated continuous-process production systems.

Woodward (1980) found that commercially successful organisations using these production systems adopted a particular type of organisational structure. Woodward suggested that the more technically advanced firms were more likely to exhibit more harmonious and collaborative systems of employee relations, and that these relations were likely to characterise automatic factories of the future (Woodward, 1980).

Woodward's view of automation is summed up by her claim that:

> *'as far as internal relationships are concerned, both at inter-managerial and at management – worker level, automation is likely to resolve more problems than it creates'* (Woodward, 1980, 233)

When Woodward analysed technology she used Robert Dubin's (1959) distinction between first, the tool level, (for example the tools, instruments and machines of manufacture); and second, the control level (for example, the body of ideas that provides the rationale for the work methods employed and supports the managerial function) (Woodward, 1980). Woodward further developed her work through the construction of a fourfold typology of management control systems. The first is the degree to which management control systems are integrated or fragmented; for example the degree to which control is centralised or spread out across the organisation. Second, the extent to which management control systems are human (personal) or machine-based (mechanical); for example, do management exert control over employees through supervision or is it built into the production itself.

The results of Woodward's (1980) research indicated that there was a strong statistical correlation between the type of production system, type of management control system and commercial success. For example, she concluded that the organisations that adapted their management control system to suit their production system were the most successful. As such, small batch production systems were best suited to using an integrated personal control system; for example, a small business that produces single products where a sole owner controls all aspects of the business. Woodward (1980) also found that mass production systems were best suited to fragmented control systems of a personal or mechanical type; for example, a large organisation where management responsibilities are distributed across departments and where employees are controlled by direct supervision or machines. Finally, process production systems were best suited to integrated mechanical control systems; for example, organisations such as oil refineries where management functions are highly centralised and employees are controlled by the machinery.

Woodward's overall conclusion was that there is a particular form of organisation structure and management control system most appropriate to each technical situation (Woodward, 1980).

Criticisms of Woodward's work

Woodward's work has been criticised, firstly, for the apolitical character of her analysis of organisational change (Dawson, 1996) and secondly, for the primary importance afforded to technology as a determinant of organisational structure (MacKenzie & Wajcman, 1985).

Another criticism of Woodward's work was that she did not acknowledge the importance of social factors and how they may affect technology and organisational structure. In particular, MacKenzie & Wajcman (1985) suggest that Woodward's importance given to technology as a determining variable of organisational form can be criticised for minimising the significance of contextual and social factors. MacKenzie & Wajcman (1985) suggest that although the decision to adopt new technology may be decided by senior management, there are still social considerations to be made on the redesign of job tasks around new forms of work organisation.

Organisational Development as a Model for Change

Organisational Development (OD) also describes a model for change. Organisational Development targets all the areas of the organisation; that is, the interpersonal, social processes, values, beliefs of work groups, the organisational structure and process. The aim of the (OD) model is to create an organisation that is constantly changing and adapting through a systematic process. OD also aims to change the organisation's group and individual processes so the organisation is equipped to identify and solve problems that arise (French, Bell, Zawacki, 1983). OD can be described as:

> *"a long range planned effort to improve an organisation's operations through more effective utilisation of organisational resources"*
>
> (Ivancevich, Olekalns & Matteson, 1997, 636)

Winn (1969) suggests that there are three major sub-objectives of OD. These are; changing attitudes or values, modifying behaviour, and changes in policy and structure (Winn, 1969). However, it is possible for an OD strategy to focus on only one of these sub-objectives if the others are working well.

According to Margulies & Raia, (1978) OD as a model has certain distinguishing characteristics. These are as follows:

Firstly, organisational development is planned and follows a logical sequence. OD is a data based approach to change and involves goal setting, action planning, implementation, monitoring and taking corrective action when necessary. Secondly, OD is problem-oriented. That is, OD attempts to apply theory and research from a range of disciplines including behavioural science, in order to solve an organisation's problems. Thirdly, OD reflects a systems approach to change. OD is both systemic and systematic and attempts to link an organisation's human resources and potential to its technology, structure and management processes (Margulies & Raia, 1978).

OD is also an integral part of the management process and is therefore not something done to the organisation by an outsider but rather achieved by employees within the organisation.

OD is not a 'fix-it' strategy but a continuous ongoing process designed to manage change.

OD does, however, take time to make the change into a way of life within the organisation.

OD can also focus on continuous improvement within the organisation and is often implemented in well functioning organisations.

OD is action oriented and focuses on getting things done.

Finally, OD aims to be based on sound theory and practice and is designed to be evidenced – based (Margulies & Raia, 1978).

The type of management that usually employs OD within their organisation is committed to making fundamental changes to organisational behaviour.

Porras & Robertson (1994) suggest that OD interventions are successful when employees are involved in the process and are given the opportunity to communicate openly, behave collaboratively, respect and support one another and are willing to experiment and maintain a shared vision. Managers can increase the chance of a successful OD program if they share their vision with their employees, generate participation and information exchange and be willing to develop their employees (Porras & Robertson, 1994).

During a change program, OD interventions could target any or all areas of the organisation; that is, organisational arrangements, social factors and/or technology. Within these factors OD would target the individual, group or the organisation as a whole. The focus of OD is to keep these target areas in line with one another. Also, the effective implementation of OD in an organisation requires that management are involved in the process. Managers have numerous change and development methods to select from, depending on what objectives they want to achieve. The most frequent targets for OD interventions are organising arrangements, social factors and technology (Porras & Robertson, 1994). These are summarised below in a table outlining the targets of interventions of OD.

Table 1: Targets and Organisational Development Interventions

	Level				
Target	**Individual**	**Interpersonal**	**Intragroup**	**Intergroup**	**Organisational**
Organising arrangements	Flexible work hours	Role analysis	Quality circles	Contingency approach to design	Open systems planning
Social Factors	T-Groups	Conflict management	Team building	Collaboration	Culture change
Technology	Job design	Role negotiation	Autonomous work groups	Nil	Socio-technical systems design

(Ivancevich, Olekalns & Matteson, 1997, 639).

Criticisms of Organisational Development

One of the main criticisms of the OD movement is that its theory presents a model of gradual change that is evolutionary rather revolutionary, on the assumption that there will be time for effective and careful environmental scanning, and that it will involve the building of an organisational consensus about the need for the direction of change through widespread workforce participation (Dunphy & Stace, 1990). However, many contemporary organisations are faced with having to change very quickly due to takeovers, mergers and closures. These types of changes often involve large-scale downsizing and massive and fast restructuring. The changes in these examples are often driven top-down in a coercive manner (Dunphy & Stace, 1990), rather than in the systematic and collaborative way assumed by the OD model. Nevertheless, the OD model has the potential to prepare organisations for rapid change. One of its goals is to better equip organisations to solve problems, a skill that is needed in any

type of change whether it is systematic or rapid change (Ivancevich, Olekalns & Matteson, 1997).

Contingency Model of Change (Dunphy & Stace, 1990)

As mentioned above, organisations today face a dynamic changing environment and need to continuously adapt to a variety of influences. These influences can come from within the organisation or outside the organisation. In order to survive such changes, organisations need to have the ability to adapt quickly and effectively.

Dunphy & Stace (1990) have made an important contribution to the understanding of managing organisational change by developing a comprehensive model to classify the different approaches to organisational change. Their model combines two dimensions – the scale of change and the leadership style that is needed to manage the change effectively – to form a matrix to indicate the various change approaches that could be adopted in an organisational change program. The model emphasises that the choice of change strategy must be made on the basis of a strategic analysis of the situation rather than on a preference based on personal values.

Dunphy & Stace (1990) identify the following factors as important in the analysis of a situation:

- the extent that current organisational practices fit with environmental conditions;
- the extent that there is resistance to the suggested organisational change; and
- the urgency with which the change must take place (Dunphy & Stace, 1990).

Stace & Dunphy (1996) provide four approaches to change and the style of change leadership required. The four approaches to change are as follows:

Developmental transitions approach to organisational change represents constant change. The constant change is usually required so the organisation can maintain its alignment with the environment or become more competitive. The approach is often evident in the service industries.

Task-focused transitions approach is strongly driven from the top and produces constant and rapid change. The change is often driven by the need for a strong financial bottom-line and managers are given considerable autonomy and are accountable for results. However, Stace & Dunphy (1996) suggest that inadequate or weak leadership, poor team loyalty and job design are potentially problematic in this approach.

Charismatic transformations approach is revolutionary change. The senior manager with a charismatic leadership style leads his/her followers to a new position. The organisation in this situation is usually out of alignment with its environment and because the organisation needs to change rapidly there is often no time for extensive participation in decision-making.

Turnarounds approach is also revolutionary change. However, unlike the above approach, this approach requires a very coercive directional leadership style in order to reshape the organisation. Stace & Dunphy (1996) suggest that a completely new structure or new process of work and management team may also be necessary.

Table 2. provides a diagrammatic summary of the different change situations and the types of leaders needed to drive the changes.

Table 2: Type of Change situation and leadership style needed

Style of Change Management	Fine-tuning	Incremental adjustment	Modular Transfor-mation	Corporate Trans-formation
Collaborative				
Consultative	**Taylorism** (Avoiding change)	**Developmental Transitions** (Constant change)		**Charismatic Transformations** (Inspirational change)
Directive		**Task-focused Transitions** (Constant change)		**Turnarounds** (Framebreaking change)
Coercive				

(Stace & Dunphy, 1996, 97)

Stace & Dunphy (1996) suggest that when implementing these approaches it is important to have appropriate leaders in order to translate the new strategic vision into action. Stace & Dunphy (1996) propose four types of change leaders – coach, captain, charismatic and commanders.

Change leaders need to ensure that the vision of change is communicated effectively and that the change involves feedback cycles between critical divisions of the organisation (Stace & Dunphy, 1996).

Stace & Dunphy's approaches to leadership and change have been used on many Australian companies and have been evaluated in terms of their strengths and weaknesses. The results of these case studies are summarised below.

- *Developmental Transitions*

The organisations that have used this approach include; Macquarie Bank (late 1980s); State Library of NSW (1990-93), Tubemakers of Australia (Corporate 1992), NRMA (1988), Westpac (mid 1980s), Alcan Sheet Metal and Granville (1990).

Developmental transitions are effectively used when markets are growing and product/market innovation is desired by management. The organisational change strategies that are used must create synergy within the organisation and adopt a 'market leader' culture. There is a strong emphasis on individual and team development, corporate culture and developing a strong internal labour market.

The change strategies used in this type of transformation are constant and are seen as a way of life within the organisation. The senior leadership operates on a collegial and consultative basis. Team leadership is sometimes directive to balance the consultative senior leadership. There is an emphasis on changing dominant values or mindsets in order to change the organisation.

The leader's style in this type of transformation would be that of 'coach' and he or she would be highly interactive, responsive to lower level initiatives, and use role modelling.

Some of the change intervention tools that are used in this situation are the development of a vision/mission via consultation with employees. Culture enhancement programs; team building through self-managed work teams, management and team leadership development programs, service quality programs and employee skill development.

The communication strategies used in this situation would involve employees to ensure that trust develops and use of focus groups to process change issues. There would also be an emphasis on face-to-face communication.

The strengths of this approach are; involvement of employees, commitment, sense of ownership, sustained energy and individual initiatives. No vulnerabilities to this approach were documented.

- *Task-focused transitions*

The Australian companies who have used this approach include MLC Life Limited (1990), Advance Bank (1989), Lend Lease (1980), Tubemakers of Australia (Business Units), Australian Gaslight Company (1989-90), Pacific Power (1992).

This approach is used when an organisation's markets, products and/or services are undergoing major change and the organisation wants to explore new product areas. The change strategies need to deliver rapid change in organisational structure, information systems, employee skills and organisational cultural. In this type of change there is a strong emphasis on business unit autonomy, rightsizing, outsourcing, and workforce design.

The goal of change is to encourage employees to comply with an internally consistent progressive redefinition of task performance systems. The change strategies to do this include constant improvement with a focus on structure and system improvement.

The change leader has a 'captain' style of leadership that would deliver strategic direction and a vision that would be planned and systematically delivered. The leader would also use his/her positional power and technical expertise to initiate the change.

The change intervention tools used in this type of change include system redesign, workforce planning/rightsizing, job redesign/business process redesign/re-engineering, productivity measurement and improvement, strategic and process benchmarking, objective setting, strong technical skills training, management and team leadership development, total quality management and continuous improvement (Stace & Dunphy, 1996).

The communication strategies used in this type of change are primarily top-down communication with a built in feedback mechanism via memo and email. The objective of the communication plan would be to get a behavioural commitment to the new vision.

Strengths of this approach include its clear task focus and its clear communication, clear role definition, and its systematic approach to change. However, its vulnerabilities are the lack of focus on the emotional side of change, reduced commitment due to a lack of employee participation and involvement and the possibility of change tapering off to fine-tuning (Stace & Dunphy, 1996).

- *Charismatic transformations*

The companies that have used this approach include State Library of NSW (1988-89), Westpac (early 1980s) and Australian Airlines (mid-1980s).

This style of transformation is used during times of radical change. This could include changes in the business environment or if the organisation has to change quickly to meet future business challenges. In this case, the organisational change strategies must help to create a new vision and organisational mindset in order that employees welcome a new business culture.

The change strategy characteristics used in this situation are rapid, radical redefinition of the business or creation of the new business domain, reshaping of corporate strategies and competitive business strategies, senior leadership that provides an inspiring vision, and generates the respect and support of staff.

The change leader in this situation is charismatic with an interactive and charismatic interpersonal style. The major strategic initiatives would come from the top teams and the vision would be entrepreneurial and opportunistic.

The change intervention tools typically used are; new vision/mission, radical organisational restructuring, rightsizing, voluntary redundancies, new executive

recruits (often from outside), teambuilding programs (eg to ensure that the organisation's teams are performing efficiently), cross-functional task teams, service excellence programs and symbolic communication (eg change of corporate name, logo and uniform).

The communication strategies in this situation would aim to gain commitment to the vision, re-examination and revision of core values and beliefs. It involves the use of multimedia personalised communication channels, top-down communication with built in feedback and two-way communication and finally, the use of strategic task forces and personalised corporate communication.

Cultural renewal also takes place by way of infusing the new core values and the use of intrinsic rewards.

The potential strengths of this approach are strong motivation to rapidly change, high energy for change effort and maintained momentum. However, the vulnerabilities of this approach are the rarity of all major stakeholders supporting the radical change; the lack of suitable leaders with the personal characteristics needed; and the problem of maintaining commitment when the charismatic leader leaves.

- *Turnarounds*

The Australian companies who have used this approach include: Pacific Power (1988-1991), MLC Life Limited (1984-1987), BHP (1984-1988), State Transit (1988-1991), National Australia Bank (1982-1985), CSR Limited (mid 1980s), New Zealand Post and New Zealand Rail (late 1980s).

According to Stace & Dunphy, the Turnarounds approach is used when the business environment changes dramatically and when the organisation is not aligned with its environment. Change strategies need to refocus the organisation by fostering alternative ways of thinking, and focus on new strategies that will redefine the organisation in its business environment.

The goal of the change is to gain employee acceptance to radically redefined behavioural goals, norms and performance standards.

The change strategy characteristics involve the rapid and radical redefinition of the core business, the divestment of non-core business areas, downsizing and retrenchments, and restructuring/abolishing traditional systems. Finally, the chief executive needs to develop a strong top team in order to centralise decision-making.

The type of change leader needed for this transformation is the 'commander' style of leader and the behaviours that are associated with this style are strategic and structural initiatives, radical new vision either imposed on employees or negotiated, use of positional power and sanctions, and reference to, and infusion of, new role models.

The change intervention tools that are typically used in Turnarounds are; strategy and market segmentation analysis, merger/acquisition/divestment of non-core business, restructuring the workforce, reconstruction and development of the top team, cultural and industrial confrontation strategies, radical business process redesign and human resource strategy redesign.

The communication strategy is formal and authoritative and is communicated by the leader. The purpose of the communication is to create a sense of organisational crisis that convinces everyone that change is necessary.

The strengths of this approach are a clear direction and leadership; a redistribution of resources and rapidity of change. However, the vulnerabilities of this approach include the fact that the leader's vision may not always be viable; it can induce opposition from key interest groups; a high risk rather than a strategic approach to change is practiced; and finally, there can be a negative performance result if the change is carried on for too long (Stace & Dunphy, 1996).

Criticisms of Dunphy & Stace's Model of Change

While Dunphy & Stace's (1996) model attempts to tackle some of the problems associated with the need for different kinds of Organisational Development, there are three main criticisms of the model. The first is the model's failure to include the political issues associated with change (Mangham, 1979; Pettigrew, 1973); and the lack of reference to notions of power (Pfeffer, 1981). Dunford (1990) argues that "*managers are portrayed as neutral conduits*" who ignore their own self-interests in making rational decisions that seek to promote organisational survival and effectiveness.

The second criticism is that Dunphy & Stace (1996) disregard the impact that members of an organisation may have when they exert their own influence on the environment. This could be done through activities such as lobbying, holding positions on pertinent committees and social involvement with key people in senior management (Dawson, 1994; Dunford, 1990).

The third criticism is that while Dunphy & Stace (1996) explain broad change strategies, there is no attempt to explain how these strategies are used during different stages of the change process. They also imply that one strategy will be sufficient throughout an entire change process, thus ignoring the complexities that can be involved in long-term, large-scale change (Dunford, 1990).

An alternative approach, which attempts to tackle some of these issues, is described below.

The Processual Approach to Change

The Processual approach to change was first developed by Pettigrew (1985) who has been a major contributor to thinking in this area. Pettigrew (1985) sees the process of change in organisations as an untidy cocktail of quests for power, competing views, rational assessment and manipulation rather than a neat linear model that occurs in consecutive steps (Pettigrew, 1985). Pettigrew (1985) argues that organisational change is:

"in essence a long-term conditioning, educating and influence process designed to establish the dominating legitimacy of a different pattern of relations between strategic context and content... "(Pettigrew, 1985, 454)

Unlike the planned approaches to change, Pettigrew attempts to capture the complex dynamics of change. Thus, Pettigrew's work can be thought of as an attempt to study *changing* as opposed to studying change. This is summarised in the quote below.

"Many social scientists in their attempts to identify and explain change in organisations in terms of micro-events of the day have artificially abstracted change out from the structures and contexts which give that change form, meaning and dynamic. Change and continuity, process and structure are inextricably linked" (Pettigrew, 1985, 1)

In order to study organisational change, Pettigrew (1985) developed a 'processual' and 'contextual" view of researching organisational change. He suggests that it is important to take into account the *context of change*, the *content of change* and the *process of change*. The context of change includes the organisation's "inner" and "outer" contexts. The inner context refers to the structure and political context and the outer includes the social, economical and political contexts. Content of change refers to the particular areas of change that are occurring within the organisation; for example, a new information technology system. The process of change refers to the actions, reactions and interactions from the various people within the organisation while implementing the change (Pettigrew, 1985).

The context and process of change are closely inter-related in Pettigrew's (1985) work. Contextual events and characteristics trigger and legitimate change, and also facilitate and constrain certain aspects of the change implementation process. For example, an organisation that was experiencing radical change would need to be handled differently to an organisation implementing an incremental change. The process of change and the role of the change agent in these two contrasting organisational changes would be quite different.

The role of change agents in Pettigew's (1985) model is partly reactive, in that they respond to the organisation's environment and context and partly proactive in exploiting contextual issues to promote change.

Criticisms of Pettigrew's work

While Pettigrew's work offers a useful framework for the analysis of change, some researchers have suggested that his work has focused solely on the theoretical, conceptual and methodological aspects of change at the expense of practical advice to practitioners of change (Buchanan & Boddy, 1992).

Buchanan & Boddy suggest:

> *'The social and interpersonal dynamics of the processes Pettigrew addresses are not explored in a manner that facilitates the easy identification of practical advice'* (Buchanan & Boddy, 1992, 62).

However, it should be noted that Pettigrew's work was oriented toward the academic community rather than to practitioners of change, thus his work was written in a more theoretical and academic way (Collins, 1998).

Dawson's Processual Approach to Change

As a result of the criticisms associated with Pettigrew's (1985) work, Dawson (1994) built on Pettigrew's processual approach by focussing his work on practical advice as to how to study change within organisations. This is summarised in the quote below:

> *" in developing an alternative framework for analysing change, attention has been given to the potential conflict of designing an approach which is both flexible and yet clearly defined, and also able to deal with the complexity of change whilst remaining uncluttered and of practical use"* (Dawson, 1994, 36)

To do this, Dawson argued that organisational change needed to be broken down into three general timeframes in order to subdivide the complex processes of change into manageable pieces. These are:

1. Conception of the need to change.

2. Process of organisational transition.

3. Operation of new work practices and procedures.

During these three timeframes Dawson (1994) suggests that different activities and decisions will need to be undertaken by a range of employees from management to general staff. He also acknowledges that the three timeframes may come under the influence of external factors.

- *The Need to Change*

This stage consists of the early awareness that the organisation may need to change. This can be in response to external events or internal pressures to change. Many changes occur as a means to meet future competition demands. Dawson suggests that what is important in this phase, is how the idea of organisational change can be influenced by factors such as operational inefficiencies, industrial relations disputes or external factors such as business press and media reports on the success of other organisations (Dawson, 1994).

The Process of Organisational Transition

Dawson's (1994) second timeframe, the process of organisational transition, represents the stage when the actual process of managing change commences. This stage consists of a number of different decisions, tasks and activities for individuals and groups within the organisation and outside the organisation. For example, if there were a decision to introduce new technology into the organisation, there would be decisions about what type of technology is needed, an analysis of potential products, and decisions regarding how much training would be required.

Dawson also points out that it is at this stage that employees have the most influence and can resist the change that has been implemented.

- *Operation of New Practices*

The third timeframe represents a period in which work patterns and processes emerge. Recognising the complex and essentially chaotic nature of organisational change, Dawson (1994) notes that unanticipated events or outcomes may emerge at this stage which might support, undermine or even destroy the plans and attempts of management to implement.

Whilst Dawson's (1994) three timeframes are similar to those of Lewin in so far as they may constitute a beginning, middle and end, he points out that these timeframes should be viewed as analytical categories that only become clearly visible with hindsight (Dawson, 1994).

Similar to Pettigrew's views, Dawson's (1994) processual approach suggests that change in organisations should be studied 'as it happens' so that processes associated with change can reveal themselves over time and in context.

Dawson (1994) views organisational change as a complex dynamic process that does not necessarily fit into a predefined series of linear events as many other models propose (eg Lewin's theory). While the processual approach studies change 'as it happens', it still recognises the importance of the histories of past change initiatives. However, they are analysed in order to improve upon present change initiatives and are acknowledged as being important in understanding the current contextual conditions under which change is taking place (Dawson, 1996).

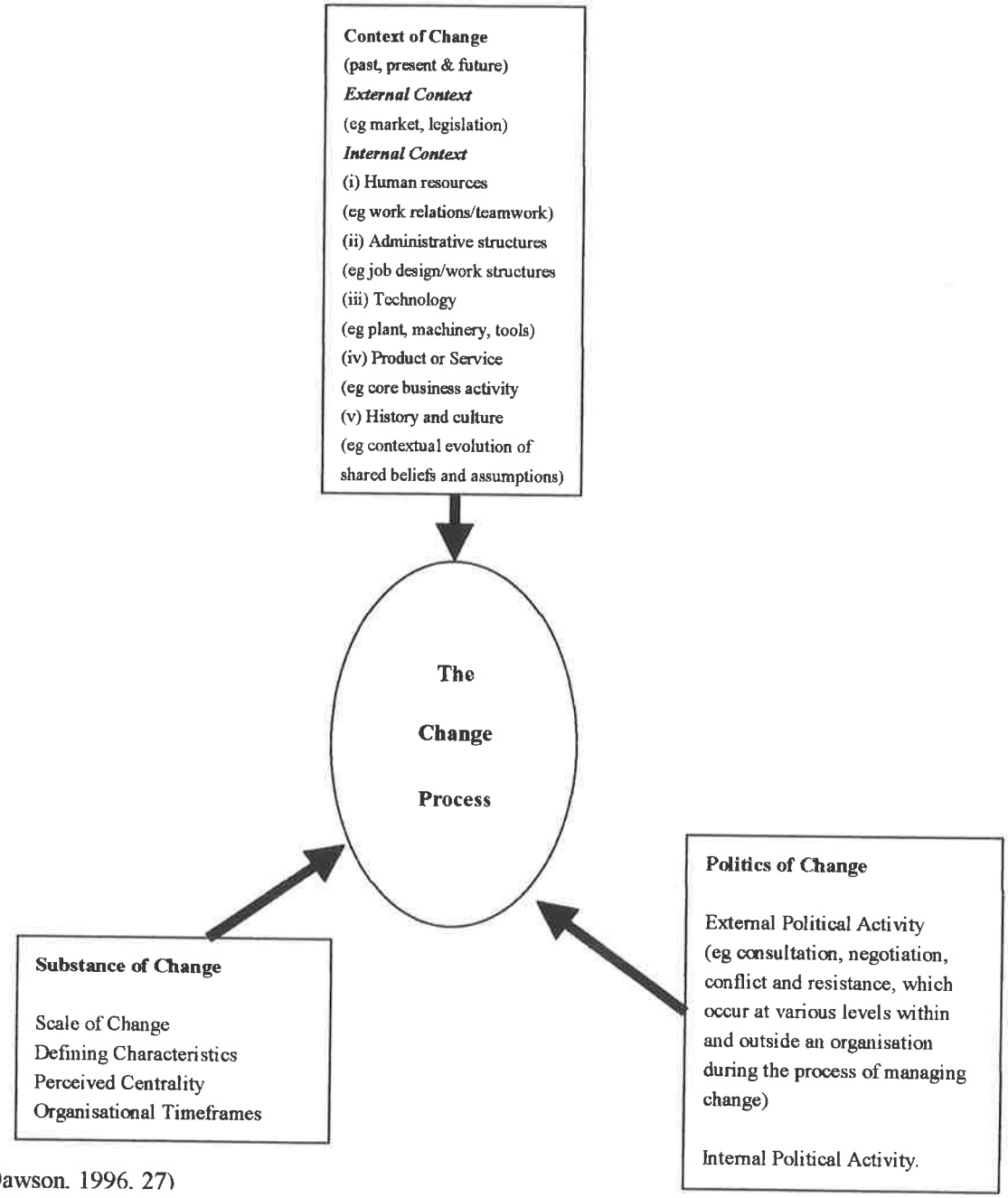
The Processual approach suggests that during a workplace change an organisation may move in and out of a number of states, sometimes concurrently, as the process of change is continuously influenced by the interplay and conflict between historical reconstructions of past changes, current contextual conditions that the organisation needs to cope with, and the future expectations the organisation has in regard to the present change (Dawson, 1996).

When change occurs in an organisation, there are different factors that can potentially shape the speed and direction of the change and influence the long-term outcomes in

the workplace. Under the processual approach, these determinants are the politics, context and substance of change (Dawson, 1996).

These determinants of change are outlined in Diagram 2.

Diagram 2: Determinants of Organisational Change according to the Processual Approach



(Dawson. 1996. 27)

The Politics of Change

Dawson refers to the politics of change as:

> *"the political activity of consultation, negotiation, conflict and resistance which occurs at various levels within and outside an organisation during the process of managing change"* (Dawson, 1994,p42)

The politics of change include several elements such as conflict and resistance, decision-making, processes of negotiation and consultation and how individuals and groups can have an influence on the substance, transition and outcomes of organisational change. It is also concerned with ongoing power-plays and political activities that can occur throughout the organisational change process (Dawson, 1994). The Processual approach assumes that politics is endemic to organisations and central to the process of workplace change.

The Context of Change

The context of change describes the changing internal and external contextual conditions that can influence the organisation. Dawson describes the context of change in the following words:

> *"the context of change is taken to refer to the past and present external and internal operating environments as well as the influence of future projections and expectations on current operating practice".*
> (Dawson, 1994, p42)

It consists of an inter-relationship between both internal and external elements of the organisation Some examples of external elements include; changes in market conditions, the emergence of new technologies and management techniques, changes in competitor strategies and changing social expectations. Examples of internal contextual factors can be subdivided into five main groups, consisting of: 1. human resources; 2. administrative structures, 3. technology, 4. product or service, 5. history and culture (Dawson, 1994).

The Substance of Change

Dawson (1994) refers to the substance of change as the core elements of organisational change initiatives. The four main dimensions are:

1. The scale and scope of the change; for example, a small scale change or a radical large-scale transformation.

2. The defining characteristics of the change program. This refers both to the labels attached to change projects and the content of the organisational change.

3. The importance of the change to the survival of the organisation. For example, if the organisational change is viewed as central to the continued operation of the organisation, then it can have major implications for the time frame of the change, the resources needed and overall employee commitment to the change.

4. The timeframe of change. This can vary so that change programs may be implemented rapidly or evolve in increments over a number of years.

Dawson suggests that the determinants of the substance of change are not static but rather, change over time and overlap with contextual and political elements of the organisation. He found from applying the processual approach to studying organisational change that large-scale organisational change is a non-linear dynamic process and should not be characterised as a rational series of decision-making activities and events.

> *"in practice, organisational transitions cannot be predicted as they unfold over time and comprise management omissions and revisions as well as unforeseen employee responses, technical problems and contingencies"*
>
> (Dawson,1994, p173).

Dawson also provides fifteen practical guidelines that he has drawn from his processual analysis of managing organisational change. These are summarised below.

1. *"Maintain an overview of the dynamic and long-term process of change and appreciate that major change takes time.*

2. *Recognize that the transition process is unlikely to be marked by a line of continual improvement from beginning to end.*

3. *Be aware of, and understand the context in which change takes place*

4. *Ensure that change strategies are culturally sensitive and do not underestimate the strength of existing cultures.*

5. *Consider the value of having a champion of change.*

6. *Affirm that the substance of change is fully understood.*

7. *Train staff in the use of new equipment, techniques or procedures.*

8. *Ensure senior management commitment and support.*

9. *Develop a committed and cohesive local management team.*

10. *Ensure that supervisors are part of major change programmes.*

11. *Gain trade union support.*

12. *Spend time developing good employee relations.*

13. *Clearly communicate the intentions of change to employees*

14. *Provide appropriate funding arrangements*

15. *Take a total organisational approach to managing transitions"*

(Dawson, 1994, p179)

Criticisms of Dawson's Processual Approach

Whilst Dawson (1994) summarises the practical implications and insights of his processual approach for managers, it has been suggested by Collins (1998) that Dawson's recommendations to managers may not extend much beyond the recommendations of other researchers such as Kanter (1989) and Peters (1988) that include recommendations such as; know how to "compete" in a way that enhances rather than undercuts cooperation; operate with the highest ethical standards, have a dose of humility (Kanter, 1989), develop an inspiring vision, manage by example, and delegate and create a sense of urgency (Peters, 1988).

Collins (1998) also suggests that although Dawson refers to the importance of contextual factors, particularly the role that trade unions play in organisational change, he does not communicate how complex these issues are (Collins, 1998).

In summary, the models described above are alternative change models that have emerged over the years. They all in some way endeavour to explain organisational change and the way it unfolds within an organisation. The next section describes a variety of new change models that have emerged out of organisations themselves. These are referred to in the literature as "New Wave Manufacturing and Professional Service Strategies" (Storey, 1994).

New Wave Manufacturing and Professional Service Strategies

One of the most well known examples of radical workplace and industrial change is in the automotive industry. Since the 1950's the industry has exceeded national boundaries and entered into the arena of global competition.

Success in the Japanese industry alerted Western organisations to new methods of work organisation and new organisational change techniques (Storey, 1994). This eventuated due to researchers comparing the wasteful, inefficient and uncompetitive approach of Western car manufacturers with the leaner and more efficient Japanese model (Garrahan & Stewart, 1992). Lean Production System (LPS) is the current term being used to describe the uptake of the Japanese model. LPS is described as being a comprehensive alternative to the mass production system (Storey, 1994) and is

derived from the pioneering innovations of 'Just in Time Management' (Monden, 1983).

'Japanization' is another term that has been used to describe the uptake of Japanese models (Wood, 1991). For example, Wilkinson & Oliver (1988) use the term Japanization to refer to the introduction of management practices such as Total Quality Management and Just in Time Management.

The concept of Japanization has been further developed by Ackroyd and colleagues (Ackroyd, Burrel, Hughes & Whitaken, 1988). They suggest that Japanization can occur in three different ways: permeated, direct and mediated.

- 'Permeated Japanization' is used to define an economy where Japanese forms of economic structure are internally generated.
- The penetration of Japanese firms into other economies is described by the term 'direct Japanization' this includes, management practices by non-Japanese firms.
- 'Mediated Japanization' is used to refer to the uptake of Japanese management practices by non-Japanese firms (Ackroyd et al, 1988).

However, in the case of workplace change, it is important to note that change initiatives are likely to vary across nations and within organisations.

These 'new wave manufacturing initiatives' consist of several different methods. Some of these include: Lean Production systems (LPS), Just-In-Time Management (JIT), Total Quality Management (TQM) and Business Process Re-engineering (BPR). These are discussed in more detail in the following section.

Storey (1994) suggests that although there are many new methodologies in existence to assist organisations in managing change, there are commonalities across these workplace change programmes. Many of these can be described by different terms as he suggests:

"the key words associated with the new manufacturing management are 'flexibility', 'quality', 'teamworking', 'just-in-time' delivery, 'right-first-time' production, the elimination of waste and non-value-added activity, 'zero-defects' and 'continual improvement'". (Storey, 1994, 4).

When considering these new wave methods, Storey (1994) suggests that it is often the organisational and human factors that are critical to the success or failure of the implementation of these new principles. Storey argues that many researchers and management consultants tend to focus on one methodology. Instead, the focus should be on a deeper understanding of these methodologies and an improved understanding of the organisational and human resource processes associated with these types of workplace changes (Storey, 1994).

A brief description of these new wave manufacturing and service techniques include:

- *Lean Production Systems (LPS)*

The LPS methodology is a system that reduces inventory through using just-in-time techniques; achieving continuous improvement through the involvement of all employees. Work is organised in teams that develops multi-skilled employees, requiring fewer employees to achieve higher rates of output through a more efficient and 'lean' use of resources (Shadur & Bamber, 1994).

- *Just-In-Time (JIT)*

JIT is a system where products are only produced on demand, sub-assemblies and materials arrive only when needed, buffer stocks are eliminated and defects minimised.

- *Total Quality Management (TQM)*

TQM is broadly defined as a philosophy of change that centres on the management of continual improvement. This occurs through involving employees in the change process (Dawson & Palmer, 1995).

- *Business Process Re-engineering (BPR)*

BPR promotes the need for a radical assessment of the way business is managed and organised (including notions of teams and empowerment). It advocates the use of new information and communication technologies to facilitate transformational change to achieve dramatic improvements in company performance (Hammer & Champy, 1993).

Criticisms of the New Wave Manufacturing Strategies

- *Lean Production Systems (LPS) and Just-In-Time (JIT)*

LPS and JIT are seen by some as leading to job losses, work intensification, higher levels of stress on workers, longer hours (in so far as the models are often built on Japanese practice, critics not unreasonably point out the realities of work in that country) and a bearing-down on all forms of 'slack' in the system which workers might formerly have used to gain a respite. For example, Turnbull (1988) observes that the 'deleterious effects of JIT affect all and sundry'. Garrahan & Steward (1992) are critical of the intrusiveness of the checking system that LPS implements as a way to trace defects quickly to their source.

The controversy surrounding LPS seems set to continue. For example, on the one hand, as a perceived alternative to the Fordist form of production, it is claimed that LPS offers opportunities for front-line workers to recapture many of the competencies and responsibilities formerly ceded to specialists. On the other hand, there are the alleged downside effects of job losses, work intensification and stress (Parker & Slaughter, 1988b). As a one study observes:

> *"Only if the promising result of lean production can be accomplished without its more ugly face will the concept maintain its attractiveness and mark the big breakthrough which the MIT study (The Machine that Changed the World) credits it with; and only then will there be justification of a synthesis of greater efficiency and more fulfilling and humane work of which some of the European unions, and also some managers, dream when they address the concept"* (International Labour Office, 1993, 5)

- *Total Quality Management (TQM)*

Wilkinson, Marchington, Goodman, & Ackers, (1992) suggests that TQM does not always enhance employee involvement in the way normally claimed for it. Rather than being enabling, it can also increase the degree and incidence of monitoring and control. TQM ideas can also be used to reinforce a management style similar to Taylorism (Wilkinson, et al, 1992).

- *Business Process Re-engineering (BPR)*

One of the main criticisms of the BPR model is that it treats people as if they were parts in a machine and ignores the human factor of change. BPR is also seen as being naïve about "the ease" with which radical change can be implemented and because of this, many BPR projects have failed (Guimaraes, 1997; Manganelli & Raspa 1995).

Another criticism is the apolitical nature of the model and the assumption that employee resistance is an irrational response to change that can be managed successfully by a good leader (Willmott, 1995). A further criticism of Hammer and Champy's (1993) BPR model is that they only provide a list of changes that are required rather than information on how to bring about those changes (Dawson, 1994).

Summary

In conclusion, this chapter has endeavoured to provide a summary of the change models that have been developed over the years to assist organisations through times of change. The models themselves have evolved over time and there have been significant shifts in terms of how organisations see the role of employees. Some of the common themes that exist throughout the earlier models include:

1. A focus on cultural change strategies in order to promote employee participation and commitment to the change.

2. The downsizing of organisations.

3. The redefinition of management from a directive approach to one centred on communication, liaison and motivation.

4. The elimination of employees who only work on single tasks to multi-skilled employees who work in teams.

5. A growing focus on the people side of change that suggests the need to take human factors into account (Storey, 1994).

6. A growing emphasis on the importance of leadership in the change process.

7. The radical change of business process.

CHAPTER 3: HUMAN FACTORS INFLUENCING ORGANISATIONAL CHANGE

Introduction

Many organisations are implementing radical change programs to realign organisational structures, strategies and technology in order to become more competitive (Callan, 1993). Senior management in many organisations are attempting to move from highly centralised and hierarchical structures to organisations that are more decentralised, flatter and more flexible (Callan, 1993). Along with changes to organisational structures, organisations are continually updating and sometimes transforming their technology in order to support such structures and to keep up to date and competitive (Miller & Yeager, 1993.

One area that is often overlooked when organisational change is implemented is the employees' reactions. Many change programs can fail due to negative employee reactions that can often lead to decreased productivity and efficiency due to the employees resisting the change. This can have considerable affects on the success of the change program and the organisation's bottom line (Brockner, 1990; Brockner, Greenberg, Brockner, Bortz, Davy & Carter, 1986;)

The purpose of this chapter is to discuss the types of major organisational change that can affect employees and how employees' reactions to change can affect the organisation's performance.

Types of Large-Scale Change and their affects on employees

Research suggests that the major organisational changes that are most likely to affect employees are downsizing and mass lay-offs, organisational mergers and restructuring, and new technology (Hamilton, Broman, Hoffman & Renner 1990; Miller & Yeager, 1993). These are discussed below in terms of the type of change and how they affect employees.

Downsizing

Organisations globally are using many different strategies in order to become competitive in the market place. As the marketplace becomes more competitive, reducing expenses has

become as important as creating revenue. One solution to reducing expenses is to shrink the workforce. In today's workforce, people are losing their jobs, the survivors are making do with less, and uncertainty about job security haunts employees (Citrome, 1997; Grunberg, Anderson-Connolly & Greenberg, 2000). Accordingly, researchers are now focussing on how to best minimise damage to those people who are left and those that have been let go; (Brockner, Greenberg, Brockner, Bortz, Davy & Carter, 1986; Brockner, Grover, Reed, DeWitt & O'Malley, 1987; Grunberg, Anderson-Connolly & Greenberg, 2000).

Research in this area is important due to the psychological consequences to both the employees who have lost their jobs and also to those who remain (Citrome, 1997). For example, employees can have increased episodes of depression after a lay-off. They can also suffer from other stress related health outcomes attributed to unemployment, including increased risk of heart attack, low-birth-weight to off-spring, various infectious diseases, chronic respiratory diseases, ulcers, gastrointestinal disorders and mortality rates (Citrome, 1997; Hamilton, et al, 1990). During the layoff, employees often report feelings of anxiety and other psychological distress, and rises in blood pressure. The research also suggests that not all individuals react in the same way to downsizing; some groups are far more vulnerable than others and can suffer more severely. These groups tend to be the less educated, minority groups and women (Hamilton, et al 1990).

Those employees who are left behind, "the survivors", can also suffer from psychological distress. The literature in this area has used terms such as "survivor guilt" and "survivor sickness" to describe some of the affects on those that are left behind. Davy, Kinicki & Scheck (1991) report that individuals who witness a lay-off can have significant psychological and behavioural responses. Survivors often experience feelings of remorse and develop negative attitudes toward their co-workers (Brockner, Davy & Carter 1985). They can also experience a decrease in job satisfaction, lowered organisational commitment, greater strain and are often more likely to be absent from work (Brockner, 1988; Brockner, Grover, Reed, DeWitt & O'Malley, 1987; Davy, Kinicki & Scheck, 1991; Parker, Chmiel, & Wall, 2000; Wong & McNally, 1994).

Brockner (1990) conducted research into survivor responses to lay-offs and found that they were more likely to work hard if they perceived that their co-worker's dismissal was based on a random process rather than on the relative merits of themselves and their co-workers' prior performance. Brockner also found that out of the survivor group, the individuals that suffered the most were those that were close to one or more of the individuals that were laid off. Brockner found that these people were more likely to show a decrease in their organisational commitment (Brockner, 1990).

There are many other factors that can also influence a survivor's reaction to lay-offs. One of these factors is the perception of how fairly the organisation managed the lay-off process as opposed to who was actually laid off. Brockner outlines some issues that are likely to be salient to the survivors of a lay-off. 1) Did the organisation provide ample forewarning to those who would be laid off? 2) What basis or input (eg seniority, merit) did the organisation use to decide which employees would be laid off? 3) To what extent did management explain why the lay-offs were necessary? 4) Did the organisation attempt to provide for, or take care of, lay-off victims? Research shows that employees' perceptions of procedural justice are significantly influenced by how well management explains its actions (Bies, 1987; Tyler & Bies, 1990).

Overall, research suggests that the more unfair employees perceive the lay-off to be, the more likely they are to respond in ways that the organisation would define as unfavourable. Survivors also respond most negatively when the lay-off victims are people that they have worked with and known (Brockner 1990).

Employees' reactions to changes such as downsizing can have significant affects on the organisation's productivity due to low morale and low productivity at a time when the organisation needs to be at its most productive in order to handle the changes that it is going through. Research suggests that if such issues are not addressed, the company is vulnerable to key employees leaving and the remaining employees having low level of commitment and reduced productivity (Schmenner & Lackey, 1994).

Organisational mergers and organisational restructuring

Organisational mergers and restructures are two more large-scale organisational changes that can also have a significant impact on employees in terms of their reaction to the change. According to Iacovini (1993), employees who are faced with an organisational merger or restructure can experience feelings of fear, worry and uncertainty about the future. It is often the case when mergers occur, that organisational restructures occur at the same time, as well as a reduction in the work force. Thus, much of the research in downsizing, and employee reactions, also applies to mergers and restructures.

During mergers or organisational restructuring, employees can also find themselves in a stressful environment and feeling very confused. They often look for security and empathy from management during the organisational change (Iacovini, 1993). In many cases organisational change, such as mergers, produces bad memories for employees (Iacovini, 1993). This can lead to dissatisfaction and an erosion of any positive changes that are implemented. When employees and managers have negative memories of organisational changes their commitment to the organisation suffers. Quite often when employees experience a loss of commitment they do only the bare minimum that is required for them to keep their jobs (Iacovini, 1993).

According to Iacovini (1993), many organisations do not pay enough attention to the human side of organisational change. The cost of a failed change is high. It can lead to diminished competitive position, lost employee loyalty, and a considerable amount of money and resources in reworking the change efforts. This often occurs because organisations do not understand the human side of their business. The human side is not necessarily logical or reasonable but instead involves feelings such as fear, uncertainty and doubt as the employees attempt to make sense of change and maintain their self-esteem. These feelings are intangible and difficult to assess and management often do not realise their powerful effect. If organisations want to maintain employee commitment, they need to deal with how employees are feeling (Iacovini, 1993).

As mentioned above, fear is a particular feeling that employees can experience during times of change and one that needs to be addressed by management. Loss of integrity, credibility or reputation is significant fears for employees at all levels. It is more important for people to deal with those issues than it is for them to work on such issues as a lack of career or financial advancement (Iacovini, 1993). Bridges (1980) describes three phases of an organisational process as 1.) the ending (eg the ending of the old way of doing things); 2.) the neutral zone (the zone between the old and the new) and; 3.) the new beginning (eg the beginning of the new change). In terms of mergers, Bridges (1980) suggests that employees need assistance to work through these processes. For example, if managers use "slick" talk to communicate, the new vision it is likely to go over employee's heads. Managers also need to take the opportunity to deal with employees' fears, confusion, and sadness about letting go of an identity that once may have made them successful.

Bridges (1980) also suggests the following strategies for managing the "ending" phase. 1.) Give visible support; 2.) Look for stability (areas that are not changing); 3.) Give people the opportunity to interact informally; 4.) Build on the past rather than discounting the past; 5.) Be sensitive to people who are at different stages of accepting the change; 6.) Help people identify what they are holding on to and why; 7.) Support people in letting go; 8.) Give information constantly and; 9.) Provide a safety net when people make mistakes (Bridges, 1980).

Iacovini (1993) suggests that organisations often rush through the ending phase without allowing employees time to reflect and reminisce about the past and think of new ways about the future, without allowing a focus on feelings or to explore new ideas about the future. Iacovini suggests that if the "the ending" stage is managed well, it will create positive memories for the employees and they will be more likely to embrace a new change within their organisation.

New Technology

When new organisational structures are put into place they are often accompanied by new information technology systems. Miller & Yeager (1993) suggest that technological change is particularly problematic because it not only involves new electronic devises and equipment but it requires a cultural change as well. New information technology requires new work relationships, new ways of getting work accomplished and the necessity for individuals to learn new skills.

Due to these additional changes that are associated with information technology, employees often resist using the technology. Resistance can range from not using the system to its full capacity, to sabotaging the system. This type of resistance can prove to be extremely costly in terms of time and money for organisations.

In summary, major organisational changes such as downsizing, mergers, restructures, and new information technology can all have a significant affect upon the employees that are experiencing such changes. Research suggests that employees can experience fear, anxiety, depression and stress related illness. The section below discusses how employees can respond to organisational change and how the reactions discussed above can impact on the change outcome.

Problems associated with the implementation of change

Researchers have identified three potential problems when implementing change (Ivancevich, Olekalns & Matteson, 1997). The first problem is that of resistance. Any individual faced with a change in the organisation in which he or she works may resist it for a variety of reasons. People need a certain degree of stability or security, and change that is imposed on individuals reduces their sense of autonomy or self-control. People typically develop patterns for coping with, or managing the current structure and situation. Change means that they will have to find new ways of managing their own environments – ways that might not be as successful as those currently used. In addition, people who have power have a vested interest in the status quo and may resist change because it threatens that power. These groups of

people can include middle management who has been found in studies to be major sources of resistance (Neumann, 1989, 1993 & 1994).

The change programs where middle management have a major role and can therefore cause much disruption are employee involvement and empowerment programs, Total Quality Management programs and other programs where their roles are changed from manager to leader, coach and mentor. Traditionally the middle manager has had a negative reaction to such programs and research suggests that this is due to the loss of power and status (Bate & Mangham, 1981). However, Dopson & Neumann (1998) have found three more factors that provide explanations as to why middle managers resist change. These are uncertainty, contrariness and double-bind. Dopson & Neumann suggest that the least negative reaction is from those middle managers who feel uncertain, followed by an increased negativity from those who feel contrary and even more for those who feel they are in a double-bind or "no win" situation (Dopson & Neumman, 1998).

Finally, individuals may resist change for ideological reasons; they may truly believe that the way things are currently done is better than the proposed change. Whatever the source, individual resistance to change must be overcome for successful implementation (Kotter & Schlesinger, 1979).

The second potential block to effective change is loss of control. Organisational change can disrupt existing control systems, especially those that result from formal organisational procedures. It is likely that a part of the change process will be the restructuring of procedures, with the result that patterns of control will also change. One of the problems this creates is that it becomes more difficult to monitor performance and to take corrective action when necessary. As a result, organisational performance may decline and resistance to change may increase. This is especially likely during the transition phase (Ivancevich, et al, 1997).

The third problem is organisational power (Ivancevich, et al, 1997). Organisations are affected by power associated organisational politics, and blockages to change can occur when individuals and groups seek to increase their power within the

organisation. Even when the change is not dramatic, shifts in power can create further resistance to change. This results in increased political activity during times of change, as groups and individuals try to ensure that in the new organisation they will maintain or increase their power. One of the main consequences of these activities is that if powerful groups do not support the change, it is unlikely to succeed.

At some level, each of the problems of transition is related primarily to one of the components of the organisation. Resistance relates to the individual component involved in getting people to change their behaviour. Control concerns the design of appropriate organisational arrangements for the transition period. Power relates to the reactions of the informal aspects of the organisation to change. The implication is that if a change is to be effective, all three problems – resistance, control and power must be addressed.

Summary

Research suggests that the major organisational changes that are most likely to affect employees are downsizing, organisational mergers, organisational restructuring and new technology (Hamilton, et al, 1990; Miller & Yeager, 1993). During these types of organisational changes employees can experience depression, anxiety, fear, stress related outcomes and ill health. Employee reactions to organisational change can often result in resistance to the change, and this can have a significant affect on the organisation's productivity (Kotter & Schlesinger, 1979). Groups of people who may be particularly resistant are those that could lose power or status within the organisation, such as middle management.

Two other potential problems that are associated with implementing change are organisational control and organisational power. In order to manage change successfully, the problems associated with resistance, organisational control and organisational power all need to be addressed.

The following chapter explores the human side of change in more detail, specifically in the area of employee acceptance of change and the factors that can assist employee acceptance of change.

CHAPTER 4: EMPLOYEE ACCEPTANCE OF CHANGE

Introduction

Organisations worldwide are currently experiencing massive changes to their business strategies, organisational structures, technology and personnel in an effort to become more efficient and competitive in the market. Unfortunately, one of the major obstacles to a successful change program is lack of employee acceptance or at worst resistance by employees (Brockner, 1990; Brockner, Greenberg, Brockner, Bortz, Davy & Carter, 1986). Research suggests that certain individual and organisational factors can contribute to employees accepting organisational change (Callan, 1993). The purpose of this chapter is to firstly, explore the reasons for resistance to organisational change, secondly, the personal factors that assist employees' acceptance of change, thirdly the organisational factors that affect employee acceptance and finally, to examine those individual and organisational behaviours that have been associated with successful change programs.

What is resistance to change and what are the causes?

Resistance to change can be defined as:

"an inability, or an unwillingness, to discuss or to accept organisational changes that are perceived in some way as damaging or threatening to the individual". (Buchanan, & Huczynski, 1997, 467)

Bedeian (1980) refers to four common causes of resistance to organisational change. These are self-interest, misunderstanding or lack of trust, contradictory assessments, and low tolerance for change. These are discussed below.

Self-Interest

As human beings we generally seek to protect the status quo in which we operate. Often change threatens to move us out of our 'comfort zone' and away from those things we find familiar. Change can also mean a loss of power, prestige, respect,

approval, status and security. Change can also be personally inconvenient. For example it may alter social opportunities or it may force an unwelcome move in location (Bedeian, 1980).

Misunderstanding and lack of trust

Bedeian (1980) also suggests that individuals are more likely to resist change when they do not understand the reasoning behind it or its nature and possible consequences. Resistance can thus be reduced through promoting an understanding of the change. If information is withheld or distorted, it can often lead to rumours. This can result in perceptions of threat, and increasing defensiveness, which reduce further effective communication about the change. Bedeian suggests that the way the change is introduced can be resisted, rather than the change itself (Bedeian, 1980).

Contradictory assessments

Individuals differ in the ways in which they evaluate the benefits of change. For example, a major disruptive change to one individual could be a fresh new start for another. Individual values ultimately determine which changes are welcomed and promoted, which persist and succeed, and which fail (Bedeian, 1980).

Individuals also differ in their perceptions of change and what that means for the organisation and to them as individuals. These different and some times contradictory views are more likely to arise when information about a change is inadequate and where those concerned lack the relevant information.

Low tolerance for change

Individuals also differ in their ability to cope with change and to deal with uncertainty.

Change that requires people to think and behave in different ways can challenge the individual's self-concept. Individuals each have ideas about their abilities and competencies; for example, some individuals may have self-doubt as to their capacity to handle change. Some individuals also have a low tolerance for ambiguity and

uncertainty. The anxiety and apprehension that some individuals suffer can often lead them to oppose even potentially beneficial changes (Kotter & Schlesinger, 1979).

Because of the many sources of resistance to change, and the need for organisations to adapt rapidly to changing social, political, economic and technological conditions, the management of change has become a crucial issue. In order to manage the change it is important to manage resistance to ensure that change is accepted and implemented rapidly and effectively. The human side of change has to be managed as carefully as the technical side of change (Kotter & Schlesinger, 1979).

Kotter & Schlesinger (1979) suggest six general approaches for dealing with resistance to change. These are described below:

Education and communication: This approach provides employees with facts and information through regular communication about the change. For example, employees can be educated by way of one-on-one discussions, group presentations, memos and reports. These forums need to provide information to the employees about the need for, and rationale of, the change (Kotter & Schlesinger, 1979).

Participation and involvement: This approach allows those employees affected by the change to have a say in how the change will occur by allowing (and encouraging) participation in how the change is designed and implemented. This can be achieved by establishing committees and/or task forces (Kotter & Schlesinger, 1979).

Facilitation and support: This approach provides training and social support to enable employees to cope better with the change. This can be achieved by providing employees with training sessions, managers listening to their concerns, and training to assist employees in overcoming performance pressures that often arise in change situations (Kotter & Schlesinger, 1979).

Negotiation and agreement: This approach offers incentives to employees who are resisting the change or who might resist the change. The offers may take the form of

negotiating with the employees to arrive at some agreement over certain aspects of the change. For example, some parts of the change may be eliminated if the employees agree to support another important part of the change (Kotter & Schlesinger, 1979).

Manipulation and cooptation: This approach uses covert attempts to influence employees and provides only selective information so that employees only focus on desired changes. Kotter & Schlesinger (1979) caution that this approach can lead to future problems if people feel they are being manipulated.

Explicit and implicit coercion: This approach uses power and threats in an attempt to coerce employees who are resisting change. Kotter & Schlesinger (1979) suggest that while this approach can be very successful in overcoming resistance; it is also considered to be a high-risk way of approaching resistance to change as it can produce undesirable behaviours among employees.

Table 1. lists the ways of managing resistance in an organisation together with the appropriate circumstances in which they might be used and their relative advantages and disadvantages.

Table 1: Methods for dealing with resistance to change

Method	Use When	Advantages	Disadvantages
Education and Communication	People lack information or have inaccurate information.	Creates willingness to help with the change.	Can be very time consuming.
Participation And Involvement	Other people have important information and/or power to resist.	Helps avoid major resistance.	Can be very time consuming.
Facilitation and Support	Resistance traced to resource or adjustment problems	Satisfies directly specific resource or adjustment needs.	Can be time consuming: can be expensive.
Negotiation and Agreement	A person or group will 'lose' something due to the change.	Helps avoid major resistance.	Can be expensive; can cause others to seek similar 'deals'.
Manipulation and Cooptation	Other methods don't work or are too expensive.	Can be quick and inexpensive.	Can create future problems if people sense manipulation.
Explicit and Implicit Coercion	Speed important and change agent has power.	Quick: Overpowers resistance	Risky if people get 'mad'.

(Schermerhorn, Hunt & Osborn, 1994, 645)

Personal factors that influence an employee's acceptance of change

Much research has gone into finding factors that contribute to employee resistance in an attempt to find ways of reducing that resistance and promoting full acceptance of change (Anderson, 1997; Billings & Moos, 1981; Folkman, 1984; Gardner Dunham, Cummins & Pierce, 1987a; Holahan & Moos, 1987; Rodin & Salovey, 1989 and Siegall & McDonald, 1995). According to current research some of the personal factors that can affect an individual accepting change are: the employees' own ability to cope with the change, his or her sense of personal empowerment, focus of attention, internal locus of control, social support, level of self-esteem, rigidity, and level of perceived participation in the change program (Anderson, 1997; Billings & Moos, 1981; Folkman, 1984; Gardner Dunham, Cummins & Pierce, 1987a; Holahan

& Moos, 1987; Rodin & Salovey, 1989; Siegall & McDonald, 1995). These factors are considered below.

Personal empowerment

Research suggests that if organisations can instil a sense of power in their employees, it can help to achieve improved organisational effectiveness during times of change (Callan, 1993). Employees who are empowered can acquire the confidence to take action to solve problems that impact upon their efficiency and well-being.

Focus of attention

Gardner, Dunham, Cummins & Pierce (1987a) defined employee focus of attention as:

> "*an employee's cognitive orientation toward each of a number of 'targets'... while at work*" (Gardner et al, 1987, 352).

Research suggests that work can be a central life interest for some employees, while other employees see their job as a means to an end (Dubin, 1956; Dubin & Champoux, 1977). Siegall & McDonald (1995) posed the question; if an employee does not focus very much on his or her job, will a change associated with their job have an impact on them? In contrast, would minor changes have an exaggerated affect on those employees who focus highly on their jobs?

Siegall & McDonald (1995) were also interested in the affect of changes in job design and technology over time. They hypothesised that it was likely that workers would adapt to a job change as they have a chance to use the new technology, rather than altering their attitudes and behaviours immediately and permanently as soon as the new technology had been introduced.

Siegall & McDonald's (1995) results suggested that the more an employee focuses on his or her job, the stronger that employee will react to a job change. For example, technicians who focused highly on their jobs reported fewer excused absences and

were more involved as time passed after the change, compared to technicians who focused little on their jobs. Moreover, high off-job focused technicians became less committed, less job involved, less satisfied and more likely to leave over time (Siegall & McDonald, 1995).

Internal locus of control

Personality factors also influence the way people interpret the environmental events that occur around them. A person with a strong internal "locus of control" is more likely to appraise an ambiguous situation as being controllable (Folkman, 1984). Locus of control has been defined as:

> *"The degree to which the individual attributes the cause of his/her behaviour to environmental factors or to his/her own decisions"* (Chaplin, 1985, 260)

In contrast, individuals who generally attribute the control of life events to factors external to them, tend to doubt their ability to solve a problem. These people tend to use more emotion-focused strategies and fewer problem-focused strategies than people with a more internal locus of control. For instance, in response to a flood disaster, Anderson (1997) found that managers with an internal locus of control relied more on task-oriented ways of dealing with stress, whereas more externally oriented managers responded with anger, hostility and greater anxiety. Similarly, in dealing with organisational change, managers who have an internal locus of control tend to use active behavioural strategies (Callan, 1993). These findings suggest that managers who have an internal locus of control may handle organisational change more proactively that managers who have an external locus of control.

Social Support

Social support is another factor that affects how well employees cope with an organisational change. Much research has been done in regard to the buffering affects of social support on stress (Cohen & Wills, 1985). Individuals who cope well with organisational change often have access to external resources and social support. It is

known that social support networks provide experiences that can bolster the self-esteem of individuals, while the same networks can act as a buffer to the levels of psychological distress that can occur during times of crisis for the individual (Rodin & Salovey, 1989). There is also a considerable amount of evidence that individuals with a supportive family rely more on active coping strategies than individuals without this type of support (Billings & Moos, 1981, Holahan & Moos, 1987). In contrast, those with non-supportive family environments tend to use avoidance to cope with stressful events in their lives. Avoidance in the short term can be an effective coping strategy, but in the long term these individuals tend to suffer from poor psychological adjustment.

As mentioned above, an employee's family can act as part of a support network. However, many organisational changes can directly affect the family. For example, retrenchment or job reassignment not only affects the life of the employee but also the lives of family members. Organisational changes such as a forced relocation within an organisation can mean dramatic changes in the distance travelled to work and lead, in time, to the decision to relocate the family closer to the workplace. Research suggests that even voluntary job relocation is stressful and can impact negatively upon social and family relationships and upon the ability of the family to provide important social support. A failed transfer, for example, can lead to family conflict; a decline in work performance, and the individual worker is often at more risk of mental and physical illness (Luo & Cooper, 1990).

In summary, social support such as family support can be very effective at times of organisational change, but if the change also adversely affects the family, the employee may not have family support to fall back on.

Individual Wellness

Personal wellness programs include the routine of day-to-day activities and personal habits that might reduce levels of work-related stress that can act as a buffer against physical and psychological stress. There is quite strong evidence that the pursuit of various lifestyle and health habits (eg physical fitness, weight management, good sleep habits) has a strong direct affect on reducing the impact of work stress (Steffy, Jones

& Noe, 1990). However, an employee's wellness program may be disrupted during radical organisational change.

Coping Strategies

Researcher suggests that employees adopt certain coping strategies to assist them in reducing their level of stress at times of organisational change (Ashford, 1988, Callan, 1993, Callan, Terry & Schweitzer, 1994). Coping resources have been defined as:

> *"a complex set of personality, attitudinal and cognitive factors that provide the psychological context for coping".* (Moos & Billings, 1982, 215).

Such resources are relatively stable dispositional characteristics that affect coping processes (Moos & Billings, 1982). Research suggests that there are five different coping strategies which include; self-efficacy, personal control, self-esteem, freedom from self-denigration, and tolerance of ambiguity (Moos & Billings, 1982).

Research has found that people with a high level of self-efficacy persist longer in trying to deal with stressful situations and that if an employee has a sense of personal control, this reduces the feelings of threat experienced during stress (Anderson, 1977; Moos & Billings, 1982).

Research has also found that self-esteem and freedom from self-denigration are major coping resources as they represent an individual's overall level of self-acceptance despite changes occurring in their environment (Callan, 1993; Moos & Billings, 1982; Pearlin & Schooler, 1978).

In regard to tolerance of ambiguity, Ashford (1988) found that individuals with more tolerance of ambiguity were less affected by the high level of uncertainty common to major organisational transitions. Tetrick & LaRocco (1987) also found that measures of personal understanding, prediction and control (very similar to Ashford's personal coping resources) were negatively related to perceived role stressors.

Table 2. summarises the factors outlined in the literature in regard to employees' reactions to change, and factors that contribute to change (Callan, 1993). Table 2 also summarises the organisational factors that can assist employees accepting change.

In summary, research suggests that individual factors such as self-esteem, coping strategies, personal empowerment, focus of attention and internal locus of control can have an impact on how well the employee accepts the organisational change they are experiencing.

Table 2: Employees' reactions to change, factors that contribute to change and organisational factors that can assist employees accepting change.

Reactions of employees to change	Factors that contribute to employees' acceptance of change	Organisational factors that can assist employees' acceptance of change.
Stress Anxiety Decrease in job satisfaction Decrease in attitude Role conflict Role ambiguity Work overload Uncertainty	Coping strategies Personal empowerment Focus of attention of employees Internal locus of control Social support High self-esteem Hardy personality type Tolerance of ambiguity Self-efficacy Personal control	Wellness programs Leadership style Communication strategy Stress management strategies Employee participation Training

Research has also uncovered a number of organisational factors that contribute to an employee accepting change. An understanding of these factors can assist senior management within an organisation to encourage employees to fully accept an organisational change program. These organisational factors will be explored in more detail in the following section (Callan, 1993).

Organisational factors that can assist an individual to accept change

Research suggests that coping with the stress of organisational change requires the use of both individual and organisational strategies (Callan, 1993). Literature in this area suggests that organisational factors such as communication about the change, employee participation, leadership style, prior planning, organisational culture and outplacement counselling can all assist employees' acceptance of change (Bass, 1990; Bennis & Nanus, 1985;Callan, 1993;Conger 1989; Dunphy & Stace 1990; Fulmer & Gilkey, 1988; Klein, 1994; Peters 1988; Schein, 1990; Schwieger, Ivancevich & Power, 1987; Tichy & Devanna, 1986; Tichy & Ulrich, 1994; Yukl, 1989). These and other organisational factors are discussed below.

Communication

Research suggests that one of the first key organisational change strategies to assist individual's acceptance of change is to communicate the change accurately and provide up to date information about the speed at which the change is occurring and its direction (Callan, 1993). For example, Schwieger, Ivancevich & Power (1987) studied organisational mergers and found that employees were most concerned about a lack of accurate information, especially about their job security. Many organisations establish newsletters during the change as a way of informing staff, together with weekly meetings in which senior management report upon new information they have received from the chief executive or company director. This method is a way of ensuring that employees get the same message (Offerman & Gowing, 1990).

In support of Schwieger, Ivancevich & Power (1987), Klein, (1994) suggests that difficulties associated with organisational change can be dealt with more effectively if communication is planned in a strategic way. When organisations go through change and do not communicate effectively, the ambiguity surrounding the change can provide grounds for rumours, anxiety, negative attitudes and ultimately resistance. According to Klein, (1994) this can often occur even though management thinks it has

communicated its messages well. Klein found that most people did not fully comprehend the necessity for the change and how it would personally affect them. The message received by employees was very different from the message management intended to send (Klein, 1994).

Klein (1994) also found that in terms of communicating change efforts, face-to-face communication has a greater impact than any other single medium. He also found that it was the interactive component of this process that is really effective (Klein, 1994). Face-to- face communication helps to clarify any ambiguities that the employee may have and it affords them the opportunity of voicing their opinions there and then. It is also the most efficient way to gain feedback on the communication process, allowing it to be improved along the way.

Klein (1994) also suggests that credibility of the messages is directly related to the status of the source of that message. For example, if the message is given by a senior person within the organisation or a person who is highly respected, the message holds more weight.

Klein (1994) also suggests that inviting the employees to participate in the communication process is an effective strategy. This can be done via a feedback mechanism whereby employees could ask questions and provide feedback as to the change process.

In terms of retention of information, research suggests that personally relevant information is better retained; that is, information that directly affects an employee is attended to, and retained more readily than information that is not personally relevant (Klein, 1994). Therefore, when communicating to employees in regard to change initiatives, it is important to make the message as personally relevant as possible.

Klein (1994) suggests a number of specific communication methods for organisational change initiatives. These are summarised below:

The first thing to communicate is the need for change by providing the rationale behind the change. For example, an organisation might need a new information technology system in order to become more competitive in the market place. Klein (1994) suggests that the first communication should come from the CEO, or the senior management person that is in charge of the division. This should be followed by a written communication to employees as it provides an opportunity for questions and feedback. It is also useful to use forums that employees can attend to hear more information about the change and to provide feedback to management. These types of forums are invaluable, especially as plans are modified during the initial stages of change.

According to Klein (1994), in the early stages of the communication process the goals should be to:

1. Communicate the details of the change accurately to those who are involved with the change.
2. Tell those who are not directly involved in the change process how they will be involved in the future in terms of their new roles and responsibilities.
3. Control whatever "misinformation" may be circulating through the organisation.

Communication is important during the initial phase of change as people are experiencing the change first hand at this time. The information flow should be multidirectional, continuous and concrete so that people can become comfortable with the fact that they have a reasonably full understanding of the personal implications of the change, irrespective of their attitudes toward the change itself (Klein, 1994).

It is important to publicise any successes, especially early in the change when opinions are being formed. It is also important to develop a means of rectifying problems through feedback and adjustment. This can be done by developing communication structures that encourage the disclosure of problems and the discussion of solutions. Again, during this time intensive face-to-face communication is warranted in order to

combat misunderstandings. It also symbolises support for the employees at the beginning of the change (Klein, 1994).

In summary, Klein's (1994) research suggests that communication is an essential factor in encouraging employees to accept the new organisational change.

Employee Participation

Another effective organisational technique to reduce resistance toward change among employees is to invite the employees to become part of the change program. Inviting employees to get involved is an important step in reducing resistance. Participation compliments their own personal empowerment and eventually leads to improved organisational performance. The advantages to employee participation are that it builds employee commitment to the change program and adds new information to the change effort. However, the disadvantage is that it can be extremely time consuming, especially in a large organisation (Schermerhorn, Hunt & Osborn, 1994). This is supported by Porras & Hoffer (1986) who identified 'generating participation' as one of the common behaviours in successful organisational development programs.

This involves:

1. Design an implementation plan that includes information about when tasks need to be done and who is responsible to do them.
2. Involving people when they have the necessary expertise, when the decision must be high quality and when implementation depends on them.
3. Using meetings, workshops or a consultant to solicit input from people on proposed changes.
4. Not dictating the exact way to accomplish a delegated task.
5. Structuring the work in a way that opens possibilities for self-management by the job incumbent.
6. Providing task and job designs that provide meaningful work, real responsibility for work outcomes, and reliable knowledge of results.

7. Relaxing traditional authoritarian forms of control (eg over budgets and allocations of resources and people) and allowing workers to do more and;
8. Facilitating more than directing (Porras & Hoffer, 1986).

Leadership

Yukl (1989) found that the charismatic or transformational leader could also help employees accept change. Through the effective communication of their organisation's vision, the transformational leader can encourage employees to take control of their situation. These leaders tend to be person-oriented, and spend time talking and working with their employees and listening to their views. They can also be a strong source of emotional support to their employees throughout the change process (Conger 1989; Dunphy & Stace 1990; Peters 1988). Conger (1989) suggests that one important aspect of the transformational leader is their ability to empower others to deal with change. The transformational leader motivates and encourages employees to adopt their vision. This type of leadership can be very effective during times of change and can facilitate employee acceptance (Bass, 1990; Bennis & Nanus, 1985). Porras & Hoffer (1986) also suggest that leaders need to continually articulate the organisation's purpose, goals, values, standards, and the means by which they are to be implemented operationally. They also need to set up feedback mechanisms to find out if the vision is being implemented (Porras & Hoffer, 1986).

Many researchers have examined transformational leadership in the context of broad ranging organisational changes (Bass, 1990; Bennis & Nanus, 1985; Kreitner & Kinicki, 1989; Tichy & Devanna, 1986; Tichy & Ulrich, 1994). The leaders that had a transformational style were able to motivate others to follow and pursue alternative courses of action when they needed to, all of which result in a more successful organisational change.

Prior planning

Another organisational response to help employees cope with change is through prior planning. Prior-planning can help to develop a strategic plan that informs management

about what to communicate to employees and when to communicate during the change process. For example, organisational mergers result in blended cultures, leaving employees feeling confused about their roles and responsibilities (Fulmer & Gilkey, 1988). In this case a pre-merger workshop could identify potential areas of conflict and could build upon the channels of communication in order to encourage cooperation between all employees.

Organisational Culture

Many organisational changes are particularly difficult as they often involve cultural change as well (Hamilton, Broman, Hoffman & Renner 1990; Miller & Yeager, 1993). For example, organisational change often requires employees to work differently with one another and to learn new skills and new work processes (Miller & Yeager, 1993). If a cultural change accompanies an organisational change, the leaders need to ensure that the cultural issues are addressed.

It is also important to differentiate between the organisation's climate and culture, as change is likely to disrupt the climate but may not however, have an impact on the underlying culture. There has been much debate in the literature as to the differences between the two and Kummerow (2000) has conceptualised these in her research as follows.

Both organisational climate and organisational culture are molar constructs in the sense that they capture a property, or properties, of the whole system (whether an organisation or organisational sub-unit). (Schneider, 1985). They both are concerned with the social context of work environments and both have some stability over time and across different situations. Both climate and culture also function as 'sense-making' devices, in that they help employees give meaning to their experience of organisational life. (Reichers & Schneider, 1990).

The notion of sharedness is also central to both organisational climate and culture. That is, for an organisation (or organisational sub-unit) to be characterised as having a climate, or a culture, there must be some agreement in employee perceptions (beliefs,

values etc.). Both organisational climate (as shared perceptions) and organisational culture (as shared basic assumptions) are thought to set the boundaries for, or form the basis of, employee behaviour. Both constructs are also thought to be the product of group learning. Finally, both constructs have been shown to have "a tendency toward differentiation" (Rousseau, 1988). Thus, within a given organisation, there may exist a number of distinctive sub-cultures or unit-specific climates.

Kummerow (2000) found that while there is considerable overlap between the two constructs, one important differentiation that emerges between the two is that organisational climate constitutes more of a surface-level phenomenon than organisational culture. Thus in terms of Schein's (1985) model of cultural levels, organisational climate can be thought of as constituting a surface-level manifestation of the deeper-level beliefs and assumptions which, Schein (1985) suggests forms the 'essence' of cultures.

The depiction of organisational climate as a surface-level, as opposed to deeper-level construct renders it more immediately accessible and more readily decipherable than organisational culture. For example, Moran & Volkwein (1992) suggest that while variations in an organisation's internal (for example the implementation of new work practices) and external environments are likely to be registered by, and affect, the organisation's climate, they are unlikely to have an immediate or discernible impact on the organisations' culture. Kummerow (2000) also suggests that the climate of an organisation is at a more conscious level of awareness than is organisational culture.

As Schwartz & Davis summarise:

> *"Where climate is manageable over the relatively short term, culture is usually long-term and strategic. It is very difficult to change. Culture is rooted in deeply held beliefs and values in which individuals hold a substantial investment... "*
>
> (Schwartz & Davis, 1981, pp33-34)

Given that climate is at a more surface level than culture it is important that managers and leaders recognise this in terms of how the climate may be altered during times of

change. As Moran & Volkwein (1992) suggested above, a climate may be affected by a change in the internal or external environment and may have to be managed carefully. It is also important for managers to note that this disruption is unlikely to change the underlying culture unless its effects are sustained. With this understanding, managers are less likely to be concerned if the climate within their organisation becomes negative or is disrupted temporarily through an organisational change, provided that the issue is addressed quickly and effectively.

Cultures and climates often have groups within them that form sub-cultures or unit-specific climates. Researchers have distinguished between an organisations dominant culture and its various subcultures (Martin & Siehl, 1993; Trice & Beyer, 1993). Like cultures, subcultures hold particular ideological beliefs, attitudes and behaviours that form collective understandings. At the same time, these messages differ noticeably from the common core of ideologies found in the organisation's culture. Subcultures either intensify or deviate from these ideologies, generating a unique set of understandings, behaviours, and beliefs of their own (Trice, 1993). Martin & Siehl (1993) have identified three different subcultures within an organisation; these include enhancing, orthogonal and counter-cultural. An enhancing subculture is one that adheres to the core values more rigorously than the rest of the organisation, such as senior management groups. An orthogonal subculture adheres to the core values but develops a set of unconflicting values of their own that are separate to the organisation, such as information technology personnel. The third type of subculture, called a counter-culture, is a subculture that holds conflicting values to that of the core values of the organisation, such as some remaining still in a takeover (Martin & Siehl, 1993). For example, if one organisation takes over another organisation and a cultural change program is successfully implemented, counter-cultures may still exist where the employees hold the views of their original organisation and who refuse to adopt the new values of the new organisation.

Trice & Beyer (1993) supports Martin & Siehl's findings about subcultures and suggest that a subculture's degree of conflict with the core ideologies of an organisation can vary widely. They also suggest that in their extreme form, some groups' ideologies are so sharply against the ideology of the core culture that they

become countercultures. Trice (1993) suggests however, that the majority of subcultures lie somewhere in between the extremes (Trice, 1993; Trice & Beyer, 1993). For example, when change is implemented in an organisation, there may be groups within the culture that are opposed to it that form subcultures with their own collective attitudes and behaviours about the system itself. These subcultures may become extremely opposed to the new implementation and accompanying ideologies of the organisation, and may thus become counter-cultures (Trice, 1993).

Outplacement Counselling

Citrome (1997) concluded in her research that individuals that are being made redundant need to be carefully managed by clear communication, the provision of an outplacement service and counselling. These strategies are useful to the organisation since, if the survivors perceive that the organisation has been fair, they are more likely to accept the change in their workplace and remain committed to the organisation. Survivors also need specific communication in regard to the organisation's new vision and future plans.

Citrome (1997) found that an offer of a resume-writing service and contacting potential employers could also be part of management's plan to assist the potentially impacted employee. Also, the organisation's effort to present a clear vision for employees can be helpful in promoting the idea that the organisation would continue to grow smaller and that it was part of a planned process. Employee assistance programs that deal with issues such as depression, grief and relationships difficulties can also be useful during times of organisational downsizing (Citrome, 1997).

In summary, research suggests that organisational factors such as the way the change is communicated, leadership throughout the change, prior-planning such as pre-change workshops to identify needed resources and outplacement counselling if employees are being made redundant, can all have an influence on how well employees accept change (Citrome, 1997; Conger, 1989; Ivancevich & Power, 1987; Klein, 1994; Schwieger, Yukl, 1989).

Porras & Hoffer (1986) have taken the above research further and have identified specific behaviours that are associated with successful organisational development initiatives, both at the organisational level and the managerial level. These are discussed in the next section.

Successful behaviours in organisational change initiatives

Porras & Hoffer (1986) surveyed 42 of the top scholars and practitioners in the area of organisation change, using telephone interviews and open-ended questions. The participants almost unanimously reported the same behaviours in successful change interventions and showed at least moderate agreement as to what those behaviours were.

Tables 3. & 4. present the categories of successful behaviours from the broad organisational level and the managerial level.

Table 3: Common Behavioural Changes in Successful Organisation Development Efforts: Category Definitions for all Organisational Levels

Behaviour Category	Description
All Organisational Levels	
Communicating openly	Behaviours promoting or reflecting the direct giving and receiving of information relevant to getting the job done.
Collaborating	Behaviours promoting or reflecting the involvement of relevant persons in the processes of identifying and solving problems.
Taking responsibility	Behaviours reflecting acceptance of responsibility and taking initiative in carrying out organisational tasks
Maintaining a shared vision	Behaviours reflecting a clear formulation, understanding and commitment to organisational philosophy, values and purposes and a commitment to high standards
Solving problems effectively	Behaviours reflecting a problem-solving orientation to difficult organisational issues.
Respecting/supporting	Behaviours demonstrating respect and support for others as worthwhile individuals
Processing/facilitating interactions	Behaviours reflecting attention to and use of human process issues in one-on-one, group, and intergroup situations.
Inquiring	Behaviours reflecting a probing, inquiring, diagnostic orientation to the organisation and its environment.
Experimenting	Behaviours promoting or reflecting an openness to trying new things.

(Porras & Hoffer, 1986)

Table 4: Common Behavioural Changes in Successful Organisation Development Efforts: Category Definitions for Managerial Levels

Behaviour Category	Description
Managerial Level	
Generating participation	Behaviours involving relevant persons in important organisation decisions.
Leading by vision	Behaviours shaping, communicating, modelling and reinforcing organisational goals, values, purposes and high work standards.
Functioning strategically	Behaviours reflecting a systemic and long-range perspective on organisational matters.
Promoting information flow	Behaviours increasing the overall amount of information in the organisation.
Developing others	Behaviours that develop the knowledge, skills and competency of subordinates and others in the organisation.

(Porras & Hoffer, 1986)

The successful behaviours that are associated with change at both the broad organisational level as well as with the managerial level are described in more detail below. The behaviours mentioned are not exhaustive but provide a summary of Porras & Hoffer's (1986) findings.

Behaviours at the Organisational Level

Communicating Openly: This involves sharing information such as intentions, motives, feelings and thoughts associated with work situations; providing feedback that is descriptive and specific rather than evaluative and general; asking for and accepting feedback from subordinates; actively listening to others by paraphrasing, summarising, restating and asking for clarification if necessary.

Collaborating: Collaboration is another important behaviour that includes; solving problems as quickly as possible; discussing, planning, and readjusting organisational actions jointly and cooperatively; and holding group discussions and meetings.

Taking responsibility: Individuals need to take responsibility to find out what is necessary to be effective in their job. In the face of frustration and ambiguity, which is

often associated with organisational change, they need to be persistent in the struggle to make needed changes. Providing a contribution to a problematic situation rather than blaming others is also important. Taking responsibility is reflected in expressions of interest and excitement in the work and in decreased approval seeking, face saving, indifference, "burnout" or "coasting".

Maintaining a shared vision: Employees across the organisation need to behave in a way that reflects the organisation's vision. They need to understand and be committed to the organisation's philosophy, values and purpose and display a high commitment to professional standards.

Solving problems effectively: Some of the activities associated with effective problem solving include using a win/win perspective to solve problems; work on problems to achieve an agreed upon goal; and generating many alternative strategies to resolve a problem.

Respecting/supporting: A summary of the key behaviours in respecting and supporting are listed below.

Recognise employees for a job well done, focus on the things that are going well not just on what is not going well, optimise an employee's strengths versus focussing on their weaknesses, encourage and reward employees for taking time to spend with their families and for themselves, focus on the goodness in others rather than focussing on the negative.

Processing/facilitating interactions: This involves:

Clarifying the purpose and the goals of meetings, and stopping meetings that are not going well to look at the process. Spending time at the end of a meeting to evaluate what was done well and what needs improvement. Changing group member's roles to assist the group to function at its best. Establishing relevant agendas for meetings, following the agenda diligently and supplying minutes to the meeting participants.

Inquiring: The types of behaviours that are inquiring include: collecting data to obtain information about how the organisation is functioning, experimenting with

changes that will have useful conclusions and looking for new ideas from books, articles and from one another.

Experimenting behaviours. These include: being willing to try things out, allowing time to meet and talk about new behaviours, rewarding people who try, being open to different ways to achieve outcomes, eliminating symbols of conformity, de-emphasising action plans, supporting risk takers, particularly when they fail, and working with those who are experimenting to demonstrate support.

Behaviours at the Managerial Level: In regard to managers' behaviours that are linked to successful organisational change efforts Porras & Hoffer (1986) suggest the following:

Generating participation: This includes: involving employees who have the necessary expertise, using action plans and designating employees to each action, using workshops to facilitate input from employees regarding proposed changes, and providing work tasks that provide meaningful work and responsibility for employees (Porras & Hoffer, 1986).

Leading by vision: Leaders need to shape their employees' behaviours to ensure that they reach the organisation's goals. They also need to communicate the organisation's values and purposes and continually encourage high work standards amongst their employees.

Functioning strategically: This includes: talking about underlying causes and the consequences for acting upon them, resisting giving-in to short term pressures for quick results, fitting the organisational structure to the organisation's key objectives, planning for the skills and knowledge that will be required for the future, and creating a strategic design to guide operating plans.

Promoting information flow: This includes: clearly communicating tasks that need to be completed, clearly expressing feelings, needs, expectations and commitment, establishing multiple channels for communication and promoting direct cross-unit communication.

Developing others: This includes: teaching skills that employees need to do their jobs, helping subordinates identify their needs and aspirations, rewarding desired behaviours, delegating tasks based on employee competencies and according to their development plan, relating employees to a larger context, providing employees with accurate information regarding their performance, providing employees with personal grow experiences, judging subordinates by their outcomes rather than their methods to produce them, discussing successes and failures with employees to help them develop, and helping employees to take advantage of opportunities offered by the organisation.

Summary

In Summary, research suggests that there are many organisational factors that can assist employees in their acceptance of organisational change. As discussed above, these factors are;

- Communicating to employees relevant information about the changes,
- Transformational leadership,
- Prior planning before the change,
- Management commitment to the change,
- Showing commitment to the change to employees through providing them with the required support,
- Setting up outplacement counselling when needed,
- The implementation of a fitness and wellbeing program to combat the stress reactions to change, and
- Providing training.

All of these factors, to some degree, can influence how an employee accepts organisational change. In terms of specific behaviours that contribute to successful organisational change, Porras & Hoffer (1986) identified several organisational and individual behaviours such as open communication, collaboration, taking responsibility, generating participation and leading by creating and communicating a vision.

CHAPTER 5: ACCEPTANCE OF CHANGE INVOLVING NEW TECHNOLOGY

Introduction

One of the most common organisational change initiatives is the implementation of new information technology. In today's increasingly global, digital and networked economy (Tapscott, 1996), information technology (IT) represents a significant investment for many corporations and constitutes a large aspect of organisational work. However, its value is only realised when information systems are utilised by the employees in a manner that compliments the strategies and operational goals of the organisation (Agarwal & Karahanna, 2000). Unfortunately, this does not always happen and performance impacts are often lost whenever systems are rejected by the users (Stone, Kemmerer & Gueutal, 1984). Research suggests that change in information technology has some unique issues associated with it that need particular attention in terms of how to increase acceptance (Miller & Yeager, 1993).

There is considerable evidence to suggest that both personal and IT system factors can determine whether an employee either resists or accepts new information technology within an organisational setting (Alderfer, 1976; Arndt, Feltes & Hanak, 1983; Bem, 1967; Chown, 1972; Festinger, 1957; Howell & Higgins, 1990; Stone, et al, 1984; Venkatesh & Davis, 1996 and Wells & Marwell, 1976). However, there has been relatively little research on how organisational factors such as communication and organisational culture affect user acceptance of information technology. The majority of the research in this area has focussed on organisational changes such as mergers, downsizing and restructures (Bernier, 1998; Callan, 1993; Callan & Dickson, 1992; Callan, Terry & Schweitzer, 1994; Citrome, 1997; Kivimaki, Vahtera, Koskenvuo, Uutela & Pentti, 1998; and Shaw, Fields, Thacker, & Fisher, 1993).

Many researchers have examined user acceptance of new technology in an endeavour to find ways to improve it. This chapter explores research on factors that contribute to employees' attitudes toward new IT systems. In order to do this, the chapter will first discuss; a) why IT change is different from other organisational changes; b) the most recent literature on personal characteristics that can influence acceptance of new information technology and finally; c) IT system characteristics that can influence an employee's acceptance of new information technology.

Why is IT change different from other organisational changes?

Miller & Yeager (1993) suggest that technological change has the potential to be different from other organisational changes because it not only involves new system but it often involves cultural change as well. New information technology often requires new work relationships, new ways of getting work done and the necessity for employees to learn a new computer system and new work processes that go with that system. Employees can often find themselves having to teach their superiors how to use the new system and the new work process, thus changing their working relationships quite dramatically (Miller & Yeager, 1993).

Personal characteristics that affect employees' acceptance of information technology

Rigidity

Research suggests that personality variables such as rigidity can influence an individual's acceptance of a new system. For example, research has suggested that not all individuals are resistant to change or new organisational settings (Lawrence, 1969). Lawrence argues that some individuals may perceive that system-changes lower their status and authority, reduce freedom, and disrupt established work procedures, while others may perceive that change increases job-related knowledge, breaks the monotonous pattern of a boring task, and facilitates individual and organisational effectiveness. Consistent with Lawrence's argument, Alderfer (1976), Chown (1972) & Lawler (1976), have suggested that personality characteristics may be related to employee resistance to new technology.

Many researchers have suggested that rigidity is related to resistance to system-changes in organisations (Alderfer, 1976; Chown, 1972; Lawler, 1976). Rigidity has been defined as an

> *"inflexibility in response tendency or the tendency to persist in old established responses"* (Rokeach, 1948. In Stone, Kemmerer & Gueutal, 1984, p992).

Frenkel-Brunswick (1949) suggests that highly "rigid" individuals, when faced with uncertain or incomprehensible situations, resort to learned or habitual responses to defend themselves against harm. The literature also suggests that "rigid" individuals as compared to "flexible" individuals are likely to perceive change as decreasing their chances of obtaining positive feedback and feelings of accomplishment; and increasing their odds of receiving negative feedback and feelings of frustration (Stone, et al, 1984).

Given the research in this area, Stone et. al. (1984) predicted that rigid individuals would be more likely to respond negatively to externally imposed change than flexible individuals would be. For example, a change from a manual to a computer based information system should prove more aversive for a rigid individual than a flexible individual.

The results of Stone's et al (1984) study suggest that rigid individuals are more likely to hold negative beliefs regarding the introduction of a computer system than flexible individuals. These findings have implications for overcoming resistance to new systems in organisational settings. Stone, et al (1984) suggest that one way to counteract resistance among rigid individuals is a training program designed to alter beliefs and attitudes about the new system (Stone et. al. 1984).

Self-esteem

Another personality factor that has been researched in conjunction with changes in organisational systems is that of self-esteem. Lawler (1976) suggests that individuals with low self-esteem may be more likely to perceive changes in organisational systems as threatening than individuals with high self-esteem. This argument is supported by Wells & Marwell's (1976) research that suggests that individuals with high self-esteem are confident of their abilities and generally perceive that they will be successful on new tasks. In contrast, individuals with low self-esteem are poor estimators of their ability and typically believe that they will not be successful on new tasks. As a result of this research, Stone et. al. (1984) predicted that an individual with low self-esteem should respond less favourably to a change from a manual to computer-based system. However, no support was obtained for this hypothesis.

Familiarity with system

It has been suggested by several researchers that individuals who are working with computers are likely to develop a positive attitude towards them (Bem, 1967; Festinger, 1957). For example, Arndt, Feltes & Hanak (1983) surveyed 241 secretaries and found that familiarity with a word processor was negatively related to anxiety about them and positively related to an evaluation of the positive effects of word processing on work capabilities. Moreover, Zoltan & Chapanis (1982) found that professionals with computer experience were more likely to report a positive attitude than those professionals with less experience. Rafaeli, (1986) also supported the importance of experience in working with computers as results suggest that it may be possible to eliminate or ameliorate anxiety about computers by having employees actually use them in their jobs. It appears, however, that actual usage is more strongly related to improving positive attitudes than to alleviating concerns (Rafaeli, 1986).

User Motivation

Malone (1981) points out that intrinsic motivation plays an important role in determining usage of computer systems. That is, people use systems in part because they enjoy the process of using per se, not just because they are extrinsically rewarded for using the system. Intrinsic motivation may be one mechanism underlying the observed direct affect of system characteristics on attitudes toward using the system. From this perspective, an individual's affect towards using a given system is jointly determined by the extrinsic and intrinsic rewards of using the system. Based on these findings, Davis, Bagozzi & Warshaw, (1992) conducted research on extrinsic and intrinsic motivation and use of computers in the workplace. The results of their research suggested that both usefulness and enjoyment influenced employees' usage of the computer system.

User's subjective Evaluations

Robinson (1989) suggests that a user's subjective evaluations can be a determinant of whether or not they accept that system. These include the evaluation of the value or desirability of the outcomes of the computer system, the extent to which the system meets the user's expectations and the perceived functional utility of the computer

system (Robinson, 1989). Robinson surveyed 169 employees from a large organisation who used a commercial online database. The results of this study revealed that different user groups differed in their reactions towards using the database and that employee attitudes toward new technology could be improved by ensuring that the function utility of the new system is fully explained to the user.

Computer self-efficacy

Venkatesh & Davis (1994) looked at a model of antecedents of perceived ease of use and hypothesised that an individual's computer self-efficacy would have an impact on the way that employees perceived the computer's ease of use.

Venkatesh & Davis (1994) found that computer self-efficacy acts as a determinant of perceived ease of use both before and after hands on use. They found that users base their ease of use perceptions on computer self-efficacy before hands on system use, irrespective of the extent of procedural information given to them (Venkatesh & Davis, 1994).

In summary, research suggests that individual characteristics such as rigidity, low self-esteem, familiarity with the computer system, motivation and computer self-efficacy can all contribute to user acceptance.

Howell & Higgins (1990) in their research identified specific individual qualities of "champions of technological change" that assist them in accepting and promoting new information technology within their organisation. These are discussed below.

Individual characteristics that assist acceptance

Howell & Higgins (1990) conducted research in an attempt to understand what makes "champions of technological change" successful. Howell & Higgins interviewed more than 150 key individuals associated with 28 successful information-technology innovations in 25 large Canadian organisations. From the individuals interviewed, 25 champions, who were all middle managers, were singled out for in-depth study. Each was interviewed for two hours about his or her role in introducing and implementing the innovation.

The purpose of their study was to uncover the unique individual qualities of champions that motivate them to actively promote new technology within their organisation. They found that they all had distinctive personality characteristics and strong leadership (Howell & Higgins, 1990).

Their personality characteristics included extremely high self-confidence, persistence, high energy and risk taking. Howell & Higgins (1990) found that champions showed extraordinary confidence in themselves and their mission. They were also motivated by a passionate belief in, and enthusiasm about, the nature of the technology that was being implemented and what it could do for the organisation. The champions also tenaciously held to their ideas and persisted in promoting them despite frequent obstacles.

The champions were also risk takers. Howell & Higgins (1990) found that in many cases champions willingly risked their positions and prestige to ensure the innovation's success. Champions also envisioned only winning, not losing in their struggle to implement their ideas.

In addition to the personality characteristics mentioned above, champions of change also displayed exceptional leadership behaviours. Howell & Higgins (1990) described the champions as transformational leaders, those who inspire others with their vision of an innovation's potential, who display strong personal conviction in their mission and who gain the commitment of others to support their mission. These types of leaders also have the ability to build excitement and enthusiasm around the idea and promote the positive impact of information technology on the organisation. They gain acceptance for the idea by appealing to larger principles or values about the innovation's potential for meeting the organisation's needs (Howell & Higgins, 1990).

Howell & Higgins (1990) have found that champions of new technological innovation have a complex interaction of personal qualities, leadership behaviours and career experience. Equipped with these characteristics, champions have a conviction in the rightness of their beliefs. Their perseverance in the face of organisational resistance, and their willingness to undertake personal risk to promote their cause provide the

initial momentum for them to seize an idea and run with it. Champions also express their dreams with a level of enthusiasm and excitement to encourage others to become innovative in the way they think. Finally, the champions' career experience and position within the hierarchy of the organisation (usually middle management) enhance their ability to recognise and develop ideas that are of value to their organisation. Table 1: illustrates this.

Table 1: Individual Qualities of Champions of Technological Change

Personality Characteristics	Leadership Behaviour	Career Experience
Self-confident	Expresses captivating vision.	Long tenure in the organisation.
Persistent	Pursues unconventional action plans.	Middle management position
Energetic	Develops other's potential	Decision-making authority
Risk-prone	Gives recognition	In-depth knowledge of the industry. Experience in many divisions and locations.

In summary, research suggests that individual variables such as rigidity, self-esteem, system familiarity, motivation and computer self-efficacy can all have an affect on employee acceptance of new technology. Howell & Higgins (1990) also identified certain personal qualities that can contribute to employees accepting new information technology. While personal characteristics are important, other variables such as those related to the new technology itself can also have an impact on how well an employee accepts the new system. These variables are discussed below.

System Factors

Davis (1989) is one researcher who has looked specifically at user acceptance and system features. Davis (1989) looked at why users accept or reject information systems and specifically at how user acceptance is affected by the design features of the new system. One of his studies used the technology acceptance model (TAM) to explore why users accept or reject information technology and how user acceptance is influenced by system characteristics (Davis 1993). Davis' (1993) research is very

practical in its approach. It is concerned with why a system is unacceptable to the end-user and how to improve the users' acceptance through the design of the system.

In order to conduct his research, Davis (1993) circulated a questionnaire to 120 users and asked them to rate two different software systems, an electronic mail system and a text editor, which were widely available in their organisation. The subjects consisted of 112 professional and managerial employees of a large North American corporation. A response rate of 93% was achieved.

The respondents were first screened to make sure they had used the target systems, so that their attitude and belief measures were formed based on direct behavioural experience with the attitude object. For each system, respondents were asked to rate their perceived ease of use (EOU), perceived usefulness (USEF), attitude toward using (ATT), and actual current use of the system (USE).

Davis hypothesised that the overall user attitude toward a system would be a major determinant of whether or not the employee would use the system. Davis suggests that the user's attitude toward using the system is made up of two elements; first, perceived usefulness of the system, and second, perceived ease of use. Perceived ease of use has a causal affect on perceived usefulness. Davis suggests that the system design features directly influence perceived usefulness and perceived ease of use and indirectly affect the user's attitude toward using the system (Davis, 1993).

The results of Davis' study suggest that attitude has a significant affect on usage. Davis also found that perceived usefulness had a significant and strong affect on attitude. Ease of use had a smaller but also significant affect on attitude, and a strong affect on usefulness (Davis, 1993).

Davis suggests that the most striking result from his research is the powerful effect of usefulness on actual use, both directly and indirectly through attitude. The results suggest that usefulness exerts more than twice as much direct influence on use than does attitude toward using, indicating the importance of the usefulness factor (Davis, 1989).

In summary, Davis' (1993) research suggests that system factors such as perceived ease of use and perceived usefulness have an impact on how an employee accepts the new system. However, Davis' (1993) research excluded external organisational factors that can affect a user's acceptance even before that user has used the system. These factors include the way the change was communicated, the quality of the training, the attitude of the employee's manager or supervisor and the culture of the organisation. All of these factors can affect user acceptance even before the user has hands on usage of the system

Summary

In summary, research suggests that both individual factors and system factors are important determinants of how employees accept IT changes. Research also suggests that organisational factors such as communication, leadership and culture affect how well employees accept organisational change. However, most of the research in this particular area has been carried out in conjunction with organisational changes such as mergers, downsizing and organisational restructures. There is a need to explore these factors in conjunction with organisational changes such as new information technology.

CHAPTER 6: RESEARCH METHODS IN ORGANISATIONAL CHANGE

Introduction

The purpose of this thesis is to explore the impact of organisational factors such as communication, leadership, culture and training on employee acceptance of new information technology. This chapter explains the rationale for the methodology chosen for the research; describes the sampling strategy used and then relates the current research to other studies that have used small sample sizes. The chapter ends by outlining why this research is important and unique.

Methodology

The studies in this research are a combination of both quantitative and qualitative research. This section endeavours to explain and justify the rationale behind using both methods. This will be done by providing an explanation as to why a qualitative methodology was used, the usefulness of such a methodology, the types of qualitative methods that were used in terms of why the methods were chosen, and the validity and reliability of the methods.

Qualitative methodologies are used to explore people's meanings in regard to their own experiences of events. As Minichiello and colleagues suggest:

> *"qualitative research attempts to capture people's meanings, definitions and descriptions of events"* (Minichiello, Aroni, Timewell & Alexander, 1995, 9).

In contrast, quantitative methodologies attempts to count and measures things (Berg 1989). The differences between the two methodologies can be characterised under two broad categories, conceptual (the nature of the phenomena studied) and the methodological (the handling of data) (Parse, Coyne & Smith, 1985).

The choice as to which methodology to use needs to be based on the research question that is being asked (Minichiello, Aroni, Timewell & Alexander, 1995). Minichiello et al (1995) also suggest that the choice of method is influenced by the

assumptions that the researcher makes about science, people and the social world. Thus, the method used often influences what the researcher will see. As Dawson summarises:

> *"The 'divide' between qualitative and quantitative longitudinal research for understanding the process of change should centre on the research being posed, rather than with epistemological issues which serve to perpetuate hostilities between the two approaches. It is in the nature of these different research methodologies that one is more suited to a macro analysis of change (that is, identifying key trends and changes over time), and the other to micro analysis of change (that is, identifying the details of a particular change over time)".* (Dawson, 1994, 191)

A major distinguishing characteristic between a qualitative and quantitative approach is the way in which the research phenomenon is identified for inquiry. Qualitative researchers challenge the assumption that human beings can be studied by a social scientist in the same way as a natural scientist would study things. They argue that human behaviour is different in kind from inanimate objects. For this reason, qualitative researchers seek to uncover the thoughts, perceptions and feelings experienced by their participants. They are most interested in studying how people attach meaning to, and organise, their lives and how this in turn influences their actions (Minichiello, et al, 1995).

Qualitative methods, such as interviewing, are said to allow the researcher to gain access to the motives, meanings, actions and reactions of people in the context of their daily lives. This methodological approach, without relying on the predetermined and fixed application of the predictive and prescriptive requirements of the quantitative methodologies, can facilitate an understanding of the participants' perceptions. The focus of qualitative research is not to reveal causal relationships, but rather to discover the nature of phenomena as humanly experienced. It is a deliberate move away from quantification and testing of hypotheses (Minichiello, et al, 1995).

As mentioned above, another way to distinguish qualitative and quantitative research methodologies is in terms of the way the data are handled. Qualitative researchers are not primarily concerned with assigning numbers to their observations or transcripts. Data from participant observation, unstructured interviews and oral accounts are studied for themes in the natural language of the participants. The classification system used to code the data is not usually numerical. The data are transformed by using the language of scientific knowledge to make the participant's descriptions and experiences of their social world accessible to those who have not participated in it. In contrast, the handling of data in quantitative studies is predominantly through statistical analyses, where the data are produced by counting and measuring (Minichiello, et al, 1995).

Table 1 describes the traditional characteristics that differentiate qualitative and quantitative methodologies. As the table shows, the concept of qualitative methodology is concerned with understanding a person's behaviour or story from their perspective, whereas quantitative methodology is concerned with discovering factors about social phenomena and attempting to measure them.

Table 1: Traditional characteristics of qualitative and quantitative methodologies.

	Qualitative	**Quantitative**
Conceptual	■ Concerned with understanding human behaviour from the informant's perspective. ■ Assumes dynamic and negotiated reality.	■ Concerned with discovering factors about social phenomena. ■ Assumes a fixed and measurable reality.
Methodological	■ Data are collected through participant observation, unstructured interviews. ■ Data are analysed by themes from descriptions by informants. ■ Data are reported in the language of the informants.	■ Data are collected through measuring things. ■ Data are analysed through numerical comparisons and statistical inferences. ■ Data are reported through statistical analyses.

(Minichiello, Aroni, Timewell & Alexander, 1995, 10)

The approaches to data collection in both qualitative and quantitative methodology are also different. In qualitative methodology the data are collected through participant observation or unstructured interviews. The data are then analysed by looking at themes from descriptions by informants. When a researcher uses quantitative methods the data are collected through measuring things and analysed through numerical comparisons and then reported through statistical analyses (Minichiello, et al, 1995).

In the current research both qualitative and quantitative methods were used. The qualitative methods were used in order to capture the participants' meanings and descriptions of the organisational change that they were experiencing at the time of the survey. Quantitative methods were then used in order to measure the participants' attitudes toward different aspects of the change process and the outcome. Quantitative data were gathered via likert scales. The benefit of combining both quantitative and qualitative methodologies is that the qualitative data can provide the statistical results with more meaning. For example, if the results indicate that communication is a significant factor that affects employee acceptance of change, the qualitative data can provide information as to what aspects of the communication are important and why.

The types of qualitative methods that were used in this study were in-depth interviewing, document analysis, surveys and to a lesser extent participant observation. Each of these will be discussed below in terms of why the method was chosen and the validity and reliability of the method.

In-depth interviewing

In-depth interviewing was used in one of the studies in the present research. This section provides information as to the process of in-depth interviewing. As mentioned earlier, the primary focus of the interview is to understand the significance of human experiences as described from the participant's perspective and as interpreted by the researcher. This requires that the researcher have personal interaction with the individual and their context so that he or she can understand the person's language more accurately and observe their behaviour within the situation. Studies using in-depth interviewing attempt to tap into people's experience by

presenting analyses based on empirically and theoretically grounded descriptions. The aim is to understand the interpretations people attach to their situations.

In the words of Geertz:

> *Believing with Max Weber, that man is an animal suspended in webs of significance he himself has spun, I take culture to be those webs and the analysis of it to be therefore not an experimental science in search of law but an interpretative one in search of meaning."* (Geertz, 1973, 5)

In order to successfully conduct an interview, rapport needs to be established with the participant in order for trust to be gained. Many researchers also choose to use an interview guide in order to ensure that they cover all the questions that they wish to ask. The researcher can use open and closed questions in the guide and can use probing questions when they need to elicit more information from their participant. The other types of questions that are used by researchers are descriptive questions (descriptions of events that they have experienced), structural questioning (how participants organise their knowledge), contrast questioning (making comparisons with other situations or events), opinion/value questions (this type of question attempts to understand the cognitive or interpretative processes of participants), feelings questions (people's emotional responses), knowledge questions (to find out what factual information the participant has), sensory questions (those questions asking the informant about what has been seen, heard, touched, tasted and smelled) and finally, background/demographic questions (these questions are used so the researcher can identify the participant being interviewed in his or her social context) (Minichiello, et al, 1995).

Interviews can be carried out in a structured format, or in a conversational style that can consist of story telling with the participant providing examples in order to illustrate some of their points. The questions described above are a natural part of the interview process and are used when appropriate (Minichiello, et al, 1995).

Researchers either take notes or use a tape recorder to record the interview. These two methods are most commonly used and are often used in combination (Minichiello et al, 1995).

Surveys

According to de Vaus, (1991) surveys are characterised by a structured or systematic set of data that is collected in relation to a number of variables about a number of participants or cases. It is then organised and analysed and made meaningful in relation to the research questions.

One function of survey analysis is to describe the characteristics of a set of cases. Survey research is also interested in causes of phenomena. For example, the researcher may attempt to locate causes by comparing cases (de Vaus, 1991)

Document Analysis

A document analysis was also carried out for one of the studies in the present research. The purpose of the document analysis was to evaluate the factors that contributed to successful information technology implementations. This type of data is termed a secondary source, as they are documents that have already been analysed and summarised by another person. These sources may include transcripts or summaries of primary source materials. Critical appraisal of these data must be undertaken with careful consideration of the primary author's perspective and potential biases (Burgess, 1993).

Research Validity

Researchers are confronted with questions of validity and reliability. For example, how far does the researcher's presence influence the generation of the data? (internal validity). Can the data that are obtained in studying one situation be generalised to other situations? (external validity) (Burgess, 1993).

One way of addressing this problem in qualitative research is by using what Burgess (1993) terms multiple strategies. By using different methods of data collection the problems that stem from studies relying upon a single theory, single method and single

set of data are reduced (Burgess, 1993). This process has often been described in the literature by the term "triangulation". Triangulation essentially means the gathering of accounts of situations by three different points of view. Burgess, however, prefers to use the term "multiple strategies" as it allows the researcher to use a variety of methods, data, investigators and theories to overcome problems of bias (Burgess 1993)

In summary, research suggests that qualitative methodologies should be used when the researcher is interested in exploring the participant's meanings and definitions of an event that the participant has experienced (Minichiello, et al, 1995). Research also suggests that qualitative methodology is the most appropriate methodology when the researcher is attempting to answer research questions that endeavour to capture the participant's meaning, understanding and interpretation of events. Thus, for part of the present research, a qualitative methodology has been used, together with quantitative measures, of the participant's attitudes toward the change process and change outcome. Reliability and validity has been addressed by using multiple strategies in data collection (Burgess, 1993).

Sampling Strategies

The present research conducted one study in which stratified sampling was used. Stratified sampling is a sampling technique that attempts to produce a more representative sample. To use stratified sampling, the researcher first selects the relevant stratifying variable or variables, that is, the characteristic on which the researcher wants to ensure correct representation in the sample. The major stratifying variable in the present research was position within the organisation, (for example, partner, senior manager, manager, secretaries and administrative staff). While the overall purpose of the research was to investigate user acceptance of new information technology, one major focus of the research was to look at the participants' level of acceptance in relation to their positions within the organisation. For example, are there differences between senior staff and administrative staff in their acceptance of new information technology?

Difficulties Associated with Organisational Research

Conducting research in organisations is often done with great difficulty. In conducting organisational research the researcher must make contacts and develop rapport quite quickly (Dawson, 1996). Researchers also need to gain the trust of the participants, and particularly from senior management. Many organisations feel apprehensive about allowing an 'outsider' to delve into their organisation, and senior management can often feel nervous and threatened as to what the researcher might find. Researchers who have experience in organisations suggest that new researchers need to use friends and relatives to gain access where possible, use non-threatening language when explaining the nature of the study, deal positively with respondents' reservations about the study and finally, offer a report of the findings to the organisation (Buchanan, Boddy & McCalman, 1992). Organisations have also been known to put limits on the researcher. For example, there may be some aspects of the organisation that the researcher is not allowed to investigate. This can often result in smaller sample sizes and not having permission to explore interesting aspects of the organisation; for example, its "leadership". Confidentiality is another important aspect of organisational research, as it is in all research. This is an area that needs to be explained to the organisation in terms of the research itself, the data collection method, the way it will be written up and also confidentiality issues within the organisation; for example, who will have access to the data that the researcher obtains.

Buchanan, et al, (1992) offer specific advice to those who are conducting research within organisations. In regard to getting into the organisation they suggest that the researcher first needs to allow time for the appropriate negotiations to take place; second, use friends and relatives wherever possible; third, use non-threatening language when explaining the nature of the research; and fourth, deal positively with respondents' reservations in respect to the time the interview or questionnaire will take, and the confidential nature of their responses (Buchanan, et al, 1992).

Purpose of the current research

The purpose of the present research was to explore the organisational factors that can contribute to employees' acceptance of new information technology within their organisation. The organisational factors explored in this study include; demographic variables, prior experience of organisational change, communication, leadership, organisational culture, working relationships and training and how these factors affect employee acceptance of new technology. These factors have been studied by other researchers, but primarily in regard to organisational changes such as mergers, organisational downsizing and organisational restructuring (Alderfer, 1976; Arndt, Feltes & Hanak, 1983; Bem, 1967; Chown, 1972; Festinger, 1957; Howell & Higgins, 1990; Stone, Kemmerer, & Gueutal, 1984; Venkatesh & Davis, 1996; Wells & Marwell, 1976). The purpose of the present research is to examine these factors in detail in relation to new information technology to determine how they might affect user acceptance.

CHAPTER 7: Study One

EXPLORATORY CASE STUDIES TO DETERMINE KEY FACTORS THAT CONTRIBUTE TO SUCCESSFUL INFORMATION TECHNOLOGY IMPLEMENTATIONS

Introduction

According to current research, lack of user acceptance is an ongoing obstacle to the successful implementation of new information systems (Davis, 1993). User acceptance, or the lack thereof, is often the crucial factor that determines the success or failure of a system. Previous research by Davis (1989; 1993) suggests that there are two determinants that are especially important in influencing acceptance or rejection of information technology. First, people tend to use or not use an application to the extent they believe it will help them perform their job better. This is referred to as "perceived usefulness". Second, even if potential users believe that an application is useful, they may also believe that the system is too difficult to use and the benefits are out-weighed by the effort of using the application. This is referred to as "perceived ease of use". These two factors are hypothesised by Davis (1989) to be fundamental determinants of user acceptance.

Davis (1993) uses the technology acceptance model (TAM) to address why users accept or reject information technology and how user acceptance is influenced by the design of the system. The basic premise of TAM is that a user's overall attitude toward using a particular system is the primary determinant of whether that person will actually use the system. In turn, attitude (in this case) is a function of two beliefs, perceived usefulness and perceived ease of use.

Recent research has endeavoured to determine the antecedents of perceived ease of use in order to better understand why some users do not accept new technology (Venkatesh & Davis, 1996). Vankatesh & Davis's research suggests that computer self-efficacy acts as a determinant of perceived ease of use. That is, even if a user possesses little or no knowledge about the ease of use of a particular system, they may have a well-formed sense of their ability to use computer technologies in general and this will determine whether they are more likely to accept a new system.

The present study was carried out to provide further knowledge about users' attitudes toward new systems. To do this, the study analysed ten separate consultant reports

concerning IT implementations that provided specific details regarding user acceptance of the systems. The study also analysed the methodologies used by the consultants to evaluate the success of the implementations to determine whether they adequately evaluated the critical factors identified in the relevant research literature.

The reviews used for this study covered both user issues and project management issues. The purpose of the present analysis however, was to concentrate on user issues. Any analysis in relation to project management was examined from the user's perspective and how the project management may have helped or hindered the implementation.

Methodology

The present study used a qualitative methodology in order to understand meanings of events experienced. This method makes it possible to uncover the thoughts, perceptions and feelings experienced by the subjects (Minichiello, Aroni, Timewell & Alexander, 1995).

Data from qualitative methods, such as case note reviews, participant observations and unstructured interviews are studied for themes in the natural language of the participants. These data are then transformed into themes that are more easily accessible to, and understood by, individuals who have not experienced the same event (Minichiello et al, 1995).

The present study attempted to determine what user factors contributed to successful or unsuccessful system implementations within the broad context of organisational change. Ten separate reviews were analysed to determine key factors.

Case Study Reports

The ten case study reports were obtained from a consulting organisation that conducts reviews for organisations that have recently implemented new systems. Case studies were sought that could be divided into two groups, those associated with implementations that were deemed "successful" by the consultants and those deemed "unsuccessful". Success was defined in terms of a successful implementation process, achieving outcome goals and

meeting budget. All those chosen as successful met these criteria. Those chosen as unsuccessful met none of these criteria.

Accordingly, the consultants were asked to supply the researcher with five "successful" and five "unsuccessful" implementations. Four of the case studies had been carried out on a very large gambling organisation in separate reviews. Three of these had been carried out on three separate IT systems and the fourth consisted of a review of an existing accounting/administration system followed by a review of a new accounting/administration system.

All the reports were written by the consultants who had been hired by the organisations involved in the IT changes. These reports were obtained by the author from the consulting organisation. The manager of the IT division of the consulting organization was approached and the implementation reviews were provided in paper copy. The consultants were made aware of the purpose of the study and were assured that neither the organisations nor the consultants would be identified in the study. They were also told that feedback on the results of the study would be available on request.

Many of the case studies provided the number of users involved in the interview process as part of the review, however general terms such as "majority", "most of" and "some" were used when the consultants described the users responses. These terms were the consultants' and were not interpretations of the results provided in the case studies.

"Successful" Reports

Case Study One: Case study one involved a review of an on-line IT system for the validation of instant money game tickets that was implemented to address data handling issues identified by the organisation operating lotteries. These issues will be discussed further in the next section. There was no mention of how many users were interviewed in regard to user satisfaction.

Case Study Two: Case study two involved a review of an IT implementation that was to assess the performance of an IT disaster back-up system of a gambling organisation. There was no mention of how many users were affected by the new system.

Case Study Three: Case study three involved a review of a financial system that was implemented in a university. The university had approximately 100 users of Oracle* Financials. Oracle* was implemented to replace the organisation's old financial system and included general ledger, accounts payable, accounts receivable, purchasing, fixed assets and inventory. To assess user satisfaction regarding various aspects of the system, a number of workshops and interviews were held by the consultants across various areas of the organisation. All users were given the opportunity to complete a user satisfaction questionnaire, with responses being received from 39 users (approximately 40% of the active user community). The questions that were included in this questionnaire and workshop will be described in the next section.

Case Study Four: Case study four involved the review of the Open Architecture Clinical Information System (OACIS) that was implemented in a government (in the health industry) organisation that had 120 users of the system. Workshops were held by the consultants and attendees were asked to complete a questionnaire at the end of the workshop. Details in regard to the content of the questionnaires and workshops will be discussed in the next section. Thirty-six users replied to the questionnaire (approximately 30% of the total group).

Case Study Five: Case study five involved the review of a Customer Services Information System (CSIS) that was implemented in a state government organisation. This system had approximately 420 users. The consulting team, that was made up of internal and external consultants, conducted interviews with 16 key users and 4 customer service managers, in order

to assess user satisfaction. According to the Implementation Review Report, the aim of this sample was to obtain a fair representation from which to assess user satisfaction. The consulting team were made up of external and internal consultants. These users were identified by the organisation on the basis that they would provide fair and honest opinions about the system. Four customer service managers were also interviewed.

"Unsuccessful" Reports

Case Study One: Case study one involved the review of an updated registry system within a legal organisation. The organisation had 600 users throughout South Australia. Six key users were interviewed by the consulting team. Three users were selected by the organisation and three were selected by the consultants. The questionnaire addressed specific areas of the implementation and these are outlined in the next section.

Case Study Two: Case study two involved the review of a finance system that was implemented in an insurance organisation that had 20 users. Seven key users were interviewed by the consultants. The users were selected by the organisation and were representative of all departments. The content of the questionnaires is provided in the next section.

Case Study Three: Case study three involved the review of an existing administration/accounting system within a gambling organisation. There were 100 users of the new system. The consultant report does not give a specific number of users who participated in interviews and workshops. However, the users were given the opportunity to complete a user satisfaction questionnaire and 39% of individuals did so.

Case Study Four: Case study four involved the review of a new administration/accounting system that was implemented within a gambling organisation. The report does not indicate the number of users in the review.

Case Study Five: Case study five involved the review of a data security system implemented in a government organisation in the area of education. The report does not indicate whether or not the users were approached in relation to their issues.

Procedure

The reviews were obtained from the consultants who conducted the reviews and wrote the reports. While the names of the organisation were in the reports, they were not revealed in the research. The IT manager of the consultant organisation gave permission to use the reports provided that confidentiality was assured.

Each report was read separately and a case study analysis was developed which contained three sections: Background, Overall Assessment and User Issues. The "Background" section provided a brief account of why the review took place and its scope. The "Overall Assessment" provided comments in regard to how successful the implementation was and the "User Issues" section summarised the user's issues specific to each implementation. The data were then summarised and reorganised in order to uncover concepts and themes. This was achieved by comparing the individual cases with each other.

The case studies are first summarised in general terms as descriptive accounts of each implementation review. Within the "Findings" and "Conclusions" sections, however, the summaries are more interpretative and integrate knowledge of prior research that assisted in interpreting the case studies within a broader context (Minichiello et al, 1995).

Results

The results were considered in terms of "successful" implementations and "unsuccessful" implementations, with the successful implementations being presented first.

"Successful" Implementations

Case Study One

Background

This implementation review was undertaken by an IT consulting firm in order to review an on-line validation system of instant money game tickets for a gambling organisation. The implementation of the new validation system occurred because the system that was originally in place did not provide accurate information to management and staff in a timely or efficient manner. The review was undertaken two years after the system was put into place.

In order to put the implementation project in context, the report first considered the mission statement and the objectives of the organisation, as detailed in the annual report of the organisation. These are as follows:

To promote and conduct lotteries efficiently and effectively.
To promote and conduct lotteries fairly and honestly.
To maintain a high level of integrity and public confidence
To make available through a network of agencies and retail outlets a range of products that will allow the public to participate in fair, properly controlled and audited games of chance, if they choose to do so.

In order to achieve the organisation's corporate objectives a new IT system needed to be implemented to rectify problems associated with the organisation's old IT system.

The report indicated that the main problems with the organisation's old IT system were:

There were too many manual activities associated with the system.
Instant Money Game business requirements had outgrown the software system support capabilities. The system had only very limited control over exposure to fraud.

Numerous examples existed of modifying accounting requirements to fit the system capabilities.

The software system facilities had not kept pace with changes/advances in technology.

New technology was now forcing a review of the current system.

It was the purpose of the Project to implement the new On-Line Validation of Instant Money Game Tickets to provide solutions, whereby:

All prizes are validated on line.

All prizes have unique VIRNs (Void If Removed Numbers)

VIRN numbers or a significant part thereof can be read direct from the ticket via a wand or swipe reader connected to the wagering terminal.

The online validation system and Instant Money Game administration/accounting functions are integrated.

The distribution and administration functions are computerised so that only minimal staff intervention is necessary.

Users Perspective

The review indicated that there had been very limited user involvement in the selection of the software packages or in the tailoring of screens, system functions and reports. Users were only involved through the Office Controller, who discussed requirements with staff who would be using the system In addition, there was no formal attempt to obtain feedback from the users after the system had been implemented.

Several months of acceptance testing was performed before the new software was implemented. Acceptance testing is a procedure by which the new system is used by a group of individuals who represent employees within the organisation that will be using the system. The role of the users is to test different business scenarios that are in the form of test scripts and document any difficulties that they may have. Test scripts are written instructions that explain to the user what they need to do within the system to achieve a particular business scenario. Any difficulties that are identified through acceptance testing are then reported and rectified. The report indicated that the test scripts that were used were not as comprehensive as they could have been, and that this may have hindered the acceptance

testing process. The reason for this was that the supplier of the software included incomplete documentation as to how the system operated. The report also indicated that the testing was not formalised at any stage throughout the implementation and therefore the results of the testing were not recorded. The report indicated that this could have affected the identification of system problems.

During the implementation, discussions were held with the internal users in regard to what they required from the system. This was then referred to the Steering Committee who compiled a list of user requirements. However, the report indicated that the users were not consulted about their requirements.

The report indicated that the review did not extend to holding discussions with users themselves and the comments were based on feedback received only by those users who were in regular contact with them at the time of the implementation. The feedback from the users suggests that the new system was well received and considered very straight forward to use.

The report did not indicate how many users were followed up in regard to feedback on the system, nor how the information was obtained; for example, via questionnaire or interview or both.

Overall Assessment of the Implementation

According to the report, the project implementation was deemed successful because it was cost-effective and it generally achieved the benefits expected of it, although the report did not specify what the term "generally" means. The initial outlays of the project would be recovered over a period of time through net annual savings generated by the new system. Thus it was concluded that the system had been a cost effective solution for the organisation. Moreover, in terms of functionality, the system appeared to be functioning in the manner expected. However, the report noted that there was little user involvement in user testing and little feedback as to their satisfaction with the system. It was nevertheless concluded that the implementation of the new system had fulfilled the Corporate Objectives.

Factors that contributed to the success of the implementation

- The implementation was cost effective.
- The implementation achieved the organisation's benefits.
- The system achieved the required functionality.

Case Study Two

Background

The purpose of this review was to assess the performance of a "Disaster Back-up" system in the same gambling organisation as Case Study One. The purpose of the Disaster Back-up System was to provide the organisation with a back up computer system at a remote site facility so that the organisation could keep running in the event of a disaster that disrupted the primary computer system.

The idea of remote logging of data transmission evolved from concerns from senior management that there was a risk of disaster at the primary location such as terrorism, sabotage, natural disaster, fire or major equipment failure or telecommunication failure. Senior management then considered the need for a full disaster back-up facility.

The Disaster Back-up System was achieved by developing a remote computer site, installing a mini computer and installing an appropriate data communication service to allow the agent network to switch from the primary site to the remote site in the event of a disaster.

The remote site would provide the organisation with a high level of assurance that the system could be on-line within an acceptable period of time such that sales were unlikely to suffer any long-term impact if a disaster did occur.

In order to place the Disaster Back up Project in context, the report provided information on the company's mission statement. This can be found in the previous section on Case Study One.

The project was expected to conform to all the corporate objectives and was specifically targeted to meet the following objectives:

- Resume operations within one hour of an interruption to on-line wagering caused by a disaster such as terrorism, sabotage, natural disaster, fire or major equipment failure or telecommunication failure;
- Restrict the cost of a disaster in terms of lost revenue to no more than $100,000;
- Provide for all on-line files and wagering data to be logged at a remote site so as to ensure that no information is lost in the event of a disaster, thereby eliminating the possibility of litigation due to loss of data;
- Eliminate the possibility of litigation arising from a disaster due to customers' inability to submit entries by ensuring prompt resumption of on-line wagering.
- Provide for agent training, software development and software testing facilities to be available at all times; and
- Ensure that the organisation, in the event of a disaster, can still fulfil its obligations to the public by providing the necessary details of turnover and winners within the time constraints.

Operational Performance

Staffing

It was envisaged that all operations personnel would have, or develop, the appropriate experience in operating and maintaining the remote backup site. The report indicated that frequent testing of the remote site since inception had achieved this.

Operational Problems

Given the size and nature of the project, relatively few operational problems were reported. Any operational problems that did occur were documented by the appropriate manager or staff member. Two examples that were reported were:

- There were initial problems in connecting the remote site with the agent network. These problems were resolved with the co-operation of an engineering firm.

- Problems and delays were experienced with the method used to switch the agency network lines. This was subsequently changed to have automatic switching undertaken by a national telecommunications company.

Overall Assessment of Implementation

According to the report, the principal planned benefit of the project was to reduce the extent of down time of the current system in the case of a disaster at the primary computer location. Testing of this project confirmed that the remote site would operate and indicated that this benefit had been realised. The testing was carried out by a group of users to identify potential problems and report them so that they could be rectified. The availability of the remote site had significantly reduced the risk that the organisation would not be able to recover from a disaster within one day. Without the remote site the organisation would only be able to recover from a disaster within 12-15 weeks.

Overall, the report indicated that the Diaster Back-up Systems and procedures satisfied the objectives initially set out by the organisation. With completion of the final phase, the organisation had the necessary back-up facility required in the event of a disaster.

Given the nature of the system there was no principal user of the disaster back-up facilities and procedures. Accordingly, the objective methods of measuring the success of disaster back up were to examine the results of the disaster recovery tests.

It was concluded that the disaster backup system was successful and met the business and project objectives.

Factors that Contributed to the Project's Success included:

- Frequent testing of the system before implementation.

Case Study Three

Background

The organisation involved in this review was a university that had recently implemented Oracle* Financials, which is a financial system that had replaced the organisation's old financial system. The new system included modules on General Ledger, Accounts Payable, Accounts Receivable, Purchasing, Fixed Assets and Inventory.

The objectives of the review were:

- to identify the tangible benefits that have been achieved with the implementation;
- to identify any obvious deficiencies in the implementation and to suggest future remedies and courses of action;
- to identify the existence of satellite systems currently being maintained by users;
- to identify any outstanding issues with end-users of the system and to suggest possible solutions to these problems; and
- to provide a consistency check on the achievement of project goals, objectives and budget.

Another group was also formed called the Effective Systems Process Review and Improvement Team (ESPIRIT). The purpose of this team was to set the goals and the objectives of the implementation. These were:

- To communicate reliable and easy to understand project information to those impacted by the implementation;
- To maintain resources, budget and timeliness to meet achievable project goals;
- To guide the university through the project;
- To facilitate the change process;
- To meet key requirements from the user base;
- To deliver a financial management system which improves the confidence of users in the areas of accuracy and timeliness;

- To deliver a financial reporting capability which enables appropriate, timely and accurate financial analysis;
- Ease of access for users;
- Clear policies and procedures;
- To clarify financial management roles and responsibilities;
- Work process improvements through minimising data duplication and processing time; and
- Improved understanding of financial processes.

Users' Perspective

The university had 100 active users of the new system. In order to address user satisfaction regarding various aspects of the system, a number of workshops and interviews were held across various faculties. All users were given the opportunity to complete a user satisfaction questionnaire, with responses being received from 39 users (this was approximately 40% of the active user community). The report did not provide a copy of the questionnaire, but indicated that the workshops and interviews focussed on the following aspects:

- positive issues arising from the implementation;
- negative issues arising from the implementation;
- whether the new system has increased their overall workload, or provided unexpected efficiencies;
- satellite systems remaining in use;
- outstanding issues, including interfaces to other systems; and
- user participation during the implementation and system support, training and documentation.

The report consolidated these issues into two broad categories:

- implementation/system benefits identified; and
- key findings of the implementation.

While the workshops and interviews focussed on high level implementation issues, the questionnaire was directed at more specific issues. These included:

- suitability/functionality of the system;
- accuracy and correctness of system results;
- ease of use;
- availability;
- reliability in operations;
- response times;
- security;
- help in use;
- user support; and
- the effectiveness of Oracle* Financials training

Throughout the review, the majority of concerns reported by the users related to the new financial system (Oracle), rather than the implementation process. However the users indicated that issues such as resource constraints during the implementation and training created problems. Problems were also created by having to adapt to a new system, while still having the responsibilities of performing their jobs. These problems are discussed below.

Resource constraints

Users reported that prior to, and during the implementation, they were required to undergo extensive training and spend time learning the new system, testing it and then providing feedback to the project team. This, in conjunction with the downsizing of staff that was occurring at the same time meant that staff felt under enormous pressure. The number of users who felt this way was not mentioned in the report.

Training

Responses regarding the training provided for the new system were varied. Some users identified it as a positive aspect of the implementation, while others believed it was a

negative aspect. Again, the number of users that made these comments was not identified in the report. The negative comments of the users included:

- Some users missed out on training
- The training was too intensive, causing the vast majority of knowledge to be forgotten almost immediately.
- Some training was provided too early and most of it had been forgotten by the time the system was implemented.
- A 'train-the-trainer' approach was adopted so that the trainers were only one step ahead of the class in their knowledge of the system.
- the training was not specific enough.

Accuracy of information

The report suggested that the ability of the system to generate accurate information had been adversely affected by *"poor quality original data"* and the *"lack of historical data from the other system"*. For example, the financial data that was put into the new system was of poor quality due to data entry errors.

Ongoing training

Many users felt overwhelmed by the amount and speed of initial training provided for the new system. A large majority of users stated that ongoing training was crucial to consolidate and improve their current skill set. The consultants also observed that some users appeared to be struggling with basic computer skills.

System responsiveness

Many users were not satisfied with the time it took to print system reports and stated that it was having an adverse affect on their productivity.

On-line help

A number of users felt that on-line help provided by the new system was misleading and inadequate. Even more users stated that the current user manuals were out of date, and contained a number of errors.

Paper records

A number of users stated that since the implementation of the new system the amount of paper printed and filed had significantly increased.

Communication of system issues

The review suggested that there was a general lack of communication of system problems between the users and the Finance User Support Team (FUST). The purpose of this group was to act as an interface between the users and the system implementers in order to ensure that the system's problems, as identified by the users, were rectified. For example, users identified some issues which they believe the FUST were resolving, when in fact they had not been advised of them at all. Other issues identified were IT design issues that could not be resolved but the users were not aware of this fact. Some problems that were relatively easy to resolve, however, had been raised by users.

Overall Assessment

The review stated that overall, the implementation was successfully managed with a high level of user satisfaction. The report did not, however, state how many users made up the majority and they did not indicate how they measured "satisfaction". They did, however, indicate that users reported that they were kept up to date in regard to the implementation. Nevertheless, one module did have some problems associated with it. The module that was deemed "unsuccessful" was the inventory module. This module involved the implementation of an inventory system into one of the faculties within the university. The report indicated that a number of staff (unspecified) was interviewed and that they indicated that the implementation did not proceed smoothly. The report suggested that the issues arose due to the following reasons:

- Functional problems
- Change management issues
- The communication between the steering committee was poor
- Poor user training

Factors that contributed to the implementation's success

The key factors that were seen as contributing to the success (according to the consultants) included:

- Comprehensive planning took place before the project began.
- A high degree of user involvement throughout the entire project (but no explanation of what this meant in detail).
- The commitment of the Finance User Support Team (FUST) and ESPIRIT.
- The role of the Effective Systems Process Review and Improvement Team (ESPIRIT).
- The project was managed successfully.
- There was a high degree of commitment from management.

Case Study Four

Background

This mid-implementation review was undertaken by the consultants in order to review the Open Architecture Clinical Information System (OACIS). The organisation was a government organisation in the health industry and the purpose of the system was to improve the management of patient information in four large hospitals. This was to be achieved by; better access to patient information, improvement in the quality of care by capturing data for outcome analysis, enabling the tracking and audit of many relevant care processes and increasing time available to clinicians for direct patient care activities to produce a higher standard of care. The purpose of the review was to assess whether or not OACIS had achieved the objectives as set out in the Implementation Planning Study (August 1995) and the Organisation's business case (October 1995) that was developed to gain approval for the funding of OACIS. The new system was to provide the basis on which the organisation could establish a framework that supports:

- Access to patient information at the point of care;
- Improvement in the quality of care by capturing data for outcome analysis to enable the tracking and audit of many relevant care processes;
- The automation of clinical functions to improve productivity via rapid access to data;

- A reduction in paper records to eliminate manual transcription and increase the electronic filing of results with consequent productivity and cost benefit improvements and;
- An increase in the time available to clinicians for direct patient care activities resulting in a higher standard of care, higher self esteem in care-givers and significantly improved patient satisfaction.

The initial implementation was divided into four phases each involving an implementation at a hospital. At the time of the report only Phase 1 and 2 had been fully implemented. The implementation review, therefore, only commented on two hospitals. The report indicated that the organisation formed a project management team to implement OACIS and this team was viewed as a key contributor to the success of the project to date.

User Issues

According to the report the two hospitals had approximately 120 users. To address user satisfaction regarding various aspects of the system, workshops were held at both hospitals with a questionnaire completed by the participants at the end of the workshop. The aim of the workshops was to gain an understanding from the users of specific benefits and issues arising from the implementation of OACIS. An additional workshop goal was to assist in the interpretation of the results of the user satisfaction questionnaire.

Participants were asked to list their initial expectations of the system at the commencement of the project. Workshop participants then assessed the extent to which each expectation had been realised to date.

The workshop participants were also asked to identify any unanticipated benefits achieved from the OACIS implementation. Any barriers to further development and/or other emerging issues were also identified at this stage.

After analysing the results of the questionnaire, (although the report did not state how the data were analysed), the review separated user responses into specific areas. These were as follows:

- suitability/functionality;
- accuracy and correctness of results;
- adaptability, i.e. changes to operation;
- ease of use;
- availability;
- reliability in operation;
- response times;
- security;
- help in use;
- user support; and
- the effectiveness of the training.

Suitability/functionality

Both hospitals reported that the overall extent of OACIS' functions were less than what was required by them to undertake their work. Issues raised by the users in relation to functionality were:

- *Data retrieval and reporting.* Users reported that they were satisfied with the ability of the system to track patient information over time and to display the information in graphical format. However, users reported that the system was not useful for viewing information on groups of patients. For example, to access data for several patients involved the opening of many screens.
- *Feeder systems.* Feeder systems were also identified as having an impact on the functionality of the OACIS. For example, users at one of the hospitals often found it quicker to use a direct link to the Institute of Medical and Veterinary Science (IMVS) to access test results rather than using OACIS as it was possible to access the results before they were available on the system.
- *Links to other health units.* Despite the issues reported with the feeder system, respondents were very satisfied with the ability of the system to link with other organisations.
- *Change in procedures.* Respondents from both sites commented that they have had to identify, analyse and restructure the business processes to varying degrees to suit the

requirements of the system. The majority of users considered that this process review had been a benefit of the implementation of the system.

- *Research*. The OACIS data base was also perceived as a useful tool for research.

Accuracy

Both sites reported that the accuracy of data contained within OACIS was acceptable notwithstanding a few specific problems at each site. For example:

- *Quality of data converted:* Many users at one of the hospitals expressed concern that the data from the previous system contained errors and that data quality checks were not made prior to transferring the data base to OACIS.
- *Data maintenance:* Some users commented that since much input was manual (considered time consuming by users) there was an issue of data accuracy.
- *Insufficient amounts of history data:* One user commented that only data existing in the previous system as at the transfer date were transferred to OACIS. Additional historical data were stated as being desirable.

Adaptability

Respondents from both sites identified a gap between actual adaptability of the system and what were required by the users. One user stated that there were many barriers to getting significant changes made to OACIS such as the number of committees, lack of understanding by pilot project participants, lack of support staff and desire not to do anything too difficult.

Ease of Use

There was a gap between the current ease of use of OACIS and the level that was required by the users. Some respondents stated that the use of OACIS would improve with experience and familiarity of the system as their computing skills increased.

In relation to data retrieval and reporting, the new reporting function was expected to improve the ease with which reports could be generated.

Availability

Users commented that the number of terminals enabled widespread use of the system and therefore staff had been able to learn the system relatively quickly.

System downtime, including that of feeder systems, was reported by both hospitals as having occurred a few times since project inception. This had resulted in significant disruption to the units so that clinicians appeared to be reticent about adopting paperless records.

Reliability

As the OACIS system was to become the only data repository of patient information, it was essential that it was reliable. Users at both hospitals were generally satisfied with the present reliability of OACIS. However, system down time was raised as an issue at both hospitals.

Responsiveness

Users were asked about their level of satisfaction in relation to response times of OACIS. For example, how long did it takes to print out information. The questionnaire indicated that users (the report did not specify how many) were less than satisfied with the response times. Users often reported that the system was slow to open, change and save screens. Other examples given were the slow response time to view large rosters and the system slowing down even more during peak times of use.

Security

Security is an important aspect of a system such as OACIS in order to maintain confidentiality of patient related information and to ensure that the database cannot be changed without appropriate authorisation.

Users appeared to be generally satisfied with the security of the system. However, a major issue raised at both hospitals was the timeliness of the automatic log off or time out facility. Many users commented that some users did not log off and the screen remained open for up to one hour, compromising patient confidentiality.

Help in Use

A "help in use" facility enabled users to resolve problems quickly without having to wait on an external help facility. Users were reported to be generally satisfied with this facility, but again, the report did not specify how many users reported this.

User Support

One site was generally satisfied with the support available, while the other site was neither satisfied nor dissatisfied. Some specific issues raised in relation to user support were as follows:

Resources: Some users commented that the potential of OACIS could be further developed and other users could be trained on the system.

Risk management and disaster recovery: The users were generally aware of system back-ups but were unsure that a disaster recovery plan existed.

Effectiveness of the training

Once again, one site was satisfied while the other site was neither satisfied nor dissatisfied with the education they received. The site that was neutral suggested that while users were provided with initial training, they did not receive ongoing training to enable them to increase their rate of learning of the system or to ensure that new staff received adequate training. In addition, users commented that there were differing levels of computing skills among the users in general and that some people would have benefited from additional training in OACIS.

Overall Assessment

The review concluded that, overall, the planned outcomes from the introduction of the system had been achieved.

The users were generally satisfied with the functionality that was piloted, and they perceived that the introduction of all available functions would better meet their needs. While user

satisfaction was obtained through interviews, workshops and questionnaires, there was no mention of how many users were involved.

According to the report, many of the benefits of the introduction of this type of information system were not measurable straight away. The immediate benefits, however, involved improvement in change management and business process re-engineering. As with any form of change, this process led to significant variations in the perceived requirements, processes and acceptance of change within the two hospitals.

Project management was viewed as a key contributor to the success of the project, but according to the report, thorough planning needed to be undertaken in the transition of the project from pilot to production.

The review outlined areas in need of improvement, some of which were raised by the users. The report also indicated that users were satisfied with the implementation of the first part of the OACIS system. However, as the users were aware of OACIS' further potential, their expectations had risen. Some of the key findings in relation to user satisfaction were as follows:

- Periodic workshops were required to ensure that OACIS remained functional by being relevant to the needs of users.
- Ongoing training: Ongoing training was needed to facilitate ongoing learning and provide new users with the opportunity to attend formal training.
- System responsiveness: Users were not satisfied with the time it took to save screens, change screens or view patient rosters.
- On-line help awareness: Many users were unaware of the on-line help facility.

The review also reported that the project management of the pilot implementation appeared to have been well handled. The project generated a high level of user commitment and involvement and this resulted in the users wanting to be included in the next phase of the project.

Factors that made this implementation successful:

- User involvement: User's were involved in identifying problems with the system and were invited to provide feedback after the system was implemented.
- Users were satisfied with the system.
- Planned outcomes were achieved.
- The project provided users' with appropriate support.
- Good project management.

Case Study Five

Background

The review of the Customer Services Information System (CSIS) was performed on behalf of the organisation under instruction from the Board of Directors of this semi-government organisation. The purpose of implementing CSIS was to improve workflow, reduce costs and reduce the number of employees. The report did not provide the reader with any detailed information as to the functionality of CSIS. The main purpose of the review was to assess whether the outcomes from the introduction of CSIS had been achieved.

According to the report, the implementation of CSIS was supported by extensive training on the system and supplemented by user documentation based on the training that was developed by the organisation's personnel.

Users' Perspective

CSIS had approximately 420 users. Interviews were conducted with sixteen (16) key users in order to determine user satisfaction. These users were identified by the organisation and selected on the basis that they would provide fair and honest opinions. The users came from various areas of the organisation including head office and branches. The aim of the sample was to obtain a fair representation from which to assess user satisfaction. The report indicated that the review of user satisfaction was not comprehensive.

According to the report, the users interviewed were overwhelmingly satisfied with CSIS. The interviews were conducted in a formalised manner through the use of a questionnaire

that was developed by the consultants and reviewed by the organisation before the interviews took place. Although the questionnaire was not attached to the report, the areas that the questionnaire covered were included:

- The user's current exposure to CSIS and their involvement with the development of CSIS;
- The integration between CSIS and other systems within the organisation;
- Accuracy and completeness of the data and processes within CSIS;
- Availability of CSIS;
- CSIS documentation;
- CSIS training and help; and
- Overall satisfaction with CSIS.

The report did not indicate what form the responses took; for example, whether the responses were rated or were qualitative answers, or a combination of both. In addition to the 16 users, four Customer Services Managers were also interviewed. The questionnaire for the managers was similar to that of the users but included specific questions on disaster recovery, business resumption planning and achieved benefits. Once again, this questionnaire was not included. A component of the questionnaire asked the users to list the benefits, weaknesses and areas for improvement within CSIS. All but one of the interviewees indicated that there was a significant overall improvement in functionality provided by CSIS when compared to the previous customer information system.

Users were generally satisfied with the way in which CSIS operated. Additional functionality such as the ability to provide more informed and quicker responses to customer enquiries were all noted as perceived benefits. However, some negative issues were raised, including inaccurate reporting and long turnaround times for discrepancies.

Accuracy and Completeness

The accuracy of the data obtained from CSIS was raised as a major issue by a "very large" number of users (again the number was not specified) from different areas within the organisation. This was due to the difficulty in converting data from the previous system.

The concern over data accuracy did not relate to the entire CSIS database, but the report did not indicate how much of the database was inaccurate.

Availability

CSIS availability was not an area of significant concern expressed by the users interviewed. The comments made by users were generally favourable and positive with respect to the availability of CSIS. When CSIS was initially implemented there were occasions where CSIS was unavailable for an extended period of time but this had not occurred in recent months.

Some system errors still occurred at different times. However, these were isolated incidents and were generally attributed to using certain screens.

To overcome the system errors, users rebooted their personal computers and then restarted CSIS. Other users restarted CSIS and attempted to reuse the function that caused the error. Resources were wasted when inappropriate personnel tried to resolve technical issues and complicated the resolution of the problem. If the helpdesk was not notified of all errors, it was not possible to identify the severity of problems and the impact on users.

Reporting

In assessing the user satisfaction with reporting, the consultants asked users about the major reports they received from CSIS and their effectiveness in providing the required information. The report did not indicate what types of reports CSIS produced.

"A number" of users commented that they were unhappy with the reporting they received. Some of these comments included:

- Small subsidiary systems had been developed and were being used to overcome problems that had been identified with some reports;
- Some reports were not received for a number of months after the "go live" date. This was up to six months in some cases;

- Reports received were not the same as those received from the previous system. No explanation was given for why the reports were different.

Training

The organisation made a significant investment in the introduction of CSIS. This investment included providing training to employees not only in the use of CSIS but also on how CSIS was to be used in conjunction with a person's job function. Once again, the report did not provide specific information as to what type of training was provided nor the content of the training.

"Most" users were satisfied that they received adequate training to allow them to use CSIS when it was introduced. "Most" staff were comfortable with the pace and format of training. However, one user indicated that the training was intense and so there was the possibility of "information overload". The report did not specify how many users constituted "most".

The majority of the negative comments about training received were with regard to the training database that was used to show examples of CSIS in operation. Because the training environment did not contain complete data, not all of CSIS functionality could be adequately demonstrated. In addition, CSIS was still being developed so in some situations the functions used in training were different to those available in the version of CSIS implemented. The impact of this was felt where some functions in specialised areas had not been developed when training was conducted. For this reason some users felt that the timing of the training was rushed to coincide with the "go live" date and did not provide an accurate representation of CSIS that was implemented.

Management also identified the level of computer literacy of some users prior to training as a problem. As some users were not familiar with the use of an IBM Personal Computer (PC) or Apple Macintosh, skills were needed in these areas before training in CSIS could be effective. The report did not, however, indicate whether or not this had been achieved.

Other Systems

CSIS provided a high level of functionality to its users without the need to have a number of different systems utilised within different areas. There were some functional areas that were not included and therefore required additional systems to be used.

Functionality

Overall the users were happy with the functionality of CSIS. They generally felt that the system was user friendly, the information was displayed logically and movement through the system was intuitively obvious.

Other areas of concern raised

Some users also raised other concerns outside of the areas listed above which the consultants felt were important. These concerns included:

- Discrepancies and enhancements of the system were not addressed quickly enough. This may have resulted in system errors re-occurring until they were resolved;
- A user indicated a concern with the way security was implemented. Users were asked what they required access to, instead of asking the business units which people should have access to their areas of responsibility.

In addition to the above user issues, users also stated that the documentation and on-line help provided was extremely useful. On-line help was developed so users could obtain information about the system while they were using the system. This was via a "help" key on the screen. This is discussed in more detail below.

Documentation

Generally, the users felt the training documentation provided them with enough information to perform their job functions without the need for other supplementary types of documentation; for example, hand written procedures.

There were three main types of documentation in use to provide support and guidance in the use of CSIS. These were:

- External Specifications;
- Training Documentation; and
- On-line Help.

The training documentation and the on-line help were seen to be particularly valuable to the users.

Training documentation

The Training documentation was used for two purposes within the organisation

- Training new or existing users in the functionality and business rules used by CSIS; and
- Reference materials for current users.

According to the report, the training information was written in such a way that both purposes were met.

On-line Help

On-line help was available to all CSIS users. There were three levels of help available to CSIS users:

- Window help - used to describe the functionality of a CSIS window;
- Topic help - shows help on specific topics; and
- Field help - description of what a field is used for and may be expected to contain.

The window help was initially developed for CSIS. However, it had not been regularly updated as part of the normal CSIS update process. It was recommended within the report that on-line window help be updated as part of the change management process.

Benefits and Weaknesses

As part of the questionnaire, users were asked to list the benefits and weaknesses associated with the new system. The report did not indicate, however, how many users identified each item as a benefit or weakness. The benefits and weaknesses are listed in Table 1 below.

Table 1: Benefits and Weaknesses of the CSIS Implementation

Benefits	Weaknesses
• Reduced paperwork • More efficient • Quicker answering of queries and enquiries • More information available • Easier to use • Updates are made immediately • Notes are useful • History available - payment and consumption • User friendly • Improved customer service • Better reporting • Good work management system • Tracking of who has performed work • Ability to issue account straight away • Screens are better • Potential benefits outweigh current difficulties • Reduced number of staff • Ability to view bill on line • Benefits definitely outweigh the weaknesses • Don't need microfiche to find information • Ability to be more responsive • Easier to understand for new people • Increased responsiveness to customer requests • Real time transactions • Pending work queues	• Reporting capabilities • Ability to get ad hoc reports • Re billing • Annotations are limited and do not reflect line item on account. • Certificate annotations must be typed in manually. • Some functions are slow. • Data conversions required some generalisation, need to access microfiche for some information. • Can be a lot of screens to navigate through to answer one query. • Slower response time than expected. • Common Supply and Managing Agents functions • Increased paper usage due to stationery used • Can't run reports when want to • Liaison between business users and CSIS. • Can't change bill dates easily. • Cost and delays of enhancement/problem fixes • Communication between CSIS and business group • Notification to customers is less than previously • Cancelled bills can not be seen • Notes data may be lost after they are entered • Problems are fixed but then problem reappears • Some things in specifications are still not available • Requirement of other systems.

Overall Assessment

The report indicated that the majority of the benefits with the introduction of the new system had been realised. The consultants' interviews with user personnel suggested that the benefits of improved functionality, work flows and customer service had been achieved. Overall, the users were happy with the functionality of CSIS and commented favourably on the ease of use and logical navigation through the menus. In regard to training, most users were satisfied that they had been adequately trained in the use of the new system. However, the consultants did find that there were no ongoing training programs for new users, after the system was implemented.

Factors that contributed to a successful implementation included:

- The organisation put a significant effort into training.
- The system provided a high level of functionality to its users.
- Management identified those users with low skills and offered some pre-training to them.
- Excellent documentation was provided which users reported to be very useful.

Summary of Successful Case Studies

The five case studies presented above, were all deemed as successful case studies by the consultants who conducted the post implementation reviews. A full analysis of the findings will be presented in a section following the review of the unsuccessful cases. However, the main factors that, according to the report, contributed to the success of the implementation fell into three broad categories, ease of use, training and user involvement.

The next five case studies were deemed "unsuccessful" and these are discussed below in an attempt to identify the factors that contributed to them being unsuccessful.

"Unsuccessful" Implementations

Case Study One

Background

This legal organisation implemented a Courts Case Management System (CCMS). This occurred after the executive management committee approved the proposal for the CCMS project to be developed under AS3563 quality assurance standards.

The design of the CCMS was intended to provide a comprehensive and integrated approach for the management of court cases. It would manage all court records from the initiation to the completion of court proceedings. The system would also support the electronic lodgement of various court documents, managers' financial activities, (for example, fine and fee payments) and would support the establishment of law firm and client accounts.

The CCMS Project Team consisted of a full time user of the system, development and technical personnel from the Information Services Department (ISD) and representatives from personnel.

The purpose of the review was to provide an assessment of the management of the project, identify areas of concern, and to provide recommendations for the completion of the project and future development projects.

User Issues

The review was unable to provide an assessment of user opinion of the completed system. This was because only one part of the system had been implemented at the time of the survey. However, the users that were interviewed were able to provide comments that were based on functions of the system that they had observed and tested during a user acceptance testing phase.

The organisation employed 600 users located throughout South Australia. Six key users were interviewed in order to assess user satisfaction. The users were identified by the organisation's management and were selected on the basis that they would provide fair and honest answers. The users were selected from different areas of the organisation. The interviews were conducted in a formal manner by way of a structured questionnaire. The questionnaire was not included in the report, but the report did indicate the areas that were covered. These were as follows:

- The users' involvement with the re-engineering project;
- Parts of the system that they are/will be using;
- Functionality;
- Perceived benefits of the system;
- Perceived weaknesses of the system;
- Training;
- Testing;
- Project co-ordination; and
- Areas for improvement.

User Involvement

The users, (although the report does not indicate how many), reported that they were generally unhappy with their level of involvement throughout the project, especially during the middle stages of the implementation. However, the report did not provide any detail in regard to what the users could have been involved in during the middle stages of the implementation. The users also felt that they had inappropriate involvement on the Project Team, in so far as this role should have involved more than one person, that being the Project Manager. The Project Manager had overall responsibility for the day to day management of the project and was responsible for monitoring the budget, project schedule, resources, user issues, scope and ensuring that all issues were promptly reported. In addition users felt that the development staff did not have a good understanding of the business.

Functionality

The feedback in regard to the systems functionality was mixed and dependant upon the department the users worked in. For example, some areas within the organisation reported that the system met their needs, while in other areas the users had serious reservations concerning the extent to which the functionality of the system met their needs. Once again, the report did not indicate how many users felt this way about the functionality. The report also failed to indicate which department the unsatisfied users worked in.

Benefits and Weaknesses

The questionnaire asked the users to list the perceived benefits and weaknesses within the project. The report did not indicate, however, how many users rated each benefit and weakness. It should also be noted, that the perceived weaknesses were based on the interviewees' exposure to a system that was still under development. The benefits and weakness are displayed in Table 2 below.

Table 2: Benefits and Weaknesses of the CMSS Implementation

Benefits	Weaknesses
• All bugs from the old system will have been fixed. • Statistical part of the system is a vast improvement on the old system. • Devolution of responsibility for report writing. The reports can now be done straight away rather than take 3 to 6 weeks. • Graphical User Interface (GUI) will be nice - visually more pleasing and therefore, people will feel better about using system • With GUI – a nicer looking screen • Mainly reporting benefits. Will be better enquiries on history of an issue, rather than using manual files. • There will probably be productivity gains. • Efficiency in operations. • New system is better to navigate • Screens layouts better • On-line help appears to be excellent • Easy to use	• In the current system the production of cause list for judiciary is cumbersome. In the new system this feature looks just as cumbersome. • The new system is more complex. • Lag between implementation of the new system and GUI is a sore point. • Screens not tailor made. Have information on screen that is surplus to requirements. Screens could be simpler • Statistics package not easily understood • Entry of data into system takes more time than in manual process currently used.

Training

Most users, although the report did not mention how many, indicated that individuals involved in the testing phase had inadequate familiarisation with the system prior to the commencement of testing. The users felt that not being familiar with the system resulted in inefficiencies during testing. They also suggested that it would have been more beneficial to have a detailed orientation of the system before testing commenced. However, it was generally felt that the training of users was satisfactory. The report did not, however, indicate what sort of training the users received.

Users stated that the system was unstable during the initial training sessions. They reported raising problems concerning major system failures during training sessions. However,

comments regarding later training sessions suggested that the system became more stable with the majority of functionalities available.

Testing

Overall, users felt that user testing was one of the most poorly coordinated aspects of the project. In most cases, test plans were developed by the project's user representative. Test plans are documents that describe a potential system scenario that a user would need to process on the system. These scenarios are tested during the user testing phase and any problems that occur are then documented. The remaining test plans were developed by users.

An area of criticism was that the system was still under major development during the initial testing phase in August 1997. The system "crashed" frequently as modules were either incomplete or contained "fatal" errors. The users felt that they were performing "system testing" on behalf of the developers rather than "user testing".

Some users also felt that they were not kept well informed of the progress of development. On several occasions they would attend scheduled testing sessions only to be informed that their component of the system was not ready.
Interviewees also stated that on occasion system functionality was tested with satisfactory results and deemed accepted and then the users subsequently discovered that the system was no longer working. Moreover, in some cases, the correction of an error introduced another error in other parts of the system.

Users stated that they had a lack of direct access to developers and that this contributed to delays and frustrations with testing. The introduction of the Help Desk Management system was also considered to prolong the testing process. Users felt that if they had direct access to the developers that their problems would be resolved more quickly. They stated that logging their problems at the help desk delayed getting a resolution to the problem because the problems were prioritised and assigned a developer. However, by the time the developer got to the problem, users had often forgotten salient points about why the problem occurred and this made it difficult to explain the problem fully.

In addition, the delays that occurred had a negative impact on the division's ability to maintain adequate levels of customer service. Testers also had to perform their normal daily functions as well as conducting the testing. Overall, user opinion suggested that neither the time nor resource requirements were adequately planned for testing.

Overall Assessment

The report concluded that there were major concerns with this organisation's implementation. These concerns were mainly in relation to the management of the project. The main issues were as follows:

- No formal risk management strategy was developed and monitored.
- A project reporting structure which did not report issues, concerns and delays to executive management and Council in a timely manner. For example, a project status report should be established that highlights the project's schedule, budget risks and current project issues. This project did not use status reports.
- Initial project estimates that were superficial and optimistic. For example, the initial estimate for the implementation was incorrect and according to the report, when this became apparent the project schedule should have been revised appropriately.
- No clear segregation of duties between the role of the Project Manager, Manager Information Services and Applications Development Manager. This resulted in all three individuals taking on responsibilities in the other person's role and this caused conflict.
- No separate budget established for the project to enable the monitoring of costs.

As part of the review, users that were involved with the new system were interviewed in order to gather information regarding their views on the system, the development process, and the system's strengths and weaknesses.

The major concerns raised by the users were as follows:

- Inadequate user involvement in the initial stages of the project.
- Poor coordination of the testing sessions.
- The system did not meet all of the required functionality. For example,

1. The Supreme Court Registry functions requirements were likely to be met by the new system although, at the time of compiling this report, a major portion of the system had not yet been signed off.
2. Those responsible for Supreme Court Listings did not perceive there to be any improvements in functionality from the existing system and had serious concerns that all functionality from the existing system has not been replicated in the new system.
3. Those responsible for Supreme Court Probate requirements felt that they had essentially been met by the new system functionality but they believed that additional functionality was still required in order to fully support their business needs.
4. The District Court needs had not been met by the functionality of the new system. The system had not been accepted by the district court.

Factors that contributed to an unsuccessful implementation:

- Greater user involvement was needed.
- Key development staff needed to be employed that fully understood the business and its requirements.
- A coordinated list was needed of all requirements/enhancements requested.
- The test plans needed to include data completeness and accuracy tests. For example, the test plans were used to test the report layouts or screen layouts but failed to include tests on the accuracy and completeness of the data in the reports.
- Users involved in testing needed to be given system training prior to commencement in testing.
- Users needed to be provided with a stable test environment.
- System testing needed to be conducted at an earlier stage in the development cycle.
- Better communication was needed with all users on the scope and status of the project
- Having full system functionality available for testing
- Better coordination of user testing and functions to be tested actually being available for testing
- Better coordination of the change management process
- More realistic time-frames for user testing
- Need to provide feedback to users involved in the system design phase

Case Study Two

Background

A gambling organisation implemented a new financial system called Finance One. The purpose of the review was to provide an assessment of the management of the project, to identify any areas of concern, and to provide recommendations for the completion of the project and future development projects. According to the report, the new system was implemented because the relevant department no longer supported the old system since only phase one of the original system had been implemented and many enhancements had not been developed.

A project steering committee was developed to coordinate the implementation and included representatives from technology, finance and information systems management and internal audit.

User Issues

The new system had approximately 20 users and interviews were conducted on seven of them. The users were selected by the organisation based on the assumption that they would provide fair and honest answers.

In order to fully understand and assess the acceptance of the users, a questionnaire was developed by the consultants and administered via interview. Although the questionnaire was not included, the questionnaire covered the following points.

- User's exposure to the system and their development of the system;
- The integration between the system and other systems;
- Accuracy and completeness of the system;
- Functionality;
- Availability;
- Documentation of the system;
- Training and help;

- Perceived benefits;
- Perceived weaknesses;
- Overall user satisfaction; and
- Areas for improvement.

The following is a broad summary of user responses to questions concerning the above points of the questionnaire.

Current exposure to new system

The users were asked to highlight areas of the project that they thought could be improved upon. These included; a perceived lack of cooperation between the finance and MIS divisions and the lack of clearly defined roles and responsibilities.

The Old versus the New system

"Most" users indicated that there was an overall improvement in the functionality and reporting provided by the new system when compared to the old. However, weaknesses and suggested areas for improvement were also highlighted. These points will be returned to later.

Accuracy and Completeness

"Most" users thought that the system was complete and accurate. The users did not express any concerns that the data were inaccurate or not current.

Availability

A computer system that is periodically unavailable is likely to impede the ability of users to perform their jobs in a timely manner. If the system is unavailable for an extended period of time there may be significant costs to the organisation by way of increased over-time or the need for contract staff to be employed to reduce backlogs.

The availability of the new system was a concern expressed by some users. The majority of comments concerned poor response times; for example, software took too long to load and there was an inability to have other PC applications open at the same time.

Reporting

Users did not report any major concerns with the reports that the system produced.

Training

The review outlined the importance of adequate training of personnel, in that it allows users to become familiar with the system before it is implemented.

The "majority" of users interviewed raised training as a major concern. While "some" users felt that the training was good, most felt that it was inadequate. Some of the comments noted were as follows: *"had no idea what the trainer was talking about"*, *"the trainer would do the transaction rather than showing how to do it"*. One user raised the point that *"the trainers ranged from good to bad"*.

Some users felt that the training was rushed to meet the "go live" date and as a result did not provide an accurate representation of the new system.

Functionality

In general, users were satisfied with the functionality of the new system. They generally felt that the system was "user friendly" and that the information was displayed logically and was easy to understand.

Other areas of concern

Some users also raised concerns outside the formal items of the questionnaire. For example:

- Reliance on the System Accountant for assistance. This occurred because the company recognised that there was a heavy reliance on the system accountant for providing user support. However it was assumed that after additional training, users would be more competent and would therefore not need assistance from the Accountant.
- Some terminology relating to the new system was difficult to understand.
- The systems user manuals were outdated and inadequate as they did not appear to give the information that the user was seeking.

- There was a perception among some users of a lack of cooperation from within the Information Systems Management (ISM) department to resolve the new system related problems.

Overall Assessment

The implementation review stated that overall there were major concerns with the new implementation. These concerns were mainly in relation to the management of the project. The main issues were as follows:

- No formal project management strategy was developed;
- No clarification of the roles and responsibilities of the project team members;
- No Project Manager with overall project responsibility;
- Initial project estimates for the new system were superficial and optimistic; and
- Inadequate project management structure that did not include representatives from all relevant Information Systems Management (ISM) sections.

Misunderstandings between the Finance and ISM departments and poor communication of issues resulted in delays during phase one of the project. For example, an issue was raised at the end of September 1997 concerning claim payments reconciliation with respect to cancelled invoices or cheques. This particular matter was outstanding for a period of time and was the result of a misunderstanding in priorities between the Finance and ISM departments.

The report outlined many areas identified by the users that needed improvement. When analysing these points it became apparent that most of the suggested improvements would make the system easier to use. Examples of these points were: *"a keyboard layout map would be useful"; "reports for tracking requisitions/purchase order would be useful"; "data loads need to be automated to reduce reliance on one individual".*

Ease of use was a theme that was also commented on when the users were asked to list the perceived benefits and weaknesses of the system. The majority of the weaknesses were in areas that needed to be improved in order to make the system more user friendly. However,

some of the benefits were also seen as useful to the users. The benefits and weaknesses are shown in Table 3.

Table 3: Benefits and Weakness of the Implementation

Benefits	Weaknesses
• The new system is better for Finance and Accounts. • Appears to have more functionality on the 2reporting side. • Bank reconciliation very good compared to the old way. • Easy to use • The system can be customised by the user. • Once data down loads have been automated the system will be quicker and more efficient. • You can interrogate the data down to detailed levels. • Can "cut & paste" data from spreadsheets into the new system. • On-line help system is comprehensive. • Can provide other departments with accurate information. • Quicker to process • Can get a complete financial picture of the corporation • Much more information is available.	• The manuals are difficult to understand due to the language not being in layman's terms. • There are no benefits for purchasing as the functionality has not been improved. • It is memory hungry. • The new system is not really user-friendly. • The new system's terminology is difficult to understand. • Too many screens to navigate to ascertain if a requisition has been approved. • Too many screens to navigate to enter one requisition. • Reports for tracking requisitions/purchase orders not available. • Moving around the system is not brilliant. • Lack of automated data down loads. • Bank reconciliation postings slow the system down. • Does not create transactions for commitments • System can "hang" when loading. • The system takes a bit of time to load up. • Cancelled invoices or cheques are not feeding through the new system.

Summary of factors that contributed to an unsuccessful implementation

- No formal project risk management strategy was developed.
- No clarification of the roles and responsibilities of the Project Team members.
- No Project Manager with overall project responsibility.
- Inadequate project management structure that did not include representatives from all relevant information systems management sections.

Case Study three

Background

The purpose of this review was to provide a gambling organisation (the same organisation as in case studies one and two) with an assessment of their new accounting system. The new system was implemented to update the old system. The accounting/administration system comprised of general ledger, accounts payable, accounts receivable, payroll and cashbook. The objective of this review was to assess the effectiveness of the replacement of the Accounting/Administrative Computer in an operational context with respect to the Project Plan and Corporate Objectives.

According to the report, the project was expected to be in line with the organisation's corporate objectives that were given in the section on case study one. These were:

- To promote and conduct lotteries effectively and efficiently.
- To promote and conduct lotteries fairly and honestly.
- To maintain a high level of integrity and public confidence.
- To make available through a network of agencies and retail outlets in South Australia a range of products that would allow the public to participate in fair, properly controlled and audited games of change, if they choose to do so.

The project was specifically targeted to meet the following objectives:

- Provide a fully maintainable computing resource for administrative and accounting processing for at least five years;
- Maintain administrative and accounting functions at a level of efficiency with performance equal to or better than the level provided by the existing administrative/accounting system;
- Provide a means for the exchange of data between the administrative/accounting computer system and the organisation's network of personal computers; and
- Provide a computing facility to carry out additional functions for the temporary housing of small lotteries in the Organisation's building.

Users' Perspective

Users were not entirely satisfied with the way in which the Administrative/Accounting system applications performed their functions. Speed of processing and the ability to manipulate data and present it in the desired format appeared to be areas of greatest concern. In addition, many modifications were made to the system after its implementation in order to achieve a satisfactory level of user satisfaction.

Overall Assessment

The replacement of the Administrative/Accounting application systems did not fully meet the needs of the end-users and therefore did not fully meet the requirements of the organisation. Given this, and a higher than budgeted cost, the report questioned whether it had been a cost effective solution.

Although the Administration/Accounting System met most of the planned requirements, it was also questionable whether those requirements were appropriately defined at the outset. Had end-users been more involved in the planning process, the degree of satisfaction with the system would have been much higher and the resulting system would have been more satisfactory.

It appears that the software implemented had generally not met the characteristics required of it by the Organisation.

Although the time and effort taken to retrieve and present information may have been reduced, it had not been minimised. Similarly, manual re keying had been reduced but not minimised. Users did not believe that the system was flexible and adaptable.

The development of information systems in this area was not cost-effective, given that the project had gone "significantly" over budget.

Factors that contributed to an unsuccessful implementation.

The review outlined several issues that were deemed important to consider in the next implementation.

- Potential users of systems should be consulted and have an input in the design and specification, and in the testing phases of a new system.
- Costs of a project should be monitored on a regular basis with measurement against budgets. Such monitoring should be well documented.
- Staff should receive adequate training on the new systems in advance of them becoming fully implemented.
- The time frame established for the implementation of a new system should be lenient enough to accommodate the resolution of problems, delays caused by suppliers etc. (i.e. it should not be based on a "best case" scenario).
- Post-implementation reviews must be performed on a timely basis to avoid difficulties such as key staff leaving and to ensure that an accurate matching of costs with those budgeted can be achieved. All lessons learned from the implementation can then be applied quickly to subsequent projects.
- Timing of other disruptions (such as renovations) should be considered when scheduling an implementation.
- The project went significantly over budget. The report indicated that the project did not measure costs against the budget.
- There was no effective monitoring of the budgeted annual costs.
- End-users were not involved in the selection process of the new system.
- System performance has been considered slow by most end-users.

Case Study Four

Background

The purpose of this report was to review a new administrative/accounting system for a gambling organisation. This was the same organisation used in case studies two, three and four. The original computer system had been in service for over ten years and had exceeded its planned service life. Furthermore, this computer was experiencing a high level of

breakdowns and the suppliers had advised that they would not be supporting a maintenance contract. The software programs and operating systems were also outdated and difficult to support as few programmers had up-to-date experience with the system. Many application programs had been developed specifically for this organisation and this aspect added to the difficulty of introducing changes.

A project team was formed to manage the implementation. The members of this team comprised the information systems manager, senior analyst programmer and an external consultant.

In May 1989 the organisation gained approval to replace its aging Administrative and Accounting computer system.

Project Objectives

The objectives for the replacement of the Administrative/Accounting computer were to:

- Reduce the risk associated with maintaining an out of date computer environment.
- Develop key management information systems according to contemporary business practice.
- Remove inefficiencies in administrative systems.

The specific objectives were to:

- Provide an integrated Administrative/Accounting system;
- Update the package application systems to current software;
- Remove duplication of effort in maintaining multiple and diverse systems; and
- Allow specific end-user personnel ready access to key information and the facility to design and produce specific reports.

Planned versus Actual Performance

Development and Implementation

The initial installation and replacement process was coordinated by the Information Systems Manager and was undertaken by an organisation that facilitated the process using contract

programmers. It was a requirement of the project that the organisation would develop the necessary specifications for programs and applications before the commencement of this process. This should have involved the end-users to find out their specific needs. However, detailed specifications were not completed and the contract programmers were left with the task of attempting to elicit users' requirements and match them to the general guidelines provided. An example of the general guidelines provided for the statistical reporting was that the programmers were to reproduce the same reports as had been available on the superseded computer system. That this proved to be an unacceptable approach is reflected in the low level of end-user satisfaction. Users had anticipated that many short comings of the user reports from the original system would be overcome but this did not prove to be the case.

Because of the approach taken during implementation, significant resources had subsequently been used to try to address end-user requirements. Despite this there was still a high level of user dissatisfaction.

Costing

An analysis of costs revealed that expenditure on the Administrative/Accounting computer system was higher than the planned expenditure and the recurrent costs were also higher than planned for the period. The main contributor to the project over-runs in both one-time and recurrent costs was in the area of software development. Significantly more time than planned was required to tailor the applications to the organisation's requirements and this resulted in higher costs than anticipated.

Planned Benefits

The degree to which the new Administrative/Accounting Computer system fulfilled the organisation's planned objectives and benefits are summarised below:

- The risk from continuing to use unsupported equipment had been removed.
- More meaningful reporting was possible. However, this aspect was not as successful as planned with user comments showing a high degree of dissatisfaction in this area.
- End-user support tools allowed for reports to be generated by management, reducing Information Systems support in this area. However, many application systems were

either not well understood by users or were restrictive. This resulted in a degree of frustration whereby users were not always able to obtain the specific information or format of the information required.

- The structure and integration of the application systems removed the necessity for duplication of data and data entry in many areas.
- The implementation provided the gambling organisation with the following current application software packages, namely, General Ledger, Accounts Payable, Accounts Receivable, Cash book, Payroll and Fixed Assets.
- The number of terminal work stations and personal computers connected to the system allowed access for a greater number of end-user personnel.

User Satisfaction

According to the report, the new system generally proved to be a much more versatile and flexible solution than the old system. However, during the review process it became apparent that many users were not satisfied with the overall package. As a consequence, many of the features available with the system were not being fully utilised. For example, few staff made use of the electronic mail system or the calendar feature that was available as they were considered relatively cumbersome to use.

Factors that contributed to an unsuccessful implementation.

- The implementation review highlighted the importance of involving users in the planning process to ensure that the system would meet their needs.
- Because of a lack of user involvement, detailed specifications were not completed and the contract programmers were left with the task of attempting to elicit users' requirements and match them to the general guidelines provided by the organisation.
- The general guidelines provided for the statistical reporting required the programmers to reproduce the same reports as had been available on the superseded system. This proved to be an unacceptable approach and was reflected in the low level of end user satisfaction. Users had anticipated that many shortcomings of the user reports from the superseded system would be overcome by the new system but this did not prove to be the case.

- Because of the above approach during the implementation, significant resources had subsequently been used to try to address end user requirements. Despite this there was still a high level of user dissatisfaction.
- Not all of the corporate objectives were met. For example, the availability of the monthly financial report had only improved by one or two days.

Case Study Five

This project had significant problems that continued throughout the duration of the implementation. Due to these problems the consultants involved in its review were particularly sensitive to any research being conducted that could have the potential to reveal the identity of the organisation involved. As such, limited background information was provided for this study. Thus the scope of the case study, unlike the others, is limited to a very descriptive account of the problems that the project incurred together with recommendations put forward by the consultants.

Background

The organisation requested the assistance of the consultants for a review of the their information technology system. The review focussed on the following:

- The current methodology being used with regard to the implementation;
- The vision for project management, the future development of, and enhancements to, the system, incorporating system development, and relationships with the external organisation;
- Information Systems Quality Assurance. In response to significant concerns in regard to the quality and extent of testing being performed on the system, a consulting firm was brought in to oversee the quality of testing;
- Security and Integrity of the system; for example, to check that there were appropriate security procedures in place by ensuring that user IDs and passwords were utilised at both the network and application level; and
- Capacity planning to determine how much information the system could hold.

The scope of the consultancy included reviews in four major areas of the system. These included the IT management function, information systems quality assurance (QA), security/integrity aspects of the ABCD IT environment and application and capacity planning.

Overall Assessment

Overall this project was considered to have many problems due to the following factors:

There was no dedicated Project Team. The project involved staff from Corporate Services and sections within IT Services, and the reporting lines for the project were unclear. There were no current roles and responsibilities document to clearly define the key people involved and the scope of their involvement in the project. For example, the project sponsorship role was not documented or formalised.

The project lacked an appointed Project Manager to coordinate all aspects of the project. As a result, there were fragmented groups working on various aspects of the project, without an overall project viewpoint. The effects of this were evident in a lack of project documentation (such as a comprehensive project plan/schedule, project charter, and management plan) that defined the scope of the project, timing, resource requirements and terms of reference. Some high-level project management had occurred via regular meetings between key project participants. However, the consultants were unable to obtain evidence of regular project Steering Committee meetings involving all key project participants and the project sponsors.

There was no formally documented consolidated project schedule that incorporated all project tasks and critical dates for related projects. Schedules had been developed for acceptance testing and documents were under development for the finance module rollout and the work-station rollout.

The implementation was planned for early 1997, but was deferred pending a thorough testing process. This involved contracting a consultant to manage the Quality Assurance

aspects of testing, and negotiations with the software suppliers to ensure that the quality of programs emanating from the testing was acceptable. The relationship with the software supplier appeared to have been well managed, with extensive negotiations, resulting in the supplier agreeing to the involvement of the Testing Project Manager in reviewing unit testing, and via regular meetings between key project staff and the software supplier. However, there was no up to date contract with the supplier as the developer and supplier of the system software.

It was difficult for the consultants to determine how the project was developing in terms of timeliness and costs in the absence of an approved project plan and baseline for the project, and without a comprehensive project budget. There was also little evidence of regular reporting on costs. The project budget for the system had been set each year, and included enhancement costs as well as ongoing support. The budget did not provide a detailed breakdown of projected costs based on an overall project plan.

At the time of the review an IT strategy was being developed for the organisation, which would consider the future requirements based on the business vision for the organisation. Management was planning to consider the future of the system in more detail after the implementation of the version that was currently being considered. It was planned that a post implementation review would be conducted after the implementation, and at that time, management would decide whether to continue with the system or seek an alternative solution.

Consideration was being given by management to minimising the impact of changing technologies to the organisation, although there had been no formal change management or training requirements assessment for the rollout.

Factors that contributed to an unsuccessful implementation:

- No dedicated Project Team.
- No clear definition of roles and responsibilities.
- No appointed Project Manager.
- Lack of relevant documentation.
- No documented project schedule.

Summary of Case Study Findings

The findings from the case studies indicate that there are specific areas of the implementation project that can contribute to the success or failure of a systems implementation. The main areas that were found to be of importance in evaluating a systems implementation were;

1. Ease of use
2. User involvement
3. Training
4. Project management
5. Communication.

As can be seen in Table 4 below, the reports suggest that problems for users included too many screens to navigate, the new systems were perceived as being too complex, users had to rely on each other for help, the projects needed to generate greater user involvement, the users were overwhelmed by the amount and speed of training along with several project management issues that could have been improved on.

Table 4: Summary of issues of concern raised by users from the five "unsuccessful" case studies

Ease of use
• Too many screens to navigate. • Data entry takes more time. • The new system was perceived as more complex. • Statistics package in one of the studies was not easily understood. • Users had to rely on others for help. • Users found multiple changes very distracting. • The terminology of the new system was difficult to understand • The manuals for the new system were outdated and difficult to understand. • The new system not user friendly. • The users felt that it took too long to print system reports. • Lack of direct access to developers when the users needed help. • New terminology was difficult to understand.
User Involvement
• Potential users should have been consulted and have input into the design of the new system • Unhappy with the level of user involvement throughout the implementation. • Some users felt that they were not kept informed. • System was reported to be slow by end users • User dissatisfaction with the system
Training
• The users were overwhelmed by the amount and speed of training. • Some users struggled with basic PC skills. • Lack of communication between users and user support teams. • Training was provided too early and therefore the users forgot the training by the time they came to use the system. • The trainer was only one step ahead of participants. • Training a major concern. • System unstable during training session. • Development staff did not have a good understanding of the business. • Some users missed out on training altogether. • Training was too intensive. • Training was not specific enough in some cases. • Staff needed to receive adequate training before the system became fully implemented.

Table 4: Summary of issues of concern raised by users from the five "unsuccessful" case studies (Continued)

Project Management
• More realistic timeframes for testing • Better coordination for testing was needed • Key development staff needed to be employed on the project team that understood the business. • List of all requirements/enhancements was required • Test plans were needed • Users involved in testing should have had training on the system first. • Stable test environment was needed before testing commenced. • System testing needed to be conducted earlier. • Needed fully functional system available for testing. • No dedicated project team • No formal risk management strategy • No clarification of roles and responsibilities • No project manager with overall responsibilities • Cost of project should be monitored • Time frame of the implementation needs to be flexible to allow for delays • Post implementation reviews must be performed on a timely basis and lessons learned need to be applied to other projects. • Project went significantly over budget • No monitoring of budget • Corporate objectives were not met • Better communication with all users on the status of the project was needed. • Lack of cooperation between the finance division and the management information systems division • Neither time nor resource requirement were adequately planned for testing. • Better coordination of change management process was needed. • Development staff did not fully understand the system
Other
• User testing was poorly coordinated. • Availability of the new system was of a concern (eg software was taking too long to load). • Users needed stable test environment. • Some users underwent changes aside from the implementation of a new system and this caused undue stress. • System didn't meet all of the required functionality

Key factors common with all five case studies that were seen to contribute to an "unsuccessful" implementation.

As can be seen in Table 4, there were several factors that were common across all five "unsuccessful" case studies. These included:

- Lack of user participation and general involvement
- Lack of relevant documentation and what was provided was difficult to understand.
- Adequate training was not provided
- Better communication was needed both at management level and with the users
- Strong management was lacking
- System was not user-friendly

In contrast to the "unsuccessful" implementations the "successful" implementations provided a high level of functionality to its users, the organisations in the studies provided extensive training to the employees involved, there was a strong level of user involvement that created high levels of user satisfaction and good project management was observed. A summary of user feedback from the five "successful" case studies is provided in Table 5.

Table 5: Summary of factors reported with the five "successful" implementations.

Ease of Use
• Frequent testing of the system before implementation • The system provided a high level of functionality to its users. • Excellent documentation was provided which the users reported to be very useful
User Involvement
• Strong levels of user involvement • A high level of functionality was provided to the users. • User satisfaction was high due to user friendliness, user participation and adequate training. • User interface and support were provided
Training
• The organisation made a significant investment in training employees in the new system. • Adequate user training • Management identified the level of literacy amongst users and individuals with a lower level were given prior training. • Management identified those users with low skill and offered some pre-training to them. • The organisation put a significant effort into training.
Project Management
• Project was well organised and well handled • Comprehensive planning took place before the project began • The project was managed successfully • All problems associated with the system were logged and dealt with promptly • Outcomes were achieved • High degree of commitment from management
Other
• Project provided user interface and support

Key factors common with all five case studies that were seen to contribute to a "successful" implementation.

As Table 5 shows, there were several factors that contributed to the success of all five "successful" case studies. These included:

- Strong levels of user involvement
- Strong project management
- Adequate user training

Evaluating the Evaluation Reviews

The post implementation reviews provided useful information in terms of the factors that contribute to an "unsuccessful" and "successful" systems implementation. However, many of the reviews failed to report on several aspects of the implementations that would have been very useful in terms of evaluating the information provided in them. Table 6 shows the results of an evaluation of the reviews.

Table 6: Evaluation of content of Post Implementation Reviews

- Terms were not defined (eg "generally" achieved the benefits expected; a "high" number of users reported that the system was user friendly, the accuracy of the data was "acceptable", "most" staff were comfortable with the pace and format of the training).
- When the report stated that objectives had been met there was no explanation as to how this was measured.
- Only a small percentage of users were surveyed or interviewed regarding the system (eg 420 users & only 16 interviewed).
- The samples were not random, but supplied by the organisation (could be a biased sample).
- No indication was given as to the types of data the consultants received from the user (eg qualitative or rating scales).
- No indication as to how they measured certain aspects of the implementation such as "satisfaction" or "success".
- A copy of the user questionnaires in an appendix would have been useful.

Evaluating Systems Implementations

Much research has gone into looking for a formal set of measures for assessing systems (Davis, 1989; DeLone & McLean, 1992; Ives, Blake, Olson & Baroudi, 1983; Laudon & Laudon, 2000; Lucas, 1981) and from this research five factors have been found to be essential in evaluating whether or not a new information system has been successful. These factors include:

1. High levels of system use. This can be measured by polling users and administering questionnaires.
2. User satisfaction with the new information system. This can be measured by questionnaires or interviews and can include users' opinions on the accuracy, timeliness and relevance of information, on the quality of service, and the schedule of operations. Laudon & Laudon (2000) suggest that managers' attitudes affect employees' opinions on how well their information needs are satisfied and their view of how well the system enhances their job performance.
3. The attitudes of users about both the information system itself and the information system staff.
4. Achieved objectives. For example, the extent to which the system met the specified goals, as reflected by improved organisational performance and decision-making results from using the system.
5. Financial benefit to the organisation either by reducing costs or by increasing sales or profits.

In addition to specific system factors, Laudon & Laudon (2000) have also found that the implementation process itself can contribute to a failed outcome. Thus researchers have tried to determine those factors associated with the implementation processes that are likely to affect an implementation outcome. These include:

- The role of the users in the implementation process.
- The degree of management support for the implementation effort.
- The level of complexity and risk of the implementation project.
- The quality of management of the implementation process.

User Involvement and Influence

User involvement in the design and operation of the information system has several positive results. First, if users are involved in systems design, they have more opportunities to tailor the system according to their needs and business requirements and have more opportunities to control the outcome. Second, the users are more likely to have a positive attitude toward the system because they have been active participants in the change process itself.

Moreover, hands-on experience with the system promotes the benefits to the users and provides useful suggestions for improvement (De & Farrat, 1998).

Management Support and Commitment

A system is more likely to be perceived in a positive way by users if the project has the backing and commitment of management. With management commitment, members of the project team will believe that they will receive a high level of attention and priority. Management commitment also ensures that a systems project will receive sufficient funding and resources to be successful. Furthermore, if there are business process changes it will be necessary for management to enforce those changes to ensure they are adopted by the employees. Finally, managers need to act as role models because if they consider the new system to be a priority, the system will more likely be treated that way by subordinates (Doll, 1985; Ein-Dor & Segev, 1978)

Level of Complexity and Risk

Researchers have identified three key factors that influence the level of project risk (McFarlan, 1981). These are project size, project structure, and the level of technical experience of the information systems staff and the project team.

Project size: Researchers have found that the larger the project in terms of the dollars spent, the size of the implementation team, the time allocated to the systems implementation and the number of organisational divisions affected – the greater the risk (McFarlan, 1981).

Project structure: Researchers have found that those projects that are highly structured, where the requirements are clear and straight forward, where the users know exactly what they want and what the system should do and they are unlikely to change their minds, are at lower risk than those projects that are undefined and unstructured (McFarlan, 1981).

Experience with technology: Researchers have found that project risk will rise if the project team and the information system do not have the required technical expertise as it is highly likely that the project will experience technical problems or take more time to complete because of the need for team members to acquire new skills (McFarlan, 1981).

Management of the Implementation Process

In order to be successful the development of a new system must be carefully managed. Projects require research and development into the business requirements and the user requirements. Costs, benefits and project schedules must be assessed. Training to ensure that end users are comfortable with the new system and fully understand its potential is often sacrificed or forgotten in systems development projects. If the budget is strained at the very beginning, toward the end of a project there will likely be insufficient funds for training (Bikson, Stasz & Mankin, 1985).

Research suggests that a system development project without proper management will most likely suffer the following consequences:

- Cost overruns that vastly exceed budgets.
- Time lines for the project are not met.
- Technical shortfalls resulting in performance that is significantly below the estimated level.
- Failure to obtain anticipated benefits.

Evaluating the Style of Evaluation

As can be seen from Table One, the ten post implementation reviews used in this study did not evaluate the systems consistently nor did they evaluate all of the factors that predict success and failure of systems implementation.

None of the case studies evaluated the systems implementation against all nine factors. One case study evaluated five of the factors, three of the case studies only evaluated four factors, three case studies evaluated three, and two case studies only evaluated one of the factors. The two factors that were not evaluated at all by any of the ten case studies were "high levels of system use" and "the complexity of the project". And only one case study looked at management commitment to the systems implementation.

Whilst the evaluation of the 10 case studies enabled conclusions to be made about whether or not a systems implementation was successful or unsuccessful, they failed to evaluate the systems implementation against all four of the factors that are deemed important in the

literature when evaluating new systems. The case studies also did not investigate all five of the factors that are associated with successful implementation processes. This would suggest that the evaluation process itself could have been improved and been more thorough. Table 7 provides a checklist as to those factors that were evaluated and those that were not.

Table 7: Evaluation Checklist

	"Successful Group"					"Unsuccessful Group"				
Case Studies	**Case 1**	**Case 2**	**Case 3**	**Case 4**	**Case 5**	**Case 1**	**Case 2**	**Case 3**	**Case 4**	**Case 5**
System Success										
1. High levels of System use										
2. User satisfaction			X	X	X	X	X	X	X	
3. Favourable attitudes of users about the information system & staff.				X	X		X	X		
4. Achieved objectives	X	X		X		X		X	X	
5. Financial pay-off	X									
Implementation Success										
1. The role of users in the implementation process	X		X			X		X	X	
2. The degree of management support										X
3. Level of complexity										
4. Quality of management			X	X	X	X		X	X	

Key: X = Item that was evaluated in Implementation Review

Results and Conclusion

The present study revealed four important themes, "ease of use", "user involvement" "project management" and "lack of training" that were consistent with current research in this area in regard to user acceptance of new technology (Davis, 1993; Venkatesh, & Davis, 1996). The study confirmed that "ease of use" and "training" and "user involvement" are areas that need to be given sufficient attention when new information systems are implemented into organisations.

In two of the reports of unsuccessful implementations there was a lack of user involvement during the implementation. The five implementations that were deemed successful had a high amount of user involvement, strong project management and adequate training. The issue of user involvement may well reflect the style of management that was being implemented within these organisations. Management style tends to reflect a particular organisational culture within organisations and can affect how well any type of change is accepted by the organisation's employees (Howell & Higgins, 1990; Yukl, 1989). The issue of organisational culture and management style are factors that would be worthwhile pursuing in future research and, accordingly, they are explored in subsequent studies.

The result also indicated that the evaluation method used for all ten case studies could be improved upon. All ten case studies failed to evaluate the systems implementation against all four of the factors that are deemed important for a successful system and also many of the five factors that are associated with successful implementation processes. Thus the evaluation process was not as thorough as it could have been.

A limitation of the present study was that the case study data used were secondary data. That is, the themes that have been gathered have been based on someone else's interpretations from the original interviews and questionnaires. However, the reports presented a reasonable amount of qualitative statements that came directly from the users. Another limitation of the present study was that a number of the case studies came from the same organisation.

Despite these limitations, the present study provided some interesting directions for future research in which the ease of use and user involvement factors could be further explored in different organisations and systems. These include:

- Ease of use of current system
- Effective project management
- Current computer self-efficacy
- Self-efficacy after training

- Quantity of training
- Frequency of training
- User friendliness of training
- Follow-up training
- User support after training
- Role of organisational cultures

These factors will be explored further in the next study.

CHAPTER 8: Study Two

A QUALITATIVE STUDY TO DETERMINE FACTORS THAT INFLUENCE EMPLOYEE ACCEPTANCE OF ORGANISATIONAL CHANGE AS DETERMINED BY EMPLOYEES

Introduction

Employee resistance is an issue that is inevitable in some form when an organisation is embarking on a major change. However, research suggests ways in which organisations can better manage this resistance. Miller & Yeager (1993) suggest that the most effective way to manage resistance is by being receptive to it and encouraging discussion in order to uncover the rationale behind it. One way of doing this is by including the employees in decisions about the change (Lawlor, 1986). Lawlor (1986) suggests that employees who actively participate in the design and change strategy tend to foster a psychological commitment to the success of its implementation (Lawlor, 1986).

Another effective strategy is to involve employees in the development of change strategies that will correct work-related problems that they believe are important. Such participation also promotes a greater understanding of what the change will involve and less opportunity for suspicion or misunderstandings to develop. Misunderstandings and mis-perceptions often occur when the change is communicated in an unclear manner (Miller,1992b; Miller & DelBalzo, 1989).

Miller & Yeager (1993) also suggest that the way in which the change is communicated is important in terms of employee resistance. They suggest that in order to optimise understanding about the change, the language used to communicate the change should be clear and concrete. If the change is communicated in terms of what, where and when things will happen, there will be less opportunity for unnecessary confusion.

Davis (1989) has also suggested ways of overcoming resistance by focusing on the IT system itself. Davis (1989) argues that two of the main factors that can affect user acceptance are the IT system's perceived usefulness and its perceived ease of use. One of the purposes of this study was to expand Davis' (1989) model by exploring further factors that could affect user acceptance of technology.

An effective way of determining employee readiness for change is by using Prochaska, DiClemente & Norcross' (1982) stages of change model. They propose a model that

explains readiness to change across five stages. These five stages are precontemplation, contemplation, preparation, action and maintenance. In the precontemplation stage the individual has no intention to change their behaviour in the foreseeable future. Many individuals in this stage are unaware or "under-aware" of the problem. The contemplation stage is the stage in which people are aware that a problem exists and are seriously thinking about overcoming it but have not yet made a commitment to take action. The preparation stage is the stage that combines intention and behaviour. Individuals in this stage are intending to take action in the near future. Action is the stage in which individuals modify their behaviour, experiences or environment in order to overcome the problem. The action stage involves the most overt behavioural changes and requires considerable commitment from the individual. Finally, the maintenance stage is where the individual works to prevent relapse and consolidates the gains attained during action (Prochaska, DiClemente, & Norcross, 1982).

Prochaska, DiClemente & Norcross (1982) suggest that readiness to change is not a dichotomous variable but rather an employee's readiness for change may vary over time or vary according to the situation. The model is important as it emphasises making specific efforts to assess the *degree* of readiness for a given person rather than deciding whether or not the employee is ready. This model is particularly useful in conceptualising and planning for individual change (Prochaska, DiClemente & Norcross, 1982).

Miller & Yeager (1993) also suggest that managers who adopt rigid thinking as to how to introduce the change to employees, believing that there is only one way to do so and that employees should be receptive to it, often come across resistance that could have been avoided. Research suggests that an inflexible approach to change minimises the success of any change initiative (Miller & Yeager, 1993).

Based on the above research, the present study interviewed employees that were currently in the process of a major organisational change involving Information Technology (IT). The study focused on the factors that influenced their acceptance of the change and general issues about the change that they found problematic.

Methodology

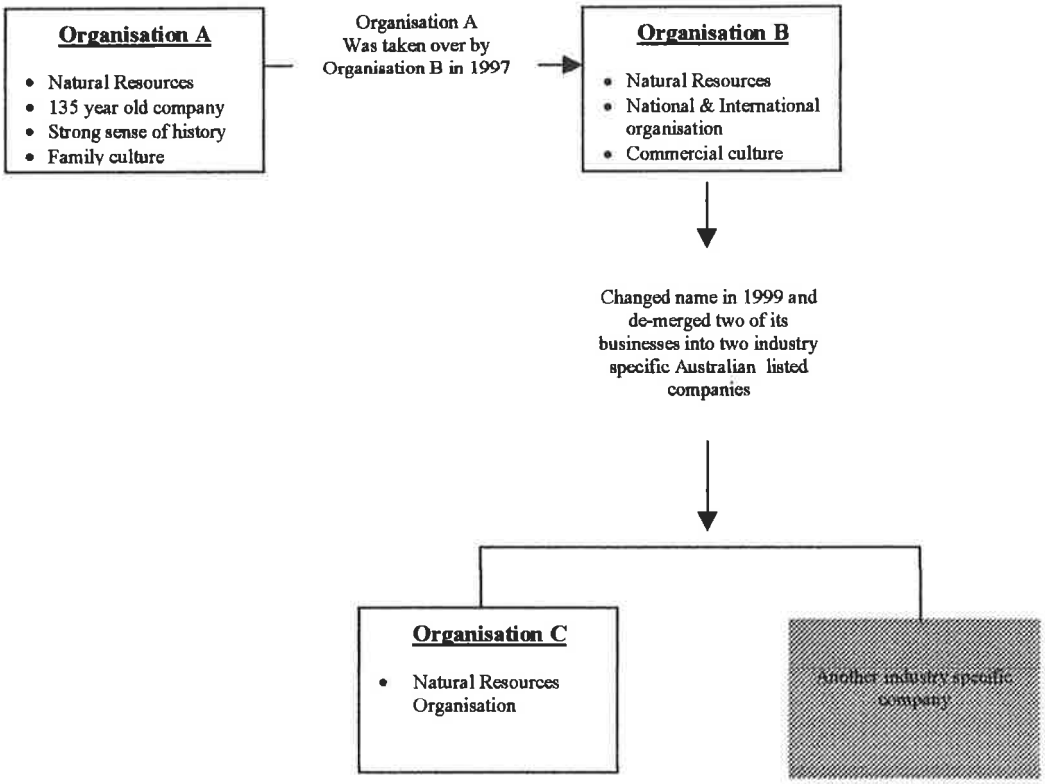
A qualitative methodology was chosen for this study because it attempted to capture people's meanings, definitions and descriptions of events, unlike quantitative methodology that aims to count and measure things (Minichiello, Aroni, Timewell & Alexander, 1995). Qualitative methods, such as in-depth interviews and participant observation, allow the researcher to gain access to the motives, meanings, actions and reactions of people in the context of their daily lives. In this approach, the focus of qualitative research is not to reveal causal relationships but rather to understand human behaviour from the informant's perspective (Minichiello, et al, 1995).

The semi-structured interview technique was chosen because according to Minichiello, et al. (1995) it is an appropriate way of gaining an insight into an employee's experiences during a major organisational change.

Organisation used in study

The organisation used in this study was a large organisation involved in natural resources that was originally a family business established in 1862 (Organisation A). It was taken over in 1997 by another natural resources company founded in 1946 that was, at the time of the merger, a large international and national corporation (Organisation B) that wanted to enter the South Australian market. The merged organisation (Organisation C) consisted of the original family business (Organisation A) and the large national corporation (Organisation B). Organisation C had offices throughout Australia in all major cities (eg Sydney, Melbourne, Adelaide, Perth, Darwin, Alice Springs and Hobart). It also had many regional cites (eg: Broken Hill). Diagram 1 below illustrates how Organisation C emerged.

Diagram 1: Diagram of how Organisation C emerged



Organisation A was a 135-year-old business described by participants as having a family culture. It had a strong tradition and was very much an icon within its State. Organisation A often had three generations of families working in it. Because of this, employees had very strong ties and loyalty to Organisation A.

Organisation B was a 51 year old business. In the 1950's new plants were built in Sydney and Brisbane that enabled the company to expand into the petrochemical field. By the 1980's Organisation B entered the United States and reinforced its leading position in building materials in Australia. In 1997 Organisation B took over Organisation A. It also increased its presence in Asia and started to focus on producing pre-mix concrete and plasterboard. At the time Organisation B took over Organisation A, the natural resources industry had been deregulated and this assisted the takeover. In late 1999 Organisation B

changed its name and demerged two of its businesses into two industry specific Australian listed companies, one of which was Organisation C.

As reported by the employees, the Organisations A and B had very different cultures and this proved to be problematic during the course of the takeover. The new information technology system which was a financial based system was installed by Organisation C as part of a major overview of the organisational structure, reporting lines and business processes in order to merge the two organisations' cultures and processes into one. The system was implemented twelve months after the takeover of Organisations A by B. This resulted in Organisation C experiencing continuous organisational change for about two and a half years.

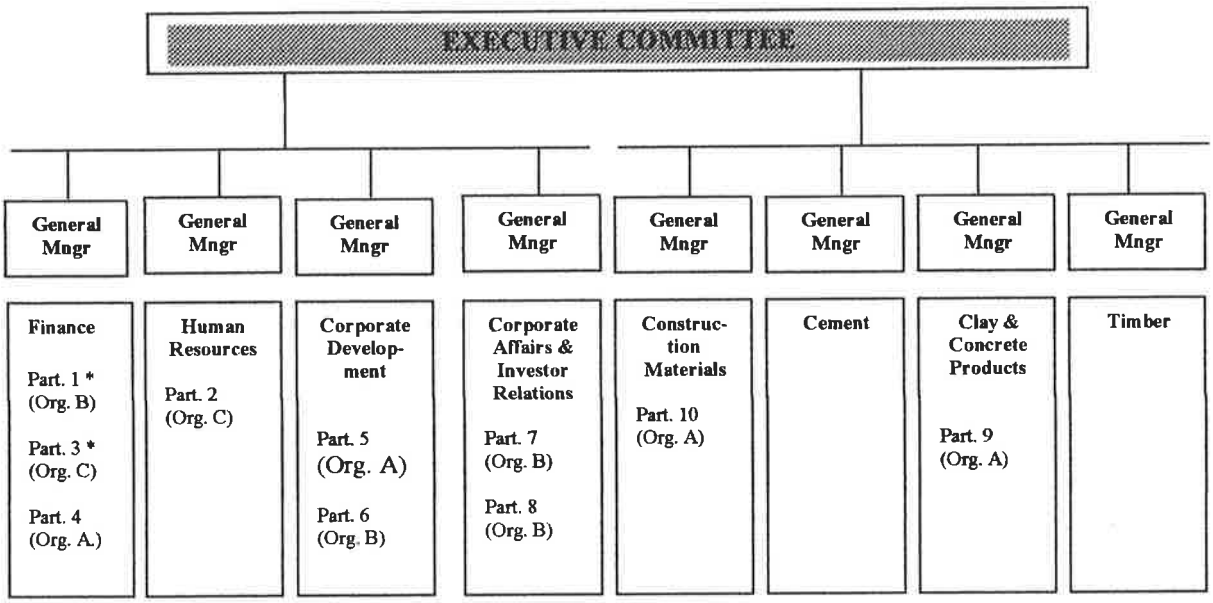
The Information Technology (IT) change implemented

The new financial system replaced a system called the legacy system and manual systems used by Organisation A. The new financial system was implemented in March, 1997. The purpose of the implementation was to make the financial process consistent throughout the whole organisation and to make the reporting of the financial results more accessible. The cost of the system was between $22M and $25M, as reported by management.

The interviews for this study took place approximately 12 months after the system had been implemented. Thus the training had already occurred in regard to the new system.

The organisational structure below, in Diagram 2, illustrates the different divisions within Organisation C and where the participants were located within the organisation. It also outlines what organisation the participants were originally from.

Diagram 2: Organisational Structure of Organisation C after Organisation B took over with Organisation A.



** These two participants were on the Implementation Team.*

Participants

A stratified purposeful sample (Patton, 1990) of ten individuals who were all employees of Organisation C and had experienced the new system implementation and/or the other organisational changes such as the takeover, new organisation structure and new business process in some form. While all participants at the time of interview were employed by Organisation C, some were originally from Organisation A and some were originally from Organisation B. Purposeful sampling is used as a strategy when one wants to learn something about select cases without a need to generalise to all such cases (Patton, 1990). A stratified purposeful sample illustrates characteristics of particular subgroups of interest and facilitates comparison (Patton, 1990). For example, the participants in this study worked for Organisation C and had been involved with, or experienced, the new system implementation at some level.

The ten participants who were asked to take part in the study consisted of three females and seven males. The subjects were selected in conjunction with the research and the organisation's Project Manager. They were selected on the basis of their involvement with the new system implementation and their varied perspectives of this change. The

participants ranged from managers to general staff. All participants were employed by Organisation C (the merged organisation) at the time of the interviews. However, four originally came from Organisation A (the family business), four came from Organisation B (the large national organisation) and two were newly employed by Organisation C.

Most of the participants had hands-on involvement with the new system. One participant refused to use the new system, but was interviewed to obtain his views on the new system and how it impacted him and his department. The implementation was managed by only seven individuals within the organisation and this was seen by some participants as problematic due to the project being so large. The staff that were required to use the system were trained on it with most of the training being done in-house by contracted trainers.

Design

The present study was a holistic (multiple unit of analysis) multiple case design (Patton, 1990). The main units of analysis were the factors that influence employee acceptance of change.

Procedure

The interviews were conducted at the participant's place of work and took approximately 1 hour each. Each participant was asked to sign a consent form and was given an information sheet 2 days prior to the interview so they were completely familiar with the research being conducted and their role in the interview. Copies of the consent form and information sheet can be found in Appendices A and B respectively. The participants were also advised in the information sheet that they could withdraw from the interview at any time during it and that the interview was completely confidential and anonymous. Directly after the interview the notes were transcribed verbatim and the data were analysed by extracting relevant information that answered the study's research questions. The original notes were kept in a database (i.e. the notes were kept in a file in their original form) as Yin (1989) suggests that reliability is enhanced by using this method.

The interview was started by the researcher providing a brief summary of the aims of the study and the purpose of the interview. The participant was then offered the opportunity to ask any questions about the study. The interview then commenced with an open-ended question that invited the participants to start talking about their experiences during the implementation of the new IT system and other concurrent organisational changes.

The information sheet gave the participants the option of cancelling the interview if they read the sheet and then decided not to participate. However, no participants cancelled the interview or decided not to participate after reading the information sheet. The questions that participants were asked are as follows:

1. Describe your history within the organisation (eg your role, when you started)
2. Describe your experiences of the implementation process.
3. What, in your opinion, were the issues that contributed to the non-acceptance of users. (This question was included as a result of interviews with managers who reported that there was a high rate of user resistance to the new system).

The questions were deliberately broad and open-ended to ensure that the participants could tell their own story of their experience rather than being guided by the interviewer. The purpose of the questions was also to tap into issues other than system issues.

Interview questions

An information sheet was given to subjects that outlined the purpose of the study and the types of topics that would be covered in the interview. The information sheet can be found in Appendix B. As the interviews were semi-structured, the researcher had only three questions pertaining to some of the factors that may influence acceptance of change, such as; 1) describe the history of your organisation; 2) describe your experience of the implementation process; 3) what were the factors that contributed to users not accepting the system. These were used merely as a starting point to gather information in relation to the employees' stories of their experiences and observations of the organisational change. All the interviews were tape-recorded.

Results

Participant No: One (Mr I.)

Participant number one was a 35-year-old male (Mr I.) whose position was Manager of the Project Implementation Team. He was originally from Organisation B. and had been on the project for two years.

As Mr. I. was the Manager of the Implementation Project he was able to provide detailed information on the history of the project as he saw it. This helped to provide a context in which to place the changes that the organisation was going through.

Mr. I. was asked how many changes Organisation C had been through within the last two years. He stated that Organisation C had been through the following changes:

- Change in infrastructure
- Deregulation
- Decentralisation to centralisation
- Merged with another organisation
- The implementation of a new IT system

Mr. I. started off with specific user issues such as the user friendliness and usefulness of the new system and agreed that these were important. However, he added that any sort of major implementation *"will cause some pain"* and *"this may be real pain or perceived pain"*.

Mr. I. stated that he felt that most "pain" is caused through inconvenience because users have to think differently and then have to apply their new learning back to their workstation. This causes a lot of stress to users who have used the same system for many years. He also suggested that the degree of "pain" was dependent upon how much support the users received.

The users had been supported via training programs that were undertaken so that the users had knowledge about the new system. Mr. I. stated that the learning material came in the form of a CD rom and that the training was of a high quality with experiential learning techniques. Support systems had also been put into place for the users. However, according to Mr. I., in spite of the training effort many users were resistant as the added documentation and learning were seen as being additional work that they had to cope with and this therefore led to users not wanting to participate.

Mr. I. did state that the users changed their perceptions over time and were more accepting of the changes as the project progressed. Users were also at different levels as far as their computer literacy was concerned and this impacted upon their acceptance. For example, some users had a long history with the organisation and had spent many years working on the same computer and processing orders in the same way. Thus, when asked to change, they felt threatened and anxious. Other users had a very low skill level and had to be trained to get them up to the level that they should have already been working at. For example, *"Other users simply had a very low level of aptitude and thus found learning a new system very challenging"*.

In addition to the training issues, Mr. I. stated that: *"all the users were impacted greatly by the many organisational changes that were occurring at the same time and this caused a lot of confusion"*. For example, some users did not even know whom they were to report to, and this caused a considerable amount of anxiety that inhibited their concentration when they were trying to learn the new system. Mr. I. suggested that some users felt that learning the new system paled in comparison to what was going on around them in terms of all the other organisational changes. These changes included effects of the takeover, the new organisational structure and new business processes.

Mr. I. thought that fear of job loss was a real concern for users. He stated that: *"the project relied on natural attrition and therefore didn't focus too heavily on job loss with staff"*. However, he did state that some managers told their staff that some of them would lose their jobs while other managers did not tell their staff anything about the change at all because they feared that staff would leave and that they would have to pay big bonuses to

make them stay. However, in some cases, *"due to redundancy packages being sent to some of their employees via e-mail, they were already aware of the changes and this reaction from management only served to confuse them more"*.

In relation to how the implementation was communicated, Mr. I. stated that the Project Team had become aware of "bottlenecks" where communication did not get through. For example *"all senior managers were given packages that explained the change in detail and were asked to pass these on to their staff"*. *"Three months later the Project Team became aware that not all of these packages had been passed down to staff members"*.

When asked about this issue in more detail, Mr. I. stated that 250 key people within the organisation were given packages that contained all the information regarding the implementation. However, only 30% of this documentation got through to staff.

When asked why he thought this happened, Mr. I.'s perception was that managers thought one or more of the following:

- *"The employees did not feel that the change would impact upon them.*
- *The implementation was too far into the future so why worry the staff about it now?*
- *The new system took too much time to implement.*
- *The new system was an inconvenience.*
- *They did not believe in the new system"*

Because of the communication bottlenecks and lack of manager support, the Project Team sent their own information packages out to each employee via email. However, according to the other employees that were interviewed, these communication packages were sent out at least 12 months into the project. Mr. I.'s response to this information was, *"you can't make people read the material"*. His perception was that people received the emails but did not read the content of the email.

Mr. I. saw the corporate culture as having a very large influence on the problems of change in the organisation and that this stemmed mainly from the organisational structure. For example, after the takeover, employees' reporting lines were not clear and Mr. I. felt that this might have been an issue in regard to providing sufficient communication to the employees concerning the change. Mr. I. also stated that when the general managers worked in Organisation B they had all had very autonomous roles. However, when the changes were implemented (including the new financial system) by Organisation C, they were simply told that the changes were going to happen and they were not asked about it.

While the new system and organisational changes, including the takeover, were occurring, a process was also being put into place in order to make the finances more visible. With the finances becoming more visible, managers lost a certain amount of control of financial information and this meant that the general managers (their seniors) became aware of the amount of money going into the change process. This knowledge became a source of resistance especially to the senior management.

- *Employee participation*

Mr. I. was then asked if the senior managers and general managers had been asked to participate in the new system implementation in terms of its strategic development. Mr. I. explained that four workshops were held within six months of each other to provide information to all the attendees. However, once again, these workshops were held approximately 12 months after the project had started. He noted that there was a significant reduction in attendances from the first workshop to the fourth. When asked what he though was the problem with the lack of attendance, he stated that the attendees gave excuses like, cost, time and inconvenience.

- *Leadership style*

When asked to comment on leadership style, Mr. I. stated that he thought it was good to have an autocratic leader when introducing change, as there are some decisions that just have to be made and that full participation from all employees is difficult to achieve. However, in his view, the organisation tried too hard to pursue a participative approach and this prolonged the making of decisions concerning very important issues.

- *Politics*

When asked for examples about personal politics, Mr. I. referred to the general managers and how many of them did not pass information onto their staff, purely for what he saw as personal reasons (for example, to try to keep their employees even if their jobs were not secure).

- *Areas of Improvement*

When asked whether or not he and his Project Team had any regrets about the way in which the implementation process was handled, he pointed out three areas where he conceded that they had made mistakes and where things could have been improved. These were:

Training

In regard to training Mr. I. stated that *"the Project Team did not get the training right in the first instance and this caused confusion and prolonged the process"*.

He stated that initially the training programs were merely teaching the users about the new system without putting the new techniques into the context of the user's daily work schedules. This meant that even though the users knew how to use the system they often couldn't relate this back to their own environment and this caused major problems and anxiety from the users' perspective.

Once the Project Team identified this problem, the following training programs were all contextual and this proved to be a much more effective way of teaching the new system so that users were able to implement their new skills in their new environment. This problem with training was identified through a survey evaluation of the training.

When asked why he thought these problems occurred, Mr. I. stated that he felt that it was a lack of communication between the Project Team and all employees including management and that the change management process had been pitched too high (at

manager level) whereas it should have been pitched at the users who were more likely to raise these types of issues.

Change management of the new system implementation

The project employed a full-time Change Manager and a full-time consultant who was a specialist in managing change. These two people were contracted outside Organisation C. Mr. I. felt that the change manager did not get the "pitch" right as the change process was pitched at a management level with the hope that it would filter through to the users. Instead, he felt that it should have been pitched at the user level, as that is where the system was really being implemented and evaluated.

The organisation employed a total of seven change coordinators to monitor the impact of the change. Mr. I. suggested that because there were only seven individuals managing the change, there was not enough momentum throughout the change process.

Technical issues

Mr. I. stated that the project had some technical issues that impacted upon the project but felt that these were outside the scope of the interview. Mr. I. did not elaborate as to what these technical issues were.

Summary of issues that affected employee acceptance of the new system according to Mr. I.:

- Communication about the new system implementation did not get through to employees from managers.
- Managers were only told about the new system implementation and not consulted (non-participative approach)
- Loss of control and power by managers in regard to knowledge of the organisation's finances.
- Did not get training correct from the start.
- Change management was pitched at too high a level in the organisation.

- Not enough momentum from change managers throughout the project. This could have been due to only a small change management team being employed for such a large project.
- Multiple changes occurring at once within the organisation caused a lot of confusion.

Participant No. Two (Ms. L.)

Participant number 2 was a 29-year-old female (Ms. L.) who was employed by Organisation C to train the users on the new system. She had been working within Organisation C as a contractor for 18 months. She was employed by Organisation C as a new employee and therefore did not work for either Organisation A nor B. As Ms. L. was the trainer, she was also asked her about her observations of the users she was training.

Ms. L. was asked what, in her opinion, were the factors that contributed to employees' non-acceptance of the new system. There were five major areas that she felt contributed to this. These were as follows:

The major factor Ms. L. thought affected employees acceptance was how the managers coped with the new system and other organisational changes. She stated that she felt that employees modelled their leader's behaviour and if the leaders did not accept it, neither would the employees. She said that this was very difficult because the trainers tried to inspire the employees to use the new system during the training days but when they went back to the office they were confronted with a lot of negativity from their managers that destroyed any positive aspects of training.

Ms. L. provided the following two examples:

- *Bulk Store:* The bulk store had a change of leadership during the implementation of the new system and this made employee attitudes much more positive. The key aspect of this new manager's leadership style, in relation to the system, was that she could see the benefits of the new system and although she did have some doubts, she never displayed these doubts in front of the employees. In contrast, other managers didn't keep their doubts to themselves but rather joined in with the employees when they started complaining about the system.

- *Broken Hill Site:* The manager at the Broken Hill site was quite inexperienced but he asked a lot of questions and communicated openly with his employees so that his employees knew what was happening at every stage *"He really sold them the system"*.

Non-acceptance of the implementation of the new system

Non-acceptance of the new system by many of the employees meant that they refused to use it or they developed their own ways of doing things. Some managers allowed this to happen and some actually encouraged it. Ms. L. stated that the money had been spent and the decision had been made to use the new system and therefore managers should have accepted it and led their employees through it rather than go against it.

Ms. L. stated that when the training was done in-house the result was much better. Training that was not in context of the participants' daily work routine could be a problem. However, Ms. L. thought that the main issue was that the trainers were *"on the employees backs and in their faces"*. In-house training also showed the employees that the trainers understood the environment that they had to work in and this enabled the trainers to tailor the training to fit the employees' needs. Ms. L. stated that: *"when the training sessions were in the major cities and not held locally it just didn't work"*. For example, trainers found that when the training occurred in-house and employees were in their own environment, they seemed to get more out of the training sessions.

According to Ms L., one-on-one meetings were also very useful with managers as they could air their concerns in private and feel comfortable about it. It was also a chance for the trainer to dispel some of the myths that existed about the new system and to provide answers to some of their problems. Ms. L. noticed that in large groups the managers wouldn't speak out constructively about problems and how they could be solved. *"If anything, it has a reverse effect by which the managers got together and shared negative experiences which only served to perpetuate the problem"*. There were, however, some positive outcomes to these meetings, in that they served to promote reciprocity between

the trainers and the managers, as the managers felt compelled to help the trainers after the trainers offered advice and help.

Organisational Culture

Organisational culture also predetermined the way the employees tackled problems with the new system. For example, Ms. L. stated that the organisational cultures in different offices were often visibly different. For example, some offices had signs on the wall stating, *"we can do it better"*, whilst others had posters on the wall making fun of the new system. Ms. L. stated that it was very useful to understand which of these sorts of environment the users were coming from. Another factor that seemed to be important in the way offices reacted was that some offices thought they were closing down and therefore didn't want to learn the new system and saw no use for it. However, some of the employees saw this as a good opportunity to obtain marketable skills. Ms. L. felt that these kinds of individual differences played a major role in the acceptance of the implementation of the new system.

Economic Environment

Ms. L. also saw that the economic environment of the regional offices played a major role. She stated, *"In Sydney where there are more opportunities, people were less anxious about the change as if it didn't suit them they could leave"*. In Adelaide, however, and some other small regions, this was a problem as there were no alternative job opportunities. Trainers noticed significant differences in user rejection in small regions. Smaller regions seemed to resist the new system implementation more maybe because they were so isolated from the main offices.

Organisational Takeover

People from Organisation A also had to cope with the takeover from Organisation B. Ms. L. believed that they did not differentiate the new system from Organisation B so they blamed the new system on the takeover. Ms. L. stated that they *"held a wake the night before the takeover"*. Three offices handled the takeover well. All three managers in these offices discussed everything with their employees and were actively involved in knowing everything about the system. They attended all sessions and encouraged

employees to ask them questions before running to help desk or trainers. One of these managers was a bit of an autocrat, according to Ms. L., but did have the respect of the staff so that they trusted him and followed his lead. The other two offices had very personable managers who talked to their staff constantly and didn't hide anything from them.

Summary of issues affecting employees acceptance of the organisational changes including the new system implementation according to Ms. L.

- How the managers coped with the new system affected their staff. For example, those managers who were positive about the new system had a positive affect on their employees, and therefore the employees were more likely to accept the new system.
- The training on the users' premises was much more effective.
- One-on-one interviews with managers were very effective in obtaining support.
- The culture of the office affected employees' attitudes toward the system.
- The economic environment was very important. For example, where there were more alternative job opportunities and employees seemed to be less anxious regarding their jobs.
- The style of the leader affected how well employees accepted the new system.
- Good communication from managers seemed to assist staff.

Participant No: Three (Mr. T.)

Participant number three was a 34-year-old male (Mr. T.) who was a member of the Project Team. He had been with the Project Team for about ten months. He joined Organisation C as a new employee.

Mr. T. came on board the project when they were testing the software and getting ready for the implementation of the new system. The first training sessions were being implemented, at that time, in the Eastern states.

Mr. T. stated that the Project Team attempted to get the managers to "own" the project, he referred to this as "buy in" but they did not get indicators from the mangers that they actually did buy into the project.

Some of the issues of concern to Mr. T. were a lack of user ownership of the new system and the employees being too dependent upon the Project Team for solutions to the new system's problems.

According to Mr. T. the Project Team was at fault as they were not thorough enough on some issues before the new system was implemented.

The takeover of Organisation A by Organisation B also caused a lot of disruption. Organisation A's culture still existed for a long time after the takeover. According to Mr. T., Organisation A had a much more relaxed culture while Organisation B was more commercial. Thus there was a large adjustment for employees from Organisation A to make.

Mr. T. felt that because the financial costs of the new system were extremely high, only the most important changes were made.

Mr. T. considered that there was open resistance to the new system. For example, some offices had posters on the walls saying, "*Smash (the name of the new system)... Bring back the old system*". Mr. T. stated that he did not understand this attitude as the Project Team spent a lot of time with the managers and the users in regard to the benefits of the new system.

The smaller offices seemed to adopt more ownership of the new system than the larger offices.

Another factor that Mr. T. thought was important in employee acceptance was the employee's personal approach to change. Mr. T. noticed that some employees had a more easy going nature than others and accepted the change more easily.

Mr. T. stated that some of the managers did not pass information down to their staff, even though they were asked to do this by the Project Team. For example *"documentation was posted out to the managers with a memo asking them to copy the information and hand it out to all staff. However, it was found out later that a lot of staff did not get this information"*. Mr. T. stated that he was very disappointed with the manager's lack of "*buy in*". The project had "*buy in*" from the Managing Director of Organisation A but it needed to be more overt.

Job uncertainty was considered by Mr. T. as another factor that seemed to cause considerable disruption.

According to Mr. T. those offices that did embrace the change seemed to be the ones that were more isolated. *"They seemed to have to buckle down and get on with it"*.

When asked how the users were accepting the new system now, Mr. T. stated, *"they were more adoptive of the system but were still facing a lot of change and uncertainty"*.

<u>Summary of issues affecting employees acceptance of the organisational changes including the new system implementation according to Mr. T.</u>

- Lack of manager commitment to the project.
- The Project Team did not iron out all problems with the system before implementation.
- Lack of user ownership
- Merging of two cultures proved to be disruptive.
- Managing Director needed to be more publicly supportive of the new system.
- Individual's own personal approach to change.
- Lack of communication from managers to employees about the new system.

Participant No: Four (Mr. X.)

Participant number four was a 42-year-old male (Mr. X.) who was the Manager of the Finance Department. He had previously been with Organisation A for 5 years.

Mr. X. stated that he had already been through a major IT implementation with Organisation A. This provided an excellent comparison between the way two organisations, (Organisations A and C), handled the implementation of a new system.

Mr. X. started the interview by explaining the differences that he perceived between the implementations. For example, Organisation C had superior users and had employees with superior accounting experience. Mr. X. felt that this was a very important factor. However, Organisation A had a participative approach and this also had been extremely beneficial. Organisation C did not have a participative approach and Mr. X. felt that the implementation had suffered because of it.

Mr. X. stated that he felt that the new system implemented by Organisation C at a corporate level did not consider what the users or managers needed out of the system. For example, the system did not focus on the information that was needed for the managers but rather focussed on high level reporting.

Mr. X. felt that the new system was not sophisticated enough in the functions it provided. For example, *"there is a definite lack of management information"*.

Mr. X. stated that he felt that one of the major problems with the new system was the lack of experience by people on the Project Team who were responsible for implementing the new financial system. He also stated that he felt that *"there was a lack of knowledge and understanding about the system"* by the Project Team. Because of these problems there was still a reasonable amount of resistance toward the new system. Mr. X. also felt that the new system was essentially implemented as a means of reducing staff.

Another key issue that made the implementation of the new system difficult was that there were multiple changes occurring at once; for example, new business processes, a new

organisational structure and the merging of two organisations. This was difficult for staff to cope with and produced a lot of instability.

Mr. X. also stated *"there was a lack of communication about all the changes occurring within the organisation"*. For example, communication was non-existent in the early stages of the new system implementation. It was only when communication was recognised as a problem that a Change Manager was employed. The Project Team attempted to improve the situation by doing road shows, special bulletins and newsletters. Mr. X. felt that these attempts were unsuccessful because *"some employees are still not on board"*. When asked how this could have been improved, he suggested that a multi-disciplinary Project Team could have led to more informed strategies to implement the new system as different parts of the organisation would have been involved. Mr. X. did state, however, that two years into the new systems implementation a genuine attempt was made to communicate the change. However, *"some employees, at that stage, still didn't know about it"*. Mr. X. also stated that he felt that *"the implementation was too fast"*.

At the end of the interview Mr. X. was asked if he could compare the two organisations in respect to the way they handled the new systems implementations. The summary below highlights these points.

Organisation C (Present Organisation)	*Organisation A (Previous Organisation)*
Poor communication and when it was communicated it was 2 years into project	Communication was excellent and started at the beginning of the project.
Non-participative approach	Pure participative approach from beginning
Multiple changes and continuous change	One single change
Different cultures merged together	Did not merge with another organisation
National implementation	Only implemented in one state
Lack of knowledge and experience	A lot of knowledge and experience

Summary of issues affecting employees acceptance of the organisational changes including the new system implementation according to Mr. X.

- Poor communication. For example, the communication only started two years into the project.
- Not enough experience within the Project Team driving the implementation.
- Multiple changes difficult for employees to accept at the same time.
- The systems implementation occurred too quickly.
- Non-participative approach.
- Project Team needed to be multi-disciplinary.

Participant No. Five (Mr. Y.)

Participant number five was a 55-year-old male (Mr. Y.) who had been originally with Organisation A. He was the Manager of the Printing Division within the Corporate Development division. He had been working there for 16 years. As Mr. Y. worked in the printing division, he did not use the new financial system but did experience the ramifications of the other organisational changes such as the takeover, the new business processes and the downsizing that occurred.

Mr. Y. stated that he had no resistance to the organisational changes as he welcomed new ways of doing things and new ideas, and he saw change as being good. However he stated that Organisation C was, in his opinion, *"ruthless and cheap and only provided the bare essentials where employment was concerned"*.

Mr. Y. compared his time with the current organisation (Organisation C) with that of the organisation that was taken over (Organisation A) and he stated that his "old" manager looked after the staff. For example *"they had a share option plan that employees didn't have to pay for but received shares"*. Mr. Y. stated that he was able to put a new roof on his house because of this and felt that he was appreciated and rewarded for his hard work. Mr. Y. stated that he treated his division like his own business and often put in many hours after work.

However, one good thing about the takeover, was that Organisation B *"got rid of a lot of deadwood"*. For example his department was reduced from 6 to 2 people and he felt that this was more efficient.

There were a lot of bad experiences during the takeover process. For example, there was a lack of communication about the takeover and a lot of employees felt that Organisation B was destroying 135 years of history by merging with Organisation A. Mr. Y. reiterated once again how Organisation A had looked after their staff. When asked for an example, he stated *"they had a training program for school leavers whereby they started in the mailroom straight from school and could work their way up in the organisation... Organisation B got rid of this system"*. He went on to say *"Organisation B didn't care about the little worker, they're only concerned with middle management"*.

Mr. Y. went on to describe the culture of Organisation A as a family environment. Many of the workers had been there for many years and their family members were also working there. For example, fathers and sons could be working in the same company. However, Mr. Y. did suggest that Organisation A *"could have been too family oriented"* however. Mr. Y. stated, *"The new organisation (Organisation C) is too far the other way; for example, it has its head office in Sydney and we never see the "big boss"*. In Organisation A *"the boss would come down to the printing room and stop and have a chat. We have now been merged for 12 months and I haven't seen my new boss. We still haven't had a meeting in regard to the change and this makes people worry that they'll lose their jobs. I still don't know if I've got a job"*. Mr. Y. also suggested that a lot of rumours were going around and this added to his anxiety about his job. Mr. Y. stated that the only attempt by Organisation C to promote a new culture was by sending a *"Values and Purposes"* statement around for workers to put on their wall. *"Middle management may know what's going on, but if they do, it doesn't get filtered down to us."*

Because of the events described above, Mr. Y. was suspicious of Organisation C. The other negative issue for Mr. Y. was that he had put in a lot of work throughout the changes due to downsizing of his printing division, but Organisation C took it for granted and offered no thanks at all. He stated that Organisation C told workers via e-mail to

"carry on as if nothing is happening". Mr. Y. also told how employees were informed that they were no longer "required", namely, that most of them were posted a letter that they received on Friday saying *"don't come Monday"*. When Mr. Y. was asked whether these employees were talked to face-to-face by anyone, he said they were not, only via e-mail.

This was seen as one of the main difficulties with the changes, two very different working environments coming together.

Mr. Y. stated, *"we're supposed to look to managers for guidance and support and it doesn't exist"*.

Meetings that they did have were considered by Mr. Y. as a waste of time. When he had asked a lot of questions he was told *"you must have a lot of spare time on your hands to think of all those questions"*.

Mr. Y. went on to talk about his own future with the organisation and stated that the change made him test the job market in terms of his skills (eg look for another job). Mr. Y. was asked how he had coped with the change. He stated that testing the market was one way. He also tried to keep a positive attitude by confirming his capacity to find work in another organisation.

<u>Summary of issues affecting employees acceptance of the organisational changes including the new system implementation according to Mr. Y.</u>

- Lack of communication about the changes in general.
- Lack of reliable and supportive leadership throughout the changes.
- The merging of two organisations with two very different cultures.
- Lack of management face-to-face contact and lack of contact in general.
- Anxiety about job loss.
- Tough attitude of Organisation C on workers.

Participant No. Six (Ms E.)

Participant number six was a 27-year-old female (Ms E.) who worked in the Corporate Development group. She had originally been with Organisation B for 6 ½ years.

Ms. E. stated *"I had been thinking about the interview the night before and about the issues that have affected me during the organisational change processes"*. The first issue that Ms. E. brought up was that of training.

Ms. E. stated that she felt that the training on the new system was far too remote. When asked for an example, she stated that *"the training was not in context and it took a lot of time for users to understand how they were to use (name of system) within their own work place"*. This was rectified, however, as *"the trainers installed a "play pen" for the users to practice on"*. A "*playpen*" is a place or environment on the system that allows employees to practise new skills on the computer system before they use it as part of the daily routine. Because of the early problems, Ms. E. felt that the training could have been more effective. She also stated that the Project Team should have identified and addressed user's specific needs. She felt the approach was too generic. All of these training issues left the users with negative feelings about the system. Other negative feelings came from the fact that the system cost between $22M and $25M and the users felt that it should have been more effective for the money. Ms. E. stated that the system, even today, has problems down loading important information that they need to include in their monthly reports. As a result, their division has lost nine months of information. *"As a result of (name of system) not being able to provide the information we need, we have had to develop our own system for the monthly reports"*. This has caused an enormous amount of work and employees have been putting in extensive hours and are exhausted because of it. Ms. E. went on to say that *"I don't mind putting long hours in but not when its not value added work, but just catching up because the system isn't functional"*.

Ms. E. stated that another issue of concern was the fact that while the new system was being implemented, the organisation was still going through a major organisational

restructure that included a takeover of another organisation. *"this caused additional pressure in times of instability"*.

Another topic discussed was that of communication. While a Change Manager was appointed, she only sent newsletters out; .. *"there was minimal human contact, due to this the changes weren't believable"*. More understanding and empathy were needed. Problems needed to be identified and strategies put into place before they occurred.

Ms. E. was then asked about possible positive aspects of the new system implementation. She stated that, *"I want to try and keep a balanced view of the systems implementation, but I haven't seen any positives yet"*. She stated that *"there may be overall benefits but not in my division as yet"*.

Ms. E. also mentioned *"many redundancies were talked about"*. About 40 accountants were supposed to lose their jobs.

She stated that the multiple changes (for example, the merging of two organisations, and new organisational structure) were very difficult to cope with and employees had to work very hard to get through it due to the new system's problems. She stated, *"the implementation should not have gone ahead until problems were fixed instead of going ahead anyway"*. She also thought that the old system should have been run concurrently while users were getting used to the new system; *"that way, we wouldn't have lost so much information"*. *"I've tried to be positive to the employees but it's difficult"*

<u>Summary of issues affecting employees acceptance of the organisational changes including the new system implementation according to Ms. E.</u>

- Training of the new system was not specific enough and not in context with employees' daily work routines.
- Multiple changes such as the new organisational structure, the merging of two organisations together with a new IT system were difficult for employees to cope with.
- Lack of communication about the new system caused uncertainty.

- Lack of face-to-face communication with employees in regard to the new system.
- Increased workload for employees.
- Rumours about job loss caused anxiety among employees.
- The new system was inefficient and this caused negativity.

Participant No. Seven (Mr. G.)

Participant number seven was a 55-year-old male (Mr. G.) who was originally employed by Organisation B for 16 months. He is now working as a Team Leader of the Share Processing centre.

The Share Processing centre is within the Corporate Affairs and Investor Relations division and manages the company share registry

Mr. G. stated that *"the main issues that affected individuals were the fact that they had gone through a name change, poor systems training, merging of two cultures, organisational restructure and a new system all at once"*.

Mr. G stated that the three main issues were the name change, restructure and new IT system. The name change had a significant impact, as a lot of people identified with the old name and the old organisation (Organisation A) and had worked there for many years. *"They found the name change very difficult to cope with"*. For example, one worker stated *"I work for Organisation A not B"*. There was a lot of resistance of this kind amongst the employees from Organisation A.

In regard to the organisational structure, Mr. G. stated *"a lot of people saw it as a takeover not a merger"*. This caused considerable stress. *"There was a lot of grief and fear that they had to change the way they worked"*.

The third issue that the employees had to cope with at the same time was a new IT system. According to Mr. G. a lot of employees saw this as something tangible that they

could blame for their stress and anxiety. A lot of employees had to learn new skills within the area of finance. Previously, the employees sent their invoices to the finance department but now they had to do it all themselves. This caused considerable stress. Mr. G. stated, *"the suppliers don't like it either, and this has brought up an external change management issue that needs to be addressed"*. Mr. G. also stated *"external change management issues were not considered at all"*.

On the issue of communication, Mr. G. considered that it had been done poorly. For example he stated, *"we went live 1st April 1997. However, just last week (12 months later) we had an inquiry about what to do with an invoice and the person asking the question had only just heard about the change"*. Mr. G. stated that there should have been a road show aimed at all employees. He went on to state *"the project did something that they called a road show but they only dealt with top management not the workers"*. A lot of middle managers were given information but did not pass this down to their employees. When asked why this could have been the case, Mr. G. stated that, in his opinion *"it was due to loss of control, loss of information and power by middle managers"*. The new system provided more information about the organisation's financials and more people had access to this type of information than before.

With respect to the issue of training, Mr. G. stated that the training would have been more useful if it was more contextual in nature. The trainers didn't relate it back to the work place and this impinged upon the effectiveness of the users' learning. They have since changed their training style to include a more contextual approach and have provided users with more options.

In regard to the change management issues, Mr. G. felt that the change management in regard to the new system was done poorly. The project originally had an external consultant who was excellent but the Project Team terminated her contract and appointed someone internally. Mr. G. felt that the second Change Manager was ineffective, as she did not get out and about to talk with people about the new system. More human contact was needed in Mr. G's opinion.

Summary of issues affecting employees' acceptance of the organisational changes including the new system implementation according to Mr. G.

- Lack of communication.
- Inadequate training.
- Too many changes implemented at once.
- The employees were not given enough consideration.
- When the organisations merged, the old organisation adopted the new organisation's name. This caused considerable grief amongst the employees from Organisation A.
- Changed from an effective external Change Manager to an ineffective internal Change Manager.

Participant No. Eight (Mr. V.)

Participant number eight was a 35-year-old male (Mr. V.) who was originally employed by Organisation B for six years. He is now a manager in the Share Processing Centre. This division is within the Corporate Affairs and Investor Relations division and manages the company share registry.

Mr. V. explained that he was mainly the driver of the implementation of the new system rather than the recipient of it. He stated that, in his opinion, *"the three main difficulties with the change process were that of power, staff dislocation and issues surrounding general change"*.

In regard to power, Mr. V. stated that *"there used to be six regional centres and there is now only one"*. Mr. V. went on to state that *"the head offices can no longer write their own cheques and the share processing centre now has all the control over payments"*. This has caused the recipients of this change considerable loss of power. For example, *"Organisation A now has only one bank account."*

In regard to staff dislocation, Mr. V. stated, *"the organisation had a lot of newcomers but also a lot of staff have been lost, especially from the regional offices"*. *"A lot of staff left*

when they heard of the potential changes". Mr. V. went on to state that *"unfortunately, a lot of the good staff left as they knew they could easily get jobs elsewhere".* Mr. V. stated, *"staff were told of the possible job losses up front. However, they were also told that it was expected that this would occur through natural attrition".* Mr. V. felt that *"the lead time was too long, being 2 ½ years and this contributed to some of the job losses".* The loss of good staff affected managers. When asked how staff dislocation affected his own group of employees, Mr. V. stated *"it didn't affect them because they were mainly all new and the change hasn't had a great impact upon them, other than the aftermath".* For example, *"the old system had a lot of responsibility on the line managers doing the least work. However, now it's the other way around and line managers have more responsibility".* As an attempt to overcome some of the difficulties associated with the change, Mr. V. has developed information packages for his clients (which are all internal clients) to try and teach them how transactions work and what they need to do to get it right the first time.

There is also no face-to-face contact with customer transactions now and this has caused some problems. Mr. V. stated, *"I have trained all my staff in telephone skills to try and overcome this".*

In regard to general organisational change issues, Mr. V. stated *"people were simply used to doing things the same way for many years".* Mr. V. went on to say that *"some people had been in the organisation for 30 years and therefore found the change difficult".* Mr. V. also stated that in December 1991 the office in Launceston, where he managed, did not have one PC anywhere in the company. For example, the share register was maintained on manual cards. For these individuals there was too much change in regard to information technology too quickly.

In regard to training, Mr. V. stated that the training was mainly focussed on software rather than process. However, these initial problems were rectified and training was altered. Another issue that Mr. V. raised in regard to training was that a lot of people who went to training still said that they didn't know how to use the new system.

Communication

Communication was also mentioned by Mr. V. He felt that communication was good and followed a "procedure" that was appropriate to organisational change. When asked what employees were formally told about the organisational change he stated that there were three groups; Service managers, Middle managers and finance staff and that *"The lower level staff didn't really need to know about it"*. Newsletters were also distributed to the employees.

Summary of issues that affecting employee acceptance of the organisational changes including the new system implementation according to Mr. V.

- Loss of power from managers due to some business processes being centralised.
- Staff dislocation. Staff heard of the change and a lot of staff left because of it.
- Too much change too quickly, especially in regard to new technology.
- Training focussed on software rather than on the way the software was used in the workplace.
- The view that only senior staff needed to know about the change.

Participant No. Nine (Ms. J.)

Participant number nine was a 40-year-old female (Ms. J.) who was the supervisor of administrative services within the Bulk Store within the Clay and Concrete Products division. The Bulk Store handled incoming goods and dispatched materials to clients. She was originally from Organisation A.

Ms. J. started the interview by saying that she had no problems with the change, as she loved the challenge of it. She also stated that she felt that she had the type of personality that was conducive to change and if people said *"you can't do that, I'd try all the harder"*.

She stated that a large percentage of the employees within Organisation A, including herself, were not computer literate to start with, and a lot of the functions had not been computer based. She had only learned how to use a personal computer in recent times.

She stated that she could not understand why the people in her division did not like the new system and found it hard as it had the same principles as the old system. She went on to state *"some people just didn't want it"*.

When asked about the takeover, Ms. J. felt that *"there wasn't much of an impact as it didn't affect us here"*. However, a lot of people were offered packages for redundancy and this affected other staff members as they thought people were being pushed out and *"this affected morale a bit"*.

When asked how the change was communicated and if it was effective, she stated that she could not remember. However, she went on to say that she had received newsletters but had not read all of them because they were not relevant all the time. She did, however, state that she was disappointed with the change management; *"they appointed a change manager but she didn't do a good job"*. For example, *"all the staff went to a change management meeting where they thought they were going to learn some strategies to cope with the change but instead they received a talk on the new system."* In general, Ms. J. felt that more support was needed by way of change management support on how to cope with the change.

Ms. J. also saw the training as problematic. She stated that *"there was only one day's training for people who weren't all that proficient to start with, and then a half day follow-up training session"*. Ms. J. stated, *"this took place three weeks before the new system implementation"*. She went on to state *"no one, to my knowledge, has been offered any more training."*

Another issue that Ms. J. brought up was the issue of morale. The Project Team selected different people to get involved with the implementation of the new system but no members of her division were invited to attend. This caused a lot of negative feelings.

Summary of issues that affecting employee acceptance of the organisational changes including the new system implementation according to Ms. J.

- Some employees were not proficient at using computers.
- Limited training was offered with no follow up
- Some staff members felt that some staff were being pushed out and this affected morale.
- Morale was low due to members of her team not being invited to participate in certain key meetings associated with the changes.
- Personality of the individuals going through the changes. Some personalities are more conducive to change.
- Change management focused on issues with the new system rather than people issues.
- There was a lack of participation. For example, some employees were not invited to participate in the change and this caused some negative feelings.

Participant No. Ten (Mr. N.)

Participant number ten was a 56-year-old male (Mr. N.) who is the Service Manager of Construction Materials. His role consisted of maintaining the company vehicles. He had been with the company for 42 years and was originally with Organisation A.

Mr. N. started by saying that the takeover of Organisation A by B had been clouded with deregulation of the industry. *"Deregulation seems to be driving the change and (the new system), it is taking a lot of flack due to deregulation"*. Mr. N. gave an example of this; *"as a result of the deregulation a lot of downsizing occurred in the quest for efficiency and, as a result, savage cuts to staffing were made"*.

Mr. N. had the general view that *"nobody wins out of deregulation"*. He then went on to talk about the tradition that went when Organisation B merged with Organisation A. He said that they were a 135 year old company and had a very strong tradition and it was very much an icon within its State. He felt that it was important to explain the tradition of Organisation A to the interviewer as he felt it placed the change in context and highlighted

why the changes had such an impact. He stated that within Organisation A there were often three generations of families; for example, grandfather, father and sons. Because of this there were strong loyalties and strong ties with the organisation.

Due to employees coming from this background, they felt that Organisation B was a big multinational company that was arrogant and uncaring. *"Employees lost the name and employees are now dealing with new managers". "A lot of these employees have been with the company for 25 years. They often came in at the bottom and worked their way up".*

Another issue for Mr. N. was that his manager was now a person in Queensland whom he rarely sees. He stated that this had both positives and negatives. *"Autonomy and independence are positives but no leadership was definitely a negative."*

When it was announced that a new system was going to be implemented, nothing happened after that for 2 ½ years. According to Mr. N., Organisation B had a reputation from outside the organisation that they were not to be trusted. This kind of rumour did not worry Organisation A employees because they felt that they would end up managing Organisation B as Organisation A had been in the industry for such a long time. Employees from Organisation A had felt comfortable and stable for a long time but then all of a sudden many people felt concerned for their jobs and had very little trust in the future.

Mr. N. stated, *"when the changes actually started morale took a nose dive".* Mr. N. stated that when other divisions were downsizing and people were getting pushed to leave, it made his staff feel very insecure about their jobs. (eg his garage eventually went from 15 mechanics down to one).

Organisation A used to engage groups to conduct customer surveys on quality of service etc. They had a big focus on employee satisfaction and customer satisfaction. According to Mr. N. there seemed to be a lot of hypocrisy in Organisation B's philosophy.

For example, *"they don't do any sort of customer survey and yet all of these changes seem to be about efficiency"*.

When asked how the new system and takeover were communicated, Mr N. said that regular newsletters were sent out. However, he felt some people needed face-to-face communication. The change processes were very long winded. Mr. N. felt it would have been less painful if it had been done more quickly. Because it was *"long winded"* it created a lot of rumours. The Project Managers needed to have a better plan in his opinion.

Mr. N. discussed his management style and how that was different from the managers that were around now. He compared his style now to his style when he was younger and starting out. Mr. N. stated, *"I was referred to as "little Hitler"* because I was very officious. I have mellowed over the years and am now a better manager.

Mr. N. summarised his thoughts at the end of the interview by stating that there were three main issues. They were the combination of the tradition of history of Organisation A, de-regulation and the takeover that really had a big influence on the change processes.

At the end of the interview Mr. N. took the interviewer for a tour of the premises and of the organisation's "museum" where a small group of employees from Organisation A had collected memorabilia about Organisation A. Mr. N. clearly enjoyed the history of the organisation and cherished the memory of it. Interviewing Mr. N. gave important insights into why so many employees felt a lot of emotion about the company being taken over.

<u>Summary of issues affecting employees' acceptance of the organisational changes including the new system implementation according to Mr. N.</u>

- Employees from Organisation A had no trust in Organisation B and thus felt insecure.
- Witnessing the dramatic downsizing of other divisions contributed to employees feeling insecure about their jobs.
- Lack of face-to-face communication about change.

- The Project Managers needed to have a better plan to manage the change.
- Deregulation had a large influence on the change processes.
- The new manager of Mr. N's division was now based in Queensland and did not have a presence in South Australia.
- Lack of strong leadership throughout the change process.
- The loss of tradition of Organisation A was stated as one of the reasons why employees were so emotional about the takeover.

Overall Summary

As a result of the ten interviews, it was apparent that there was a wide range of factors that impinged upon employee acceptance of change and, in particular, the new information technology. The results found in this research suggest that Davis' (1993) model is limited in so far as it only focuses on the issues of ease of use and perceived usefulness, without considering the broader factors such as organisational culture, training and the way the new system is communicated to employees. It also fails to take into account the external environment in which employees function. The issues that were of major concern to the employees interviewed are summarised in Table 1.

Table 1: Overview of factors that, in the participant's views influence employee acceptance of change.

Factors	Case Studies										Total
	1	2	3	4	5	6	7	8	9	10	
Communication/ rumours about change	X	X		X	X	X	X		X	X	8
Training	X	X				X	X	X	X		6
Organisational Culture	X	X	X		X						4
Multiple Change				X		X	X	X			4
Human factors side not considered				X		X	X		X		4
Fear of job loss	X								X	X	3
Non-Participative approach	X			X					X		3
Loss of Power from managers	X				X			X			3
Lack of Senior Management "by in"	X		X								2
Lack of face-to face contact					X					X	2
Leadership	X				X						2
Staff dislocation					X			X			2
External economic Environment		X									1
Employee's personal approach to change			X								1
Continuing Change			X								1
Lack of user "ownership"			X								1
Implementation Occurred too quickly					X						1
Project Team not experienced enough to drive change					X						1

Also shown is the number of issues common to the participants. These issues fall into five general categories and include: Communication, training, organisational culture, the human factors not being considered and multiple changes. These are discussed in more detail below.

Communication

It was felt, in general, that the organisational changes and the new system implementation were not communicated well and because of this rumours moved throughout the organisation causing the employees to become suspicious and anxious. Examples of how the communication was done poorly include:

- The new system was only communicated in any detail two years after the change program began, thus causing rumours for two years.
- The communications were sent to employees via packages of information, email and newsletter. There was no face-to-face communication. This was particularly problematic for employees from Organisation A as they were used to the Managing Director coming down to the factory and having a chat with them.
- When the new system was communicated, only managers were included, not the entire organisation, and some of these managers failed to pass on any communication to their employees.
- A non-participative approach was adopted with management staff as well as general employees. This caused resentment in employees who were not included. It also caused anxiety as the employees who were not invited to participate often assumed that they were not included because their jobs were not going to be needed after the new system was implemented.

Organisational Culture

The next issue that was raised by the majority of participants was the difficulty coping with the merging of two different organisational cultures. The culture within the organisation impinged upon employee acceptance of the new system from two different perspectives: firstly, the employees were affected by their own office culture and secondly, by the culture that existed within the broader organisation.

It was noted by the trainer (Ms. L.) that employees were more likely to accept the new system if they were working in a positive office environment with a manager who was positive about the new system and verbalised this to their employees. In contrast, those employees who came from an office with a negative attitude toward the change and a manager who was also negative found it difficult to be positive about the changes. The trainer noted that while some employees had been positive during the training session, if the employees came from a negative office, as soon as they went back to their office they found themselves feeling negative about the system again.

In regard to the broader cultural issues, the present study found that those employees that came from Organisation A found it very difficult to accept organisation B's culture. There

were two reasons for this. Firstly, Organisation A was taken over by Organisation B and as a consequence of this felt that their history had been taken away and that the management of Organisation B had no regard or respect for this. It was also stated by employees of Organisation A that Organisation B's management had no regard for the average worker whereas the management within the Organisation A had been family oriented and cared for all the employees. For example, the Managing Director would sit and chat to the employees regularly to see how they were going.

Training

The major problem with the training was that it was too focussed on the new system rather than the process. That is, employees were insufficiently trained in the context of their daily work routine. When this was corrected, the training was more effective. The trainer also noted that when the training was carried out in-house it was far more effective.

Multiple Changes

Some participants suggested, *"employees had to cope with many changes that occurred at the same time"*. For example, changes included a change in culture, name change, new system and new work responsibilities. This was a lot for workers to cope with all at once. One participant also noted that for some employees there was a very steep learning curve in terms of the new technology they were expected to use. For example, the employees in the Shared Processing Centre used manual cards to record all their transactions but when Organisation A merged with Organisation B they were expected to quickly use a new computer system to record such transactions.

Human Factors Not Considered:

Participants suggested that the employees were not looked after throughout the change process. This occurred in different ways. For example, management took a non-participative approach whereby employees were not invited to participate and this caused negative feelings. Employees also felt that their workload increased significantly because of the implementation. Many employees also feared losing their jobs and many of them did, leaving their colleagues with negative feelings. The employees from Organisation A

also experienced a lot of grief due to losing their organisation's name and this was, in their opinion, not dealt with in a sensitive way by the other employees or management.

Conclusion

In conclusion, the present study found that there were wider issues that affected employee's acceptance of change besides those issues associated directly with a new system such as employee computer self-efficacy and perceived ease of use Davis (1989).

It is clear from the present research that other organisational factors can have a great affect on employee acceptance of new computer systems. These are listed below:

- Communication
- Training
- Culture
- Multiple changes
- Human side of change not addressed

The qualitative results suggest that communication was the factor that was identified most frequently by participants as influencing their acceptance of the new system. This was closely followed by training and then by culture, with multiple changes occurring at the same time, and finally the fact that, the human side of change was not considered during the change process.

One important finding that emerged from this study was how employees within Organisation A felt about losing their organisation's history and culture. This study highlighted the importance after a merger of allowing employees to grieve over the loss of working relationships, organisational culture and their organisation's history. It also highlighted that it is important for senior management to be sensitive and allow employees time to grieve. A tailored cultural change program designed to integrate the two cultures could have been beneficial. However, it was clear from talking to participants that this did not occur. Whilst Organisation C may not have been able to improve in some of the areas

mentioned above, they could have provided better training and more informative communication. These initiatives may have made a dramatic improvement to the employees' acceptance of the new system and the changes in general.

The lack of support by Organisation C's leadership to implemented programs as mentioned above suggests that the leadership did not fully understand the importance of managing the human side of the change process. Two of the interviews mentioned leadership as an important factor that influences acceptance of change. The first interview suggested that the leadership, whilst trying to create participation, prolonged decision-making on very important issues. The fifth interview reported that their leadership was unreliable for example, one person commented *"we're supposed to look to managers for guidance and support and it doesn't exist"*.

The results of this study suggest that broader organisational factors such as communication, training, culture, experiencing multiple changes at once and the human side of change can all have an affect on employees' acceptance of a new computer system.

Leadership, whilst only mentioned in two interviews, also seems to be an important factor in the successful management of change.

The factors mentioned above have also been reported in prior research as having an impact on other types of organisational change such as mergers, take-overs and downsizing of organisations. However, organisational change regarding technology is different in that while the other changes may involve adapting to changes in names, routines, personnel and/or workloads, technology change also requires employees to learn new skills and work processes that are associated with that system. This additional requirement can raise specific issues with respect to the other factors.

The purpose of the next study will be to explore the above factors on a larger sample.

CHAPTER 9: Study Three

A QUALITATIVE AND QUANTITATIVE PILOT STUDY TO FURTHER EXPLORE FACTORS THAT INFLUENCE EMPLOYEE'S ACCEPTANCE OF ORGANISATIONAL CHANGE IN THE AREA OF NEW TECHNOLOGY

Introduction

The present study was designed to survey a large sample of employees to determine the extent to which factors identified in Study two have a significant impact on an employee's acceptance of organisational change involving information technology. These factors included communication about the change, participation in the change process, the organisation's culture, training associated with the change, and leadership style.

This study also further investigated findings in Study two concerning the extent to which other changes occurring within an organisation influence acceptance of a new system. The results of Study two suggested that employees had to cope with many changes occurring at once (for example, an organisational restructure, new business processes and a takeover as well as a new system) and this affected their acceptance of the new system. This study also examined participants' personal experiences and coping strategies in relation to their position within the organisation (Callan, 1993). The findings of Study two suggested that the managers faced slightly different issues than those faced by the employees; for example, loss of power within the organisation that resulted in them not passing on relevant information to their team.

In the present study, employee acceptance was measured in terms of firstly, whether their attitude to the change became more positive, more negative or remained neutral during the change; secondly, their attitude to future change; thirdly, the perceived affect on employee morale; and fourthly, the extent to which employees believed that the change outcome was successful. To the extent that employees accept a change, one would expect them to become more positive or at least remain neutral with respect to the change process, to be positive about future change and to believe that the affect of the change on employee morale was positive or at least neutral. One might also expect that they would rate the outcome as more successful although this factor might also reflect actual capacity of the system to meet its expected goals rather than just user acceptance.

Methodology

The questionnaire

A questionnaire was used as an appropriate way to gain information about a large number of employees' experiences during a major organisational change. The participants were first required to provide personal information such as gender, age, education level, and length of employment and their position within the organisation. The questionnaire had a combination of quantitative and qualitative questions about their evaluation of the change and factors that may have influenced their evaluation of it. The quantitative questions allowed employees to either answer yes or no or to rate the factor using a seven point likert scale. The qualitative questions allowed the participants to provide written responses, including examples, in relation to their experiences. The questionnaire consisted of eight sections: 1. Demographic variables, 2. Involvement in prior change. 3. Evaluation of the change, 4. Communication, 5. Leadership style, 6. Organisational Culture, 7. Training, 8. Coping Skills. 9. Personal Circumstances and 10. Impact of other changes in the organisation. Questions concerning involvement in prior change were given before those concerned with employee evaluation of the change, as they were more appropriate for establishing rapport. An example of a quantitative question and a qualitative question are given below. A copy of the questionnaire can be found in Appendix C.

Question 1: Have you experienced a major organisational change in the past? *(please do not include the change you have experienced with this organisation).*

Yes [ ]

No [ ] If no, go to question 4.

If yes, how many major changes have you experienced? _____

Can you briefly describe the change/changes you have experienced in the space below:

Question 8: Overall, how successful or unsuccessful was the implementation process adopted by your organisation in terms of employee morale? *(please cross the appropriate box)*

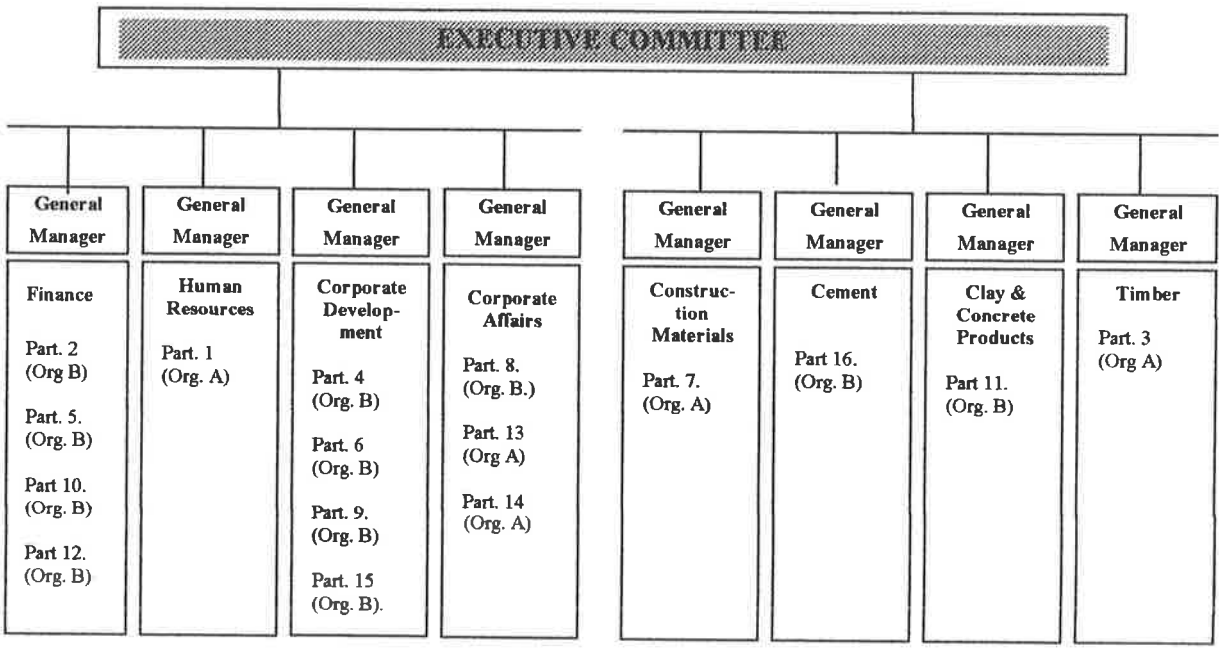
Extremely Unsuccessful	Very Unsuccessful	Unsuccessful	Neutral	Successful	Very Successful	Extremely Successful
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]

Please comment below:

The Organisation and the change program

The organisation in the present study was the same as that used for Study two. The reader is referred to the methodology section in Study two for details. Diagram 1 shows the structure of the organisation and where the participants were located within the organisation.

Diagram 1: Organisational Structure of Organisation C



The organisation used for this study was a public company that had a silo structure as outlined in the diagram above. The four subsidiary companies provided their customers with different services and were run by a General Manager who reported to the Executive Committee. The new financial system was rolled out throughout the entire organisation and across the four subsidiary companies.

Participants

The questionnaires were sent by email to 700 employees who had recently gone through the same major IT organisational change as in Study two (see method

section for Study two for a description of the IT change). Email was used, as it was considered to be the most efficient way to distribute the questionnaire to 700 employees. However, while all 700 employees were invited to participate in the study, only 16 responded. Subsequent enquires suggested that this very low response rate may have been due to the fact that employees had previously completed questionnaires on the change program and may have been reluctant to fill out another one. Comments from some of the participants suggested that the questionnaire may have been considered to be too long, and the lower response rates for questions concerning personal affects suggest that these questions may have discouraged some potential participants. While it might also have been due to the use of email, there is no indication in the research literature that this method is likely to produce low return rates.

Although the number of responses was unlikely to be representative, it was thought worthwhile to analyse these responses as a pilot study that might provide useful information for the design of a larger more representative study. As will be seen, the range of employee levels represented and the variety of responses obtained suggested that the sample was not biased in any obvious way.

The participants consisted of nine males and seven females with an age range between 25 and 53. The length of employment ranged from 1 year to 10 years. Eleven participants were tertiary educated and the remaining five had TAFE and/or High School qualifications. As indicated in Study two, the present organisation was the result of a merger between two organisations. While all participants were employed by Organisation C at the time of the study, five participants originally came from Organisation A and eleven participants originally came from Organisation B. In terms of positions in the organisation, there were 7 managers, 4 accountants, 3 in administration, 1 business analyst and 1 special projects analyst. The demographics of the participants are described in Table 1.

Table.1: Demographics of employees who participated in this study.

Subject Number	Age	Sex	Length of Employment In Organs. AB&C	Level of Education	Position	Organisation
1	27	F	5 years	Tertiary	Personal Assistant	Organisation A
2	45	M	10 years	Tertiary	Accountant	Organisation B
3	31	M	14 years	Tertiary	Line Manager	Organisation A
4	27	F	7 years	Tertiary	Commercial Manager	Organisation B
5	40	M	5 years	Tertiary	IT Manager	Organisation B
6	40	M	1 year	Tertiary	Middle Manager	Organisation B
7	41	M	9 years	Tertiary	Line Manager	Organisation A
8	27	F	10 years	Tertiary	Office Assistant	Organisation B
9	30	F	4 years	Year 12	Special Projects Analyst	Organisation B
10	42	F	1 year	TAFE	Assistant Accountant	Organisation B
11	45	F	10 years	5th form	Line Manager	Organisation B
12	53	F	6 years	Year 10	Administrative Assistant	Organisation B
13	25	M	3 years	Tertiary	Accountant	Organisation A
14	46	M	28 years	Associate Diploma	Assistant Accountant	Organisation A
15	27	M	2.5 years	Undergraduate	Business Analyst	Organisation B
16	36	M	3 years	Tertiary	Supervisor	Organisation B

Procedure

The questionnaires were sent out via email. The Project Manager wrote a letter to the participants explaining the purpose of the questionnaire and providing management support for the research (see Appendix E). A letter was also attached with the questionnaire explaining the purpose of the research, and indicating that their consent was assumed if they completed the questionnaire (see Appendix D). The participants were also advised that their answers were completely confidential and anonymous and that they could withdraw from participating at any time. They were also provided with instructions to e-mail the questionnaire back to the researcher on its completion. On receipt of the questionnaire, the researcher printed them to obtain a hard copy.

Results

The results are presented first in terms of the demographic variables and then each of the variables in the questionnaire. Within each section, the quantitative data are presented in tables with an accompanying analysis. Relationships between relevant variables with rating scales were investigated using Pearson r while those with nominal data were investigated using Phi coefficient. Two tailed tests were used in all cases. Given the small number of

participants and the large number of variables, significant correlations must be considered with caution and as useful only in suggesting variables that might be further investigated in a larger study. No correction for multiple tests was used given that the present study was exploratory in nature.

A representative selection of responses is presented for each qualitative question (a full description of all qualitative responses can be found on the accompanying disc).

1. Demographic variables

The ages of participants ranged from 25 to 46 while length of employment varied from one to 28 years but there was no correlation between these variables. While there were insufficient numbers of subjects to test hypotheses concerning the relationship between the demographic variables and the other organisational variables, correlations were carried out to check if there were any significant correlations that might be worth investigating in a larger study. However, age correlated with only one variable and that was quality of training ($r = .57$, $p < .05$) suggesting that older participants tended to rate the quality of training more highly. Similarly, length of employment correlated with only one variable and that was positively with number of job changes experienced by participants due to the change implementation ($r= .59$, $p<. 05$). Most of the participants had a tertiary education and the majority were either managers or accountants.

2. The involvement of prior change

Question 1: Have you experienced an organisational change in the past?

As can be seen in Table 2, 10 of the 16 participants reported that they had experienced a prior organisational change before the one at their current organisation. Three participants experienced organisational takeovers, three experienced organisational restructures, two participants experienced a new system implementation and two participants experienced downsizing within their organisation.

Table 2: Participants' experience of prior change and evaluation of the change process.

	Q:1 Experi-enced Prior Change		Q:2 Do you feel that experiencing a prior organisational change helped or impaired your acceptance of the new system.				Q:1 The implementation of the new system has been occurring over 2 years. Describe the way your attitude toward the implementation has altered over time?					
Participant No. Position & Original Organisation			No it did not impair the way I coped	No it did not help the way I coped	Yes it impair ed the way I coped	Yes it helped the way I coped	Attitude Change to Positive	Attitude Change d from Positive to Neutral	Attitude Change d to Negativ e	Attitud e change d from Nega-tive to Neutra l	Attitude remaine d neutral	Attitude remained positive
	Y	N										
Participant 1 Personal Assistant Organisation A		1									1	
Participant 2 Accountant Organisation B	1					1			1			
Participant 3 Senior Bus Analyst Organisation A	1					1					1	
Participant 4 Commercial Mngr Organisation B	1					1		1				
Participant 5 IT Manager Organisation B	1					1					1	
Participant 6 Middle Manager Organisation B	1					1			1			
Participant 7 Line Manager Organisation A		1					1					
Participant 8 Office Assistant Organisation B		1					1					
Participant 9 Project Analyst Organisation B	1					1			1			
Participant 10 Assistant Accnt Organisation B	1					1					1	
Participant 11 Line manager Organisation B		1						1				
Participant 12 Admin. Assistant Organisation B	1					1			1			
Participant 13 Accountant Organisation A		1									1	
Participant 14 Assistant Accnt Organisation A	1			1			1					
Participant 15 Business Analyst Organisation B		1									1	
Participant 16 Technical Officer Organisation B	1			1								
Total	10	6	0	2	0	8	3	2	4	0	6	0

Question 2: Do you feel that experiencing a prior organisational change helped or impaired your acceptance of the new system? Please provide qualitative comments.

As can be seen in Tables 2, eight of 10 participants who experienced prior organisational change reported that it helped the way they coped with the recent change, while only two indicated that it did not help. While the latter two did not indicate that prior change had actually impaired their coping with the new system, they did comment that it had been a negative experience. This was due to their having experienced a loss of employment, seeing changes that were implemented not used and the original system being reintroduced, staff reductions and personal problems at the time of the change.

Qualitative comments on this question included:

"I have been on the receiving end of two restructures and had to find employment on both occasions. It is hard to accept organisational change as I have seen it revert back to what it was on a previous occasion and the people involved in implementing the system are no longer with the company and really didn't understand the nature of the business." (P2 Accountant, Organisation B)

"I worked for a large manufacturing firm of pharmaceutical and veterinary products. During the time I worked with the veterinary department, staff was reduced considerably due to a downturn in sale of products. This created a lot of unrest with the other staff, in particular, managers. I did not lose my position but I later transferred to another department. The changes in the department happened around the same time as when my mother was battling with cancer and her eventual death." (P12, Administrative Assistant, Organisation B)

Question 3: In what way did it affect your attitude toward the implementation of the new system?

The responses to this question suggested that experiences of the prior change helped most participants cope with the change by making them aware that change can be exciting, that it is necessary for a healthy business and that it can be managed well without the need to become overly concerned about it. No participant indicated that the prior experience had actually impaired their capacity to cope with the present change. One participant reported

that their last experience was so different that it was difficult to compare. A selection of qualitative comments are given below:

"Positive attitude to change – change is not all bad." (P3, Line Manager, Organisation A)

"Essentially previous organisational restructures have been extremely different to the impact of the systems implementation – there was little I could bring to this change process." (P4, Commercial Manager, Organisation B)

"I have seen both good and bad changes over time. Usually the good ones were based on common sense and everyone understood why changes were necessary.

I think change is good provided it is managed. If things do not change over time they become stagnant. Sensible, managed change is one sign of a healthy business. My previous experience in system changes made me well aware of the difficulties involved, specifically the pain of extra work that would be required by all users to learn how to use the new system and make it work for them. I also understood that a system "grows" into a good system over time as people become familiar with it and the system is modified to provide them with real value." (P5, IT Manager, Organisation B)

"Assisted in accepting challenges." (P6, Middle Manager, Organisation B)

"It gave me a more laid-back approach to the change. With the previous change I experienced I felt my continued employment depended on me adapting to the changes regardless of whether they seemed to make sense to me or not. With previous experience in major change, I didn't take the implementation of the system so seriously. My approach was more that it will sink or swim regardless of what effort I put in. This doesn't mean I didn't make an effort to embrace the changes, just that I didn't feel it was such a major deal in comparison to my day to day life." (P9, Special Project Analyst, Organisation B)

"I was very excited to be involved in such new technology and to have the opportunity to increase my knowledge and skills." (P10, Assistant Accountant, Organisation B)

"Life is full of change, my attitude was that the new system was just another change." (P12, Administration Assistant, Organisation B)

Summary of results concerning the influence of prior change

The results suggested that prior organisational change could assist employees to cope with future change. Most of the participants in this study had previously experienced many different types of organisational changes including organisational restructuring, takeovers, downsizing as well as new information technology.

3. Evaluation of the change

Question 1: The implementation of the new system has been occurring over 2 years. Describe the way your attitude toward the implementation has altered over time.

As can be seen in Table 2, of the 15 participants who answered this question, only three changed to positive, two changed from positive to neutral, four changed to negative and six remained neutral. Thus, the majority tended to remain neutral or to become less positive.

Question 2: You have told me how you felt at the beginning and at the end of the implementation; I would now like you to describe <u>how</u> your attitude may have altered during the implementation and <u>why</u> it altered.

In answer to this qualitative question, participants generally reported that they became more negative toward the system due to hearing negative comments about it and due to a lack of training that led, in turn, to a lack of confidence in using the system back at their workplace. For example:

"As the project manager, I was very positive about the benefits the new system could bring to the company. I still believe the system has helped the company enormously and that the company would fail without this initiative. My disappointment stems from the "token" support from some areas of senior middle management. It seems we have a culture of "blame" rather than "taking responsibility", manifesting itself in a lack of commitment, decision making and team work." (P5, IT Manager, Organisation B)

"I believe that you give a new system a chance but after hearing comments about the new system and its support staff, I think that our organisation has bought a LEMON orchard. The staff used on the project volunteered to do the project, but I believe they really didn't understand how the organisation works and have made the system a very long-winded process. Maybe this has been brought about by Organisation A's staff who appeared to create meaningless reports." (P2, Accountant, Organisation B)

"I believe my attitude altered from positive to negative because of lack of training, I do not believe my training prepared me for the use of the system in a live situation." (P8, Office Assistant, Organisation B)

However, there were also neutral or mildly positive comments. For example:

"I originally questioned the appropriateness of the decision but through significant involvement with the project roll-out I began to understand the value to our organisation." (P7, Line Manager, Organisation A)

"I felt neutral at the beginning due to feelings of uncertainty. However, at the end I still felt neutral because improvements could have been made that were not made." (P13, Accountant, Organisation A)

Question 3: If you felt negative at any time during the implementation process, please indicate why.

In answer to this qualitative question, participants felt negative due to their lack of involvement in the implementation, difficulties in using the system, the fact that their feedback was ignored, and the additional work the system involved. For example:

"Lack of involvement of the business units, the remoteness of the project and the fact that a lot of feedback was (seemed to be) ignored. And the massive amount of additional work it created for the business units due to the lack of consultation and errors made up front." (P4, Commercial Manager, Organisation B)

"Frustration with using the new system has altered my attitude as I have found it cumbersome to use. For example, when ordering items into stock you need an item number. Finding this item number proves to be difficult especially for someone who does not have a technical background." (P8, Office Assistant, Organisation B)

"There were many teething problems at the beginning that frustrated performance. Now it is working better. No on-going or refresher training has been offered after these changes and experience with the system that would assist with performance." (P16, Supervisor, Organisation B)

"There appeared to be a lot of teething problems when implementing the new process and my attitude changed from positive to negative due to frustration in trying to get the job done correctly. For example, some orders were going to the wrong department and with incorrect recipient's name or without a name at all. This still happens." (P12, Administration Assistant, Organisation B)

Question 4: Considering your experiences from the IT implementation in your organisation, how would you feel about being involved in any future organisational change?

As can be seen in Table 3, 12 of the 16 participants reported that they felt positive about being involved in future changes. The remaining four participants were either neutral or not sure.

Table 3: Summary of results on involvement in future change programs.

Question 4:	Considering your experiences from the IT implementation in your organisation, how would you feel about being involved in any future organisational change?					
Participant No. Position & Original Organisation	**Very Negative**	**Negative**	**Neutral**	**Postive**	**Very Postive**	**Not Sure**
Participant 1 Personal Assistant Organisation A				1		
Participant 2 Accountant Organisation B						1
Participant 3 Line Manager Organisation A				1		
Participant 4 Commercial Manager Organisation B				1		
Participant 5 IT Manager Organisation B				1		
Participant 6 Middle Manager Organisation B				1		
Participant 7 Line Manager Organisation A						1
Participant 8 Office Assistant Organisation B			1			
Participant 9 Project Analyst Organisation B						1
Participant 10 Assistant Accountant Organisation B					1	
Participant 11 Line Manager Organisation B				1		
Participant 12 Administrative Assnt Organisation B				1		
Participant 13 Accountant Organisation A				1		
Participant 14 Assistant Accountant Organisation A				1		
Participant 15 Business Analyst Organisation B				1		
Participant 16 Technical Officer Organisation B				1		
Total	0	0	1	11	1	3

Participants reported that they felt that they should not be negative about future change in spite of their negative experience with this change, and would hope that they could be positive about new changes the organisation implemented. For example:

"Generally, change is positive because it involves new challenges, but it also does depend on the changes being made." (P1, Personal Assistant, Organisation A)

"This would be dependent on those people who really have the skills to understand how our organisation works but I believe a standard system across the nation is the only way to operate a company such as ours." (P2, Accountant, Organisation B)

"I don't think you can be negative about future change programs based on bad experiences in the past – its probably going to be better due to the fact that you can take lessons learned (you'd hope) into new programs and approach them in a more informed way." (P4, Commercial Manager, Organisation B)

"My attitude would depend on the nature and purpose of the change." (P7, Line Manager, Organisation A)

"The organisation's IT department has a very bad reputation within the company and for this reason I'm not sure how I would feel about a new change implemented by IT. I would hope that I would be positive about any new change the company implemented." (P9, Special Projects Analyst, Organisation B)

Question 5: Overall how successful or unsuccessful was the implementation process adopted by your organisation in terms of employee morale?

As can be seen in Table 4, 11 participants out of 16 rated the implementation process as unsuccessful in terms of employee morale with only three participants rating it as successful or extremely successful. One of the participants in this latter group was the IT Manager who was part of the implementation team. The mean rating out of seven was 3.4, which corresponds to a rating between unsuccessful and neutral, with a SD of 1.5.

Table 4: Level of success in terms of employee morale

Question 5:	Overall how successful or unsuccessful was the implementation process adopted by your organisation in terms of employee morale?						
Participant No., Position & Original Organisation	**Extremely Unsuccessful**	**Very Unsuccessful**	**Unsuccessful**	**Neutral**	**Successful**	**Very Successful**	**Extremely Successful**
Participant 1 Personal Assistant Organisation A		1					
Participant 2 Accountant Organisation B	1						
Participant 3 Line Manager Organisation A			1				
Participant 4 Commercial Manager Organisation B			1				
Participant 5 IT Manager Organisation B					1		
Participant 6 Middle Manager Organisation B		1					
Participant 7 Line Manager Organisation A					1		
Participant 8 Office Assistant Organisation B			1				
Participant 9 Project Analyst Organisation B							1
Participant 10 Assistant Accountant Organisation B				1			
Participant 11 Line Manager Organisation B		1					
Participant 12 Admin. Assistant Organisation B			1				
Participant 13 Accountant Organisation A					1		
Participant 14 Assistant Accountant Organisation A			1				
Participant 15 Business Analyst Organisation B			1				
Participant 16 Technical Officer Organisation B			1				
Total	**1**	**3**	**7**	**1**	**3**	**0**	**1**

In terms of qualitative comments, participants felt that the lack of success was due to too many changes occurring too quickly, lack of involvement and good staff leaving. For example:

"The organisation was undergoing numerous changes at the one time including, systems implementation, centralisation of accounting functions, extensive restructure of business to align with deregulated market requirements, creation of new management roles and

delation of others to name a few. In this environment of significant change some degree of resistance is to be expected. Particularly given the very low base of technology that the organisation's staffs were starting from. The implementation itself had an extensive change management focus. It particularly targeted communication, addressing personnel issues with the adoption of centralisation, and acceptance of process changes. Whilst employees may not have wanted the pain of this change, and in some cases not readily adopted it, the implementing process itself provided every opportunity for staff to stay abreast of what was happening and why. Staff were also continually encouraged to have input to the process, but only minimal involvement eventuated." (P5, IT Manager, Organisation B)

"It may have been successful to some but not to others as a lot of good people and experience have gone due to the Share Processing and National Call Centres being based in Adelaide." (P2, Accountant, Organisation B)

"Too many changes too quickly with not enough information regarding job security at a lower level. Staff morale in this area was extremely low." (P11, Line Manager, Organisation B)

"I found employee morale to be very low." (P12, Administrative Assistant, Organisation B)

Apart from a few early meetings there was no follow up by change management." (P14, Assistant Accountant, Organisation A)

Question 6: Overall, how successful or unsuccessful was the change program in terms of process adopted by your organisation; for example the new system and new work processes?

As can be seen in Table 5, the results were divided with six participants reporting that the change process was unsuccessful, six rating it as "neutral" and only four rating it as successful or very successful. Again one of the latter participants was the IT Manager who was part of the implementation team. The mean rating was 3.6, which corresponds to a rating between unsuccessful and neutral, with a SD of 1.4.

Table 5: Level of success in terms of the new system.

Question 6:	Overall, how successful or unsuccessful was the change program in terms of process adopted by your organisation in terms of the new system and new work processes.						
Participant No., Position & Original Organisation	**Extremely Unsuccessful**	**Very Unsuccessful**	**Unsuccessful**	**Neutral**	**Successful**	**Very Successful**	**Extremely Successful**
Participant 1 Personal Assistant Organisation A				1			
Participant 2 Accountant Organisation B	1						
Participant 3 Line Manager Organisation A		1					
Participant 4 Commercial Manager Organisation B				1			
Participant 5 IT Manager Organisation B					1		
Participant 6 Middle Manager Organisation B			1				
Participant 7 Line Manager Organisation A					1		
Participant 8 Office Assistant Organisation B				1			
Participant 9 Project Analyst Organisation B		1					
Participant 10 Assistant Accountant Organisation B						1	
Participant 11 Line Manager Organisation B					1		
Participant 12 Administrative Assnt Organisation B			1				
Participant 13 Accountant Organisation A				1			
Participant 14 Assistant Accountant Organisation A		1					
Participant 15 Business Analyst Organisation B				1			
Participant 16 Technical Officer Organisation B				1			
Total	**1**	**3**	**2**	**6**	**3**	**1**	**0**

Positive comments in response to this question included:

"The new work processes were very successful in this office – which did surprise me. Obviously a lot of work had gone on behind the scenes which made the changes much less difficult than anticipated." (P10, Assistant Accountant, Organisation B)

Examples of negative comments were:

"Work processes seem to take a lot longer to do and printing A4 loose sheets instead of continuous pages is an absolute joke because I have printed some reports and the figures at the bottom of the page seem to disappear. Maybe the program is a problem." (P2, Accountant, Organisation B)

"The processes were markedly different to those previously used in the business. We went from a decentralisation model where each business unit operated its own financial section and operated generally quite autonomously from any head office involvement. The new model however, removed all such autonomy. The business units found this extremely threatening. Some business units are still unhappy with the changes mostly because "other" people outside of their department are now involved in the process (i.e. complete autonomy has been removed)." (P5, IT Manager, Organisation B)

Correlations between the evaluation variables

Acceptance of change as a general concept suggests that separate measures of it might be expected to correlate. Thus in the present study, it might have been expected that participants would have similar positive or negative responses in terms of change in attitude to the change, attitude to the future change, its affect on employee morale and rated success of the change. While there were certainly individual differences within each of these measures in the present study, there were no significant correlations between any of the evaluation variables. However, the lack of correlations may be partly due to the generally negative responses and the small number of participants.

Summary of results concerning the evaluation of the change

When asked how their attitudes altered and why they altered throughout the new system implementation, the majority of participants felt that the new system did not deliver what was promised, there was a lack of management support and training, and that the change failed to provide benefit to users. Feelings during the implementation process included frustration in using the new system and a lack of involvement. These were additional modifications to the system and continual teething problems. In spite of these negative feelings, the majority of participants felt that they would be positive about a future change

program and stated that they wouldn't allow any negative feelings they had about a past implementation to impact upon a future implementation.

The majority of participants felt that the overall implementation of the new system was unsuccessful due to; staff leaving because of the implementation; the organisation undergoing too many changes at the same time; the time-consuming nature of the new system, and the failure of the change management team in training and follow up after their first initial meetings.

When asked how successful or unsuccessful the change program was in terms of new processes, participants were mostly divided between it being unsuccessful or neutral with only a few positive responses. The participants who reported the change program as successful were all in senior positions. These were the two line managers, the assistant accountant and the IT Manager.

Those participants that rated the change process as unsuccessful included participants in management positions and administration positions. Negative responses were concerned with processes taking longer and needing fine-tuning.

Overall, while participants tended to be more negative than positive in their evaluations and attitudes, an unexpected finding was the marked differences between some of the participants in their responses. In Study one the case studies of change programs were chosen on the basis of their perceived overall success according to the consultants who evaluated the programs. The present study suggests that there may be considerable variation in participants' evaluations and attitudes within any such change program.

None of the correlations between the evaluation variables was significant but this may be due to the generally negative responses and the small number of participants.

4. Communication

Question 1: Did you receive information about the implementation?

All the participants except Participant 9 indicated that they received information about the implementation.

Question 2: If yes, how was it communicated to you? If there were any other ways you were communicated to about the implementation please specify below:

As can be seen in Table 6, there were a number of common forms of communication including; memos and staff meetings, newsletters, face to face communication and training. However, none of these methods individually reached more than 11 out of 16 participants. While most participants received multiple forms of the information, there were four participants that either received no information or only one form of it. These participants were in more junior positions including an office assistant, technical officer, assistant accountant and a project analyst.

Table 6: Summary of Medium of Communication

Question 2:	If yes, how was it communicated to you?							
Participant No., Position & Original Organisation	**Face to Face**	**News Letter**	**Memos**	**Staff Meeting**	**Package of Info.**	**Gossip**	**Training Session**	**Total**
Participant 1 Personal Assistant Organisation A	1	1	1			1	1	5
Participant 2 Accountant Organisation B	1		1	1			1	4
Participant 3 Line Manager Organisation A	1	1	1	1	1	1		6
Participant 4 Commercial Manager Organisation B		1	1		1			3
Participant 5 IT Manager Organisation B	1	1	1	1			1	5
Participant 6 Middle Manager Organisation B		1		1	1		1	4
Participant 7 Line Manager Organisation A	1	1					1	3
Participant 8 Office Assistant Organisation B	1							1
Participant 9 Project Analyst Organisation B								0
Participant 10 Assistant Accountant Organisation B	1							1
Participant 11 Line Manager Organisation B					1		1	2
Participant 12 Administrative Asst Organisation B	1	1		1		1	1	5
Participant 13 Accountant Organisation A		1	1					2
Participant 14 Assistant Accountant Organisation A		1	1	1		1		4
Participant 15 Business Analyst Organisation B	1	1		1			1	4
Participant 16 Technical Officer Organisation B		1						1
Total	9	11	7	7	4	4	8	

There were minimal qualitative comments to this question. However, perhaps not surprisingly, the IT Manager, who provided much of the communication, commented positively, indicating that he issued monthly newsletters, memos, road shows and presentations. His comments were as follows:

"I reviewed and issued much of this information. It included:

- *monthly newsletters individually sent to every staff member.*
- *memos regarding specific aspects of the project targeted to affected staff*
- *three national roadshows available to all staff*

- *a number of targeted information sessions to affected groups (eg finance staff and management*
- *process review sessions with business unit reps*
- *prototype testing with business units reps*
- *presentations at management conferences*
- *presentations to the executive management team.*" (P5, IT Manager, Organisation B)

Question 3: Overall, how informative or uninformative was the information material about the implementation?

As can be seen in Table 7, participants were divided in terms of how they rated the communication material with seven out of 15 rating it as informative. Four of the seven who found the communication material informative were managers. Four participants (the Personal Assistant, Office Assistant, Administration Assistant and Business Analyst) rated the communication as neutral and four participants (the Accountant, Commercial Manager, Line Manager and Assistant Accountant) rated the communication as uninformative or very uninformative. The mean rating was 4.13, which corresponds to a neutral rating, with a SD of .99. Given the individual differences this mean would obviously provide a misleading evaluation of the information value of the communication material.

Table 7: Ratings on how informative the communication material was

Question 3:	Overall, how informative or uninformative was the information material about the implementation?						
Participant No., Position & Original Organisation	**Extremely Uninformative**	**Very Uninformative**	**Uninformative**	**Neutral**	**Informative**	**Very Informative**	**Extremely Informative**
Participant 1 Personal Assistant Organisation A				1			
Participant 2 Accountant Organisation B		1					
Participant 3 Line Manager Organisation A					1		
Participant 4 Commercial Manager Organisation B			1				
Participant 5 IT Manager Organisation B					1		
Participant 6 Middle Manager Organisation B					1		
Participant 7 Line Manager Organisation A					1		
Participant 8 Office Assistant Organisation B				1			
Participant 9 Project Analyst Organisation B							
Participant 10 Assistant Accountant Organisation B					1		
Participant 11 Line Manager Organisation B			1				
Participant 12 Administrative Assnt Organisation B				1			
Participant 13 Accountant Organisation A					1		
Participant 14 Assistant Accountant Organisation A			1				
Participant 15 Business Analyst Organisation B				1			
Participant 16 Technical Officer Organisation B					1		
Total	**0**	**1**	**3**	**4**	**7**	**0**	**0**

Question 4: As far as you know, was the change in regard to the implementation communicated to all levels of staff that would be affected?

As can be seen in Table 8, 10 out of 16 participants (five of whom were managers) reported that to their knowledge the implementation was communicated to all levels of staff but four participants (three of whom were not managers) reported that this was not

the case. Participants also commented that the communication needed to be more comprehensive and in depth and needed to answer people's questions and explain how the change would impact upon employees. For example:

"I think that the communication needed to be more comprehensive and in-depth in terms of how the change would impact people (this was done very poorly) and how people could help to minimise the pain/transition issues. Communication was superficial and didn't enlist people's help or involvement." (P4, Commercial Manager, Organisation B)
"Unfortunately the questions were never answered, no-one seemed to know." (P11, Line Manager, Organisation B)

Question 5: When the implementation was communicated, did you have a chance to discuss or ask questions about it with management?
As can be seen in Table 8, 12 out of 15 participants who answered the question felt that they could discuss the change and ask questions of their manager. In particular, the IT manager stated that employees did have an opportunity to ask questions via the road show. For example:

"The project actively encouraged discussion. Half of the time at road shows was set aside for questions and discussions and usually healthy feedback and debate was received. The targeted information sessions comprised presentations, general discussion and then a break out into small groups for general discussion and focus on particular issues." (P5, IT Manager, Organisation B)

Table 8: Communication to staff and discussion with management

Questions:	Q4: Was the change communicated to all levels of staff that would be affected?			Q5: Did you have a chance to discuss or ask questions about it with management?		
Participant No., Position & Original Organisation	**Yes**	**No**	**Don't know**	**Yes**	**No**	**Don't Know**
Participant 1 Personal Assistant Organisation A			1	1		
Participant 2 Accountant Organisation B		1		1		
Participant 3 Line Manager Organisation A	1			1		
Participant 4 Commercial Manager Organisation B	1			1		
Participant 5 IT Manager Organisation B	1			1		
Participant 6 Middle Manager Organisation B	1			1		
Participant 7 Line Manager Organisation A	1			1		
Participant 8 Office Assistant Organisation B	1			1		
Participant 9 Project Analyst Organisation B		1			1	
Participant 10 Assistant Accountant Organisation B	1			1		
Participant 11 Line Manager Organisation B		1				1
Participant 12 Administrative Assnt Organisation B	1			1		
Participant 13 Accountant Organisation A	1			1		
Participant 14 Assistant Accountant Organisation A			1		1	
Participant 15 Business Analyst Organisation B		1		1		
Participant 16 Technical Officer Organisation B	1					
Total	**10**	**4**	**2**	**12**	**2**	**1**

Question 6: If you had the opportunity, how would you have communicated to the staff about the implementation?

In responses to this qualitative question, participants reported that they would have provided as much information as possible, especially in relation to how it affected

employee's jobs, how problems could be overcome and that they would have provided ongoing meetings. For example:

"I would have given them as much information as possible as it affected them and how they did their job. The staff had the perception that they would not have a job after the problems were ironed out. It appeared that the staff retained were given all the information and the ones being made redundant were kept in the dark." (P2, Accountant, Organisation B)

"I'm a bit "touchy feely" but would have preferred to have had more comprehensive communication, probably less training, but more targeted, but would have made sure that the communication of what was going to happen, when it was going to happen and most importantly what that would mean to people trying to carry out their tasks, and how problems could be overcome easily. The other thing, specifically that needed to be covered was communication of the realistic benefits of the change – so people knew and valued the reason for the change." (P4, Commercial Manager, Organisation B)

"There would have been ongoing meetings instead of a few meetings at the beginning just before the change and then none. Also there was no information or counselling about future job prospects and help given to those who were made redundant." (P14, Assistant Accountant, Organisation A)

Question 7: Overall, how would you rate the success of the communication process (eg how the information was delivered to you) concerning the implementation?

As can be seen in Table 9, responses were divided to this question with seven out of 16 participants rating the overall communication process as successful and six participants rating it as unsuccessful. Table 9 also indicates that most of the participants who reported the communication process as successful were senior employees (eg managers, accountants), one of whom was the IT Manager. The mean rating for this variable was 3.87, which corresponds closely to a neutral response, with a SD of 1.5. Again, given the individual differences, this mean would give a misleading indication of the success of the communication process.

Table 9: Success of communication process

Question 7:	Overall, how would you rate the success of the communication process (i.e. how the information was delivered to you) concerning the implementation?						
Participant No., Position & Original Organisation.	**Extremely Unsuccessful**	**Very Unsuccessful**	**Unsuccessful**	**Neutral**	**Successful**	**Very Successful**	**Extremely Successful**
Participant 1 Personal Assistant Organisation A				1			
Participant 2 Accountant Organisation B	1						
Participant 3 Line Manager Organisation A					1		
Participant 4 Commercial Manager Organisation B			1				
Participant 5 IT Manager Organisation B					1		
Participant 6 Middle Manager Organisation B					1		
Participant 7 Line Manager Organisation A					1		
Participant 8 Office Assistant Organisation B				1			
Participant 9 Project Analyst Organisation B	1						
Participant 10 Assistant Accountant Organisation B						1	
Participant 11 Line Manager Organisation B			1				
Participant 12 Administrative Assnt Organisation B				1			
Participant 13 Accountant Organisation A					1		
Participant 14 Assistant Accountant Organisation A		1					
Participant 15 Business Analyst Organisation B				1			
Participant 16 Technical Officer Organisation B					1		
Total	**2**	**1**	**2**	**4**	**6**	**1**	**0**

Question 8: How informative or uninformative was the total communication you received about the implementation?

As can be seen in Table 10, the results were evenly divided with six participants reporting that the communication was uninformative and six reporting that it was informative. Again, most of the individuals who reported the communication as being informative were senior staff. The mean rating was 4.13, which is consistent with a neutral rating, with a SD of .99. Again, given the individual differences, the mean would provide a misleading indication of how informative the total communication was. The results are consistent with those of Study two where communication was directed at managers rather than the employees. The managers were directed to pass the information on to their staff but, in many cases, failed to do so.

Table 10: Ratings on how informative the total communication was

Question 8:	How informative or uninformative was the total communication you received about the implementation?						
Participant No., Position & Original Organisation	Extremely Uninforma-tive	Very Uninform-ative	Uninforma-tive	Neutral	Informative	Very Informative	Extremely Informative
Participant 1 Personal Assistant Organisation A				1			
Participant 2 Accountant Organisation B		1					
Participant 3 Line Manager Organisation A					1		
Participant 4 Commercial Manager Organisation B			1				
Participant 5 IT Manager Organisation B					1		
Participant 6 Middle Manager Organisation B					1		
Participant 7 Line Manager Organisation A			1				
Participant 8 Office Assistant Organisation B				1			
Participant 9 Project Analyst Organisation B		1					
Participant 10 Assistant Accountant Organisation B					1		
Participant 11 Line Manager Organisation B			1				
Participant 12 Administrative Assnt Organisation B				1			
Participant 13 Accountant Organisation A					1		
Participant 14 Assistant Accountant Organisation A			1				
Participant 15 Business Analyst Organisation B				1			
Participant 16 Technical Officer Organisation B					1		
Total	**0**	**2**	**4**	**4**	**6**	**0**	**0**

Summary of the results on communication

The majority of participants received information in regard to the change, via a variety of methods including, face-to-face communication, newsletters, staff meetings and training sessions. However, the results also indicated that none of the communication methods

individually reached more than 11 out of the 16 participants. Most participants reported that they had an opportunity to ask questions about the implementation.

The results suggest that participants could have benefited from more face-to-face communication and been provided with more comprehensive and explicit communication as to what was going to happen and when. They also could have benefited from more feedback with answers to their questions.

Participants were divided in terms of how successful the communication was. Participants were also divided in terms of the extent to which the information was informative or uninformative. Most of the participants who rated the communication as informative were senior staff. This is not surprising if the senior staff received the communication to keep them up to date but failed to pass it on to their employees.

In regard to the participant's position within the organisation and their views on communication, the results suggested that more senior staff tended to rate the communication process as successful and informative compared with more junior staff. In particular, this was the case for the IT Manager, who was part of the implementation team, and this may have been due to the fact that he administered much of the communication. The IT manager also reported that the implementation team actively encouraged discussion and used road shows to provide information and forums for open debate about the new system. This seemed to be in contrast to other participants who reported that the communication could have been more comprehensive. These results suggest that there may have been some sort of "bottleneck" that stopped communication flowing through to certain employees and that lack of feedback about this meant that the Implementation Team were unaware that many employees did not have a full understanding about the change program. These results are consistent with the findings in the previous study where some managers who received information about the organisational change did not pass this on to their staff so that they were not fully informed.

In terms of the relationship between the communication variables, correlations were mostly positive and significant. In particular, correlations between the four communication

variables; communication to all levels, could discuss change with management, success of communication, and how informative communication was, were all positive and were significant for four of the six correlations. The correlations varied from .55 to .97.suggesting a common communication factor.

There were five significant correlations between the above communication variables and the four evaluation variables. In particular, success of the communication process correlated positively and significantly with attitude to future change ($r = .55$, $p < .05$) and rated level of success of the change ($r=.66$, $p< .01$). How informative the total communication was also correlated in the same way with these variables ($r=.51$, $p<.05$ and $r=.57$, $p<.05$ respectively). How informative the communication material was, was correlated positively and significantly with rated affect on morale ($r=.65$, $p < .01$).

5. Leadership Style

Question 1: What was positive about the way your supervisor/manager handled the implementation with you and your team members?

The categories of leadership behaviour were derived from both the literature on transformational leadership (Bass, 1990; Bennis & Nanus, 1985; Yukl, 1989) and also from participant feedback regarding the leaders and what behaviours they found supportive.

As can be seen in Table 11, four of the 16 participants could find nothing positive about the listed leadership behaviours of their managers. An additional four could find only one positive leadership behaviour amongst those listed. Only one manager scored five of the seven positive behaviours with the rest scoring four, three or two. These results suggest that there was considerable room for improvement in leader behaviours relevant to the change.

Table 11: Positive aspects of leadership

Question 1:	What was positive about the way your supervisor/manager handled the implementation with you and your team members?							
Participant No., Position & Original Organisation	Leader explained reasons for change	Leader explained benefits	Leader Addressed Questions	Leader involved you in the change process	You had a chance to discuss how change would affect you?	Leader was positive about change & shared this with you?	Leader answered questions in a helpful & informative way?	Total
Participant 1 Personal Assistant Organisation A	1		1	1			1	4
Participant 2 Accountant Organisation B	1		1	1	1		1	5
Participant 3 Line Manager Organisation A						1		1
Participant 4 Commercial Manager Organisation B								0
Participant 5 IT Manager Organisation B								0
Participant 6 Middle Manager Organisation B								0
Participant 7 Line Manager Organisation A	1	1		1			1	4
Participant 8 Office Assistant Organisation B	1			1	1			3
Participant 9 Project Analyst Organisation B								0
Participant 10 Assistant Accountant Organisation B	1			1		1	1	4
Participant 11 Line Manager Organisation B	1							1
Participant 12 Administrative Assnt Organisation B	1	1					1	3
Participant 13 Accountant Organisation A	1			1			1	3
Participant 14 Assistant Accountant Organisation A	1				1			2
Participant 15 Business Analyst Organisation B				1				1
Participant 16 Technical Officer Organisation B				1				1
Total	**9**	**2**	**2**	**8**	**3**	**2**	**6**	

Question 2: What was negative about the way your supervisor/manager handled the implementation with you and your team members?

It can be seen in Table 12 that most participants reported very few negative characteristics about most supervisors/managers' leadership. There were three supervisor/managers who had three, four or five negative characteristics. It is interesting to note that these were also amongst those supervisors/managers who scored the lowest numbers of positive behaviours. However, the correlation between the numbers of positive and negative aspects was not significant although it was in the expected direction ($r=-.44$, $p=.09$). It can be seen in Table 12 that half of the participants indicated that these supervisors/managers failed to hold regular meetings. The next most common negative characteristic reported by four participants, was failure to explain how the change would affect the individuals concerned.

Qualitative comments ranged from:

"Our manager was most understanding." (P2, Accountant, Organisation B)

to:

"This isn't appropriate for me really, at the General Manager level there wasn't too much communication at all, probably because there was a restructure taking place at the same time they were preoccupied with that. It really seemed to be an issue that stopped at the commercial managers, the project crash-landed, then the General Mangers got involved when they no longer had information. Of course, communications from that point on was negative." (P4, Commercial Manager, Organisation B)

Table 12: Negative aspects of leadership

Question 2:	What was negative about the way your supervisor/manager handled the implementation with you and your team members?						
Participant No., Position & Original Organisation	**Leader didn't encourage you to ask questions**	**Leader didn't talk to you about the change**	**Your leader didn't explain how the change would affect you and your colleagues**	**Your leader discouraged you from asking questions**	**You leader didn't support the change & shared negative views**	**Your leader did not hold regular meetings whereby you could ask questions**	**Total**
Participant 1 Personal Assistant Organisation A							0
Participant 2 Accountant Organisation B							0
Participant 3 Line Manager Organisation A							0
Participant 4 Commercial Manager Organisation B		1	1		1	1	4
Participant 5 IT Manager Organisation B							0
Participant 6 Middle Manager Organisation B							0
Participant 7 Line Manager Organisation A							0
Participant 8 Office Assistant Organisation B						1	1
Participant 9 Project Analyst Organisation B	1	1	1	1		1	5
Participant 10 Assistant Accountant Organisation B						1	1
Participant 11 Line Manager Organisation B	1		1			1	3
Participant 12 Administrative Assnt Organisation B						1	1
Participant 13 Accountant Organisation A						1	1
Participant 14 Assistant Accountant Organisation A							0
Participant 15 Business Analyst Organisation B							0
Participant 16 Technical Officer Organisation B			1			1	2
Total	**2**	**2**	**4**	**1**	**1**	**8**	

Question 3: Throughout the implementation process did you feel you could talk to your manager about your concerns if you had any?

Fourteen out of 15 participants reported that they felt that they could ask their managers questions about the change process. Only participant 9 thought she could not do this. Participant 5 failed to answer the question.

Question 4: Please rate your manager's overall success in handling the implementation.

As can be seen in Table 13, most responses were either neutral or positive with seven out of 15 participants selecting neutral and six reporting that their manager was successful in handling the implementation. Two indicated that their manager was either unsuccessful or very unsuccessful. There were no obvious differences in these responses between those in different positions within the organisation. The mean rating of 4.33 (with a SD of 1.05) corresponds to a rating between neutral and successful but it is important to also note that one manager was rated as very unsuccessful and one as very successful.

It was interesting that rated success of the leader was not related to number of positive aspects of the leader but it was related to the number of negative aspects ($r = -.64$, $p < .05$).

Table 13: Managers' overall success

Question 4:	Please rate your manager's overall success in handling the implementation.						
Participant No. ,Position & Original Organisation	**Extremely Unsuccessful**	**Very Unsuccessful**	**Un-successful**	**Neutral**	**Successful**	**Very Successful**	**Extremely Successful**
Participant 1 Personal Assistant Organisation A					1		
Participant 2 Accountant Organisation B				1			
Participant 3 Line Manager Organisation A						1	
Participant 4 Commercial Manager Organisation B				1			
Participant 5 IT Manager Organisation B							
Participant 6 Middle Manager Organisation B				1			
Participant 7 Line Manager Organisation A					1		
Participant 8 Office Assistant Organisation B				1			
Participant 9 Project Analyst Organisation B		1					
Participant 10 Assistant Accountant Organisation B					1		
Participant 11 Line Manager Organisation B			1				
Participant 12 Administrative Assistant Organisation B					1		
Participant 13 Accountant Organisation A						1	
Participant 14 Assistant Accountant Organisation A				1			
Participant 15 Business Analyst Organisation B				1			
Participant 16 Technical Officer Organisation B				1			
Total	**0**	**1**	**1**	**7**	**4**	**2**	**0**

Summary of the results on leadership

Most managers had relatively few of the positive characteristics listed as appropriate for handling the implementation but some had a number of negative characteristics. The main positive behaviours highlighted were: involving their staff in the change process, explaining the reason for the change, answering questions in a way that was informative, and explaining the benefits of the system to them. The two most common negative behaviours reported by participants were that their managers did not explain how the change would affect them and their colleagues and that their manager did not hold regular meetings whereby the staff could ask questions and get answers to them.

These results, which emphasise the importance of communication for leadership, suggest that one might expect significant correlations between success as a leader and the communication variables. There were in fact significant correlations between rated success in terms of leadership and rated success of the communication process ($r = .67$, $p < .01$), and how informative the communication was ($r = .59$, $p < .05$).

6. Organisational Culture

Question 1: There are many ways to describe an organisation's culture. Some are presented below. From the list below cross those that you feel accurately describe your organisation's culture <u>prior to</u> the implementation of the new system.

At the time that the questionnaire was completed, Organisations A and B had been merged for twelve months. Thus, question one was designed to refer to Organisation C. However, it was clear from qualitative comments that many participants seemed to focus on the culture of their "old" organisation (eg Organisation A or B) and provided answers in that regard. This may have been due to the merger being in close proximity to the implementation of the new system and to some persistence of their previous organisational cultures over that time.

As can be seen in Table 14, there was relatively little consensus on cultural characteristics. While 13 of the 15 participants agreed that they were provided with training and development, only about one third reported that their career was well managed, that there were reward systems in place, that new staff members were socialised into the organisation, that the organisation's norms and values were communicated regularly and that the organisation had strong leadership and modelling and that they had an opportunity to participate in decision making. Eight reported that they had a strong sense of history.

Table 14: Description of organisational culture prior to the implementation

Question 1:	There are many ways to describe an organisation's culture, some are presented below. From the list below, cross those that you feel accurately describe your organisation's culture prior to the implementation of the new system.								
Participant No., Position & Original Organisation	Training & development is provided to employees	Your career was well managed	There were reward systems in place	New staff members were socialised into the organisation	The organisations norms & values were communicated regularly	Your organisation had a strong sense of history	Your organisation had strong leadership and modelling	You had the opportunity to participate in decision making	Total.
Participant 1 Personal Assistant Organisation A	1	1		1	1	1			5
Participant 2 Accountant Organisation B	1		1	1		1			4
Participant 3 Line Manager Organisation A	1					1	1	1	4
Participant 4 Commercial Manager Organisation B	1		1		1				3
Participant 5 IT Manager Organisation B									0
Participant 6 Middle Manager Organisation B	1							1	2
Participant 7 Line Manager Organisation A	1	1	1		1	1	1	1	7
Participant 8 Office Assistant Organisation B	1								1
Participant 9 Project Analyst Organisation B	1	1	1			1		1	5
Participant 10 Assistant Accountant Organisation B	1								1
Participant 11 Line Manager Organisation B	1								1
Participant 12 Administrative Assistant Organisation B	1	1	1	1	1	1	1		7
Participant 13 Accountant Organisation A				1		1			2
Participant 14 Assistant Accountant Organisation A			1	1		1			3
Participant 15 Business Analyst Organisation B	1							1	2
Participant 16 Technical Officer Organisation B	1						1		2
Total	13	4	6	5	4	8	4	5	

These results, overall, suggest a relatively weak culture with respect to the characteristics assessed, except for training. While this lack of consensus might reflect the merging of the two organisations prior to the new system being implemented, there was no evidence of greater consistency amongst those from Organisation A or B The only exception was that all five participants from Organisation A suggested that the Organisation prior to the change had a strong sense of history but as already noted, it seems likely from the qualitative comments that they were referring to Organisation A.

Qualitative comments included:

"The organisation is fairly hard nosed and commercial – the things that need to go on do, the career development, employment nurturing aspects etc. take place on a more localised basis – depending upon the values of the relevant managers." (P4, Commercial Manager, Organisation B)

"The old organisation had a very different culture to the new organisation. It is difficult to separate the changes that occurred as a result of the acquisition from the changes that resulted from the system roll out." (P7, Line Manager, Organisation A)

Question 2: There are many ways to describe an organisation's culture and some are presented below. From the list below cross those that you feel accurately describe your organisation's culture <u>after</u> the implementation of the new system.

Table 15 shows that the only marked change in the organisational culture after the implementation was a reduction in the sense of history of the organisation. Most of the participants who reported that their organisation's strong sense of history was lost came from Organisation A, again suggesting that in Question 1, they were referring to Organisation A's culture. This is not surprising given that participants from Organisation A reported that their organisation had a strong sense of history and that they felt a lot of grief at its loss. There were slight reductions in most of the other characteristics to relatively few responses in each of the factors. The number of positive aspects listed prior to and after the change implementations correlated significantly ($r = .57$, $p < .05$).While these results might be taken to indicate little difference between the cultures of the old organisations and the new merged organisation, it may also be that participants had not yet become aware of the culture within the new organisation.

Qualitative comments included:

"I don't think that any major change in culture has occurred as a result of the implementation – at all" (P4, Commercial Manager, Organisation B).

"The implementation of the new system changed the financial processes activities of the business but it did not address nor overcome the shortcomings in the organisation's culture." (P5, IT Manager, Organisation B).

Question 3: Did the attitudes and beliefs held by your fellow workers affect the way you personally accepted the implementation of the new system?

As can be seen in Table 16, 10 of 15 participants reported that they were not affected by the attitudes and beliefs held by their fellow workers. However, of the five who were affected, all reported that they were affected in a negative way. It is interesting to note that the IT Manager was one of those affected in a negative way even though he was part of the implementation team.

Table 15: Description of organisational culture after the implementation

Question 2:	There are many ways to describe an organisation's culture some are presented below. From the list below cross those that you feel accurately describe your organisation's culture after the implementation of the new system.								
Participant No., Position & Original Organisation	**Training & develop-ment is provided to employees**	**Your career was well managed**	**There were reward systems in place**	**New staff members were socialised into the organisation**	**The organis-ations norms & values were communicated regularly**	**Your organisation had a strong sense of history**	**Your organisation had strong leadership and modell-ing**	**You had the opportunity to participate in decision making.**	**Total**
Participant 1 Personal Assistant Organisation A	1	1		1			1		4
Participant 2 Accountant Organisation B	1								1
Participant 3 Line Manager Organisation A	1	1			1	1	1	1	6
Participant 4 Commercial Manager Organisation B	1		1		1				3
Participant 5 IT Manager Organisation B									0
Participant 6 Middle Manager Organisation B	1							1	2
Participant 7 Line Manager Organisation A									0
Participant 8 Office Assistant Organisation B	1								1
Participant 9 Project Analyst Organisation B	1	1	1			1		1	5
Participant 10 Assistant Accountant Organisation B	1								1
Participant 11 Line Manager Organisation B	1								1
Participant 12 Administrative Assistant Organisation B	1	1	1	1	1	1	1		7
Participant 13 Accountant Organisation A	1								1
Participant 14 Assistant Accountant Organisation A	1		1	1					3
Participant 15 Business Analyst Organisation B	1							1	2
Participant 16 Technical Officer Organisation B	1								1
Total	**14**	**4**	**4**	**3**	**3**	**3**	**3**	**4**	

Table 16: Attitude and beliefs of fellow workers and their impact on the individual participant

Question 3:	Did the attitudes and beliefs held by your fellow workers affect the way you personally accepted the implementation of the new system?		If yes, did it generally affect you positively or negatively?	
Participant No., Position & Original Organisation	Yes	No	Positive	Negative
Participant 1 Personal Assistant Organisation A	1			1
Participant 2 Accountant Organisation B		1		
Participant 3 Line Manager Organisation A		1		
Participant 4 Commercial Manager Organisation B		1		
Participant 5 IT Manager Organisation B	1			1
Participant 6 Middle Manager Organisation B		1		
Participant 7 Line Manager Organisation A		1		
Participant 8 Office Assistant Organisation B		1		
Participant 9 Project Analyst Organisation B		1		
Participant 10 Assistant Accountant Organisation B		1		
Participant 11 Line Manager Organisation B	1			1
Participant 12 Administrative Assistant Organisation B		1		
Participant 13 Accountant Organisation A	1			1
Participant 14 Assistant Accountant Organisation A	1			1
Participant 15 Business Analyst Organisation B		1		
Participant 16 Technical Officer Organisation B				
Total	**5**	**10**	**0**	**5**

Question 4: If your present culture, in your opinion, was not supportive of the implementation, how could it be improved?

The categories mentioned in Question Four, to describe an organisation's culture, were derived from the participants' responses in Study two in terms of the factors that contributed to their culture.

As can be seen in Table 17, five of the seven listed improvements were selected by half or more of the participants. In particular, nine out of 15 participants reported that education about the change would have been beneficial, 11 suggested that an ability to express concerns with less fear of consequences would have been beneficial, 10 participants suggested that participation in the change program would have improved their division's culture and eight suggested that both regular and informative communication would have been beneficial. These results suggest that considerable improvement could have been made to these aspects of the organisation's culture related to the change.

Table 17: Factors that could have improved a non-supportive culture

Question 4:	If your present culture, in your opinion, was not supportive of the implementation, how could it be improved?							
Participant No., Position & Original Organisation	Management commitment to the change	Leader overtly supports change	Regular communi-cation	Informati ve Communi -cation	Education about the change	Participa tion in the change	Ability to express you opinion	Total
Participant 1 Personal Assistant Organisation A			1	1	1		1	4
Participant 2 Accountant Organisation B			1	1	1	1	1	5
Participant 3 Line Manager Organisation A	1		1	1	1	1	1	6
Participant 4 Commercial Manager Organisation B	1			1	1	1	1	5
Participant 5 IT Manager Organisation B	1						1	2
Participant 6 Middle Manager Organisation B					1	1		2
Participant 7 Line Manager Organisation A							1	1
Participant 8 Office Assistant Organisation B							1	1
Participant 9 Project Analyst Organisation B		1	1	1	1	1		5
Participant 10 Assistant Accountant Organisation B	1	1	1	1	1	1	1	7
Participant 11 Line Manager Organisation B	1		1	1	1	1	1	6
Participant 12 Administrative Assnt Organisation B			1			1		2
Participant 13 Accountant Organisation A							1	1
Participant 14 Assistant Accountant Organisation A	1		1	1	1	1	1	6
Participant 15 Business Analyst Organisation B		1				1		2
Participant 16 Technical Officer Organisation B								0
Total	6	3	8	8	9	10	11	

Question 5: Overall how would you rate the extent to which the culture was supportive or unsupportive of the implementation?

As can be seen from Table 18, the participants were closely divided with seven out of 15 participants reporting that their culture was supportive of the implementation and five

reporting that it was unsupportive toward the implementation. It is noteworthy that no one indicated that the culture was very or extremely supportive, while two indicated that it was very unsupportive.

Table 18: Overall rating of the organisational culture

Question 5:	Overall, how would you rate the extent to which the culture was supportive or unsupportive of the implementation?						
Participant No., Position & Original Organisation	**Extremely Unsupportive**	**Very Unsupportive**	**Unsupportive**	**Neutral**	**Supportive**	**Very Supportive**	**Extremely Supportive**
Participant 1 Personal Assistant Organisation A					1		
Participant 2 Accountant Organisation B		1					
Participant 3 Line Manager Organisation A					1		
Participant 4 Commercial Manager Organisation B				1			
Participant 5 IT Manager Organisation B		1					
Participant 6 Middle Manager Organisation B					1		
Participant 7 Line Manager Organisation A					1		
Participant 8 Office Assistant Organisation B				1			
Participant 9 Project Analyst Organisation B				1			
Participant 10 Assistant Accountant Organisation B					1		
Participant 11 Line Manager Organisation B			1				
Participant 12 Administrative Assnt Organisation B							
Participant 13 Accountant Organisation A					1		
Participant 14 Assistant Accountant Organisation A			1				
Participant 15 Business Analyst Organisation B			1				
Participant 16 Technical Officer Organisation B					1		
Total	0	2	3	3	7	0	0

It is also interesting that four of the five participants originally from Organisation A (which was taken over by Organisation B) reported that the organisational culture was supportive. Given the negative views of the takeover expressed by these participants in the previous study, these results might be explained by some aspects of the supportive culture of Organisation A persisting during the implementation.

Qualitative comments included:

- *"It was a very difficult environment in which to implement."*
- *"Large amount of other changes occurring"*
- *"Inadequate management support"*
- *"Internal political fighting"*
- *"Centralisation resulting in job losses, an emotive issue"*(P5, IT Manager, Organisation B)

Correlations between the culture and evaluation variables

There was no significant correlation between how supportive the culture was judged to be and any of the evaluation variables, but this may be partly because some participants may have been referring to their previous organisation before the merger.

Summary of the results on organisational culture

Participants were divided in their descriptions of the organisational culture prior to the implementation of the new system suggesting that some of them may have been referring to their previous organisations before the merger. The only major difference in the organisational culture after the implementation of the new system was the decrease in the organisation's having a sense of history. This may have been due to the merging of Organisations A and B.

Confusions about which organisation's culture was being referred to might partly account for the lack of any significant correlations between how supportive the culture was perceived to be and the evaluation variables.

While the majority of participants reported that the attitudes and beliefs held by their co-workers did not affect the way they accepted the new system, those who were affected reported that they were affected in a negative way.

All except one participant made at least one suggestion for making the culture more supportive of the change program. At least half or more of the participants listed regular communication to staff, informative communication, education about the change, allowing employees to participate and to express their opinions without fear of negative consequence.

7. Training

Question 1: Did you go through a training program?

Fifteen of the 16 participants reported that they attended training with the remaining one (participant 6) failing to answer the question.

Question 2: If yes, what was positive about the training you received?

Participants reported that the positive aspects of the training were the quality of the trainers, and the "happy" environment of the training sessions. A selection of qualitative comments include:

"Good quality internal trainers, good knowledge of system and processes. Trainers were persistent (had to train some staff more than five times on how to post a requisition. This took some patience and commitment)." (P5, IT Manager, Organisation B)

"It was all very "up" and "happy". The training was comprehensive in terms of both content and users trained." (P4, Commercial Manager, Organisation B)

"Good training provided of the system." (P14, Assistant Accountant, Organisation A)

Question 3: What was negative about the training you received?

Eleven participants answered this question and all provided different comments. In regard to the negative aspects of the training, participants reported that; the trainer had only been employed a short time and did not have enough knowledge of the system; there were daily modifications of the training manuals; training was insufficient, particularly with respect to how it would affect people's roles; it occurred too long before the actual implementation and there were no follow up or advanced sessions. It is interesting to note that among the negative comments, participants mentioned that the trainers did not have enough knowledge. However, there were other participants that stated that the trainers had a

good understanding of the system. This may indicate that the trainers were inconsistent with some being very good and others not or that the users' level of knowledge or capability in using computer system varied so that some found the training easy and some hard. A selection of qualitative comments include:

"Even though it was hands-on, I was trained in the wrong module, therefore it did not give me enough information about the system. Also the trainer had only been employed for a very short time and did not have enough knowledge of a live situation." (P8, Office Assistant, Organisation B)

"Training sessions were not long enough and we needed a lot of practice to help us cope with change." (P2, Accountant, Organisation B)

"There are daily modifications to the manuals for using the system. There was no training on how this system would affect our current roles." (P9, Special Projects Analyst, Organisation B)

"Each module was learned in one crammed session. In only one session, new knowledge is forgotten before you start to use it. The training was basic and there was no follow up or advanced training later. The help desk support is very poor and slow to respond to queries." (P10, Assistant Accountant, Organisation B)

"The training occurred six months before the roll out which meant by the time we actually had to use it we all needed re-training." (P13, Accountant, Organisation A)

"Documentation provided by the system was poor and left a lot of questions unanswered if you needed to refer to the manuals at a later date." (P14, Assistant Accountant, Organisation A)

Question 4: If you had the opportunity, how would you have changed the training program to be more effective?

Twelve participants answered this question and again, all twelve participants provided a different answer. These included providing a "play room" whereby employees could practice what they had learned in the training sessions and training the employees in the correct modules. A selection of qualitative comments include:

"The "play room" implemented in the eastern implementation was a great idea, if this was supported and promoted by supervisors etc -- it would be very effective, also if the

focus was on training key users who could support others in the operations areas, rather than training all users on mass, a better skills/support mix might have resulted." (P4, Commercial Manager, Organisation B)

"Made them more intense and hands on situations so staff could become more familiar. The organisation has always had standard codes in the general ledger and identifying things in the system is like looking for a needle in a haystack. I believe it is an auditor's nightmare." (P2, Accountant, Organisation B)

"Shorter sessions, more than one session to familiarise. Follow-up and advance training sessions." (P10, Assistant Accountant, Organisation B)

"Employees to be trained in the right modules and trainers should have used the new system in a live situation so they can understand the problems that could be encountered." (P8, Office Assistant, Organisation B)

"Improve the systems training manuals." (P14, Assistant Accountant, Organisation A)

Question 5: Overall, how would you rate the quality of the training you received in respect to the new system?

As can be seen in Table 19, 10 out of 15 participants reported that the training was good to very good, four rated the training as neutral and only one (the Office Assistant) rated it as poor. Five of the six managers reported that the training was good. As expected given these positive results, training quality did not correlate significantly with any of the evaluation variables. The generally positive overall ratings of training are somewhat inconsistent with the negative comments made about training and the suggestions for improvements. These results suggest that a single overall rating of training may not provide a very accurate assessment of its quality.

Table 19: Overall quality rating of training

Question 5:	Overall, how would you rate the quality of the training you received in respect to the new system?						
Participant No., Position & Original Organisation	**Extremely Poor**	**Very Poor**	**Poor**	**Neutral**	**Good**	**Very Good**	**Extremely Good**
Participant 1 Personal Assistant Organisation A				1			
Participant 2 Accountant Organisation B				1			
Participant 3 Line Manager Organisation A							
Participant 4 Commercial Manager Organisation B					1		
Participant 5 IT Manager Organisation B						1	
Participant 6 Middle Manager Organisation B					1		
Participant 7 Line Manager Organisation A						1	
Participant 8 Office Assistant Organisation B			1				
Participant 9 Project Analyst Organisation B				1			
Participant 10 Assistant Accountant Organisation B					1		
Participant 11 Line Manager Organisation B					1		
Participant 12 Administrative Assnt Organisation B						1	
Participant 13 Accountant Organisation A					1		
Participant 14 Assistant Accountant Organisation A					1		
Participant 15 Business Analyst Organisation B				1			
Participant 16 Technical Officer Organisation B					1		
Total	**0**	**0**	**1**	**4**	**7**	**3**	**0**

Summary of the results on training

While the majority of the participants rated the overall quality of the training as being good or extremely good, there were a number of negative comments and suggestions for improvement.

Negative comments included; the training sessions were not long enough, the trainer in one session had only been with the organisation a short time and therefore had limited knowledge, there were no follow up sessions and no advanced sessions, the training occurred six months before the rollout which resulted in people forgetting what they had learned and the documentation that went with the system was poor.

In terms of recommendations, the participants reported that the training could have been more effective by being more hands on, by providing ongoing coaching for users, by having follow up sessions for users and by having a "play room" set up where by users could practise what they had learned in their training sessions. The participants also suggested that the training could have occurred closer to the roll out date, so new information was not forgotten. The training session could also have had better documentation to support it.

8. Coping Skills

Question 1: Was your job changed as a result of the implementation of the new system?

As can be seen in Table 20, participants were nearly equally divided with eight of 15 reporting that their job was changed due to the new implementation and seven reporting that it was not changed. Inspection of Table 20 indicates that there was no relationship between job change and the participants' positions, with managers and administrative assistants both reporting job changes.

Table 20: Job changes as a result of the implementation

Question 1:	Was your job changed as a result of the implementation of the new system?	
Participant No., Position & Original Organisation	**Yes**	**No**
Participant 1 Personal Assistant Organisation A	1	
Participant 2 Accountant Organisation B	1	
Participant 3 Line Manager Organisation A	1	
Participant 4 Commercial Manager Organisation B	1	
Participant 5 IT Manager Organisation B		
Participant 6 Middle Manager Organisation B		1
Participant 7 Line Manager Organisation A		1
Participant 8 Office Assistant Organisation B		1
Participant 9 Project Analyst Organisation B		1
Participant 10 Assistant Accountant Organisation B	1	
Participant 11 Line Manager Organisation B	1	
Participant 12 Administrative Assistant Organisation B		1
Participant 13 Accountant Organisation A	1	
Participant 14 Assistant Accountant Organisation A	1	
Participant 15 Business Analyst Organisation B		1
Participant 16 Technical Officer Organisation B		1
Total	**8**	**7**

Question 2: If your job was changed, how was it changed?

The categories used in this question were derived from the participant interviews from the first study. Many of the participants, in providing their experiences of the change process, mentioned how the change had personally affected them by way of their job changing.

As can be seen in Tables 21 a and b, nearly all participants who had their jobs changed reported they had to work with new people and most had new work processes and a larger workload.

Qualitative comments concerning how jobs changed included;

"Worked with new people, New supervisor, Larger workload, Been promoted, New works station, More supportive environment, Less supervisory contact." (P1, Personal Assistant, Organisation A)

Worked with new people, New work processes, Larger workload, change in relationships. I was made redundant as my job moved to Adelaide." (P2, Accountant, Organisation B)

"Worked with new people, new work processes." (P10, Assistant Accountant, Organisation B)

"Worked with new people, new work processes, larger workload." (P13, Accountant, Organisation A)

New work role, worked with new people, new supervisor, New work processes, smaller workload, new geographical location, new workstation, more supervisory contact." (P14, Assistant Accountant, Organisation A)

Table 21a: Description of job changes

Question 2:	If your job was changed, how was it changed?						
Participant No., Position & Original Organisation	**New Work Role**	**Worked with new People**	**New Supervisor or Manager**	**New Work Processes**	**Larger Workload**	**Smaller Workload**	**Been Demoted**
Participant 1 Personal Assistant Organisation A	1	1		1	1		
Participant 2 Accountant Organisation B						1	
Participant 3 Line Manager Organisation A		1	1		1		1
Participant 4 Commercial Manager Organisation B		1		1	1		
Participant 5 IT Manager Organisation B							
Participant 6 Middle Manager Organisation B							
Participant 7 Line Manager Organisation A							
Participant 8 Office Assistant Organisation B					1		
Participant 9 Project Analyst Organisation B							
Participant 10 Assistant Accountant Organisation B		1		1			
Participant 11 Line Manager Organisation B		1		1	1		
Participant 12 Admin. Asst Organisation B							
Participant 13 Accountant Organisation A		1		1	1		
Participant 14 Assistant Accountant Organisation A	1	1	1	1		1	
Participant 15 Business Analyst Organisation B							
Participant 16 Technical Officer Organisation B							
Total	**2**	**7**	**2**	**6**	**6**	**2**	**1**

Table 21b: Description of job changes continued

Question 2:	If your job was changed, how was it changed?						
Participant No., Position & Original Organisation	**Been Promoted**	**New Geograph-ical location**	**New work station**	**More supportive environ-ment**	**Less supportive enviorn-ment**	**Less supervisory contact**	**More supervisory Contact**
Participant 1 Personal Assistant Organisation A							
Participant 2 Accountant Organisation B							
Participant 3 Line Manager Organisation A			1	1		1	
Participant 4 Commercial Manager Organisation B							
Participant 5 IT Manager Organisation B							
Participant 6 Middle Manager Organisation B							
Participant 7 Line Manager Organisation A							
Participant 8 Office Assistant Organisation B							
Participant 9 Project Analyst Organisation B							
Participant 10 Assistant Accountant Organisation B							
Participant 11 Line Manager Organisation B							1
Participant 12 Administrative Assnt Organisation B							
Participant 13 Accountant Organisation A			1				
Participant 14 Assistant Accountant Organisation A		1	1				1
Participant 15 Business Analyst Organisation B							
Participant 16 Technical Officer Organisation B							
Total	**0**	**1**	**3**	**1**	**0**	**1**	**2**

Question 3: How stressful did you find the implementation process?

As can be seen in Table 22, eight of the 15 participants who answered the question found the change moderately stressful to stressful with one additional participant reporting it as extremely stressful. Of the remaining six participants, four rated the change as slightly stressful with only two indicating that it was not stressful at all. There was no obvious relationship between level of stress and participants' positions.

Table 22: Level of stress during implementation

Question 3:	How stressful did you find the implementation process?						
Participant No., Position & Original Organisation	**Not stressful at all**	**Not very stressful**	**Only a bit Stressful**	**Moderately stressful**	**Stressful**	**Very Stressful**	**Extremely Stressful**
Participant 1 Personal Assistant Organisation A				1			
Participant 2 Accountant Organisation B							1
Participant 3 Line Manager Organisation A		1					
Participant 4 Commercial Manager Organisation B				1			
Participant 5 IT Manager Organisation B					1		
Participant 6 Middle Manager Organisation B		1					
Participant 7 Line Manager Organisation A				1			
Participant 8 Office Assistant Organisation B					1		
Participant 9 Project Analyst Organisation B				1			
Participant 10 Assistant Accountant Organisation B	1						
Participant 11 Line Manager Organisation B		1					
Participant 12 Administrative Assnt Organisation B		1					
Participant 13 Accountant Organisation A				1			
Participant 14 Assistant Accountant Organisation A				1			
Participant 15 Business Analyst Organisation B	1						
Participant 16 Technical Officer Organisation B							
Total	**2**	**4**	**0**	**6**	**2**	**0**	**1**

Question 4: What type of coping strategies did you use, if any, to assist you with the implementation process?

There has been extensive research on how people cope with stressors in the workplace (Billings & Moos, 1984; Callan, 1993; Callan, Terry & Schweitzer, 1994; Cohen & Edwards, 1989; O'Hara, 1995). The types of coping strategies that have been identified in the literature include talking with colleagues and management, using external social support, increased activity and increased spirituality via prayer or meditation (Billings & Moos, 1984; Callan, 1993; Callan, Terry & Schweitzer, 1994; Cohen & Edwards, 1989; O'Hara, 1995). Whilst many individuals use the above-mentioned coping strategies some individuals use unhelpful strategies such as an increase in substances such as nicotine and or alcohol (O'Hara, 1995). Other coping strategies that were identified by the participants in Study two and included, looking for another job, to increase confidence that there was alternative work available, increased time alone and annual leave. The questions used in Question four came from the literature on coping and participant input from Study two.

As can be seen in Tables 23a and 23b, talking about the implementation was the most popular coping strategy with nine out of 13 participants who answered the question reported talking to family and friends, eleven reported talking to their colleagues and seven reported talking to management. It is interesting to note that those talking to management were the senior staff. Four out of 13 increased their time management as a way of coping with the stress of the change process. None of the other coping strategies was reported, such as taking time off work, social activities, increased use of alcohol, and social or spiritual activities. It is of course possible that participants were reluctant to admit to using some of these latter strategies. However, it is interesting that 10 of 13 participants reported using more than one strategy with nearly half using three or more of the strategies.

Table 23a: Coping strategies during the implementation

Question 4:	What type of coping strategies did you use, if any, to assist you with the implementation process?						
	Work					Social	
Participant No., Position & Original Organisation	Increased Time Mngt.	Talk with Colleague	Talk with Mngt.	Increased time off sick/annual leave	Looked for another Job	Took up external activities	Increased external activities
Participant 1 Personal Assistant Organisation A	1	1					
Participant 2 Accountant Organisation B		1	1				
Participant 3 Line Manager Organisation A	1	1	1				
Participant 4 Commercial Manager Organisation B	1						
Participant 5 IT Manager Organisation B		1	1				
Participant 6 Middle Manager Organisation B							
Participant 7 Line Manager Organisation A							
Participant 8 Office Assistant Organisation B		1					
Participant 9 Project Analyst Organisation B		1	1				
Participant 10 Assistant Accountant Organisation B	1	1	1				
Participant 11 Line Manager Organisation B			1				
Participant 12 Admin. Asst Organisation B		1					
Participant 13 Accountant Organisation A		1	1				
Participant 14 Assistant Accountant Organisation A		1					
Participant 15 Business Analyst Organisation B							
Participant 16 Technical Officer Organisation B		1					
Total	4	11	7	0	0	0	0

Table 23b: Coping strategies during the implementation continued

Question 4: continued	What type of coping strategies did you use, if any, to assist you with the implementation process?					
	Personal				Spiritual	
Participant No., Position & Original Organisation	Talk to spouse/family/ friends	Spend more time alone	Increased alcohol intake	Increased nicotine intake	Increased attendance at church	Meditating/ relaxation
Participant 1 Personal Assistant Organisation A	1					
Participant 2 Accountant Organisation B						
Participant 3 Line Manager Organisation A	1					
Participant 4 Commercial Manager Organisation B						
Participant 5 IT Manager Organisation B	1					
Participant 6 Middle Manager Organisation B						
Participant 7 Line Manager Organisation A						
Participant 8 Office Assistant Organisation B	1					
Participant 9 Project Analyst Organisation B	1					
Participant 10 Assistant Accountant Organisation B	1					
Participant 11 Line Manager Organisation B						
Participant 12 Admin. Assistant Organisation B	1					
Participant 13 Accountant Organisation A	1					
Participant 14 Assistant Accountant Organisation A	1					
Participant 15 Business Analyst Organisation B						
Participant 16 Technical Officer Organisation B						
Total	**9**	**0**	**0**	**0**	**0**	**0**

Qualitative comments concerning how participants coped included:

Increased time management, talk about it with colleagues, talk about it with spouse, family, friends." (P1, Personal Assistant, Organisation A)

"Talk about it with work colleagues, talk about it with management." (P2, Accountant, Organisation B)

"Increased time management, talk about it with colleagues, talk about it with management, talk about it with spouse/family/friends." (P3, Line Manager, Organisation A)

"Talk about it with work colleagues, Talk about it with management, Talk about it with spouse/family/friends." (P5, IT Manager, Organisation B)

Increased hours to manage work. Employed another person to cope with the workload." (P4, Commercial Manager, Organisation B)

Question 5: Would you have found it beneficial to have training in coping techniques?

As can be seen in Table 24, only about one third of participants indicated that they would have found training in coping skills beneficial. Ten of the16 participants reported that they would not have found such training beneficial and these included four of the six Managers and slightly more males than females. This gender difference, while only slight, is consistent with research that suggests that women are more likely to seek psychological assistance or ask for help than men (Robertson & Fitzgerald, 1992).

Table 24: Usefulness of training in coping techniques

Question 5:	Would you have found it beneficial to have training in coping techniques?	
Participant No., Position & Original Organisation	**Yes**	**No**
Participant 1 Personal Assistant Organisation A		1
Participant 2 Accountant, Organisation B	1	
Participant 3 Line Manager Organisation A		1
Participant 4 Commercial Manager Organisation B		1
Participant 5 IT Manager Organisation B		1
Participant 6 Middle Manager Organisation B	1	
Participant 7 Line Manager Organisation A		1
Participant 8 Office Assistant Organisation B	1	
Participant 9 Project Analyst Organisation B	1	
Participant 10 Assistant Accountant Organisation B		1
Participant 11 Line Manager Organisation B	1	
Participant 12 Administrative Assistant Organisation B		1
Participant 13 Accountant Organisation A		1
Participant 14 Assistant Accountant Organisation A		1
Participant 15 Business Analyst Organisation B		1
Participant 16 Technical Officer Organisation B	1	
Total	**6**	**10**

Question 6: Overall, how well do you think you coped with the implementation process?

As Table 25 indicates, nine out of the 16 participants reported that they coped well, three coped very well and one coped extremely well with the implementation process. One participant reported that he coped poorly and another that he coped extremely poorly.

Table 25: Ratings on how well participants thought they coped

Question 6:	Overall, how well do you think you coped with the implementation process?						
Participant No. ,Position & Original Organisation	**Extremely Poor**	**Very Poor**	**Poor**	**Neutral**	**Well**	**Very Well**	**Extremely Well**
Participant 1 Personal Assistant Organisation A					1		
Participant 2 Accountant Organisation B	1						
Participant 3 Line Manager Organisation A						1	
Participant 4 Commercial Manager Organisation B				1			
Participant 5 IT Manager Organisation B						1	
Participant 6 Middle Manager Organisation B					1		
Participant 7 Line Manager Organisation A					1		
Participant 8 Office Assistant Organisation B					1		
Participant 9 Project Analyst Organisation B			1				
Participant 10 Assistant Accountant Organisation B							1
Participant 11 Line Manager Organisation B					1		
Participant 12 Admin. Assistant Organisation B					1		
Participant 13 Accountant Organisation A					1		
Participant 14 Assistant Accountant Organisation A					1		
Participant 15 Business Analyst Organisation B						1	
Participant 16 Technical Officer Organisation B					1		
Total	**1**	**0**	**1**	**1**	**9**	**3**	**1**

A selection of qualitative comments on coping included:

"Considering how stressful and frustrating it was I believed I coped very well." (P8, Office Assistant, Organisation B)

"I hope to be offered further temporary contracts where I will be involved in the implementation of change." (P10, Assistant Accountant, Organisation B)

Correlations between coping and evaluation variables

As might be expected, rating of stress correlated negatively with how well participants thought they coped ($r = -.70$, $P < .01$). While rating of stress did not correlate with any of the evaluation variables, rating of coping correlated significantly and positively with two of the evaluation variables; attitude to future change ($r = .73$, $p < .01$), and level of success of the change process ($r = .66$, $p < .01$).

Summary of the results on coping

The results suggest about half of the participants' jobs changed due to the implementation of the new system. The changes mainly included working with new people, new work processes and a larger workload. Over half of the participants reported that they found the change stressful to some degree. Most participants used more than one coping strategy including talking to colleagues, talking to family and talking with management. However, it is interesting to note that those participants that talked to management as part of a coping strategy were all senior staff. This may be due to more junior staff not feeling comfortable speaking to the management about their concerns or any questions they had.

Despite over half of the participants finding the change stressful, only one third of them reported that they would have found training in coping with stress useful. Half of the females but only one third of males reported that they would have found it useful. It would be interesting to see if this result was statistically significant with a much larger sample, as it would be consistent with research that men are less likely than women to attend psychological services traditionally named coping skills or stress management (Robertson & Fitzgerald, 1992).

Despite the stress of the changes in work, most of the participants felt that they coped well with the change process. One participant reported coping extremely poorly. However, this individual also had family problems to cope with at the time of the implementation.
Rated coping with stress correlated positively with two of the evaluation variables; attitude to future change, and level of success of the change process.

9. Personal Circumstances

Question 1: Were there any significant events occurring in your personal life at the time of the implementation?

Table 26 indicates that only three out of 15 participants who answered the question reported that they had significant events occurring in their personal life at the time of the change.

Table 26: Significant personal events during the implementation

Questions:	Q1. Were there any significant events occurring in your personal life at the time of the implementation?		Q2. Did your personal life circumstances impact upon the way you coped with the implementation?		If yes, was the impact positive or negative?	
Participant No., Position & Original Organisation	**Yes**	**No**	**Yes**	**No**	**Positive**	**Negative**
Participant 1 Personal Assistant Organisation A		1		1		
Participant 2 Accountant Organisation B	1		1			1
Participant 3 Line Manager Organisation A		1		1		
Participant 4 Commercial Manager Organisation B	1			1		
Participant 5 IT Manager Organisation B		1		1		
Participant 6 Middle Manager Organisation B		1		1		
Participant 7 Line Manager Organisation A	1			1		
Participant 8 Office Assistant Organisation B		1		1		
Participant 9 Project Analyst Organisation B		1		1		
Participant 10 Assistant Accountant Organisation B		1		1		
Participant 11 Line Manager Organisation B		1		1		
Participant 12 Admin. Assistant Organisation B		1	1		1	
Participant 13 Accountant Organisation A		1				
Participant 14 Assistant Accountant Organisation A		1	1			1
Participant 15 Business Analyst Organisation B		1		1		
Participant 16 Technical Officer Organisation B						
Total	**3**	**12**	**3**	**11**	**1**	**2**

Significant personal events included health issues in their family and relationship problems. For example:

"Having to tell my family that I may not have a job in the near future given the fact that my wife suffers from blood pressure and I have seen her on the verge of a stroke with very high blood pressure and admitted to hospital. Such problems do not help the family unit." (P2, Accountant, Organisation B)

"Left husband, moved house, took on a new role with significantly more responsibility than ever before and went through major business restructure as well as implementation (all between Nov 97 and Dec 97)." (P4, Commercial Manager, Organisation B)

Question 2: Did your personal life circumstances impact upon the way you coped with the implementation? If yes, was the impact positive or negative?

Table 26 indicates that only three of the 14 participants who answered the question reported that their personal life did affect how they coped with the change. Interestingly, only one of these indicated that they had significant events occurring in their personal life at the time. In one of these cases the affect was positive, in the other two cases it was negative. There were no qualitative comments given for this question.

Question 3: How would you rate the extent to which your personal life influenced the way you coped with the implementation process?

As can be seen in Table 27, seven participants reported that their personal lives influenced the way they coped with the implementation to some degree with four reporting that it occurred to a moderate extent and two that it occurred to a great extent. This result is perhaps surprising given that only three indicated in answering the previous question that their personal life did have an affect on their coping. However, two of the three responses were rated as being "to a great extent" and one was "moderate". It may be that the remaining four who rated the affects as being moderate or slight did not consider them as being significant enough to warrant indicating an affect in answer to the previous question.

Given these results a significant correlation might be expected between this variable and rating of coping with the implementation of the change. In fact, this correlation was significant in the expected direction ($r = -.92$, $p < .005$).

There were no qualitative comments given for this question.

Table 27: Influence of Personal life circumstances on coping with implementation

Question 3:	How would you rate the extent to which your personal life influenced the way you coped with the implementation process?				
Participant No., Position & Original Organisation	**Slightly**	**Moderately**	**Considerably**	**To a Great Extent**	**Completely**
Participant 1 Personal Assistant Organisation A					
Participant 2 Accountant Organisation B				1	
Participant 3 Line Manager Organisation A		1			
Participant 4 Commercial Manager Organisation B					
Participant 5 IT Manager Organisation B					
Participant 6 Middle Manager Organisation B	1				
Participant 7 Line Manager Organisation A					
Participant 8 Office Assistant Organisation B		1			
Participant 9 Project Analyst Organisation B					
Participant 10 Assistant Accountant Organisation B					
Participant 11 Line Manager Organisation B					
Participant 12 Admin. Assistant Organisation B				1	
Participant 13 Accountant Organisation A		1			
Participant 14 Assistant Accountant Organisation A		1			
Participant 15 Business Analyst Organisation B					
Participant 16 Technical Officer Organisation B					
Total	1	4	0	2	0

Question 4: Did the implementation process at work impact upon your personal life?

As can be seen in Table 28, the participants who answered the question were divided with eight reporting that the implementation did impact upon their personal lives and six reporting that it did not. No qualitative comments were given for this question.

Table 28: Impact of implementation on personal life

Question 4:	Did the implementation process at work impact upon your personal life?	
Participant No., Position & Original Organisation.	**Yes**	**No**
Participant 1 Personal Assistant Organisation A		1
Participant 2 Accountant Organisation B	1	
Participant 3 Line Manager Organisation A	1	
Participant 4 Commercial Manager Organisation B	1	
Participant 5 IT Manager Organisation B	1	
Participant 6 Middle Manager Organisation B		1
Participant 7 Line Manager Organisation A		1
Participant 8 Office Assistant Organisation B		1
Participant 9 Project Analyst Organisation B		
Participant 10 Assistant Accountant Organisation B		1
Participant 11 Line Manager Organisation B	1	
Participant 12 Admin. Assistant Organisation B	1	
Participant 13 Accountant Organisation A	1	
Participant 14 Assistant Accountant Organisation A	1	
Participant 15 Business Analyst Organisation B		1
Participant 16 Technical Officer Organisation B		
Total	8	6

Question 5: How would you rate the influence of the implementation on your personal life?

As can be seen in Table 29, four participants reported that the implementation had some slight influence on their personal life and three indicated a moderate affect. Reported examples of these affects included having less time for themselves and affects on their self-confidence. The one participant who reported that the implementation influenced their personal life to a great extent indicated that this was due to his job being made redundant. There did not seem to be any relationship between participants' positions and impact on their personal lives.

Table 29: Degree of influence of implementation on personal life

Question 5:	**How would you rate the influence of the implementation on your personal life?**				
Participant No., Position & Original Organisation	**Slightly**	**Moderately**	**Considerably**	**To a Great Extent**	**Completely**
Participant 1 Personal Assistant Organisation A					
Participant 2 Accountant Organisation B				1	
Participant 3 Line Manager Organisation A	1				
Participant 4 Commercial Manager Organisation B		1			
Participant 5 IT Manager Organisation B	1				
Participant 6 Middle Manager Organisation B					
Participant 7 Line Manager Organisation A					
Participant 8 Office Assistant Organisation B					
Participant 9 Project Analyst Organisation B		1			
Participant 10 Assistant Accountant Organisation B					
Participant 11 Line Manager Organisation B	1				
Participant 12 Admin. Assistant Organisation B	1				
Participant 13 Accountant Organisation A					
Participant 14 Assistant Accountant Organisation A		1			
Participant 15 Business Analyst Organisation B					
Participant 16 Technical Officer Organisation B					
Total	**4**	**3**	**0**	**1**	**0**

Qualitative comments concerning the influence of the implementation on personal life included:

"In terms of just having less time for me as more time was spent at work. Spent exceptional amount of energy ensuring that my personal life didn't impact work, employees etc – that actually took quite a bit out of me." (P4, Commercial Manager, Organisation B)

My inability to adapt to the change had an impact on my self-confidence. Fortunately, my previous experience with change stopped me from taking this too seriously." (P9, Special Project Analyst, Organisation B)

Correlations between personal circumstances and evaluation variables

The only significant correlation between personal circumstances and the evaluation variables was a negative correlation between the rated affect of the change program on participants' personal lives and their attitude to future change ($r = -.75$, $p < .05$).

Summary of results on personal circumstances

Relatively few participants reported that events in their personal lives affected they way they coped with the change. However, the fact that about half of the participants indicated that there were affects of the change on their personal and that there were significant correlations between this variable and both rated coping with the change and attitude to future change, suggests that organisations might be well advised to check whether employees affected in this way could benefit from some assistance or allowance being made during a major change, particularly those who may be crucial to its successful implementation.

10. Impact of other changes in the organisation

Question 1: Did you experience any other organisational changes at your organisation besides the implementation of the new system?

As can be seen in Table 30, 11 out of 12 participants who answered the question reported that they experienced other types of organisational changes as well as the implementation of the new system. These changes included taking on extra responsibilities, a new

organisational structure, working with contract staff, dealing with the mass exodus of long serving staff and the associated closing of some departments and subsequent loss of workmates.

Table 30: Other organisational changes

Questions:	Q1: Did you experience any other organisational changes at your organisation besides the implementation?		Q2: When did the other change/s occur in relation to the implementation?				
Participant No., Position & Original Organisation	**Yes**	**No**	**Long before the implemen-tation**	**Shortly before the implemen-tation**	**At the same time as the implmen-tation**	**Just after the implem-entation**	**Long after the implmen-tation**
Participant 1 Personal Assistant Organisation A		1					
Participant 2 Accountant Organisation B	1			1	1		
Participant 3 Line Manager Organisation A							
Participant 4 Commercial Manager Organisation B							
Participant 5 IT Manager Organisation B	1						
Participant 6 Middle Manager Organisation B	1				1	1	1
Participant 7 Line Manager Organisation A	1			1			
Participant 8 Office Assistant Organisation B	1			1			
Participant 9 Project Analyst Organisation B	1				1		
Participant 10 Assistant Accountant Organisation B	1			1			
Participant 11 Line Manager Organisation B	1				1		
Participant 12 Admin. Assistant Organisation B	1		1				
Participant 13 Accountant Organisation A	1					1	
Participant 14 Assistant Accountant Organisation A	1				1		
Participant 15 Business Analyst Organisation B							
Participant 16 Technical Officer Organisation B							
Total	**11**	**1**	**1**	**4**	**5**	**2**	**1**

Qualitative comments concerning other organisational changes included:

"Lots of redundancies and the loss of experienced staff being replaced by novice with no knowledge or experience at the new centres in Adelaide." (P2, Accountant, Organisation B)

"I reported direct to the Managing Director, I became very involved in the corporate systems at a senior level. I gained experience with computers, and this encouraged me to commence further studies in computer science. I am now the IT Manager." (P5, IT Manager, Organisation B)

"I was relieving my manager at the time so I had extra responsibilities and pressures at the same time." (P8, Office Assistant, Organisation B)

"Because the office will be downsized once all the changes have been made, the organisation has not taken on or replaced any permanent staff. Most staff are contract workers – some long term – others much shorter." (P10, Assistant Accountant, Organisation B)

"The new organisational restructure had a big impact on my role. The organisation was essentially split into three separate companies. It was a big learning curve to grasp the impact of this and how it affects each project I work on." (P9, Special Project Analyst, Organisation B)

"Mass exodus of long service staff." (P13, Accountant, Organisation A)

"Previous department became obsolete and new share processing centre replaced it." (P14, Assistant Accountant, Organisation A)

Question 2: When did the other organisational change/s occur in relation to the implementation of the new system?

As can be seen in Table 30, nine of the 11 participants reported that the organisational changes occurred either shortly before or at the same time as the system implementation. There were no qualitative comments for this question.

Question 3: Did these other changes impact upon your involvement in the implementation?

Table 31 indicates that six out of nine participants who answered the question reported that the other changes impacted upon their involvement in the system implementation, some of which were due to redundancies and increased stress.

Table 31: The impact of other changes on the implementation

Questions	Q3: Did these other changes impact upon your involvement in the implementation?		Q4: If yes, did it impact in a positive or negative way?	
Participant No., Position & Original Organisation	**Yes**	**No**	**Positive**	**Negative**
Participant 1 Personal Assistant Organisation A				
Participant 2 Accountant Organisation B	1			1
Participant 3 Line Manager Organisation A				
Participant 4 Commercial Manager Organisation B				
Participant 5 IT Manager Organisation B				
Participant 6 Middle Manager Organisation B				
Participant 7 Line Manager Organisation A	1			
Participant 8 Office Assistant Organisation B		1		
Participant 9 Project Analyst Organisation B		1		
Participant 10 Assistant Accountant Organisation B	1		1	
Participant 11 Line Manager Organisation B	1			1
Participant 12 Admin. Assistant Organisation B		1		
Participant 13 Accountant Organisation A	1			1
Participant 14 Assistant Accountant Organisation A	1			1
Participant 15 Business Analyst Organisation B				
Participant 16 Technical Officer Organisation B				
Total	**6**	**3**	**1**	**4**

Qualitative comments concerning the impact of other changes included:

"I now have to find a new job after being made redundant after many long years of service." (P2, Accountant, Organisation B)

"Continual changes in staff make people more flexible and multi-skilled." (P10, Assistant Accountant, Organisation B)

"Increased the stress involved in the implementation as became part of the major department that was handling the queries regarding the system." (P14, Assistant Accountant, Organisation A)

"Too much too quick." (P11, Line Manager, Organisation B)

Question 4: If yes, did it impact in a positive or negative way?

Table 31 indicates that, of the six participants who reported that other organisational changes impacted upon their involvement with the system, four reported that it impacted upon them in a negative way.

Correlations between effects of other changes and the evaluation variables.

There were no significant correlations between the variables concerned with the effects of other changes on the implementation and any of the evaluation variables.

Summary of the results on the impact of other change initiatives

Nearly all participants reported that they experienced other organisational changes besides the implementation of the system. The majority reported that these other changes occurred at the same time or shortly before the system implementation and 25% indicated that they impacted upon their involvement of the implementation of the new system in a negative way.

While there were no significant correlations with the evaluation variables, and while the numbers in the present study were very small, 25% would seem to be a relatively large percentage to be reporting negative effects. While some of the reported changes such as restructuring often cannot be avoided when organisations are going through a major change, this result would suggest that they should whenever possible, try to avoid implementing more than one change at a time and/or take extra care with employees when multiple changes occur in the organisation at the same time, particularly those critical to the success of the change program.

Discussion

The results of this study were limited by the fact that they were based on a small number of participants and a large number of variables. Accordingly, the results for each section of the questionnaire are discussed with respect to their use in a larger study that would be needed to confirm their potential implications for managing employee acceptance of organisational change. The limitations of this study are discussed further below.

Section 1: Demographic variables

The only demographic variables that could be correlated with the other variables were age and length of employment. Given the number of correlations, the one significant correlation found with the other variables could easily be due to chance. There were insufficient numbers of subjects to analyse demographic variables like gender, whether participants came from organization A or B and position. However, both quantitative and qualitative data suggested that position in the organisation, particularly those in managerial positions compared with more junior positions, might be related to a number of variables like communication in a larger study and would appear to be worth further exploration.

Section 2: Involvement in Prior Change

The majority of participants in this study had experienced prior organisational change and reported that this experience, even when negative, assisted them in coping with the present change. However, a larger study with more equal numbers of participants with and without prior experience would be needed to confirm whether such experience would significantly facilitate coping with change.

Section 3: Evaluation of the change

While relatively few participants felt more positive about the new system at the end of the implementation, most of them nonetheless reported that they felt positive about future change programs. However, the results also indicated that those who thought they had

coped better with the present change were more positive about a future change. This suggests that, in spite of generally positive attitudes towards future change amongst participants, a change process that is easier to cope with is likely to lead to more positive acceptance of future change.

While overall, most participants did not rate the implementation as successful in terms of either its effect on morale or in terms of the change process, there were marked differences between individuals in their perceived levels of success. The results of this study suggest that variables like communication, organisational culture, coping and personal circumstances may account for some of these differences.

The fact that none of the evaluation variables in this study correlated significantly with each other might suggest that participants evaluated different aspect of the program differently, but this result may also have been due to the generally negative responses and the small number of participants.

Section 4: Communication

The communication variables tended to correlate together suggesting a common factor. They also correlated with the evaluation variables, suggesting that how communication is evaluated may be related to employee acceptance of the change.

Only about half of the participants reported that the communication material was informative and the process successful. There were many negative comments such as not always having the opportunity to ask questions and when they did, not receiving adequate answers. The data also revealed a discrepancy between what the Project Manager said employees received and what employees reported receiving. The discrepancy seemed to be due to middle management not passing information onto their staff and the Project Manager not checking whether the information had been passed on. In spite of a number of different methods of communication being used, none of them reached more than 11 of the 16 participants.

When asked how they would have communicated the changes, participants reported that they would have provided more comprehensive information, including the benefits of the change, job loss and new work roles.

The above results are consistent with the literature in regard to the concerns that employees have when they are experiencing changes such as organisational mergers. Schwieger, Ivancevich & Power (1987) studied organisational mergers and found that employees were most concerned about a lack of accurate information, especially about their own jobs in the new organisational structure.

While the organisation attempted to put an informative communication process in place, it failed to set up an appropriate mechanism to ask for feedback and to answer employees' questions in an effective and informative way.

Research suggests that a feedback mechanism that invites employees to be a part of this process is extremely important for dealing with resistance during times of organisational change. Kotter & Schlesinger (1979) suggest that organisations should provide information about change through one on one discussion. These discussions should inform staff of the need and rationale behind the change. They also suggest that it is important to allow those employees who are affected by the change to have a voice in how the change will occur by allowing (and encouraging) participation in the change design and implementation (Kotter & Schlesinger, 1979). The importance of participation is also supported by Porras & Hoffer (1986). They identified 'generating participation' as one of the common behaviours in successful organisational development programs. This includes; involving employees who have the necessary expertise, using action plans and designating employees to each action, using workshops to facilitate input from employees regarding proposed changes, and providing work tasks that provide meaningful work and responsibility for employees

Section 5: Leadership Style

The participants in this study came from different divisions and offices so they were all reporting on different managers. Positive aspects of their manager's behaviour included; explaining the reason for the change, involving staff in the change process, and answering staff questions. Negative behaviours included not explaining how the change would affect employees and not holding regular meetings where staff could ask questions and receive answers. The number of negative behaviours rather than positive correlated with rated success of the manager. The emphasis on communication behaviours in participants' comments is consistent with the significant correlation between rated success of the manager and rated success of communication.

While most participants felt that they could ask their leaders questions about the change less than half rated their managers as successfully handling the change process.

There has been much research in regard to leadership and change and how a manager's leadership style can influence an employee's acceptance of change (Bennis & Nanus, 1985; Yukl, 1989). The leadership style often referred to in regard to change is transformational, where the leader is person-oriented, can motivate staff and empower them, and provide a sense of emotional support during the organisational change process (Bennis & Nanus, 1985). This is accomplished partly by talking to staff and listening to their concerns (Bass, 1990; Bennis & Nanus, 1985; Conger, 1989; Yukl, 1989). Porras & Hoffer (1986) also suggest that leaders need to continually articulate the organisation's purpose, goals, values and standards and the means by which they are to be implemented operationally. They also need to set up feedback mechanisms to find out if the vision is being implemented (Porras & Hoffer, 1986).

It is interesting to note that in this study some of the positive behaviours participants described in their managers were transformational including; involving staff in the change process, listening to their concerns, answering their questions, explaining the implications of the change and holding regular meetings.

Section 6: Organisational Culture

There was a strong suggestion in the results that the organisational culture variables were influenced by whether participants were from organization A or B. For example, while nearly all participants described their organisation's culture, prior to the implementation of the new system, as providing training and development, only half described it as having a strong sense of history and the majority of these participants were from Organisation A. Similarly, participants were divided as to whether the culture was supportive or unsupportive with four of the five participants that reported it as unsupportive being from Organisation B whereas four of the seven participants that described it as supportive were from Organisation A. These results might also have been be due to the persistence during the implementation of some aspects of the cultures of the original organisations for their former employees.

Organisational culture involves shared expectations, values and attitudes and provides and encourages a form of stability for employees as well as sense of organisational identity (Smircich, 1983). The present results suggest that when organisations are taken over by other organizations, the organisational culture can be disrupted. Experiencing this type of change seemed to contribute to employees feeling a loss of organisational identity and security, as suggested by Smircich (1983).

While more than half of participants reported that the attitudes and beliefs held by their co-workers did not affect the way they personally accepted the new system, those who were affected reported that they were affected in a negative way.

According to at least half or more of the participants, the most important aspects of a supportive culture for change would be one that communicates regularly to its staff, provides informative communication, provides education about the change, allows employees to participate in the change process and, most importantly, allows employees to express their opinions without fear of negative consequences. These results are consistent with Kotter & Schlesinger's (1979) research that education and communication,

participation and involvement, and facilitation and support are all strategies that can help to reduce employee resistance to change.

In regard to the overall rating of the organisational culture, participants were divided with five rating the culture as unsupportive of the implementation and seven rating it as supportive. Again, these individual differences may reflect the persistence of the previous cultures for some participants.

Section 7: Training

All but one participant (who did not answer the question) received training for the new system. Most ratings of the training were good or very good with only one "poor" response. The generally good ratings may be partly why quality of training did not relate to any of the evaluation variables.

Nevertheless, a number of negative aspects of training were mentioned including the time delay between the training and the time they had to actually use the system, too much information given too quickly, and no practical application that related back to their daily work. The participants suggested that if the training was more in the context of their work they would have found it more beneficial. This is consistent with the findings of the previous study where the participants of that study also reported that problems arose with training when it was too system focussed and not in context with the participants' work routines. This is consistent with Currid's (1995) research that suggests that when technology training omits information such as how employees can use information from the system to make decisions and to do their job better, employees feel lost. Currid also suggests that people who install computer systems need to understand the jobs and responsibilities of the employees who are using the system in order to be able to tailor training programs appropriately.

The generally negative comments on training were inconsistent with the overall positive ratings of training and suggest that overall ratings may be misleading with respect to the quality of particular aspects of training.

Section 8: Coping Skills

Approximately half of the participants reported that their job was changed as a result of the organisational change process. Changes included: working with new people, reporting to a new supervisor, a larger workload, new work processes, and new geographical location.

Nearly two thirds of those who answered the question reported that they found the implementation process at least moderately stressful. Coping strategies used included talking to their colleagues, management and spouse, and increased time management. In spite of the reported stress, most indicated that they coped well with the change although one third indicated that they would have found coping skills training beneficial. A slighter larger proportion of men reported that they would not have found coping skills beneficial. If this result was found to be statistically significant in a larger sample, it would be consistent with research suggesting that men are less likely to access psychological services unless they are advertised in a way that is congruent with how men are socialised (Robertson & Fitzgerald, 1992).

Research indicates that social support networks can bolster an individual's self-esteem and assist them in coping with a stressful event (Holohan & Moos, 1987). One source of social support is an individual's family. There is a considerable amount of research suggesting that individuals with a supportive family tend to cope more effectively with stress (Billings & Moos, 1984). The results from the present study are consistent with this research in so far as most participants used work colleagues and family to help them cope.

The present findings, if replicated in a larger sample, would suggest a need for organisations to consider whether at least some employees need to be given assistance to cope with the stress associated with organisational change. This could be very important for individuals whose roles are critical to the success of a change program. Organisations can assist employees to cope with change by empowering individuals to take control of their situations, by providing timely and accurate information, by using transformational leaders, by establishing support teams and providing stress management programs (Callan, 1993).

Section 9: Personal Circumstances

Only two participants indicated that their personal life negatively affected the way they coped with the change and a third person indicated a positive effect. The rated extent of these affects was moderate in one case and great in the other two (one of which was negative and one positive). Four others indicated a slight or moderate affect that they presumably did not see as constituting a significant effect. While only two indicated a negative affect one was rated as being "to a great extent". An affect of this latter kind could be very important to an organisation if that person's role was critical to the success of the change.

Research also suggests that changes at work often contribute to family conflict (Schweiger & Ivancevich, 1985). Consistent with this research, half of the participants answering the question reported that the implementation had an affect on their personal lives. While most affects were slight to moderate one reported the affect as being "to a great extent". In this case the participant had to tell his family that he was made redundant at the same time as his wife had an illness to cope with. Research suggests that organisational changes can impact negatively upon the family's capacity to provide important social support to the individual who is going through the change at work (Luo & Cooper, 1990).

Interestingly, the rated effect of the change on personal life was significantly related to a to both rated stress of the change and attitude to future change. These results suggest that attempts to facilitate employee acceptance of change programs need to consider the impact of such programs on employees' personal lives.

Section 10: Impact of other changes in the organisation

The majority of the participants reported that they experienced other changes besides the implementation of the new system. These tended to occur just before or during the change program and included a new organisational structure, working with contract staff and dealing with the exodus of long serving staff. Twenty five percent of participants

reported that these other changes impacted negatively on their involvement with the new system. Although there were no significant correlations between this effect and the evaluation variables, this result suggests the need to minimise other changes, where possible. Unfortunately, many organisations now are required to experience many changes at once; for example, an organisation may experience a merger, an organisational restructure as well as a reduction in the workforce (Iaconvini, 1993).

Differences Between Positions

While there were insufficient numbers of participants in the various positions to assess the statistical significance of this variable, the results suggested that there might be differences between positions with respect to a number of the variables including current experience of change, communication and coping strategies.

For example, while participants were mostly divided when asked how successful or unsuccessful the change program was in terms of new processes, those who reported the change program as successful tended to be in more senior positions.

Similarly, participants were divided in terms of how successful the communication was and how informative it was, with most of the participants who rated the communication as informative being senior staff. Again, this is not surprising as qualitative evidence from this and the previous study suggested that the senior staff received the communications to keep them up to date but failed to pass them on to their employees. In particular, the IT Manager who was part of the implementation team and administered much of the communication had a much more positive view of the success of the communication process than the other participants. The IT manager also reported that the implementation team actively encouraged discussion and used road shows to provide information and forums for open debate about the new system. This contrasted with the views of other participants who reported that the communication process could have been more comprehensive.

Finally, while the types of coping strategies used included talking to colleagues, talking to family and talking with management, those participants who talked to management as part of a coping strategy tended to be senior staff. This may indicate that the more junior staff did not feel comfortable speaking to the management about their concerns or any questions they had.

These results taken together, suggest that position in the organisation would be a variable worth investigating in a larger study of employee acceptance of change.

Implications for the implementation of change in organisations

While the present results are limited by the small and unrepresentative sample and by the number of variables and statistical tests performed, the correlations that were significant together with the qualitative comments are consistent with a number of recommendations that have been made to improve employee acceptance of a change program.

Consistent with previous research (Porras & Hoffer, 1986), the present results suggest that to deal effectively with resistance to change organisations need a communication process that has a feedback mechanism and which invites and encourages employees to be part of the communication process. They also need to provide the employees with regular and informative communication that includes the rationale for the change, the affects the change will have on them and the benefits of the change. This information needs to be distributed in a timely fashion to ensure employees are kept up to date and prepared for significant aspects of the change, eg when training is going to start.

In regard to the impact of leadership on acceptance of change, the results are consistent with research that suggests that a transformational style is effective during times of change (Bass, 1990; Bennis & Nanus, 1985; Conger, 1989; Yukl, 1989). The results indicated that certain characteristics of the transformational style, such as being positive about the change process, involving staff in the change process, listening to employee concerns, answering questions and providing employees with up to date information were considered by employees to be effective during the change process. It may be useful for

organisations to provide training in these areas for leaders who are about to implement change within their organisations since some managers in the present study did not have these characteristics and the success of change programs often depends upon the majority of leaders having these positive leadership characteristics (Bass, 1990; Bennis & Nanus, 1985; Yukl, 1989).

In regard to organisational culture and organisational change, the results were consistent with research that suggests that culture can be disrupted by mergers and that this may cause employees to feel a loss of identity within the organisation and a lack of security (Miller & Yeager, 1993). It is important for managers to monitor their group's culture and actively promote aspects of it that integrate the group and socialise new employees. This can be done by elaborating on history and communicating new norms and values, setting up a reward system that rewards desired behaviours and attitudes and by recruiting new staff that fit into the new culture. It may also be beneficial if organisations only implement those changes that are necessary thus allowing time for employees to digest one change before having to prepare and cope for the next change.

In regard to training, the present results suggest that organisations need to conduct training close to the time that they intend to roll out their new system so that new information is retained in the employees' minds. It is also important that the training is in the context of their daily work routine. For example, new terminology should be related back to the old terminology so the employees can learn the language more quickly. The fact that overall ratings of training were positive but that participants nevertheless made a number of negative comments and suggestions for improvements suggests that evaluations of training should not be restricted to simple overall ratings.

The results on how employees cope with change suggested that they do so through social support mechanisms at work and at home. Organisations may find it beneficial to provide employees with either formal or informal opportunities to talk to their managers and other staff in regard to the change and how it is personally affecting them. Organisations might consider training their managerial staff in this type of communication, and implementing an employee assistance program whereby they can provide training in coping skills. This,

however, is dependent upon an employee's willingness to accept help and only one third of participants in the present study thought that training in coping skills would be beneficial. As mentioned previously, if organisations plan on implementing self help programs they may need to have a work type focus (eg career assistance, time management etc.) rather than traditional names that are used for psychological services (eg coping with change).

The results suggested that the personal lives of at least half of the sample were affected by the implementation and that this in turn was related to coping and attitude to future change. Managers may find it useful to be aware of the impact that implementations can have on employees' personal lives and recognise when an employee may need extra assistance. Managers may need to be provided with training to develop these skills. Again, in this case it may be appropriate to refer the employee to an employee assistance program for extra help.

Limitations of the research

A limitation of this research was the poor response rate. 700 employees were emailed the question but only sixteen responded. To avoid this a pilot study could have been used to test this form of questionnaire distribution. However, this did not seem to be needed at the time of the survey, as prior organizational surveys that were distributed by email in this organization had resulted in a good response rate. An email reminder was sent out via the manager but this did not result in any additional responses.

Future Research

The results found in this study suggest that it would be useful to look at the factors identified in terms of a larger sample that would enable a more detailed analysis to be carried out. The diversity of views amongst participants also suggests that it would be useful to further investigate differences between participants in different positions within the organisation.

CHAPTER 10: Study Four

A QUANTITATIVE AND QUALITATIVE STUDY EXPLORING ORGANISATIONAL FACTORS AFFECTING EMPLOYEE ACCEPTANCE OF NEW INFORMATION TECHNOLOGY

Introduction

The results from the previous study (Study three) suggested that factors such as experiencing prior organisational change, communication, training, organisational culture and leadership have the potential to impact upon an employee's acceptance of organisational change. The results also suggested that these affects might differ depending on the employee's position in the organization.

A major problem with the previous study was its small sample size (N = 16). Possible reasons for the low return rate included the fact that employees had previously completed questionnaires on the change program and may have been reluctant to fill out another one, the length of the questionnaire and the inclusion of questions concerning personal affects. Accordingly, in order to obtain a larger sample, the present study used a shorter questionnaire that was given to employees in a different organization that might be more willing to complete a questionnaire on a change program.

The Organisation

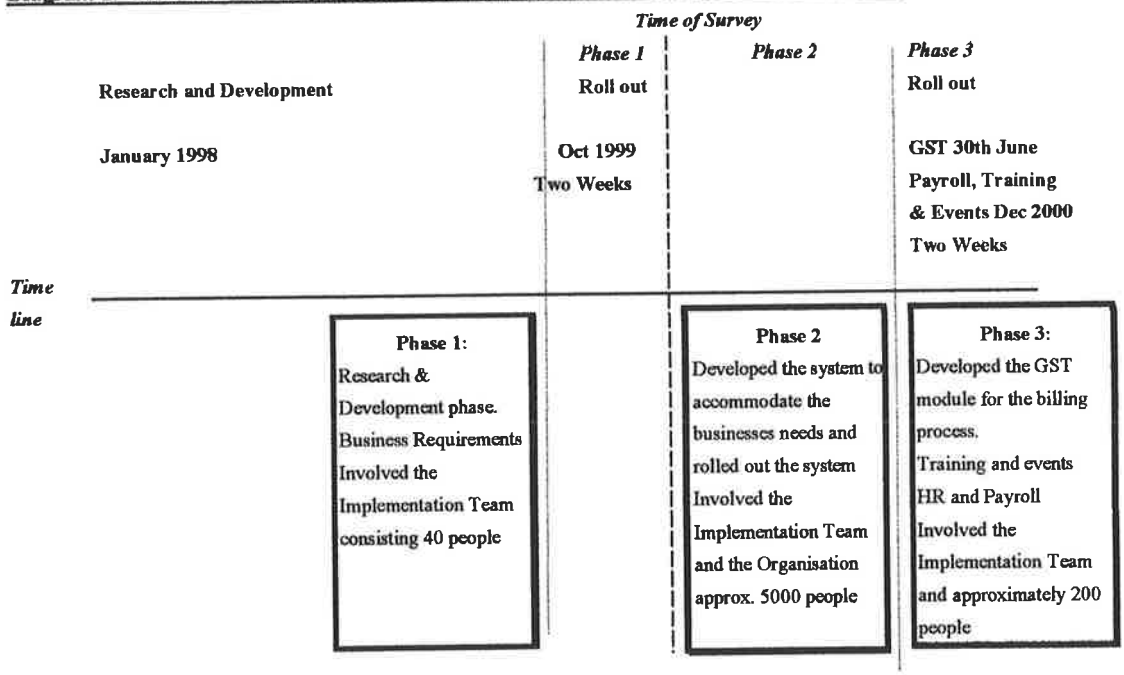
The organisation used in the present study was a national accounting firm with approximately 4500 employees. The survey was conducted in the Adelaide office where there were approximately 250 employees. At the time of the survey, the organisation had been using the new information system for approximately three months.

The purpose of the new IT implementation was to replace the organisation's old practice management system in preparation for the year 2000. The implementation was conducted over three phases. However, at the time of this survey, the participants had only experienced the rollout of Phase 2. The first phase was the research and development phase in which the IT Implementation Team consulted with management to obtain information in regard to its IT business needs.

The second phase was to configure the IT system so that it would be able to meet the business' needs. At the end of Phase 2 the Implementation Team rolled out the system and provided access to it for a limited number of users, mainly secretarial staff and practice services staff. The term "rolled out" means the actual implementation of the system into the organisation. There was limited access in order to check that the system was robust and to correct any errors that might occur. The intention was that the system would be rolled out to the entire organisation at a later date. At this stage, the secretarial staff had access to processing bills and producing reports and the practice service staff had access to open client codes, open job codes, process accounts receivable and accounts payable, and process timesheets. As the Managers and other staff did not have access to the system, they had to rely on the secretaries to get access to client and job reports.

In Phase 3, the implementation team rolled out the GST product for the billing process, a product called "Training and Events" which was a database that captured all the training sessions for the organisation. The employees of the organisation were not impacted greatly from the roll out of Phase 3, as only the five pay roll staff needed training and new work processes. Diagram 1. summarises each phase and when the roll-outs took place

Diagram 1: Flow chart of the phases of the Implementation and the content of each phase:



Methodology

The same combined quantitative and qualitative methodology as in the previous study was chosen for this study. As in the previous study, the qualitative questions were used to identify employee's meanings and descriptions of factors that affected their acceptance of new technology within their organisation (Minichiello, Aroni, Timewell & Alexander, 1995). The results section provides a selection of qualitative responses associated with relevant questions with the full range of responses being provided on the accompanying disc. The questionnaire was based on the results from the previous two studies and the relevant literature in regard to organisational variables such as communication, training. leadership and culture (Bass, 1990; Bennis & Nanus, 1985; Conger 1989; Dunphy & Stace 1990; Kotter & Schlesinger, 1979 and Schein, 1990). However, it became apparent that the organization was reluctant to allow assessment of leadership so that, unfortunately, this variable had to be removed from the study.

Participants

The participants were selected to ensure that had all experienced the change process and that they represented the major positions within the organisation (eg Partner, Senior Manager, Manager etc.). The questionnaires were sent by mail to four "champions of change" (the term "champions" refers to people within the organisation that act as system experts and assist employees and drive the change) within the firm and they were asked to invite appropriate participants to fill in the questionnaires. The four "champions" were part of the implementation team and their role was primarily to train and provide coaching to individuals who were new to the system. These participants were Partners, Senior Managers, Managers, Accountants, Consultants, Secretaries and Practice Service Staff. The "Champions" were people who had a high profile and could encourage participation in the study. A letter was attached from the researcher explaining the purpose of the research, and advising them that their consent was assumed if they filled the questionnaire in and returned it. The participants were advised that they could withdraw from the study at any time and that the results would be completely confidential and anonymous. They were also provided with instructions to send the questionnaire back to the researcher via internal mail. Follow up reminders for the participants were issued via email after a two-

week period. The participants were followed up once after the first round of questionnaires was sent. These follow ups only produced a minimal addition to the response rate with only one or two more questionnaires being returned.

Eighty employees were sent questionnaires, and 52 responded with equal numbers of males and females. The response rate of 65% was a dramatic improvement over the previous study's 2% response rate. The numbers in each of the positions can be seen in Table 1.

Table 1: Individuals per group and gender

Position	Male	Female	Total
Partner	5		5
Senior Manager	9		9
Manager	9	3	12
Accountant	3	8	11
Consultant		5	5
Secretarial/Practice Service Staff		10	10
Total	**26**	**26**	**52**

Questionnaire

The questionnaire consisted of questions that required the participants to answer yes or no, or to use a likert scale to rate their responses. They were also asked to provide qualitative comments on their answers to some questions. The participants were required to provide personal information such as gender, age, education level, and length of employment and their position within the organisation. Participants were assured that this information would only be used in the context of group results. The questionnaire then went on to ask questions about specific factors that may have influenced their acceptance of the organisational change.

Based on feedback from some participants in Study three that the questionnaire was too long and the lack of responses to questions on personal affects, the original questionnaire was changed to concentrate on the major organisational variables. This is not to imply that variables concerned with personal affects are not important since the results of the previous study suggested that these variables could play an important role in determining some employees' acceptance of change. However, personal affects might be better

examined in a separate study that included the use of interviews to provide the more personal qualitative data required to make recommendations concerning how such affects might best be managed during a change program.

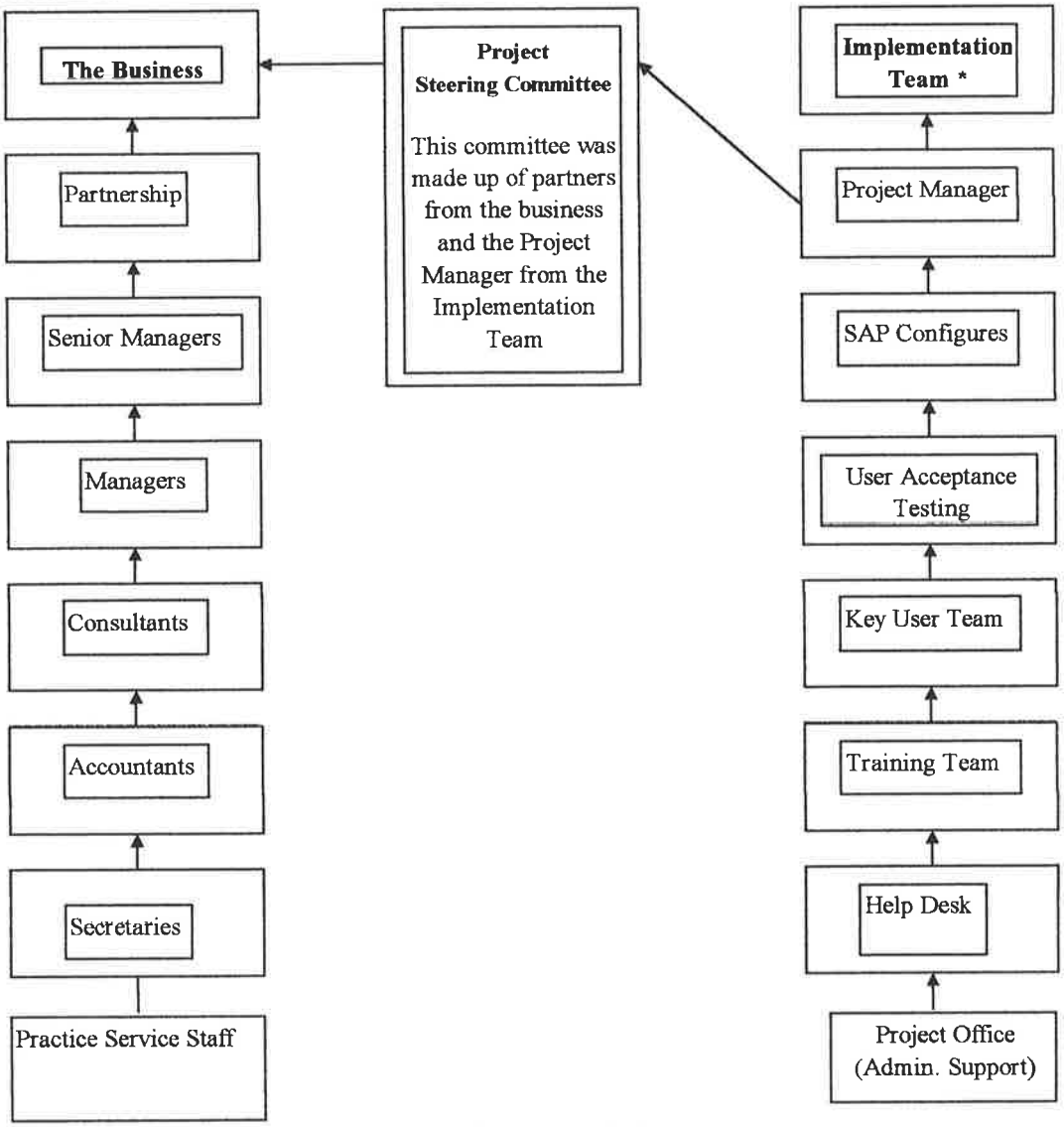
The leadership questions were omitted on the organisation's request due to the sensitivity of the project and the fact that some managers' were concerned that it would impact on their careers. The sections on involvement in prior change and organisational culture were shortened slightly by omitting some questions that seemed to provide redundant information.

The above omissions allowed additional questions to be added to the communication, working relationship, culture and training sections. A copy of the original questionnaire can be found in Appendix C and the final questionnaire used in this study can be found in Appendix F.

Participant positions and roles in the change process

There were eight categories of participants: Partner, Senior Manager, Manager, Accountant, Consultant, Practice Service staff, Secretaries and Other. As can be seen in Diagram 2, within the hierarchy of this firm, Partners are individuals who jointly own the firm. Senior Managers are directly beneath Partners in the hierarchy, Managers are beneath Senior Managers, followed by Accountants. The firm has a Management Consulting Division consisting of Partners, Senior Managers and Managers and a level of staff called "Consultants". Consultants are likely to be professional employees that have been within the firm for at least two years. In regard to non-professional staff, the two groups within the participants are the Secretarial and the Practice Service staff who provide an administration function. The Secretarial group provide secretarial services to a Division that consists of a Partner, Senior Managers, Managers and Accountants or Consultants. They provide general secretarial duties such as drafting bills, making appointments, typing letters and providing general support and answering queries to their Division. There is usually only one Secretary per Division. However, a large Division may also have access to additional clerical assistance.

Diagram 2: Organisational structure in terms of the Implementation Team and how they related to the Business.

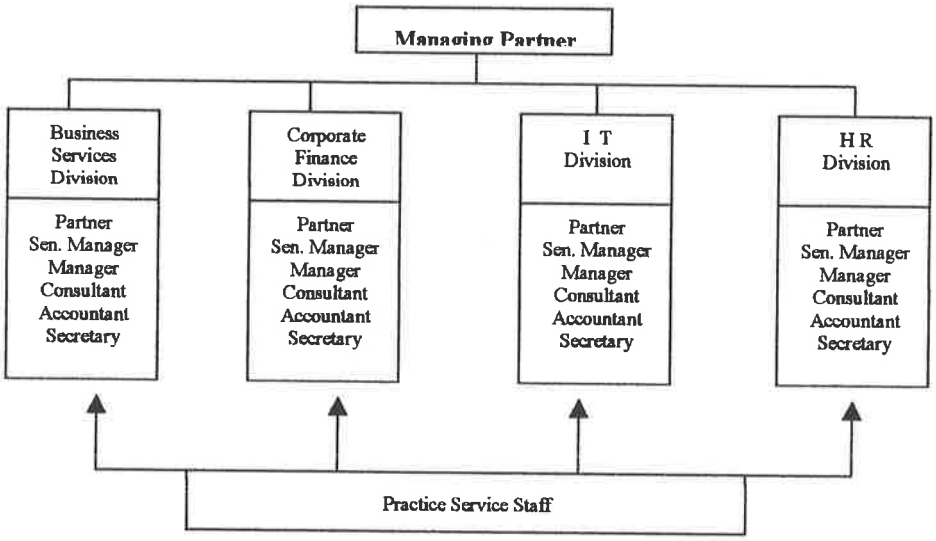


* *The implementation Team consisted of employees from the business that were seconded onto the project for up to two years. The employees were representatives of all the different divisions within the business and consisted of employees from all levels.*

The Practice Service staff enter data from employees' timesheets, raise final bills, process staff reimbursements etc. The Practice Service staff provide services to the entire firm and have a team of approximately 25 people. They are all located on their own floor and work next to one another. The questionnaire had a section called "other" to capture any other position that was not in the categories provided. These may have included clerks or mail room personnel.

The Secretaries and Practice Service staff have the most access to the system and use it the most. For example, Secretaries have access to printing off reports such as the work in progress (WIP) report and processing draft bills. The professional staff do not have access to these functions but need to request a report from their Secretaries and read it in order to manage their client work. Many of these reports from the new system were inaccurate, thus making it very difficult for Managers to manage their client work. There were also many changes in regard to new forms that the professional staff had to fill out in order to raise a bill and request a report to be printed out. These were new work processes that were introduced as part of the new system.

Diagram 3: Organisational Chart of the organisation used in the study.



The Implementation Process

As already briefly indicated, the purpose of the implementation was to replace the organisation's old practice management system that captured information about clients, jobs, work in progress, time sheet information, accounts payable and receivable and processed bills. The implementation was conducted over three phases.

The first phase was the research and development phase whereby the Implementation Team consulted with Business management to obtain information in regard to their business needs.

The Phase 2 the system was to be configured so that it would be able to meet the Business' needs. At the end of Phase 2 the Implementation Team "rolled out" the system and provided access to a limited amount of users, mainly Secretarial staff and Practice Service staff. This kind of access was used in order to ensure that the system was robust and to iron out any errors that may occur. The intention was that the system would be rolled out to the entire organisation at a later date. At this stage the Secretarial staff had access to processing bills and were able to produce reports. The Practice Service staff had access to open client codes, open job codes, process accounts receivable and accounts payable and processing timesheets. As the Managers and other staff did not have access to the system, they had to rely upon the secretaries to get this information for them.

In Phase 3, the Implementation Team rolled out the GST product for the billing process, a product called "training and events" which was a database that captured all the training sessions for the organisation and payroll. The employees of the organisation were not impacted greatly from the "rollout" of Phase 3 as only the pay roll staff needed training in new work processes in this Phase. Diagram I (on page 3) provides details of each phase and when the roll-outs took place.

The Implementation Team

An Implementation Team was employed by the firm to develop and introduce the new system into the firm. This team was made up of three external consultants and approximately 50 employees of the firm. The internal employees were seconded onto the project for up to two years. This team is referred to as the "Implementation Team" within the results section. The "Business" is referred to as the firm that received the new system. Within the text below, the term "new processes" refers to the new work processes that were put into place to support the new system. For example, there were new forms that needed to be completed in order to open a client code and a job code. This occurs when a client comes to the firm and requests a service. In this instance a client code was opened

up, together with a job code. There were also new processes associated with processing a bill. For example: Managers had to fill in a "Billing Request Form" whereas in the old system they did not need to do this. The terms "change process" and "change outcome" are also used. The change process relates to the processes that the Implementation Team used to implement the new system. These consist of the training and the way the change was communicated. The change outcome refers to the effect of the system itself.

Whilst this study was in progress, it was evident from personal communications that conflict between the implementation team and the business occurred which to some degrees affected the implementation. To start with, the project manager for the implementation team was dismissed half way through the change implementation, there were conflicts over budgetary requirements and resources for the implementation team such as employees from the business being seconded onto the project. Resistance also occurred throughout the implementation from the business, particularly with the manager group who were negative toward the new system.

Results

The results from the questionnaires are described in terms of answers to the questions concerning the seven variables investigated: 1.Demographic variables, 2. Involvement in Prior Change, 3. Evaluation of the change, 4. Communication, 5.Working Relationships, 6. Organisational Culture, and 7.Training. It should be noted that not all participants answered all questions. Accordingly, percentages refer to the number of participants who actually answered the question in each case. Relevant qualitative comments are provided for each question with a full description of all qualitative comments provided in the accompanying disc. Pearson r, Phi coefficient and Chi-square were used to analyse relationships between the variables. Although the number of participants was much greater in this study than in Study two, the number of variables means that significant results, even though based on two tailed tests, still need to be treated with caution. Again, no correction for multiple tests was used given the exploratory nature of the study. Results were interpreted in terms of their overall pattern and consistency with the results of the previous study.

1. Demographic variables

Studies 2 and 3 suggested that participants in different positions differed in their responses to the questions. There were insufficient numbers in the various positions in the present study to compare the results using Chi-square and each of the positions. However, studies2 and 3 also suggested that more senior positions tended to differ in their responses to those in more junior positions. Accordingly, for the purposes of analysis, positions were ranked from 1 to 6 from partner to secretarial/practice service staff.

Length of employment could not be used as a demographic variable as it was evident that some participants gave their length of employment prior to their present organization, some gave their length of employment at their present organization and some gave their total length of employment. Amongst the remaining demographic variables, there were significant correlations between position, age and gender. In particular, position correlated with age ($r=-.57$, $p< .001$) and gender (Phi= .82, $p< .001$). These results are consistent with older males being in more senior positions. While these relationships might seem to make it difficult to identify which factor is most likely to be responsible for any significant correlation with other organisational variables, quantitative and qualitative results of both studies 2 and 3 suggested that it was job roles associated with position rather than the other variables that contributed to differences in the results. Accordingly the present results were examined in terms of the correlations between position and the other variables.

Position in the organisation correlated with three of the five evaluation variables; attitude at present ($r = .32$, $p < .05$), change in attitude from the start to the time of the study 9R = -.43, $p < .005$), and rated success of the outcome ($r = -.43$, $p < .01$). These results suggest that more senior positions had less positive attitudes at the time of the study, were more likely to become more negative and rated the success of the change outcome less.

Position correlated with prior experience (Phi =. 50, $p < .05$). It also correlated with one communication variable; how informative the communication was ($r = 33$, $p < .05$). It correlated with two working relationship variables; whether changes were seen as inconvenient (phi = 63, $p < .05$) and whether participants could see the benefits of the new work processes (Phi = .62, $p < .05$). These results suggest that more senior positions were more likely to have had prior experience of change, were less likely to see the communications as informative, were more likely to see the changes as inconvenient and were less likely to see their benefits.

The above results suggest that more senior positions tended to be more negative in their attitude to, and evaluation of, the change program. However, given the number of variables that position was correlated with, significant correlations need to be treated with caution. In particular, there were relatively few correlations with the other variables given the number of variables for each of the organisational factors.

2. Involvement in Prior Change

The results for this section of the questionnaire are included in Table 1.

Table 1: Prior Involvement in Change, Attitude Change and Success of Change process & Outcome by position

	Q:1		Q:2 Do you feel that experiencing a prior organisational change helped or impaired your acceptance of the new system?				Q:1: As you are aware, Phase 2 of the new system was rolled out in October. Please tick the appropriate box to describe your attitude at the beginning of the Phase 2 rollout and at the present.			
Position	Experi-enced Prior Change		Helped accept-ance of current system	Impaire d accept-ance of current system	Neither Helped nor impaired		Attitude At start of phase 2 (pos, neutral, neg)	Attitude at the present time (pos, neutral, neg)	Attitude Changed to positive	Attitude changed to Negative
Total N = 52	Y	N					Pos N Neg	Pos N Neg		
Partner N – 5	5		4		1		0 4 1	0 2 3		1
Senior Manager N = 9	9		7		2		1 7 1	0 0 9		6
Manager N = 12	10	2	3		7		0 10 1	0 0 11		9
Accnt N = 11	4	7	2		2		1 4 6	1 3 7		1
Consultant N = 5	3	2	2		1		0 1 4	0 2 3	1	2
Secretarial & Practice Service Staff N = 10	6	4	4		2		0 6 4	1 4 5	3	
Total N – 52	**37** 71%	**15** 29%	**22** 59%	**0**	**15** 41%		2 34 17 4% 64% 32%	2 11 38 4% 22% 75%	**4** 12%	**20** 63%

Question 1: Have you experienced an organisational change in the past? (please do not include the change you have experienced recently with the new system).

As can be seen in Table 1, the majority (71%) reported that they had experienced an organisational change prior to the implementation of the new system. As already reported in the section on demographic variables, prior experience was more likely amongst the more senior positions.

Question 2: Do you feel that experiencing a prior organisational change helped or impaired your acceptance of the new system?

Table 1 shows that the majority, (59%) of participants reported that experiencing prior organisational change helped them accept the new system. Reasons given for this included: being prepared for how they would react to change, being better prepared for the unexpected, learning to be flexible, and an understanding that things can be "messy at first" but gradually fit into place. Although position was not significantly related to this variable, there is some suggestion that for the Partner and Senior Manager groups, experiencing prior change helped them more with the other groups being more evenly divided between it being helpful and being neutral. No participant indicated that it had impaired acceptance of the current system.

A selection of qualitative comments included:

"Teaches you to be flexible and adapt to change. You cannot avoid change in a changing world (P2)".

"It prepared me for what to expect, for example; how I would react, how other people would react, and how the organisation would react (SM3)".

"Better prepared for the unexpected, better understanding of other staff's experiences with the change taking place (M5)".

"Made me accept the change more openly (A7)".

"Had experienced a similar change and was anticipating the type of things that occur throughout implementations (C4)".

"From experience, I know everything is so messy at first and slowly it begins to fit into place. Not to fight change but to accept it (PSS8)".

Correlations between prior experience and evaluation variables

There were no significant differences between having prior experience and any of the evaluation variables. Thus there was no evidence that prior experience and whether it was reported as having a positive or neutral affect on the new change program had any influence on participants' acceptance and evaluation of the change program.

3. Evaluation

Question 1: As you are aware, Phase 2 of the new system was rolled out in October. Please tick the appropriate box to describe your attitude at the beginning of the Phase 2 roll out and at the present.

Table 1 shows that about two thirds of participants were neutral in their attitude at the beginning of the Phase 2 roll out with most of the rest being negative. Their attitudes had become much more negative at the time of the study such that three quarters were negative while most of the rest were neutral. Table 1 also shows that about two thirds (63%) of participant reported that their attitude changed to negative in regard to the system while only 12% changed to positive. The most marked negative changes were for senior managers and managers.

Question 2: You have told me about your attitude at the beginning and at the end of Phase 2, I would now like you to describe your attitude during the rollout of Phase 2. If your attitude changed please describe how it changed and why it changed.

Participants reported that their attitudes changed for a number of reasons, which included: their expectations being too high, the problems associated with the system, the volume of information and training sessions, too much paper work associated with the system, the frustrations involved and the system not delivering what was promised.

A selection of qualitative comments included:

"My expectations of the system were greater prior to Phase 2. The emerging problems with the system have dampened my attitude (P1)".

"My attitude towards the system changed to being neutral mainly due to large volumes of information, training sessions which were only OK and realisation that I would only use some forms, some of the time making it easier to forget how to fill them out (SM1)".

"Phase 2 was/is a disgrace. It was not explained properly, it involves too much paper, it is inflexible and it is complex in terms of billing and time recording (M2)".

"It was frustrating for a while, because it was very different from the old system, and we couldn't understand how to use it right away. We had only very basic training (A7)".

"Probably neutral, perhaps negative. I was a little doubtful of the system delivering on what was promised and perhaps even cynical given the "Phase 3 will deliver everything approach" used during information sessions. As I began using the system it seemed to make some processes very complex and increased my frustration with the system (C4)".

"It changed as the system did not live up to my expectations. The actual processing of data is very difficult as the people who provide you with the data find the system hard as well (PSS6)".

Question 3: Overall, how successful or unsuccessful was the change process adopted by the Implementation Team (eg the approach the Team took in order to deliver the new system)?

As can be seen in Table 2, responses were divided with 41% of participants reporting that the change process was successful, 31% being ambivalent and 28% reporting that it was unsuccessful. It can be seen that this variation in responses occurred in all groups.

Table 2: Results of Success of Change Process and Outcome

Success of Change Process and Outcome														
	Q3: Overall, how successful or unsuccessful was the change process adopted by the Implementation Team.							Q4: Overall, how successful or unsuccessful was the change outcome adopted by the Implementation Team.						
	Overall rating of change process							Overall rating of change outcome						
Position	**EU**	**VU**	**U**	**N**	**S**	**VS**	**ES**	**EU**	**VU**	**U**	**N**	**S**	**VS**	**ES**
Partner N = 5			1	1	3					3	2			
Senior Manager N = 9		1	3	3	2				1	4	4			
Manager N = 12	1	3	2	4	2			2	1	7	2			
Accountant N = 11			2	4	4	1				3	3	4	1	
Consultant N = 5				2	3					1		4		
Secretarial/Practice Service Staff N = 10			2	2	5	1				1	3	4		
Total N = 52	**1** 2%	**4** 7%	**10** 19%	**16** 31%	**19** 37%	**2** 4%		**2** 4%	**2** 4%	**19** 38%	**14** 28%	**12** 24%	**1** 2%	**0** 0%

* Key: EU = Extremely Unsuccessful, VU = Very Unsuccessful, U = Unsuccessful, N = Neutral, S = Successful, VS = Very Successful, ES = Extremely Successful.

Reasons given for rating the change as successful included: the transition being well managed, employees being kept informed and employees adapting well. Of those who rated the change process as unsuccessful the reasons given included the system itself and its inflexibility, the continued problems with the system and a lack of information as to why the new system was being implemented. A selection of positive and negative qualitative comments are below:

Some positive comments included:

"The approach was good. We were kept informed (M10)".

"At the training sessions everyone seemed to adapt well (A1)".

"Successful because the new system is up and running. Everyone knows how to use it regarding their own role. However, a lot of information about it prior to training, learning difficulties etc. some overload (C2)".

"Overall, I think it was quite successful. Even if things were unclear to start with as time went on we learned from our mistakes (PSS5)".

Some negative comments included:

"The approach may have been OK but the reality was inflexible, manual and far too much paper work (P2)".

"I don't believe there was an identified change program. Initial communication on the system was good, which I assume was the commencement of the communication plan. However, the early communication heightened expectations and the system has not delivered on those expectations currently. The change program should have picked up on this and dealt with it (SM3)".

"System adopted but continuing problems, timesheet frustrations and lack of reporting mean adoption forced and not positive (M4)".

"I don't know enough about it. I didn't think I was given enough information and would have preferred an explanation as to why it was being done (A9)"

Some ambivalent comments included:

"The transition appeared to be well managed. However, significant problems remain some 6 months after the implementation (SM4)".

"Change process seemed fine, the end result is the problem (M3)".

Question 4: Overall, how successful or unsuccessful was the change outcome adopted by the Implementation Team (eg the new practice management system)?

Table 2 shows that again the results were divided with 46% of participants this time reporting that the overall outcome was unsuccessful, 28% being neutral and 26% reporting that it was successful. It can be seen that Partners, Senior Managers and Managers tended to rate the outcome as unsuccessful or neutral where the other groups tended to rate it mostly as successful. As already indicated in the demographics section, there was a significant correlation between position and this variable. Reasons given for it

being unsuccessful included: more paper work, the system not meeting people's expectations and problems with the reporting system. Reasons given for it being successful were that it seemed to work well and the eventual improvement that the system was going to bring. A selection of "successful" and "unsuccessful" qualitative comments are provided below:

Some of the "successful" comments included:

"Seems to be working well (A9)".

"Moderately successful - I can't see many benefits at present but I can see that eventually it will be better than the previous system (C5)".

Some of the "unsuccessful" comments included:

"We don't have any further information than we had with the other system and there is even more paperwork involved. I estimate it takes 1/2 hour to do one bill (P2)".

"Administration workload has increased dramatically which was the opposite of my expectations. I am still unsure of the reporting from the system. I have no idea currently of how my group is performing - the system cannot give me this information (SM3)".

"At this stage I would say that the system has not improved on the previous system. Until such time as that occurs I do not believe that it can be considered to be successful (M1)".

"I do not have a full understanding of the capabilities of the system therefore expectations were probably quite high. Initial implementation was not as successful as expected, eg system not working on several occasions (A4)".

"At this stage all that appears to have happened is a shift of processes from one system to another. Forms are still completed manually. They are complex and the purpose of much of the information is not clear, therefore the approach I tend to take is if its not mandatory leave it blank - this isn't as good, as it means the value of the information going in is questionable and therefore ultimately the value of information coming out is questionable (C4)".

"At this stage I think we still have a long way to go before this system proves itself as a better, more efficient practice management system. Maybe once things are running more smoothly and we have electronic lodgement of timesheets etc and interaction with the side of the system then it will be more successful (PSS2)".

It is clear from the preceding comments that a major problem was the system itself and its failure to perform as expected.

Question 5: Considering your experience with Phase 2 of the system what is your attitude toward the Phase 3 rollout?

As can be seen in Table 3, large and almost equal percentages of participants reported feeling "neutral" (40%) and positive (39%) about Phase 3, with 21% feeling negative. These differences were apparent across most of the positions. The negativity towards Phase 3 was mainly due to the lack of faith that Phase 3 would bring an improvement, feelings of nervousness that Phase 3 could bring more problems and some participants not receiving information about it.

Table 5: Results of participants' attitude toward future phases of the project

	Question 5: Considering your experience with Phase 2 of the system what is your attitude toward Phase 3 rollout?						
Position	**Extremely Negative**	**Very Negative**	**Negative**	**Neutral**	**Positive**	**Very Positive**	**Extremely Positive**
Partner N = 5				1	2	2	
Senior Manager N = 9			3	5	1		
Manager N = 12	1		4	4	3		
Accountant N = 11			1	6	3	1	
Consultant N = 5		1			3	1	
Secretary/ Practice Service Staff N = 10			1	5	3		1
Total N = 52	**1** 2%	**1** 2%	**9** 17%	**21** 40%	**15** 29%	**4** 8%	**1** 2%

A selection of positive and negative qualitative comments are provided below.

Some positive comments included:

"I expect that the system will deliver anticipated benefits over time but there will be some initial teething problems (P3)"

"We are told that Phase 3 should iron out a lot of the problems/bugs from Phase 2. I am willing to accept this for now and be positive about Phase 3 (M8)"

"It will all be more useful in our job (A7)"

"Looking forward to it - learn more about the system (PSS9)"

Some negative comments included:

"Surely it has to make administration quicker and easier. Phase 3 couldn't be worse could it? (P2)".

"There will need to be a major increase in useability of the system and a resultant reduction in administrative workload for me to change my attitude (SM3)".

"At this stage I don't think it can deliver the final product (M2)".

"I have not received any information on it (A9)".

"I feel a little nervous about what Phase 3 will bring. Will there be more problems, will it mean more work etc? (PSS2)".

Question 6: If you have a negative attitude toward Phase 3, what could the Implementation Team do to make you feel more positive about Phase 3?

This was a qualitative question with most participants commenting on a need for the Implementation Team to: demonstrate how the current problems will be resolved with the system, be honest and realistic about what the system can actually do, and use experienced trainers in the training sessions. A selection of qualitative comments included:

"Demonstrate that current problems are being or will be resolved (P1)".

"Be honest about what the system will actually do in Phase 3. Offer real training courses, not information sessions. Understand that consulting staff are taking on the system while also working in highly stressful jobs (eg our commitment to the system will only occur if it makes our job easier not harder) (SM3)".

"Realistic assessment of where current system sits, well communicated. List of frustrations and how they will be addressed. Information on what next stage will actually deliver (M4)".

"Be realistic about what I can actually expect to change and what will be easier about my job. Simply transferring a manual process which is complex to start with to an electronic format isn't that beneficial (C4)".

"Training performed with experienced presenters. A lot of support from the Implementation Team, not only by phone or email, but in person (PSS8)".

Correlations between the evaluation variables

There were six evaluation variables. Attitude to the change program at the start of phase 2 only correlated with change in attitude from the start to the time of the study ($r = .47$ $p < .001$). The remaining five variables including attitude at the time of the study, change in attitude from the start to the time of the study, rated success of the change process, rated success of the change outcome and attitude to future change did correlate significantly with each other, with the correlations varying from .48 to .71. Thus participants tended to be generally positive or negative about all the user acceptance and change outcome evaluations.

4. Communication

Correlations between the communication variables

There were fourteen communication variables. The only question to which all participants answered "yes" was whether they received information about the change. Of the remaining correlations between the communication variables, about half of them were significant, with correlations varying from .32 to .70, thus suggesting, as in Study three, a general communication factor. The communication variables that correlated with more than half of the other communication variables were having the benefits of the change explained, being

provided with accurate information, how informative the communication was, how successful the communication process was, and the affect of the communication on acceptance of the new system.

Question 1: Did you receive any information about the new system?

As can be seen in Table 4, all the participants received information about the new system.

Table 4: Summary of Communication results by position of participant

	Q1: Did you receive any information about the new system?			Q2: If yes, how was the new system communicated to you?						Q3: Did you have a chance to ask questions and did you receive adequate answers?			
Position	**Y**	**N**	**Not Sure**	**Face To Face**	**Rum-our**	**News Let**	**Memo**	**Mee t ing**	**Web site**	**Cld Ask Qs**	**Rec Answe r**	**Cld Not Ask Qs**	**No An swe r**
Partner N = 5	5			4	1	5	3	4	4	5	2	1	1
Senior Manager N = 9	9			7	2	6	4	5	1	9	3	2	2
Manager N = 12	12			6	1	8	8	4	3	5	2	2	2
Accounta nt N = 11	11			3	2	6	5	6	4	7	2	1	1
Consulta nt N = 5	5			2	2	2	3	2		5	1	1	1
Secretari al/Practic e Service Staff N = 10	10			8	1	3	7	8	2	10	3		1
Total N = 52	**52** 100 %			**30** 58%	**9** 17%	**30** 58%	**30** 58%	**29** 56 %	**14** 27%	**41** 78%	**13** 25 %	**7** 13%	**8** 15%

Question 2: If yes, how was the new system communicated to you?

Table 4 shows that there was no one method by which all participants were communicated with; instead a variety of methods were used. The majority of participants reported that they received communication via newsletters (58%), memos (58%), face-to-face (57%), meetings (56%) with only just over a quarter receiving a communication via the website (27%). It is interesting to note that the only group where all members indicated receiving

the same form of communication was the Partner group who all received newsletters in relation to the implementation of the new system. In no other case did all members of a group report receiving the same form of communication.

Question 3: When information about the new system was communicated did you have a chance to ask questions and did you receive adequate answers?

Table 4 shows that all participants in all groups except for the Manager and Accountant groups reported that they had an opportunity to ask questions. Just over half of the Accountants and just under half of the Managers indicated that they did not have a chance to ask questions. This may have been due to them not being able to attend meetings. This is possible because many Accountants and Managers worked off site and would only come back to the office after hours. With respect to receiving adequate answers, only 25% of participants across the groups reported that they received adequate answers to their questions. Moreover, 15% of participants overall, reported that they did not receive any answers at all.

Question 4: Were the benefits of the new system explained to you?

As can be seen in Table 5, the majority (60%) of participants reported that they did have the benefits explained to them although this varied to some extent across groups. In particular, less than half of the Accountant group reporting that the benefits had been explained to them.

Again, working off site may help to explain why some participants did not receive this information.

Table 5: Summary of data on content of communication

Position	Q4: Were the benefits of the new system explained to you?			Q5: Did you have a chance to discuss how change would affect you?			Q6: Did you have the opportunity to provide input into the new processes?			Q7: Did the Implementation Team listen to your concerns and act upon feedback from your division?		
Total N =	Yes	No	Neu-tral	Yes	No	Neutral	Yes	No	Neutral	Yes	No	Neutral
Partner N = 5	4	1		5			4	1				5
Senior Manager N = 9	5	2	2	2	5	2		8	1	2	2	5
Manager N = 12	7	3	2	6	5	1		11	1	1	2	9
Accountant N = 11	4	4	3	3	5	3		9	1	3	2	6
Consultant N = 5	4	1	0	3	1	1		5	1	2		3
Secretarial /Practice Service Staff N = 10	7	1	2	7	2	1	3	6	1	6		4
Total N = 52	**31** 60 %	**12** 23%	**9** 17%	**26** 50%	**18** 35%	**8** 15%	**7** 13%	**40** 77%	**5** 10%	**14** 27%	**6** 12%	**32** 61%

Question 5: Did you have an opportunity to discuss how the change would affect you?

Table 5 shows that the only group where all participants had an opportunity to discuss how the change would affect them was the Partner group. The remaining groups varied with about half of the Senior Managers, Managers and Accountants reporting that they did not have an opportunity to discuss how the changes would affect them.

Question 6: Did you have the opportunity to provide input into the new processes?

Table 5 shows that the majority of participants in most groups reported that they did not have any input into the new processes. The only group who reported having an opportunity for input were the Partner group where the majority had input, and about one third of the Secretarial/Practice Service Staff group reported having had input into the new processes.

Question 7: Did the Implementation Team listen to your concerns and act upon feedback from your division?

Table 5 shows that the majority (61%) of participants selected "neutral" to this question. This was followed by 27% reporting that the Implementation Team did listen to their concerns, although this percentage was mainly due to the Secretarial/Practice Service Staff group, where the majority (60%) reported that their concerns were listened to.

Question 8: Did the Implementation Team provide accurate information?

As can be seen in Table 6, only 52% of participants overall reported that the Implementation Team provided them with accurate information and 29% were unsure. The Consultant group was the only group where all participants reported that the information was accurate.

Table 6: Summary on the Quality of Communication Received

Position	Q8: Did the Implementation Team provide you with accurate information?			Q9: Did the Implementation Team provide you with regular information about Phase 2?			Q10: Did you know who to call for further information about the new system?			Q11: Overall, how informative or uninformative was the information about the system? I = Informative U - Uninformative			Q12: Overall, how would you rate the success of the communication process? S = Successful US = Unsuccessful		
	Y	N	Not Sure	Y	N	Not Sure	Y	N	Not Sure	I	U	Not Sure	S	US	Not Sure
Partner N = 5	3	1	1	4	1		4	1		4	1		2	2	1
Senior Manager N = 9	5	1	3	6		3	5	3	1	4	2	3	4	2	3
Manager N = 12	3	5	4	5	4	3	9	1	2	3	5	4	4	3	5
Account-ant N = 11	4	2	5	7	2	2	6	2	3	6	1	4	5	1	5
Consult-ant N = 5	5		0	5		0	3	1	1	4		1	3	1	1
Secretarial/Practice Service Staff N = 10	7	1	2	8		2	8	1	1	8		2	10		
Total N = 52	**27** 52 %	**10** 19 %	**15** 29%	**35** 68 %	**7** 13 %	**10** 19%	**35** 68 %	**9** 17 %	**8** 15%	**29** 56 %	**9** 17 %	**14** 27%	**28** 54 %	**9** 17 %	**15** 29%

Question 9: Did the Implementation Team provide you with regular information about what was happening during Phase 2?

As can be seen in Table 6, only about two thirds of participants (68%) reported that the Implementation Team provided them with regular information during Phase 2. Again, the Consultant group was the only group where this was the case for all participants.

Question 10: Did you know who to call for further information about the new system?

Table 6 shows that again only about two thirds of participants (68%), reported that they knew who to call for further information. There was no group where all members indicated this.

Question 11: Overall, how informative or uninformative was the information about the new system?

Table 6 shows that only 56% of participants reported that the information was informative although the percentage was much higher for the Consultant and Secretarial/Practical Service Staff and slightly less for the Senior Manger and Manager groups As indicated in the section on demographic variables, the correlation between this variable and position was significant.

Question 12: Overall, how would you rate the success of the communication process (eg how the information was delivered to you) concerning the new system?

Table 6 shows that only 54% of participants rated the communication process as successful. This result varied considerably between groups from 100% of the Secretarial/Practice Service Staff group to less than half of the Senior Manager, Manager and Accountant groups rating the communication process as successful. Again, as indicated in the demographic section, the correlation between this variable and position was significant.

Question 13: Overall, in what way did the communication you received about the new system affect your acceptance of it?

As can be seen in Table7, only 52% of participants reported that the communication they received affected their acceptance in a positive way, 31% were neutral and 17% were negative. However, the groups varied considerably with 64% of the Accountant group reporting that it affected them positively, while only 33% of the Senior Manager group reported that it affected them in a negative way. Half of the Manager group were neutral. This variable was also shown in the demographic section to correlate significantly with position.

Table 7: The affect of communication on acceptance and expectations about the system.

	Q:13 Overall, in what way did the communication you received about the new system affect your acceptance of it?			Q14: Considering the information you received about the new system, did it meet your expectations?		
	Positive	Negative	Neutral	Yes	No	Neutral
Partner N = 5	3 60%	1 20%	1 20%	1 20%	4 80%	
Senior Manager N = 9	5 56%	3 33%	1 11%	2 22%	5 56%	2 22%
Manager N = 12	4 33%	2 17%	6 50%	2 17%	8 66%	2 17%
Account-ant N = 11	7 64%	2 18%	2 18%	6 55%	5 45%	
Consult-ant N = 5	2 40%	1 20%	2 40%	2 40%	2 40%	1 20%
Secretarial /Practice Service Staff N = 10	6 60%		4 40%	6 60%	3 30%	1 10%
Total N = 52	27 52%	9 17%	16 31%	19 37%	27 52%	6 11%

The positive comments suggested that the communication gave participants a sense that the change was important, helped them understand the reasons behind the change and that the communication was regular. The negative comments included that the information came in the form of gossip and rumour, raised expectations that gradually diminished when problems occurred and insufficient detail was provided in regard to the new system. A selection of both positive and negative qualitative comments are provided below:

Positive comments included:

"The communication gave me a sense that the change was important, that it would deliver benefits, but that it would take time all of which I accepted at the time. Now I am not quite sure (P1)".

"Communication helped with acceptance of the system, understood reasons behind its implementation (SM1)".

"Positive at first, but lack of answers to problems has made it less acceptable (M8)"

"Enforced a very positive attitude (A5)".

"The communication was regular and in varied format i.e. some email and some glossy flyers. Regardless of form of communication, it was still up to the individual to read it and digest it (C1)"

"As I received sufficient communication, it certainly helped to accept the change (PSS6)".

Negative comments included:

"In some ways gossip and rumour took over formal communication at key points in the process. In particular, after implementation most information seemed to come via informal networks (P3)"

"Raised my expectations initially then gradually caused me to become cynical as the system did not deliver (SM3)"

"Don't know. All we were told were the end benefits. We are still waiting to see this result (M2)".

"The level of detail in relation to the system was limited with the exception of the information sessions. More information would have helped with acceptance (M6)"

"Probably hindered my acceptance as I wasn't aware of the full benefit from the program roll outs (A9)"

Question 14: Considering the information you received about the new system, did it meet your expectations?

Table 7 shows that just over half (52%) of participants reported that the system did not meet their expectations. Although there was no significant correlation with position, it can be seen that his varied from 80% of the Partner Group to 30% of the Secretarial/Practice

Service Staff group. The reasons given for the system not meeting expectations included that the benefits were not obvious, the reporting was not as yet accessible or accurate, the new system was not an improvement and the system did not meet expectations. The positive comments were limited but some believed that their expectations would be met in the future. A selection of qualitative comments are provided below:

Positive comments included:

"Not yet, but I believe it will (A1)"

"Yes, but my expectations were not very high based on my first experiences and the lack of information (A9)"

"Yes - although I was reasonably open minded in terms of what the system would deliver and timing of all functionality. Perhaps communication in the very early stages in terms of what to expect as well as the expected benefits could have been improved (P3)".

"Yes - sophisticated system, requiring lots of data input, but eventually will help to manage the business by providing information (SM1)".

"Yes, however there was not much expectation anyway (A3)".

"Given my relative inexperience using the system it met my expectations and after using it a few times, I found it easy to navigate my way through as the need arose (C1)".

"At this stage, yes it meets my expectations but I do expect to see significant improvement in time efficiency and user friendliness in the coming stages (PSS2)".

Negative comments included:

"Not yet, the benefits will perhaps be more obvious once reporting is accurate and more readily accessible (P1)".

"Outcomes did not match expectations (SM5)".

"No. At this stage I do not believe that the system has improved on the prior system (M1)".

"No. I am still waiting for improvements to be made (M10)".

"No. Still lots to be delivered and am yet to see it making my administration work simpler and less time confusing (C4).

Correlations between communication variables and evaluation variables

Four of the communication variables correlated with all the evaluation variables except attitude at the start of the program. These communication variables were; whether information was accurate, how informative the communication was, the affect of the communication on participants' acceptance of the program and whether, given the communications, the program met participants' expectations. These correlations varied from .39 to .63. Two communication variables; whether concerns were listened to and acted upon and the rated success of the communication process correlated significantly with three of the evaluation variables; attitude at present, success of the change process and success of the change outcome. These correlations varied from .36 to .53. The only communication variables that did not correlate with any of the evaluation variables were; having an opportunity to ask questions, having an opportunity to provide input into the new processes, being provided with regular information, and knowing who to call for information.

Summary of communication results

The positive aspects of the communication process and content were:

1) All participants reported that they received information about the new system.
2) A wide variety of methods of communication were used and information via each method reached at least some members of each group (the only exception being the Consultant group where none reported receiving information via the Web site).
3) A high percentage (78%) of participants overall reported that they did have an opportunity to ask questions.

These few positive results can be seen as much less satisfactory when the following negative aspects of the communication process and content are considered:

1) Only a quarter of participants reported that they received adequate answers to their questions and 15% reported that they did not have their questions answered at all.

2) Less than two thirds (60%) of participants reported that they had the benefits of the new system explained to them and only half reported that they had an opportunity to discuss how the change would affect them.
3) A high percentage (77%) of participants reported that they did not have input into their new work process.
4) Only just over a quarter of participants (27%) indicated that the Implementation team listened to their concerns and acted upon their feedback.
5) Only just over half (52%) of the participants reported that the Implementation Team provided them with accurate information.
6) Just under half of the Senior Manager (44%), Accountant (45%) and Consultant (40%) groups reported that they either did not know or were unsure of whom to contact for further information.
7) Only fifty-six percent of participants reported that communications were informative with less than half of the Senior Manger and Manager groups reporting this to be the case.
8) Only just over half (54%) of participants rated the communication process as successful. This would seem to be a very low percentage for a communication process.
9) Only just over half (52%) of participants reported that the communication they received affected their acceptance of the new system in a positive way.
10) There were considerable differences between groups in the adequacy of the communication process. Thus, the only group where all members indicated receiving the same form of communication was the Partner group, with all the members receiving newsletters. Only members of the Partner and Secretarial/Practice Service Staff groups said they had input into the new processes. The Secretarial/Practice Service Staff were the only group where a majority reported that their concerns were listened to. The Consultant group was the only group where all participants reported that they were provided with accurate and regular information.

The significant correlations between a number of the communication variables and the majority of the evaluation variables suggest that communication was an important factor in influencing employee acceptance and evaluation of the change program.

5. Working Relationships

Correlations between working relationships variables

Most of the working relationships variables only correlated with one or two of the other working relationships variables. However, three of the variables each correlated with five of the other working relationships variables; whether it was easy to work with the new processes, whether workload was increased and whether participants could see the benefits of the new work processes. These correlations varied between .30 and .61.

Working relationships questions

Table 8 provides a description of the data for the eleven working relationships questions. In this table, participants are divided into two groups; Partner/Manager and General Staff. The General Staff group included the Accountants, Consultants, Secretaries and Practice Service Staff. The participants were divided in this way because the results of studies 2 and 3 suggested differences between these two groups in the affect of the change programs on working relationships. Differences between the two groups were tested using a 2 x 2 Chi-square, combining the "no" and "neutral" categories, with $p < 05$.

Table 8: Changes in working processes between groups

	Partner/Manager			General Staff		
Description	Yes	No	Neutral	Yes	No	Neutral
Q1. Did you find it easy to cope with the new work processes that were put into place?	**9** 35 %	**17** 65 %		**18** 72%	**7** 28 %	
Q2. Did the new policies associated with the new system change your work processes?	**17** 65 %	**9** 35 %		**15** 58%	**9** 35 %	**2** 7%
Q3. Did the new work policies associated with the new system increase your workload?	**23** 88 %	**3** 12 %		**14** 54%	**11** 42 %	**1** 4%
Q4. Did you find the changes in your work processes inconvenient?	**22** 85 %	**4** 15 %		**10** 38%	**12** 46 %	**4** 15%
Q5. Did your staff readily accept the new work processes?	**4** 16 %	**17** 71 %	**3** 13%			
Q6. Did your partner/manager readily accept the new work processes?				**14** 54%	**8** 31 %	**4** 15%
Q7. Did the new work processes alter your working relationship with your secretary /other staff members?	**16** 64 %	**8** 32 %	**1** 4%			
Q8. Did the new work processes alter your working relationship with your partner/manager in any way?				**2** 7%	**21** 78 %	**4** 15%
Q9. Could you see the benefit of the new work processes?	**7** 27 %	**17** 65 %	**2** 8%	**17** 65%	**5** 19 %	**4** 16%
Q10. Did you readily accept your new work processes	**11** 55 %	**7** 35 %	**2** 10%			
Q11. Did you have difficulty explaining the new work processes to your partner/manager?				**5** 19%	**15** 58 %	**6** 23%

Question 1. It can be seen in Table 8 that the majority (65%) of both the Partner/Manager group reported that they did not find the new processes easy to cope with. In contrast, most of the General Staff (72%) reported that they did find the new work processes easy to cope with. This difference was statistically significant. This result may be due to the general staff having more exposure and intense training on the system.

Question 2. The majority of both groups (65% and 58% respectively) reported that the implementation of the new system changed their work processes.

Question 3. The majority of both groups also reported that the new work policies associated with the new system increased their workload but this varied from 88% for the

Partner/Manager group to only 54% for the General Staff group. This difference was statistically significant.

Question 4. The majority of the Partner/Manager group, (85%) reported that they found the changes in their work processes inconvenient. In contrast, the General Staff group were more evenly divided with only 38% reporting that they found the new work processes inconvenient. This difference was statistically significant.

Question 5. Of the Partner/Manager group, 71% reported that their staff did not readily accept their new work processes. In contrast:

Question 6. Just over half (54%) of the General Staff group reported that their partners and managers readily accepted the new work processes.

Question 7. While the majority (64%) of the Partner/Manager group reported that the new work processes altered their working relationship with their secretary,

Question 8. The General Staff group (78%) reported that their working relationship with their Partner did not alter.

Question 9. Approximately two thirds (65%) of the Partner/Manager group reported that they could not see the benefits of the new work processes, while the same percentage of the General Staff group (65%) reported that they could see the benefits of the new work processes. This difference was statistically significant. This difference could be due to the general staff having more exposure to the system than the more senior staff of the organisation. This was mainly because the general staff, especially the Secretarial Staff and the Practice Service Staff had more involvement with the system in their daily work routine. Thus they had more exposure to what the system could actually do.

Question 10. Only about half of the Partner/Manager group reported that they readily accepted their new work processes with about one third saying that they did not readily accept them.

Question 11. Only 58% of the General Staff group reported that they did not have difficulty explaining the new work processes to their Partner/Manager with a further 23% giving a neutral response to this question.

Relationship between working relationships and evaluation variables

Two of the working relationship variables, whether changes were inconvenient and whether participants could see the benefits of the new work processes, correlated with all the evaluation variables except attitude at the beginning of the change program. These correlations varied from .29 to .56. The only other working relationships variable that correlated with the evaluation variables was whether it was easy to cope with the new work processes. This variable correlated with three of the evaluation variables; attitude at present, success of the change process and success of the change outcome. These correlations varied from .30 to .44.

Summary of results on Working Relationships

The results suggest that Partner/Managers and General Staff were differently affected on a number of working relationship variables. The results also suggest that some of these variables were related to employee acceptance and evaluation of the change program.

6. Organisational Culture

Correlations between the organisational culture variables

None of the organisational culture variables correlated significantly with each other.

Organisational culture questions

The results for the organisational culture variables are shown in Tables 9 and 10.

Table 9: Summary of results in regard to attitudes and beliefs on Culture

Position	Question 1 Did the attitudes and beliefs held by your fellow workers affect the way you personally accepted the new system?		If yes, did it generally affect you positively or negatively?		Question 2 How would you rate the extent to which the culture in your division was accepting of the new system?		
	Yes	No	Positively	Negatively	Positive	Negative	Neutral
Partner N = 5	2	3		1	4	1	
Senior Manager N = 9	2	7		2	2	3	4
Manager N = 12	4	8		3	3	8	1
Accountant N = 11	4	7		1	3	3	5
Consultant N = 5	2	3	1	1	2	2	1
Secretarial/ Practice Service Staff N = 10	3	7	1	2	2	4	4
Total N = 52	**17** 33%	**35** 67%	**2** 12%	**10** 59%	**16** 31%	**21** 40%	**15** 29%

Question 1: Did the attitudes and beliefs held by your fellow workers affect the way you personally accepted the new system?

As can be seen in Table 9, about two thirds (67%) of each group reported that the beliefs held by their fellow workers did not affect their acceptance of the system.

If yes, did it generally affect you positively or negatively?

Table 9 shows that of those who answered yes to question 1, more than half (59%) of participants reported that they were affected negatively by their fellow worker's attitudes and beliefs.

Question 2: How would you rate the extent to which the culture in your Division was accepting of the new system?

Table 9 shows that participants' responses were divided with 40% overall reporting that their Division's culture was negative toward the new system and only 31% reporting that it was positive. While there was no significant correlation with position, the responses

seemed to vary according to some groups with most of the Manager group reporting that their Division's culture was negative, while most of the Partner group reported that it was positive.

There were limited positive comments but those that were made were in relation to having to accept the system, being committed to it, and accepting it despite the system's problems because they could see the "bigger picture". The negative comments were numerous and included complaints about the timesheets, people becoming cynical due to an increased workload and less flexibility and no perceived benefits.

A selection of positive comments included:

"Because its in place, you have to accept it's a new change and challenge that our organisation is approaching and committed to (PSS10)".

"I think most people were accepting because they could see the bigger picture. There appeared to be considerable concern regarding time sheets initially. However, after one was completed, everyone seemed able to undertake the next timesheet with little fuss (C1)"

A selection of negative comments included:

"There were a lot of negative comments particularly in relation to timesheets and billing but people generally rolled up their sleeves and got on with the job (P3)".

"People realised that they had no choice but to accept and use the system despite the retraining confusion and complaints about these bloody timesheets! (SM1)"

"Most people were looking forward to the system but became very cynical when the new system, brought increased workload, less flexibility in processes and inadequate reporting (SM3)".

"I think people will accept change that they perceive as beneficial. Where a change is not perceived as beneficial they will resist unless it can be demonstrated that there are benefits. I see this as the culture within the firm (M1)".

"We needed a new time recording system. This system was promised as the solution to our problems (M2)"

"Generally can see the long term goal but negative in terms of actual implication (M7)"

"A lot of people thought it was creating more work for them (A9)".

"Most people are frustrated by the complexity and time consuming nature of the system also the lack of local informed source to deal with our problems (C4)".

"Our division in general was non-accepting of the increase in paperwork and the difficulty of obtaining information (PSS2)".

Question 3: If your division had a culture that, in your opinion, was not supportive of the new system, how could it be improved?

As can be seen in Table 10, the two most commonly suggested improvements were more informative communication (42%) and more education about the new system (40%). Greater participation in the business process, more regular communication about the system and greater management commitment were mentioned by about 20% of participants.

Table 10: Summary of results on Culture

	Q: 3 If your Division had a culture that, in your opinion, was not supportive of the new system, how could it have it been improved?						
Position	**Greater mngmt. commit-ment to the system**	**Leader more overtly supports Nexus**	**More regular commun-ication about the system**	**More informative commun-ication about the system**	**More education about the new system**	**Greater participation in the business processes associated with the system**	**Ability to express your opinions with less fear of negative consequence**
Partner N = 5			1	2	2		
Senior Manager N = 9	1	1	1	2	3	3	
Manager N = 12	2		2	4	4	5	1
Accountant N = 11			2	5	4	1	
Consultant N = 5	1	1	1	3	3	3	
Secretarial/ Practice Service Staff N = 10	5		3	6	5		1
Total N = 52	**10** 19%	**2** 4%	**10** 19%	**22** 42%	**21** 40%	**12** 23%	**2** 4%

Correlations between organisational culture and the evaluation variables

How accepting the organisational culture was of the change was significantly related to all of the evaluation variables except attitude at the beginning of the change. These correlations varied from .42 to 50.

Summary of the results on organisational culture

Approximately two thirds of participants reported that the beliefs and attitude held by their fellow workers did not affect their attitude toward the system. However, of those who reported that they were affected, most were affected in a negative way.

Participants were divided in terms of whether their Division's culture was accepting of the new system with less than a third (31%) believing it to be positive and 40% believing it to be negative. This variable correlated significantly with most of the evaluation variables suggesting that the culture's perceived support for the change is related to employee acceptance and evaluation of the change program.

When the participants were asked how their Division's culture could have been improved with respect to support of the new system, they suggested more education and more informative communication. The latter suggestion is consistent with the results for the communication variables, some of which showed strong correlations with the evaluation variables.

7. Computer Training and Information Sessions

Correlations between the training variables

The only training and information variable that correlated significantly with more than two of the other training and information variables was whether participants received enough

knowledge after the information training sessions. This variable correlated significantly with four of the other variables; whether participants had enough knowledge after the computer training session, whether there was enough support for questions or problems, quality of training and the quality of the information session. These correlations varied from .43 to .75.

Questions on training and information sessions

The quantitative results for questions on training an information session are shown in Tables 11 and 12. It should be noted that only 19 of the 52 participants attended computer training and only 36 attended information sessions. This means that percentages with respect to these variables are based on relatively low numbers of participants.

Table 11: Summary of training results

	Q1: Did you attend a computer based training program and/or an information session?			Q5: Did you feel that you had enough appropriate knowledge after your computer training to use the system effectively in your role?			Q6: Did you feel that you had enough knowledge after your information session to use the system effectively?			Q7. Did you have enough support for any questions or problems when you went back to your division?		
Position	**Computer Training**	**Info. Session**	**Didn't Attend Training**	**Yes**	**No**	**Not Sure**	**Yes**	**No**	**Not Sure**	**Yes**	**No**	**Not Sure**
Partner N = 5	2	4					2	2		3	1	1
Senior Manager N = 9		7	1		1		5	2		6	2	
Manager N = 12	4	7	1	1	2		3	4		4	5	
Accountant N = 11	4	8	1		5	1	3	5		8	1	1
Consultant N = 5		5					2	2	1	3	2	
Secretarial/Practice Service Staff N = 10	9	5	1		9		1	4		6	2	
Total N = 52	**19** 36%	**36** 69%	**4** 8%	**1** 5%	**17** 90 %	**1** 5%	**16** 44%	**19** 53%	**1** 3%	**30** 67%	**13** 29 %	**2** 4%

Question 1: Did you attend a computer based training program and/or an information session?

As can be seen in Table 11, only 8% of participants did not attend training. Most (69%) attended information sessions with less attending computer training (36%) although this varied between groups with the majority (89%) of the Secretarial group attending computer based training. This was due to only certain groups being provided with access to the system during Phase 2.

Question 2: If yes, what was <u>positive</u> about the computer based training and/or information sessions you attended?

When asked what was positive about the computer training, participants reported that training was useful and well presented, the tour of the system was helpful, as it afforded them an opportunity to ask questions, the attitude of the presenter was positive and the training was "hands on". There were no obvious differences between the groups. A selection of qualitative comments included:

"The training provided was useful and well presented. In particular the booklet with case studies was useful (P3)".

"Tour of the systems intranet site helped to identify areas where I could visit to obtain helpful information(SM1)".

"Opportunity to ask questions (M1)".

"Positive attitude of presenter. Was a good summary. Went through the steps of how to do things (A4)".

"The presenters were able to answer our questions in the information sessions and this was very informative (C1)".

"It was hands on training and I find that important in training sessions (PSS3)"

Question 3: What was <u>negative</u> about the computer based training and/or information sessions you attended?

Participants responses to the negative aspects of the training and/or information sessions included: the forms associated with the system being difficult to use; not enough detail in the training; the presenter's limited knowledge of the system; the trainer was not very confident in answering questions and the training was rushed. There were some differences between the groups with the Senior Managers and Managers reporting that the

trainers did not have enough knowledge of the system, the Accountants felt that the information was too general and the Practice Service Staff felt overwhelmed by too much confusing information. The differences between the Accountants and the Practice Service staff could be due to the two groups attending different training sessions as the Practice Service Staff attended the computer-based training that was hands on while the Accountants only had to attend information sessions. A selection of qualitative comments included:

"Not detailed enough. Once back in the workplace the system processes and forms were very difficult to use (SM3)".
"The presenters had limited knowledge of the system. The notice given for training was inadequate, any thing less than a week is ridiculous in our environment (M6)".
"Could have been more detailed, it was rather rushed (A1)".
"As the training was not "hands on" it effectively meant that little knowledge was retained by the time we used the system. However, I accept that frequent users require hands on training while infrequent users don't and this was in fact the way training was implemented (C1)".
"The billing program was not a success. The trainer wasn't very confident in her answers which left me feeling unconfident about using the program on my own (PSS5)".

Question 4: How could have the computer training or the information sessions been improved?

Participants suggested that the training could have been improved by providing more real life examples, ensuring that all staff have training in the new processes such as filling out the forms associated with the new system, the presenters needed to have more knowledge, shorter sessions on specific activities and shorter sessions that were more specifically directed to staff needs. There were no obvious differences between groups but the comment that was most common across three of the groups, the Accountant Group, the Manager Group and the Practice Service Staff, was that the trainers needed to be more knowledgeable and have more experience with the system. A selection of qualitative comments included:

"More focus on real life examples for the billing component (P3)".

"Ensure all staff have proper training on new processes, system and forms. Information sessions are not enough (SM3)".

"More notice given. Presenters with more knowledge of how system would be used for Adelaide (M6)".

"The presenter should know more about the system (A3)".

"More focussed on particular processes (eg shorter sessions on specific activities). Practically based with clear indications of what it would mean for me on a day to day basis (C4)".

"They could have been shorter and more specifically directed at the needs of the staff attending (PSS2)".

Question 5: Did you feel that you had enough knowledge after your <u>computer training</u> to use the system effectively in your role?

Table 11 shows that of those participants who attended computer training, 90% reported that they did not feel that they had enough knowledge after their computer training session to perform in their role. As can be seen in the qualitative comments below, this was mainly due the participants feeling that they needed to use the system before they could use it competently. There were no obvious differences between the groups. A selection of qualitative comments included:

"Any new system requires time spent by the individual in familiarising themselves with the system in addition to training (M12)".

"Had to do it myself to understand the complexities of the system (A4)".

"Even after training, we still needed to refer to notes and ask for help on a number of occasions on how to do things (PSS2)".

"To see things being done is very different to having to do it yourself (PSS6)".

Question 6: Did you feel that you had enough knowledge after <u>your information session</u> to use the system effectively in your role?

Table 11 shows that of those participants who attended an information session, just over 53% reported that they did not have enough knowledge after their information session to

use the system effectively. As can be seen in the qualitative comments, this was due to the training not being practical, too much broad information and the information sessions needing to be hands on. There were no obvious differences between groups. A selection of qualitative comments included:

Positive comment:

"Yes - We received the training and were also provided with hands on onsite support. We were able to apply the training soon after receiving it (P3)"

Negative comments:

"No - The training too scripted, not practical (P2)".

"I admit that I was too pressed for time to attend training but the information I received about the training did not inspire me to seek out alternative options. Also support resources have had difficulty answering my questions (M4)".

"Again, too much broad information (C4)".

"Hands on experience is 100% better (PSS4)".

Question 7: Did you have enough support for any questions or problems when you went back to your Division?

Table 11 shows that two thirds (67%)of participants reported that they had enough support for any questions or problems that may arise, but 29% reported that they did not have enough support.

Positive comments:

"Support from administration staff and divisional secretaries was generally good (SM1)".

"I have usually been able to find somebody to assist with my questions (M1)'.

"Our secretary was very helpful and assisted with all questions (A1)".

"The support available within the office and also within the company was clearly evident (C1)".

Negative comments:

"No - everyone was battling (P2)"

"There was no one specific to contact to assist us on an ongoing basis. The system helpdesk may have been appropriate (M6)"

"No one could provide answers to questions (M8)"

"But they did not always know the answers (A6)"

"The people I was told could assist were as unclear about things as I and then had to spend time chasing information from third parties (C4)".

"People have been as helpful as possible but in many instances they don't know either (PSS7)".

Question 8: Overall, how would you rate the quality of the computer based training you received in respect to the new system?

As can be seen in Table 12, 58% of participants who attended computer-based training rated the training as good, 21% rated it as neutral and 21% rated it as poor. No qualitative comments were provided. This result would seem to be at odds with the results from question 5 where 90% of participants stated that they did not have enough appropriate knowledge after computer training to use the system effectively.

Table 12: The quality of the training

	Question 8			Question 9			Question 10		
Position	Q8: Overall, how would you rate the quality of the computer based training you received in respect to the new system?			Q9: Overall, how would you rate the quality of the information sessions you received in respect to the new processes?			Q10: Overall, how did the information or training you received (or did not receive) affect your acceptance of the new system?		
	Poor	Good	Neutral	Poor	Good	Neutral	Positive	Negative	No Affect
Partner N = 5		2			4				
Senior Manager N = 9				1	5	1	1	3	
Manager N = 12	1	3		2	3	2	1	3	
Accountant N = 11		1	3	2	5	1	1		3
Consultant N = 5				1	3	1	2	1	
Secretarial/ Practice Service Staff N = 10	3	5	1	1	3	1	4	2	
Total N = 52	**4** 21%	**11** 58%	**4** 21%	**7** 19%	**23** 64%	**6** 17%	**9** 43%	**9** 43%	**3** 14%

Question 9: Overall, how would you rate the quality of the <u>information sessions</u> you received in respect to the new processes?

Table 12 shows that 64% of participants who attended information sessions rated the information sessions as good, 17% rated them as neutral and 19% rated them as poor. Again this result would seem to be at odds with the results from question 6 where 53% did not feel they had enough knowledge after the information session to use the system effectively. In support of this earlier result, participants reported that while the information was generally good, it was not helpful in using the system. It was also difficult to ask relevant questions when the participants had not actually used the system. However participants reported they found the system user tips and manuals good.

A selection of qualitative comments included:

"Information provided was generally good - just a lot of it (SM1)".

"Good information sessions, but useful only as information. Were not very helpful in actually implementing new processes (SM3)"/

"The firm tried hard, however it was difficult to ask relevant questions until after we had tried using different programs/forms (M10)".

"Initially didn't want anything to do with it as coming away from the 2 day course most people had no idea. But after further proper training and with manuals and tips it was OK (PSS1)".

"The training we received internally from our Adelaide staff was very good (PSS2)"

Question 10: Overall, how did the information or training you received, or did not receive, affect your acceptance of the new system?

Table 12 shows that the results were evenly divided between participants with 43% reporting that the training had a positive affect on their acceptance of the new system and 43% reporting the training had a negative affect. The Secretarial/Practice Service Staff mostly reported that it affected their acceptance in a positive way while for the Senior Manager and Manager groups the affect was mostly negative.

Those participants who reported that the training affected their acceptance in a positive way reported that the training conveyed the benefits of the new system. Those who reported that the training had a negative impact on them felt this was due to the sessions making the system look easy when the practice was difficult. They also felt that the training needed to be more detailed and that the sessions gave the impression that the system was hard and inflexible.

A selection of positive qualitative comments included:

"Positively, because it conveyed benefits of the system (P1)".

"The information received initially made me concerned that the system would be complex to use as there was so much to follow in one session. However upon using the system I realised it wasn't too difficult and like any other PC software etc, it is a case of trial and error (C1)".

A neutral comment included:

"Regardless of whether we like it or not it is the new system and we will have to accept it and I am sure in time it will become second nature and we will wonder what all the fuss is about (PSS7)".

A selection of negative comments included:

"Hasn't changed my acceptance of the system. I accept we have to use it. I accept that we have to accept change. I am left with the impression that SAP is inflexible and hard to work with (P2)".

"Information sessions made the system and processes look easy. In actual fact they are complex and as yet add little value to my work. Therefore, the sessions did not help with my acceptance of the system (SM3)".

"Higher quality training would have given me a more positive attitude to the system and therefore acceptance at a faster rate. Follow up training would have also helped in some areas (M6)".

"Could have been much more detailed which would have resulted in less difficulties, which in the end would have resulted in a more positive mindset towards the change (A1)".

Correlations between training and information session variables and the evaluation variables

The quality of information sessions correlated significantly with four of the evaluation variables; attitude at the beginning, attitude at the time of the study, success of the change process and success of the change outcome. These correlations varied from .33 to .46. Whether participants felt they had enough support for any questions or problems also correlated with three of the evaluation variables; attitude at present, success of the change process and success of the change outcome. These correlations varied from .32 to .40. Thus there was some evidence that training was related to employee acceptance and evaluation of the change process.

Summary

Most participants attended training with more attending information sessions than computer-based training. The only exception was the Secretarial/Practice Service staff group where the opposite was the case. However, most participants (90%) reported that they did not feel they had enough knowledge after their computer training session to perform their role effectively and just over half (53%) reported they did not have enough knowledge after their information sessions. The first result contrasted with about half of the participants saying that the computer training was good and the second contrasted with about two thirds of participants saying that the information session were good. These results raise questions about the accuracy of general evaluations of training programs.

Only two thirds of participants reported that they had enough support for any questions or problems when they went back to their Division.

Participants reported that the positive aspects of the training included: the booklets and handouts, the tour of the system, the positive attitude of the presenter and the opportunity to ask questions. In contrast, some of the negative feedback in regard to the training

included; not enough detailed information, the system was difficult to use and the presenters lacked knowledge about the system.

Finally, significant correlations between two of the training and information session variables and most of the evaluation variables suggested that these variables were related to employee acceptance and evaluation of the change program.

Discussion

Although the sample in this study was much larger than in the previous study, the number of variables considered means that results involving correlations and Chi-square must be treated with caution. It was also unfortunate that leadership could not be investigated given the evidence for its importance in the previous study and in the research literature.

Involvement in Prior change

About 70% of participants had experienced prior organisational change and about 60% indicated that this had helped them with their acceptance of the new system. The rest of the participants were neutral with none indicating a negative effect. The correlation with position was significant with most of the Partners and Senior Managers indicating a positive affect of experiencing prior change, while most of the Manager group was "neutral". This is consistent with the research literature that suggests that Middle Managers can be a vulnerable group throughout change programs due to changes in their roles and responsibilities (Dopson & Neumann, 1998).

Evaluation

The majority of participants reported that their attitude became more negative during the implementation of the IT change mainly due to difficulties that arose with the system, the increased workload in regard to administration tasks associated with the system, and the lack of reliable reports. Given this feedback it is not surprising that only about a quarter of the participants rated the change outcome as successful. However, less than half also rated the change process as successful. Despite these results, only about 20% felt negative towards Phase 3 with the largest percentage feeling "neutral". Suggestions as to what the

Implementation Team could do to make them feel more positive about Phase 3 included providing them with information about the current problems and what the Implementation Team was doing to correct these problems. They also suggested that the training sessions could be improved by having more knowledgeable trainers to teach them and assist them. These qualitative comments are supported by significant positive correlations between some of the evaluation variables and those variables concerned with communication and training suggesting that those who were more positive about communication and training also tended to be more positive about their acceptance and evaluation of the change program.

Communication

Research suggests that organisational change can be dealt with more effectively through strategic communication processes and greater employee participation (Klein, 1994; Lawlor, 1986).

Klein (1994) found that in terms of communicating change efforts, face-to-face communication has a greater impact than any other single medium. According to Klein (1994) face-to-face communication is effective as it helps to clarify any ambiguities that the employee may have and it affords them the opportunity of voicing their opinions there and then. Klein (1994) also recommends that organisations distribute information that ensures employees have a full understanding of how the change will personally affect them (Klein, 1994). Consistent with Klein (1994), Kotter & Schlesinger (1979) suggest that much of this information should be given one-on-one and face-to-face, to enable employees to ask questions and express any concerns (Kotter & Schlesinger, 1979).

In the present study participants received information by a number of methods, the most common being face to face, newsletter and memo. However, none of these was received by more than 60 of participants. Overall, the results suggest that the communication process could have been considerably improved. Thus, while all participants reported receiving information about the new system and most reported having an opportunity to ask questions, only a quarter of participants reported that they received adequate answers to their questions. Only 60% of participants reported that they had the benefits of the new

system explained to them, only half had an opportunity to discuss how the change would affect them, only 13% indicated that they had an opportunity to provide input into the new processes and only approximately a quarter indicated that the implementation team listened to, and acted on, their feedback. Moreover, only about half thought the information they received was accurate and informative, and only about two thirds indicated that they received regular information and that they knew who to call for further information.

It is not surprising, given the above results, that the communication process was rated as successful by only about half the participants. The results suggest that many employees had insufficient knowledge about, and involvement in, the change process and that this may have contributed to their relatively poor ratings of the change process and its outcomes. The significant correlations between the communication and evaluation variables suggest that those who were more positive about the communication also tended to be more positive about their acceptance and evaluation of the change program.

The present results are consistent with research on the importance of participation which shows that employee participation in decisions regarding a change strategy can significantly reduce their resistance to change (Kotter & Schlesinger, 1979; Lawlor, 1986; Porras & Hoffer, 1986). Lawlor (1986) suggests that employee participation in the design of the change strategy fosters a psychological commitment to its successful implementation. This can be achieved by having employees participating in developing change strategies that will correct work-related problems that they believe are important. This type of participation is an effective strategy for building understanding and support for organisational change efforts amongst employees (Miller & Delbalzo, 1989; Delbalzo & Miller, 1989; Miller, 1992a, 1992b). Participation in decision strategies also promotes greater understanding and less opportunity to misperceive the consequences of the change. Further research in this area has found that the way managers behave is positively related to employee participation (Coyle, 1999; Manz, Keating & Donnellon, 1990; Stewart & Manz, 1997; Verespej, 1990).

Research also suggests that the greater employee participation in an organisational change, the more likely the intervention will be judged to be beneficial (Coyle, 1999). In the present study there were significant correlations between whether participants believed their concerns were listened to an acted upon and three of the evaluation variables, suggesting that those who felt more involved tended to be more positive about their acceptance and evaluation of the change program.

Working Relationships

There were a number of differences between the two groups (Partner/Manager and General Staff) in how the implementation affected their working relationships. For example, while about two thirds of Partner/Managers did not find it easy to cope with the new work processes, nearly three quarters of General Staff did find it easy to cope. This could be related to the fact that while in both groups the majority found that the new system changed the associated work processes, a much higher percentage of the Partner /Manager group (88%) reported an increase in work load than the General Staff (54%). These differences may be to due the senior staff not attending as much training as the General staff. The General staff also included a large component of administration staff whose main role was to process administration work. Thus, they would have been more likely to have learned the new work processes thoroughly.

Similarly, the senior staff reported that they could not see the benefits of the new work processes, unlike the general staff. This result might be due to the general staff having more training on the system, and more support from the Implementation Team and Champions relative to the senior staff.

The majority of the Partner/Manager group (71%) reported that while they readily accepted their new work processes their staff did not. In contrast, just over half of the general staff reported that their partners and managers readily accepted the new work processes and they did not have difficulty explaining the new work processes to them. The Partner/Manager group also reported that their working relationship with their secretaries was altered whilst the General Staff reported that their relationship with their

Partner/Manager did not alter. This contrasting result is interesting and suggests that different groups within an organisation cannot always give accurate feedback on the other.

Organisational Culture

Research in the area of organisational culture suggests that new information technology can often require a culture change as well as a system change (Miller & Yeager, 1993). Research in this area shows that habitual patterns of behaviour tend to contribute to a sense of security and wellbeing. Knowing what to do and what is expected enables people to be efficient in getting tasks accomplished. Change of any sort, therefore requires adaptation, greater attention, new learning, the risk of failure and often some degree of uncertainty and insecurity. New technology is often a more disruptive change because it can often require new work relationships, new ways of getting work finished and the acquisition of new skills (Miller & Yeager, 1993).

The results of this study found that most of the participants reported that their division's culture was negative toward the new system. This was seen as due to the increased workload, frustration with functionality and altered working relationships, which particularly occurred with the Secretarial group. Whilst some negativity would be expected after a new system has been implemented, organisations may find it useful to monitor this carefully and to make necessary adjustments in order to ensure that productivity and efficiency is maintained. Kotter & Heskett (1992) suggest that a poor culture can affect productivity and efficiency. In the present study, there were significant correlations between how accepting of the culture was seen to be of the new change and four of the evaluation variables suggesting that those who felt the culture was more supportive were more likely to accept and positively evaluate the change program.

It may also be worthwhile for organisations to assess whether or not there are subcultures within their organisation that are negative toward the system and influence those other employees in a negative way (Martin & Siehl, 1983). For example, in the present study the majority of the Manager group was negative toward the new system. The Manager group's negativity toward the system might have produced a temporary counter culture specifically with respect to the IT change (Trice, 1993; Trice & Beyer, 1993). It might

also help to account for why specific information about the IT change was not passed on by managers to subordinates.

Computer Training and Information Sessions

The training component of any implementation is extremely important. Research has found that an individual's computer self-efficacy has an impact upon the way that employees perceive the system's ease of use. For example, the more hands on exposure employees receive in regard to a new system, the more likely it is that they will view that system as being easy to use (Venkatesh & Davis 1994). Moreover, researchers have found that those who work with computers are more likely to develop a positive attitude toward them.

Given this information, organisations need to ensure that the training they provide to their employees is hands on and practical, and provided in a forum whereby the employees can have as much practice on the system as possible before returning to their work station. In the present study, 90% of those who attended computer training felt that they did not have enough knowledge after the training to use the system effectively and one of the reasons for this was due to the training not being detailed enough in regard to "real life" examples. This is consistent with the training literature that suggests that if training omits explanations of key factors such as how participants should use the information from the system in their daily work routine, they will leave the training feeling lost (Currid, 1995). Thus, consistent with the above research, employees' self-efficacy was affected.

The results in the present study in terms of most participants not feeling that they had enough information after the computer training sessions and that about half felt this with respect to the information session is inconsistent with the fact that 58% of participants rated the quality of the computer training as good and nearly two thirds rated the information sessions as good. These results suggest that overall ratings of training may be misleading.

Differences Between Positions

The only statistical analyses that could generally be carried out with respect to position were correlations between the rank order of positions and other variables. The only exception was the Chi-square analyses that were carried out by combining Managerial staff and General staff together for the changes in working processes, based on apparent differences on this kind of variable in the previous study. Because of the large number of variables and tests, the statistical results must be interpreted with caution and as providing suggestions for future research.

While the results of the previous two studies suggested that those in more senior positions reacted differently on a number of variables to those who were more junior, there were also suggestions of differences between individual groups. Such differences could not be statistically analysed because of the relatively low numbers of participants in the six groups considered. Accordingly, differences that seem to reflect the experience of one or two particular groups rather than degree of seniority can only be commented on as suggesting possible differences that would need to be confirmed in a much larger study.

Results from correlations suggested that more senior positions were generally more negative with respect to the employee acceptance and change outcome variables. In particular, they had less positive attitudes at the time of the study, were more likely to become more negative from the start of the program to the time of the study and rated the success of the change outcome less. There were also suggestions from the correlation results that more senior positions were more likely to have had prior experience of change, were less likely to see the communications as informative, were more likely to see the changes as inconvenient and were less likely to see their benefits.

Chi square results suggested that there were differences between the manager groups and the general staff in terms of the effect of the change on working relationships. Thus, while approximately two thirds of the Partner/Manager group reported that they did not find the new processes easy to cope with, nearly three quarters of the General Staff reported that they did find the new work processes easy to cope with. Similarly, while most of the

Partner/Manager group reported that they found the changes in their work processes inconvenient this was much less so for the General Staff. While nearly three quarters of the Partner/Manager group reported that their staff did not readily accept their new work processes, less than a third of the General Staff group reported this for their partners and managers. While nearly two thirds of the Partner/Manager group reported that the new work processes altered their working relationship with their secretary, over three quarters of the General Staff group reported that their working relationship with their Partner did not alter. Finally, while approximately two thirds of the Partner/Manager group reported that they could not see the benefits of the new work processes, the same percentage of the General Staff group reported that they could see these benefits.

In terms of differences between particular groups, the Partner and Secretarial groups appeared to be more involved in the new processes in terms of input and having their concerns listened to. The Consultant group was the only group where all participants reported that they received regular and accurate information. In contrast, less than half of the Manager group reported that they received accurate information. Similarly, while nearly two thirds of the Accountant group reported that the communication they received affected them in a positive way, only about one third of the Manager group reported this.

The results suggest that the position of participants within the organisation affected how they related to, and evaluated the change program. These results are consistent with previous research by Robinson (1989) who also suggested that employees in different positions within an organisation can have different levels of acceptance and can be affected by the new technology in different ways.

Practical Implications

The results of this study, although based on small numbers, suggest several important practical implications.

1. The results support the importance of effective communication in the change process, and, in particular, the importance of seeking feedback from all relevant groups to

ensure that they have all received accurate information on a regular basis. This information should include the benefits of the new system and how it will affect the employees. There is also a need to check that employees feel they are included in the change process.

2. The results on training suggest that there is a need to check that all relevant individuals feel that they have had received enough training and/or information to use the new system effectively. Trainers need to be knowledgeable and training needs to be hands on with sufficient time provided for practice.

3. The results suggest that there is a need to monitor the effects of organisational change on all relevant groups to ensure that negative subcultures do not begin to develop with respect to the change.

4. The results suggest that the effects of change on work loads, working relationships and perceptions of the effects of change on other groups can all differ between groups. Such differences need to be carefully monitored to ensure that they do not contribute to negative attitudes towards change and those involved in it. An important implication of different perceptions of the effects of change on other groups is that feedback needs to be obtained from all relevant groups.

5. Organisations need to use a variety of communication methods to ensure accurate information is received since in this study no one method was successful in reaching all participants.

6. In the present study, employees in different groups differed in the extent to which they had experienced prior change. While no participant reported that prior experience impaired their acceptance of the change program, prior experience was associated with more negative views of the change program and its success. These results suggest that prior experience can influence employee acceptance and evaluation of a change program and that change agents should seek information about employees' prior experience of change so that they can deal with any issues that arise

as a consequence of it. In particular, information about what worked well and what could have been improved in previous change programs could be useful in ensuring that concerns arising from a previous change program are appropriately dealt with and do not negatively affect a new change program.

CHAPTER 11: Study Five

EXPANDED QUANTITATIVE AND QUALITATIVE STUDY TO ASSESS ORGANISATIONAL FACTORS THAT AFFECT EMPLOYEE ACCEPTANCE OF NEW INFORMATION TECHNOLOGY

Introduction

Consistent with the research of Robinson (1980), the results of the last study (Study four) suggested that organisational factors such as communication, training, change in working relationships and culture can affect an employee's acceptance of new information technology.

The results also suggested that there were differences between different positions in employees' acceptance and evaluation of the change program and in how they were affected by the organisational factors. While correlations based on rank order of position provided some evidence that relative position was important, descriptive data suggested that there were differences between particular positions on some variables.

Because the number of participants in Study four was too small to provide more than suggestions with respect to such differences, the present study attempted to obtain a much larger sample of participants in order to further examine any differences of this kind. This study was carried out in a different office of the same organisation with a much larger number of employees that experienced the same change program.

Methodology

The same methodology used for Study four was used for the present study. The questionnaire approach was chosen because it was found in Study four to be an efficient and effective way of gaining an insight into employees' experiences in different positions in the organisation during a major organisational change. Again, in addition to quantitative questions, qualitative questions were asked to identify employee's meanings and descriptions of factors that affected their acceptance of new technology within their organisation (Minichiello, Aroni, Timewell & Alexander, 1995).

Questionnaire

Based on the results of Study four and, in particular, participants' qualitative comments, changes were made to the questionnaire. These included more detailed questions concerning the topics: Involvement in the change programs, Communication, Working relationships, Culture and Computer Training and Information Sessions. It was hoped that answers to these additional questions would provide further insights into the role of these factors and have more specific practical implications. A copy of the questionnaire used in this study can be found in Appendix G. As in Study four, management were not prepared to have leadership investigated as a factor in determining employee acceptance of the change program.

Participant and organisation

The participants came from the same national accounting firm as in the previous study. However, whereas the survey for Study four was conducted in the Adelaide office, which had only 250 employees, the present study was conducted in the Sydney office that had approximately 3000 employees. All participants had received the same training in the Sydney office but with different trainers. At the time of the survey, the organisation had been using the new system for approximately five months. Details on the organisation and its structure can be found in the method sections of Study four and Study three.

The questionnaires were sent via the organisation's internal mail to 300 employees who had recently gone through a major implementation of the same new information technology system as described in Study four. Seventy nine employees responded to the questionnaire, making a 26% response rate. The participants that were targeted ranged from Partners to general employees. This sample was representative of the users within the organisation. One possible explanation for the much lower return rate compared with Study four is that in the Adelaide office, so-called "Champions of the change program" distributed the questionnaires whereas no such arrangement was possible in the Sydney office. These "Champions" were well known and may have made employees more willing to participate. It also seemed that there was a much greater emphasis in the Sydney office

on employees accounting for all their activities on time sheets. This may have discouraged some employees from completing the questionnaire. Another possible reason that became evident when analysing the results, was the generally very negative responses concerning the project. From subsequently talking to some employees it was found that they felt it was no use in providing the organisation and Implementation Team with more feedback given that their feedback in the past had not been acted upon.

While the number of respondents was much larger than the 52 participants obtained for Study four, it still did not allow reliable comparisons between the results for different positions and again analysis of this variable was restricted to an examination of relative position in the hierarchy and observations of differences between different positions.

As can be seen in Table 1. there were 24 managers and 55 general staff members. The mean age was 29 years and the mean length of employment was 9 years 1 month. There were 35 females and 44 males. The numbers of males and females in each of the position groups are also shown in Table 1. The group labelled "other" consisted of those participants who were clerks and administration staff, who did not fit into the categories of practice service staff or secretarial staff.

Table 1. Numbers of males and females in each group.

Position	Male	Female	Total
Partner	1		1
Senior Manager	5	1	6
Manager	13	5	18
Accountant	17	3	20
Consultant	3	4	7
Secretarial		10	10
Practice Service Staff	4	9	13
Other	1	3	4
Total	**44**	**35**	**79**

Procedure

The revised questionnaire was sent out via internal mail. A letter was attached from the researcher explaining the purpose of the research, and advising them that their consent

was assumed if they filled in and returned the questionnaire. The researcher was also required by the Project Manager in this study to state that the questionnaire was independent of the project. The participants were advised that their participation was voluntary and that their results would be confidential and anonymous. They were also provided with instructions to send the questionnaire back via internal mail.

Results

The results are described under seven headings. 1.Demographic variables, 2. Involvement in Prior Change; 3. Evaluation of the change, 4.Communication; 5.Working Relationships; 6. Organisational Culture and 7.Training and Information Sessions. It should be noted that not all participants answered all questions. Accordingly, percentages refer to those participants who did answer the question in each particular case.

Because of the numbers of participants in some of the positions was relatively small and because the focus of this study was on possible differences between different positions in the organisation, analyses were restricted to descriptive statistics and qualitative comments. The only exception was the use of Chi-square to examine differences in Working Processes between positions groups as Partner /Managers and General Staff.

1. Demographic variables

It can be seen in Table 1 that as in the previous study there were relatively more males in more senior positions. Length of employment could not be commented on as some participants indicated how long they had been in their present organisation while others indicated their total number of years in employment.

2. Involvement in Prior Change

Table 2 shows the results for prior experience.

Table 2: Prior Involvement in Change, Attitude Change and Success of Change process & Outcome by position

Position	Q1: Experi-enced Prior Change		Q2: Helped Accept-ance of current system	Impaired Accept-ance of current system	Neutral	Q3: Attitude Change to Positive	Attitude Changed to Nega-tive	Neutr al	Q5: Did you5 Benefit directly from the implementation of the system?			Q6: Was the system Functional?		
	Y	N							Y	N	Ne	Y	N	Ne
Partner N – 1	1				1		1			1			1	
Senior Manager N = 6	4	2	1		3	1	4	1	1	4	1		6	
Manager N = 18	13	5	6	2	5	2	11	5	1	14	3	3	13	2
Accnt N = 20	6	14	2		4	5	11	2	5	10	3	2	10	6
Consul-tant N = 7	5	2	3		2	2	3	1	2	3	2		5	1
Secretary N = 10	5	5	3	2		3	4	1		8		1	8	
Practice Service Staff N = 13	9	4	3		6	5	5	2	5	7	1	1	9	3
Other N = 4	1	3	1				2	1		2	2	1	3	
Total N = 79	**44** 56%	**35** 44%	**19** 43%	**4** 9%	**21** 48%	**18** 25%	**41** 57%	**13** 18%	**14** 19 %	**49** 65 %	**12** 16%	**8** 11%	**55** 73%	**12** 16%

Question 1: Have you experienced an organisational change in the past? (please do not include the change you have experienced with the new system)

As can be seen in Table 2, in most groups, (6 out of 8), and most participants (56%) had experienced prior change. While there was no significant correlation with position, most in the Accountant group and in the group labelled 'Other' had not experienced prior change. These, results were consistent with those from the previous study. As suggested in the previous study, many of the Accountants may have come into the organisation at a graduate level and may not have had any experience within another organisation let alone experience of an organisational change. Three out of four participants in the 'other' group had also not experienced prior organisational change.

Question 2: Do you feel that experiencing a prior organisational change helped or impaired your acceptance of the system?

As can be seen in Table 2, participants who reported that they had experienced prior change were almost evenly divided as to whether it had helped their acceptance of the recent change or neither helped nor impaired their acceptance. Those participants who reported that experiencing prior change neither helped nor impaired their acceptance of the current system, commented that they understood that change may not always provide exactly what users want, that every change is different and that change properly managed is not a problem. Those participants who reported that experiencing prior change helped them said that it had prepared them mentally for the change, it had taught them to accept change and its difficulties, it gave them an understanding of those implementing the system and a greater awareness of the teething problems that change can cause. Two participants reported that experiencing prior change impaired their acceptance of the recent change due to their prior experience being smoother and leading to improvements rather than a "backwards step" as they perceived the recent change to be.

A selection of qualitative comments included:

<u>Neither helped nor impaired</u> their acceptance of the new system:

"Change, properly managed, is not an issue for me. As you will see, I believe the Project has not been handled well (P1)".

"The system was necessary so I accepted it, however the approach confused a lot of people (S2)".

"Every change is different (PSS6)".

"I am fully aware that change is necessary and will not always provide exactly what you would want or previously had (SM2)".

"The system is an administrative issue rather than a professional one (M4)"

<u>Helped</u> their acceptance of the new system:

"I expected that promised deliveries may fall below expectations and that the new system would not be communicated as well as promised. I have previously found that change can be very difficult (SM4)".

"I welcome change as it keeps me interested (S3)".

"It prepares you mentally to accept and cope with the new system (PSS1)".

"I have learned to accept change even though initially it is difficult to adapt (PSS3)".

"Adaptability to new systems comes with experience. I was aware that it would be a process of trial and error (PSS9)".

"I was able to see how those implementing the change felt and appreciated the support they needed. Without prior knowledge of a change I may not have offered as much support (C1)".

"More comfortable with managing the implementation and results of changes in an organisation - I've seen it all before (M5)".

"Greater awareness that change has "teething" problems (M6)".

Impaired their acceptance of the new system:

"Because when organisational change has happened previously it has been much smoother than the current system (S5)".

"It impaired my acceptance as it was hard to accept the system when you can't see any gains in efficiency and effectiveness (M17)".

"In past changes I've experienced it was an improvement, but with this system, I feel we've gone backwards (A13)".

3. Evaluation of the change

The results for the evaluation variables are shown in tables 2, 3 and 4.

Question 3: As you are aware, Phase 2 of the new system was rolled out in October. Please tick the appropriate box to describe your attitude at the beginning of the Phase 2 roll out and at present.

By subtracting the rating from question 3 from question 4 it was possible to obtain a measure of change in attitude from the start of phase 2 to the time of the study. As can be seen in Table 2, the majority (57%) reported that their attitudes changed to negative with only a quarter changing to positive. The groups who were mostly likely to give negative responses were the Managers and the Accountants.

Question 4: You have told me about your attitude at the beginning and at the end of Phase 2. I would now like you to describe your attitude during the rollout of Phase 2. If your attitude changed, please describe how it changed and why it changed.

There were a number of reasons given by participants for their negativity, such as the under-delivering of functionality, no involvement in decision making, the system being too slow, the perception that the system brought little benefit, the apparent arrogance of the implementers to valid concerns of users. Other reasons reported were: the negative gossip about the system, the system did not seem to me based on business requirements, the quality of information had become worse for managing client work, the system's inability to deliver basic information, and many of the functions that could be performed on the old system were not available on the new system.

Participants whose attitude remained positive throughout the implementation commented that they were confused at first, but liked the system after they understood it. One participant reported that she was a role model for others and this encouraged her to remain positive about the system. Participants whose attitude changed to positive during the rollout suggested that they got to know the system over time and that as they were forced to use it, it became easier.

A selection of negative comments included:

System issues:

"The under-delivering of functionality and apparent arrogance of implementers to valid concerns of practice staff was unacceptable (P1)"

"The system doesn't do what it is meant to do (A13)".

"Not enough functionality, too slow, billing problems, timesheet template seems a step backwards (A11)".

"I was confident that it would be a good system, but now I believe it is not an improvement (SM1)".

"I have become frustrated with the process because although I expected problems with the rollout there are still some problems that I have not received answers for and it is affecting my every day work and I am having to do the same things several times and still not receiving answers. I am still not sure if the system is giving us the correct information (M14)".

"The system's inability to deliver basic information despite all the effort that goes into providing information (C3)".

"My attitude has changed to negative, because my needs for the new system are not considered to be a priority by others (PSS3)".

Other issues:

"The change has not been very smooth and there have been many 'hiccups' along the way (A20)".

Communication issues:

"No involvement in decisions affected me in a negative way, together with the poor communication (A13)".

"Insufficient information and contradicting information was provided during the training sessions (PSS6)"

"I felt very tense and confused. I felt that I didn't have enough knowledge to pass on information to my colleagues as I was expected to (C1)".

Cultural issues:

"During the rollout my attitude changed from very positive to negative because predicted delays actually occurred. I also heard a lot of negative gossip about the system during this time (SM4)".

"There have been many problems and centralising of responsibilities. Without cynicism, it was apparent immediately that the changes interfered with learned procedures and there was some resistance to change (M6)".

A selection of positive comments included:

System Issues:

"My attitude was one of confusion, but now that I understand the system, I quite like it (SM3)".

"I am fairly positive about the whole system, however I am frustrated about the length of time it takes for things to be implemented (PSS9)".

"I got to understand the system better myself, over time (S3)".

"My attitude change to positive as I was forced to use it and it became easier (S2)".

Cultural Issues:

"My attitude toward the rollout was posttive, however my enthusiasm was somewhat decreased by the negative attitudes of those I was working with (A15)".

Other issues:

"My attitude was positive and still is, in my case I am a role model so at all times I have been positive (PSS1)".

Question 5: Did you benefit directly from the implementation of the new system?

As can be seen in Table 2, the majority of participants (65%) reported that they did not benefit directly from the new system, with only 19% reporting that they did benefit from it. The reasons given by participants for feeling that they did not directly benefit from the system were in relation to the system itself and included, poor functionality, the system being less user friendly, more work on administration issues, more forms to fill out, the system being more inefficient and time consuming, reporting availability not satisfactory, there were no skilful helpers around to assist people, and the training was not as expected.

Those participants who reported that they did directly benefit suggested that the system allowed the firm to be Y2K compliant, it increased efficiency, they could process their own bills, it was easier to retrieve information from the system, increased efficiency, more reports available to them and it was user friendly.

These comments in relation to the benefits of the new system are fairly inconsistent and may reflect a difference in position and/or computer self-efficacy. For example as can be seen in Table 2, about one third of the participants who commented that they benefited from the new system were the Practice Service Staff who would have had a lot of hands on experience and training in regard to the system. This may have contributed to them feeling more confident about the system and having a better understanding of it than their colleagues.

A selection of qualitative comments from those who perceived that they <u>did not benefit directly</u> included:

Partner:

"The functionality and level of error and uncertainty impacts my ability to serve my clients (P1)".

Senior Managers:

"The new system is even less user friendly (SM6)".

"The new system involved far more of my time on administration issues (M4)".

"The new system appears to have made life harder. There are more forms to fill out, forms that previously existed now have more pages to be filled in and raising bills takes four times longer (M17)".

"I cannot identify any advantage in terms of reporting or information access (M14)".

Accountants:

"If anything I was disadvantaged by the system (A6)".

"Its more inefficient and time consuming (A11)".

Consultants:

"It increased my workload and paper work (C6)".

Secretaries:

"It has not benefited us at all, the opposite has happened, it now takes longer to do everything (S5)".

Practice Service Staff:

"I felt that the training was not what I expected. We were trained in the test environment and when we went live we could not do some things that we were trained to do. It did not work (PSS10)".

The qualitative comments from those who perceived that they did benefit directly included:

Senior Managers:

"The new system replaced a number of our old systems which were not Y2K compliant (SM4).

"I now do my own bills and print off my own reports rather than reply on someone to do it (SM3)".

Managers:

"It is easier to retrieve information through the new system (M1)".

Accountants:

"I had no prior practical experience of the system, so working with the new system has provided me with knowledge of the system and issues in general (A15)".

Consultants:

"I was a "key user" so I went to all the scheduled training, it also made me feel part of a team and that I was needed (C1).

Practice Service Staff:

"New technology. It has many additional features and we are also personally benefiting by getting to use a new system (PSS12)".

"I now have more reports available to me (PSS7)".

Question 6: Do you feel that the system, within Phase 2, is fully functional? (eg reliable, accessible, information output)

As can be seen in Table 2, nearly three quarters of participants (73%) reported that, in their opinion, the system was not fully functional. Reasons for this included too many errors, certain reports being unavailable, the quality of data output, too much paper work, unreliability of reports, basic functions not operating, still questions that have no answers and the technical problems associated with the system. Despite these issues 11% of participants reported that in their opinion the system was fully functional. Reasons for this included good support from the helpdesk, plentiful supply of information and everything can be found easily.

A selection of qualitative comments from those participants who reported that the system was not fully functional included:

"There were too many errors and not enough honesty about the problems (P1)".

"Certain reports are unavailable, and those that are available can not be relied upon (SM4)".

"The timing and the quality of the reports have become worse and there are a number of transactional issues (M3)".

"There are always technical issues which need to be addressed with any new system implementation, however the problems are now being overcome (A15)".

"There are still questions that we have no answers for. The system is not reliable (C4)".

"There have been a lot of problems and I thing a lot more system testing should have been done before they went into production (C1)".

"It seems to change daily, one day you can raise a bill the next day you can't (S4)".

"The system is not always reliable and the helpdesk is not always able to help you (S3)".

"Insufficient reporting information, limited access to the system (PSS6)".

"I can see other people's problems that affect me. I try and identify problems and report to the helpdesk (PSS7)".

A selection of qualitative comments that the system was fully functional, included:

"Everything I've tried to find, I have found easily (A2)".

"Plentiful supply of information, good support from the system helpdesk (M18)".

"From my job aspect the system is 98% functional (PSS9)".

Table 3: Results of Success of Change Process and Outcome

Success of Change Process and Outcome														
	Q7: Overall, how successful or unsuccessful was the change process adopted by the Implementation Team.							**Q8: Overall, how successful or unsuccessful was the new system in terms of outcome.**						
Position	**EU**	**VU**	**U**	**N**	**S**	**VS**	**ES**	**EU**	**VU**	**U**	**N**	**S**	**VS**	**ES**
Partner N = 1		1								1				
Senior Manager N = 6	1		1	1	3			1		3	1	1		
Manager N = 18	1	3	8	3	3				1	11	3	3		
Accountant N = 20		2	5	8	5				1	2	5	9	1	
Consultant N = 7	1	1	3	2					1	3		2		
Secretary N = 10		1	7		1					2	3	1		
Practice Service Staff N = 13		4	1	4	2					5	4	3		
Other N = 4		1	1					1			2	1		
Total = 79	**3** 4%	**13** 17%	**27** 36%	**19** 25%	**14** 18%			**2** 3%	**3** 4%	**27** 38%	**18** 25%	**20** 28%	**1** 2%	

Key: EU (Extremely Unsuccessful, VU (Very Unsuccessful), U (Unsuccessful), N (Neutral), S (Successful), VS (Very Successful), ES (Extremely Successful)

Question 7: Overall, how successful or unsuccessful was the change process adopted by the Implementation Team (eg the approach the Team took in order to deliver the new system).

As can be seen in Table 3, just over half (57%) reported that the change process was unsuccessful with 21% of these reporting that it was very or extremely unsuccessful. Reasons given for the change being unsuccessful included system issues, the inability of the Implementation Team to listen to people's concerns, insufficient training, not enough user acceptance testing, the system did not deliver what was promised, and the lack of communication about the process. Those participants who reported that the change process was successful stated that they thought that there was a genuine effort to keep people informed, that the system was implemented and working, and the training was good. Managers and Secretaries were most likely to feel that the change process was unsuccessful.

A selection of qualitative comments of those participants who considered the change process to be unsuccessful included:

"In my view, the Implementation Team had a vision which did not adequately address user concerns and needs (P1)".

"The new system doesn't do what the previous system does (M7)".

"There was insufficient effort to train staff (A9)"

"Billing is not a simple process rather, it is drawn out and extremely time consuming. The delivery was positive, but the implementation was poor (C4)".

"Did not deliver what was promised (C3)".

"Although there were plenty of training sessions it was not communicated until the very end that all staff could attend (S4)"

"There was a lack of communication all the way through the process and once the system was rolled out the Implementation Team didn't want to know about our problems (PSS10)".

"The system was kept a secret through very poor communication to the actual staff who would be using it. This caused frustration and fear (PSS7)".

A selection of qualitative comments from participants who reported the change process as "successful" included:

"There was a genuine effort to keep everyone informed (SM6)".

"Good communication strategy was used (M5)".

"I understand that there were very tight deadlines and although the approach taken was methodical. I think end users should have been involved in the initial planning stage (A15)".

"I think the change process was successful. Everyone knew what it was when it was happening, therefore employees had quite some time to accept the new system (A16)".

"It's successful because it's implemented and it's working (PSS12)".

Question 8: Overall, how successful or unsuccessful was the new system in terms of the outcome (eg the new practice management system).

As can be seen in Table 3, the results for this question were divided between successful (30%), unsuccessful (45%) and neutral (25%). The Accountant group had the most participants who reported the outcome as successful. Those participants who rated the change outcome as successful commented that this was due to the system being a lot quicker, being able to gain access more readily, the user friendliness of the system, the information on the screens being presented in a consistent format and more procedures were on line and more people had access to them.

While there was no significant correlation between this variable and position, the Manager group appeared to have the most participants (66%) reporting that the change outcome was unsuccessful. This was reported to be due to the inefficiencies of the system, the increase in paper work and the system not doing what the previous system did.

A selection of "unsuccessful" comments included:

"The level of errors, accuracy of reports, functionality was unsuccessful (P1)".

"The new system delivered very basic functionality and did allow billing and some reports. However, it fell short on other reports and lacked accuracy in some instances (SM4)".

"I have yet to find an overall improvement (SM6)"

"Our organisation is about selling time and services to clients, with the new system we now have to spend time processing paper work rather than client work (M17)".

"The new system requires too many ticks and crosses to work effectively and efficiently. I don't think this satisfies the goals of new practice management (C4)".

"The training was inadequate, trainers may have known the system but in our opinion lacked the expertise to pass their knowledge on to those being trained. One of us attended training where the trainer had only been introduced to the system that morning, and had to be prompted throughout the session by someone who was from the Implementation Team (S6, 7&8)".

A selection of qualitative comments from participants who reported the outcome as successful included:

"The system is a lot quicker than the old system, the information is simpler with the exception of some reports that are still non-existent (M2)".

"The system is operating! (A10)".

"We are able to gain access to information more readily (A5)"

"The information on screen is presented in a consistent format and it is user friendly (A21)".

"Procedures are more online and most people can access them and use them (S2).

Table 4: Results of participants' attitude toward future phases of the project

Q9: Considering your experience with Phase 2 of the new system what is your attitude toward Phase 3 rollout.							
Position	**Extremely Negative**	**Very Negative**	**Negative**	**Neutral**	**Positive**	**Very Positive**	**Extremely Positive**
Partner N = 1			1				
Senior Manager N = 6		1		3	2		
Manager N = 18			6	8	4		
Accountant N = 20	1		5	10	3	1	
Consultant N = 7		1	2	1	2		
Secretary N = 10	3	2	1	2	1	1	
Practice Service Staff N = 13			1	5	5	1	
Other N = 4		1	1		2		
Total = 79	**4** (5%)	**5** (7%)	**17** (22%)	**29** (38%)	**19** (24%)	**3** (4%)	**0** (0%)

Question 9: Considering your experience with Phase 2 of the new system what is your attitude toward Phase 3 rollout.

As can be seen in Table 4, the results were divided between being negative (34%) and neutral (38%) toward the Phase 3 rollout, with only 28% of participants feeling positive toward the Phase 3 rollout. While there was no significant correlation between this variable and position, it can be seen that the most negative ratings came from the secretarial group with three of the members reporting that they were extremely negative.

Those participants who felt negative toward the Phase 3 rollout reported that they did so due to feeling apprehensive about the next phase, concern that it might not deliver what was promised and lack of communication in Phase 2. Some participants reported that they

did not even realise that there was a Phase 3. Those who felt positive about Phase 3 were hopeful that the problems would be ironed out, they felt that there was no point other than to have a positive attitude, that the system should get easier for people and that once the system was up and running that it would have benefits for the whole firm.

A selection of negative qualitative comments included:

"I think it is a good idea but because of the problems in Phase 2 I'm a little apprehensive (A6)"

"It can't get any worse (C6)".

"Due to the problems in Phase 2, we are convinced that Phase 3 will not be an improvement (S6,7&8)".

A selection of positive qualitative comments included:

"Hopefully problems I have now will be ironed out (S1)".

"I know that Phase 3 will have more benefits for my operations and I think that once the whole system is up and running it will have major benefits for the firm, it is unfair to judge it in bits and pieces (PSS8)".

"It should get better and easier for people (PSS7)".

4. Communication

Tables 5, 6, 7, and 8 provide a description of the data on communication.

Table 5: Summary of Communication results by position of participant

	Q1: Did you Receive any information about the new system?		Q2: If yes, How were you communicated to?						Q4: When information about the new system was communicated to you, did you have an opportunity to ask questions and receive adequate answers. (participants could answer more than one option)			
Position	**Y**	**N**	**Face To Face**	**Rumour**	**News Letter**	**Memo**	**Meeting**	**Web site**	**Could Ask Q's**	**Rec Answers**	**Did not rec answers**	**Could not ask Q's**
Partner N = 1	1				1	1						1
Senior Manager N = 6	6		4	3	4	5	2		5		1	1
Manager N = 18	18		11	5	10	14	13	5	10	4	5	1
Accountant N = 20	14	3	7	6	7	10	7	2	13	3	5	
Consultant N = 7	5	1	3	1		5	4	2	6		2	
Secretary N = 10	8	1	5	6	3	1	2	1	6	3	2	4
Practice Service Staff N = 13	11	1	8	5	5	9	2	1	10	2	4	4
Other N = 4	4		3	2		1	1	2	3		2	1
Total = 79	**67** 92%	**6** 8%	**41** 61%	**28** 42%	**30** 45%	**46** 69%	**31** 46%	**13** 19%	**53** 79%	**13** 25%	**21** 40%	**12** 18%

Question 1: Did you receive any information about the new system?

As can be seen in Table 5, of those participants who answered the question, nearly all (92%) reported that they received information about the new system.

Question 2: If yes, how was it communicated to you?

As can be seen in Table 5, no form of communication was successful in reaching all the participants. The highest percentage was 69% for receiving information about the system via memo. This was closely followed by face-to-face communication (61%). More than half of the Consultant and Manager groups were communicated to via meetings and the Manager group were the main group who accessed the website for communications

regarding the new system. The Practice Service Staff were mainly communicated with through face-to-face and memo. These results are similar to those obtained in Study four.

Table 6: Communication efforts from the implementation team and the business

	Q3: What medium of communication was the most effective?					
Position	**Face to Face**	**Rumour**	**Newsletter**	**Memo**	**Meeting**	**Website**
Partner N = 1					1	
Senior Manager N = 6	5		1			
Manager N = 18	7			2	6	1
Accountant N = 20	7		1	2	5	1
Consultant N = 7	2			2	1	2
Secretary N = 10	2		1		1	1
Practice Service Staff N = 13	5	5	1			
Other N = 4	2	1				
Total N = 79	30 46%	6 9%	4 6%	6 9%	14 22%	5 8%

Question 3: In your opinion, what medium of communication was the most effective?

As can be seen in Table 6, the largest percentage, which was nearly half of the participants (46%), reported that face-to-face communication was the most effective medium of communication.

Question 4: When information about the new system was communicated to you did you have an opportunity to ask questions and did you receive adequate answers?

As can be seen in Table 5, of those participants who answered the question, the vast majority (79%) reported that they could ask questions about the new system. However, only 25% of these participants reported that they received answers to their questions, with

40% reporting that they did not receive answers. Some participants (18%) reported that they did not have the opportunity to ask questions at all.

Table 7: Summary of data on content of communication

Position	Q: 5 Did you have an opportunity to discuss how the change would affect you?			Q:6 Did you have an opportunity to provide input into the new processes?			Q:7 Did the Implementation Team listen to your concerns and act upon feedback from your Division?		
	Yes	No	Neutral	Yes	No	Neutral	Yes	No	Neutral
Partner N = 1		1			1				1
Senior Manager N = 6	3	2	1	3	3		2	2	2
Manager N = 18	6	7	5	4	11	2	3	4	10
Accountant N = 20	8	7	1	3	11	2	2	6	6
Consultant N = 7	3	1	2	1	4	1	2	2	
Secretary N = 10		8	1		8	1		6	3
Practice Service Staff N = 13	3	6	3	4	6	1	5	6	1
Other N = 4		3	1	1	3		1	2	1
Total N = 79	**23** 31%	**35** 49%	**14** 20%	**16** 23%	**47** 67%	**7** 10%	**15** 22%	**28** 42%	**24** 36%

Question 5: Did you have an opportunity to discuss how the change would affect you?

As can be seen in Table 7, the results were divided, with 49% of participants reporting that they did not have an opportunity to discuss how the change would affect them and 31% reporting that they did. There was some variation between groups; for example, none of the eight secretarial staff said that they had this opportunity.

Question 6: Did you have the opportunity to provide input into the new processes?

Table 7 shows that two thirds (67%) of participants reported that they did not have an opportunity to provide input into the new processes with only about one quarter (23%) of participants reporting that they did.

Question 7: Did the Implementation Team listen to your concerns and act upon feedback from your Division?

Table 7 shows that only 22% reported that the Implementation Team listened to their concerns, 42% reported that they did not, and 36% were "neutral". This result is of particular concern, with respect to the Practice Service staff and Secretaries, as these were the two groups who had the most to do with the system.

Table 8: Content of communications sent by the Implementation Team and the Business

Questions 8 & 9: Did the Implementation Team and the Business provide you with accurate information?
IT = Implementation Team
B = Business

	Reason for System Yes/No/Neutral		Reason for new processes Yes/No/Neutral		Benefit Yes/No/Neutral		Possible Difficulties Yes/No/Neutral		Appropriate Expectations Yes/No/Neutral	
Position	**IT**	**B**	**IT**	**B**	**IT**	**B**	**IT**	**B**	**IT**	**B**
Partner N = 1	1/0/0	1/0/0	1/0/0	1/0/0	1/0/0	0/0/1	0/1/0	0/0/1	0/1/0	0/1/0
Senior Manager N = 6	3/2/1	2/4/0	3/2/1	1/3/1	2/2/2	0/4/2	0/4/2	0/5/1	0/5/1	0/6/0
Manager N = 18	8/8/2	9/7/1	9/7/2	10/7/1	5/11/2	6/7/5	2/10/6	6/11/1	2/14/2	6/12/0
Accoun-tant N = 20	9/6/1	9/7/0	7/7/1	7/7/2	8/4/4	5/7/3	2/15/0	3/13/0	1/12/2	1/11/3
Consult-ant N =7	3/2/0	2/2/2	2/2/1	3/2/1	2/2/1	2/3/1	1/4/0	2/2/2	0/4/1	2/3/1
Secretary N= 10	5/3/1	4/4/1	3/6/0	6/2/1	5/3/0	3/5/1	1/8/0	0/8/1	1/7/1	1/6/2
Practice Service Staff N = 13	9/3/0	5/6/1	6/4/1	5/7/1	4/3/3	3/7/3	2/7/2	2/8/1	2/7/2	2/8/3
Other N = 4	2/2/0	3/1/0	1/3/0	2/2/0	1/3/0	1/3/0	2/2/0	2/2/0	1/3/0	1/3/0
Total N = 79	**40/26/5** 56/37/7%	**35/31/5** 49/44/7%	**32/31/6** 46/45/9%	**35/30/7** 49/42/9%	**28/29/12** 41/42/17%	**20/36/16** 28/50/22%	**10/51/10** 14/72/14%	**15/49/9** 21/67/12%	**7/53/9** 10/77/13%	**13/50/9** 18/69/13 %

Question 8: Did the Implementation Team provide you with accurate information in regard to the reasons for the implementation, the new processes, the benefits, the difficulties that may occur and the expectations you should have about the system?

As can be seen in Table 8, only just over half (56%) reported that the Implementation Team provided them with accurate information concerning the reasons for the new system.

In regard to receiving accurate information concerning the reasons for the new processes, the results were divided with 46% reporting that they did receive information from the Implementation Team and 45% reporting that they did not.

The results again were nearly evenly divided in regard to receiving accurate information about the benefits of the new system, with only 41% participants reporting that they did receive this information from the Implementation Team and 42% participants reporting that they did not.

In regard to receiving accurate information about possible difficulties that may occur, nearly three quarters (72%) of participants reported that they did not receive any information from the Implementation team.

A similar result was obtained in regard to receiving accurate information from the Implementation Team concerning appropriate expectations of the system. Seventy seven percent of participants reported that they did not receive this information.

Question 9: Did the <u>Business</u> provide you with accurate information in regard to the reasons for the implementation, the new processes, the benefits, the difficulties that may occur and the expectations you should have about the system?

As can be seen in Table 8, only half (49%) reported that the Business provided them with accurate information regarding the reasons for the new system.

In regard to receiving accurate information about the reasons for the new processes, again only half (49%) of participants reported that they did receive this information from the Business with 42% reporting that they did not receive information from the Business.

In regard to receiving accurate information from the Business about the benefits of the new system, again 50% of participants reported they did not receive information and only 28% reported that they did.

In regard to accurate information about possible difficulties that may occur, two thirds of participants (67%) reported that they did not receive this information from the Business.

A similar result was obtained in regard to receiving accurate information as to the appropriate expectations of the system with 69% reporting that they did not receive this information from the Business.

Table 9: Communication efforts from the implementation team and the business

	Q:10 Did the Implementation Team provide you with regular information as to what was happening during Phase 2 of the project?			**Q:11 Did the Business provide you with regular information as to what was happening during phase 2?**			**Q:12 Did you know whom to contact if you had any concerns or queries about the system?**		
	IT			**B**			**Yes**	**No**	**Neutral**
Position	**Yes**	**No**	**Neutral**	**Yes**	**No**	**Neutral**			
Partner N = 1		1			1			1	
Senior Manager N = 6	3	3		1	5		5		1
Manager N = 18	5	10	2	8	8	1	10	7	1
Accountant N = 20	4	12		3	12	1	9	5	2
Consultant N = 7	4	2		2	4		3	2	1
Secretary N = 10	2	7		1	7	1	9		
Practice Service Staff N = 13	4	7	2	1	7	3	9	2	1
Other N = 4	1	1	2		3	1	3	1	
Total N = 79	**23** 32%	**43** 60%	**6** 8%	**16** 23%	**47** 67%	**7** 10%	**48** 67%	**18** 25%	**6** 8%

Question 10: Did the Implementation Team provide you with regular information about what was happening during Phase 2?

As can be seen in Table 9, the majority (60%) reported that the Implementation Team did not provide them with regular information in regard to what was happening during Phase 2.

Question 11: Did the Business (eg your division) provide you with regular information about what was happening during Phase 2?

Table 9 shows that about two thirds (67%) reported that the Business did not provide them with regular information in regard to what was happening during Phase 2.

Question 12: Did you know whom to contact if you had any concerns or queries about the system?

Table 9 shows that only about two thirds (67%) reported that they knew whom to contact in regard to any concerns they may have had about the system, and this was the case in nearly all groups.

Question 13: Overall, how informative or uninformative was the information about the new system?

Table 10 shows the rating scores for questions 13 and 14 converted from a seven point scale to a three point scale to more clearly indicate differences between the groups. Responses to the open question 15 were classified as positive or negative when clearly indicated.

The results for question 13 were evenly divided with just over one third (36%) of participants reporting that the information was informative and the same percentage (36%) reporting that it was uninformative. The divided results on this question could be due to the diversity of communication that people received and the quality of the different types of communication.

Table 10: Overall ratings for communication

	Q:13 Overall, how informative was the communication?			Q:14 Overall, how would you rate the communication process? S = Successful U = Unsuccessful			Q:15 How did the communication affect your acceptance of the new system?	
Position	**Inform-ative**	**Uninform-ative**	**Neutral**	**Successful**	**Unsuccess-ful**	**Neutral**	**Positively**	**Negatively**
Partner N = 1	1							
Senior Manager N = 6	3	1	2	2	3	1		1
Manager N = 18	3	6	9	3	10	5	1	5
Accountant N = 20	8	4	4	6	5	5	1	6
Consultant N = 7	2	4		1	3	2		1
Secretary N = 10	2	6	1		6	3		6
Practice Service Staff N = 13	5	4	3	4	4	4	1	4
Other N = 4	2	1	1		1	2	2	1
Total N = 79	**26** 36%	**26** 36%	**20** 28%	**16** 23%	**32** 46%	**22** 31%	**5** 17%	**24** 83%

Question 14: Overall, how would you rate the success of the communication process (eg how the information was delivered to you) concerning the new system?

Table 10 shows that nearly half (46%) rated the overall communication process as unsuccessful, 31% were neutral and only 23% rated it as successful.

Question 15: Overall, in what way did the communication you received about the system affect your attitude toward it?

Table 10 shows that most participants (83%) reported that the communication they received about the system affected them negatively in terms of how they viewed the system. The reasons the participants gave for this were that they felt disenchanted due to

the lack of communication, there was no communication on the benefits of the system, and that they felt insecure because of the lack of communication. Less than one fifth of the participants (17%) reported that the communication had a positive affect on them. Reasons given for a positive affect included the communication providing a background to the change and what was happening, and thus preparing for the implementation. A selection of the qualitative comments are provided below:

A selection of negative comments included:

"A newsletter and a couple of memos explaining the delays etc were the main communication. No face-to-face communication occurred where I could ask questions etc. This lessened my enthusiasm and respect for the system (SM4)".

"A lack of communication led to disenchantment (M9)".

"Lack of information increased frustration especially as information was previously available and now wasn't (M12)"

"The communications about the system were so long ago that I can't remember. I think communication such as at divisional meetings, should be keep up until the process was fully implemented and people can see the results (M17)".

"The unknown factor caused resentment toward extra work A8)"

"We were told how great the system would be, but not how many problems would be experienced in its implementation (A1)".

"The training was not done well in regard to billing and this affected my attitude toward the system in a negative way (A13)".

"The face to face communication was great, but memos and newsletters don't always get read and often they hold the most important information. I felt daunted but excited about the system (C1)".

"When no-one knows the answers to questions it is difficult to feel safe with the system. The staff working with and implementing the system are approachable and helpful, it is the system that let everyone down (C4)".

"The communication we received implied all was fine with the new system when in reality it was not, therefore I became negative toward the system (S4)".
"There was no communication at all (PSS5)".

Positive comments in regard to the communication included:

"Created a reasonably positive initial attitude (M6)"
"It provided a background to the change i.e. what was happening and when it would happen, therefore I was ready for its implementation even if I did not fully appreciate the affect it would have on me (A16)"
"Well, the new system is a good system and I feel we will take time to get to know everything that it can do"(PSS12)".

Summary of communication results

While nearly all participants (92%) reported that they received information about the new system and most (79%) indicated that they could ask questions it, there were much lower percentages of positive responses to the other communication questions concerning the actual information provided. Nearly half (46%) rated the communication process as unsuccessful and most (83%) reported that communication affect on their acceptance of the new system as negative.

5. Working Relationships

The results for the working relationship variables are provided in tables 11, 12 and 13.

Table 11: Effects of the implementation on morale

	Q:1 Did the overall implementation of the system affect your team in terms of morale in a positive or negative way?			Q:2 Did the overall implementation of the system affect the way your team worked together and/or interacted?			Q:3 Did the overall implementation of the system affect the way your team worked with other teams within your organisation?		
Position	**Positively**	**Negatively**	**Neutral**	**Yes**	**No**	**Neutral**	**Yes**	**No**	**Neutral**
Partner N = 1		1			1		1		
Senior Manager N = 6		5	1	4	2			4	2
Manager N = 18		13	5	4	12	2	3	13	2
Accountant N = 20		8	9	2	13	2	4	12	2
Consultant N = 7		5	1	3	3		2	3	1
Secretary N = 10		8	1	5	2	2	1	6	2
Practice Service Staff N = 13	3	3	6	4	8	1	2	7	4
Other N = 4		1	3	2		2	2	1	1
Total N = 79	**3** 4%	**44** 60%	**26** 36%	**24** 32%	**41** 56%	**9** 12%	**15** 20%	**46** 61%	**14** 19%

Question 1: Did the overall implementation of the system affect your team in terms of morale in a positive or negative way?

As can be seen in Table 11, the majority (60%) of those who answered the question reported that the implementation of the system affected their team's morale in a negative way, with only 4% of participants reporting that it affected their team's morale in a positive way. The participants reported that the negative morale was due to the increased administration work, frustration in getting detailed information, the lack of perceived benefits of the new system and the increase in the participants' stress.

The three Practice Service Staff who reported that it affected them in a positive way, commented that this was because it saved them time by being able to produce their own financial reports more efficiently.

A selection of negative qualitative comments included:

"Far more administration time and frustration in getting accurate and sufficiently detailed information (P1)".

"The lack of confidence in the system and the inflexibility of the system caused our team to feel negative (M10)".

"The system increased employee stress (M9)".

"Some people believed it made a lot of extra work (M18)".

"The system is only accessible to about 10% of our group (M6)"

"It was frustrating not having answers to all the questions. My team is in a support role to the rest of the division, and without answers my team felt helpless and initially often negative toward the system (C1)".

"We lost faith in the system (PSS13)".

"Our supervisor resigned due to unresolved problems (PSS12)".

A selection of positive qualitative comments included:

"For my team it was a case of being able to produce reports that made information we passed on more efficient. We now have more information at our hands which enables us to 'tackle' things from a different angle, which in turn has increased morale (PSS9)".

"We are positive toward the system because it saves us time (PSS8)".

Question 2: Did the overall implementation of the system affect the way your team worked together and/or interacted?

As can be seen in Table 11, just over half of participants (56%) reported that the overall implementation did not affect the way their team worked together or interacted. Only about one third (32%) reported that it did affect the way their team interacted. One

reason given by those who reported that the implementation did affect the way their team worked together was that members had to help each other with the system.

A selection of qualitative comments included:
"All members of our group had to help each other understand the system (S3)".
"Only one secretary in our group has full training on the system and therefore she has to handle the majority of the requests/questions (S6,7&8)".
"It affected how our team worked together because more work is required from the mangers in order to raise a bill and we also have to get a partner to sign off on the bill before we can send it out (S9)".
"Our secretaries now have to do work that was previously done by the practice service staff (SM6)".

Question 3: Did the overall implementation of the system affect the way your team worked with other teams within your organisation?
As can be seen in Table 11, the majority (61%) of participants reported that the overall implementation of the system did not affect the way their team worked with other teams in the organisation. This was the case for all groups.

Question 4: If your working relationships were altered in any way, please rate how this affected your attitude toward the system?
As can be seen in Table 12, the majority (57%) answered "neutral", 38% reported that it affected them negatively and only 5% reported that it affected them in a positive way. The Secretarial group had a particularly large proportion of participants who reported that their altered working relationships affected them in a negative way. Qualitative comments indicated that this was due to the minimal consultation in regard to the new work processes and the frustration that the other member's of their Division directed against, them due to work not getting processed.

Table 12: Summary of results on working relationships

	Q:4 If your working relationships were altered in any way please rate how this affected your attitude toward the system?		
Position	**Negative**	**Neutral**	**Positive**
Partner N = 1	1		
Senior Manager N = 6	3	3	
Manager N = 18	5	7	
Accountant N = 20	4	7	
Consultant N = 7	1	4	
Secretary N = 10	6	2	
Practice Service Staff N = 13	1	6	3
Other N = 4	1	3	
Total = 79	**22** 38%	**32** 57%	**3** 5%

Other participants commented that it affected them negatively due to little consultation, other members of their group being frustrated with the system, and efficiency problems.

A selection of some of the Secretarial comments included:

"There was little, if any, consultation with us in regard to the decision making in regard to changes to our work processes (S3)".

"Other members of the group were frustrated with us because their work wasn't getting processed (S2)".

A selection of negative comments included:

"Overall, those around me are very unimpressed with the new system (SM6)"

"Little, if any, consultation (M19)"

"As before, efficiency problems (A11)"

A selection of positive comments included:

"It will be great once everyone has "hands on" access and understands the system (C1)".

"I always tend to think positively and try my best to understand the general problem (PSS12)"

Questions on changes in working processes

Table 13 describes the data for the 12 questions related to how participants' perceptions of how their work processes changed. The participants were divided into two groups; Partner/Manager and General Staff. The General Staff group included all staff that were not Partners, Senior Managers or Managers. The participants were divided this way so the comments and opinions of the senior staff could be compared with the general staff. (For example, Accountants, Consultants, Secretaries and Practice Service Staff.) The participants were divided because the results from the previous studies (studies 2, 3 & 4) suggested that there were differences between senior staff and general staff within organisations as to how they perceived and were affected by the change process. As in Study four, differences between the two groups were investigated using Chi-square with $p < .05$.

Table 13: Changes in working processes between groups

Description	Partner/ Manager		General Staff	
	Yes	No	Yes	No
Q5. Did you find it easy to cope with the new work processes that were put into place?	**6** 26%	**17** 74%	**18** 38%	**29** 62%
Q6. Did the new policies associated with the new system change your work processes?	**19** 83%	**4** 17%	**38** 86%	**6** 14%
Q7. Did the new work policies associated with the new system increase your workload?	**20** 87%	**3** 13%	**30** 68%	**14** 32%
Q8. Did you find the changes in your work processes inconvenient?	**21** 91%	**2** 9%	**21** 55%	**17** 45%
Q9. Did you readily accept your new work processes?	**12** 60%	**8** 40%		
Q10. Did your staff readily accept the new work processes?	**8** 47%	**9** 53%		
Q11. Did your partner/manager readily accept the new work processes?			**19** 54%	**16** 46%
Q12. Did the new work processes alter your working relationship with your secretary or other staff members in any way?	**11** 55%	**9** 45%		
Q13. Did the new work processes alter your working relationship with your partner/manager in any way?			**10** 27%	**27** 73%
Q14. Could you see the benefit of the new work processes?	**5** 23%	**17** 77%	**21** 48%	**23** 52%
Q15. Did the new work processes alter your working relationship with your colleagues in any way?	**5** 24%	**16** 76%	**13** 27%	**35** 73%
Q16. Did you have difficulty explaining the new work processes to your partner/manager?			**24** 56%	**19** 44%

As can be seen in Table 13, the majority of both groups did not find the new work processes easy to cope with. The majority of both groups also reported their work processes were altered due to the new system, and that there was an increase in workload due to the new work policies.

Both groups reported that they found changes in the work processes inconvenient, but this was less so for the General Staff Group who were more evenly divided in this respect. This difference was statistically significant.

Only 60% of the Partner/Manager group reported readily accepting the new work changes and the General Staff were in close agreement in response to this question about Partner/Managers.

The Partner/Managers were relatively evenly divided as to whether their staff readily accepted the new work changes

Just over half of the Partner/Manager group reported that the new work processes altered their working relationship with their staff. This could have been because after the new system was implemented, some Partners had to rely more heavily on their Secretaries and Practice Service staff for assistance in accessing information. In contrast, most of the General Staff Group (73%) reported that their working relationships with their Partner/Managers were not altered.

When asked if they could see the benefit of the new work processes, most of the Partner/Manager Group (77%) said they could not and the General Staff Group was evenly divided on this issue with 48% saying they could see the benefits and 52% saying they could not. This difference was statistically significant.

Nearly three quarters of both groups reported that the new work processes did not alter their working relationship with their colleagues in any way.

The General Staff Group were divided as to whether they had difficulty explaining the new work processes to their Partner/Manager with slightly more answering yes than no.

Summary of working relationships

The majority (60%) of participants reported that their team's morale was affected in a negative way during the time of the implementation. The groups that were affected the most in terms of the way their team worked and interacted together were the Senior Managers, Consultants and the Secretarial group. This could have been due to the Secretarial group having more access to the system and being relied upon by others such as the Consultants and Senior Managers to print out reports and process bills. The Secretarial group also reported that the changes in their working relationships affected them in a negative way.

In regard to how the teams worked with other teams within the organisation, the majority (61%) of participants reported that it did not alter their teams' working relationship.

Finally, there were some differences between the Partner/Managers and the General Staff in their response to questions about the effects of the change on working processes.

6. Organisational Culture

Tables 14 and 15 provide the results for the Organisational Culture variables.

Table 14: Summary of results in regard to attitudes and beliefs on Culture

Position	Q:1 Did the attitudes and beliefs held by your fellow workers affect your attitude toward the system?			If yes, did it generally affect you positively or negatively?		Q:2 How would you rate your Division's attitude in regard to the new system?		
	Yes	No	Not Sure	Positively	Negatively	Positive	Negative	Neutral
Partner N = 1		1						
Senior Manager N = 6	1	5			1	1	4	1
Manager N = 18	5	9	3		5	1	11	5
Accountant N = 20	10	7			10	2	10	7
Consultant N = 7	2	4			3	1	4	1
Secretary N = 10	4	4	1		3		5	4
Practice Service Staff N = 13	7	6		3	4	6	4	3
Other N = 4	1	3			1		1	2
Total = 79	**30** 41%	**39** 53%	**4** 6%	**3** 10%	**27** 90%	**11** 15%	**39** 53%	**23** 32%

Question 1: Did the attitude and beliefs held by your fellow workers affect your attitude toward the new system?

As can be seen in Table 14, just over half of participants (53%) reported that the attitudes and beliefs held by their fellow workers did not affect their attitude toward the new system. However, 41% reported that it did affect their attitude.

If yes, did it generally affect you positively or negatively?

As can be seen in Table 14, of those participants who did report that it affected them, the overwhelming majority (90%) reported that it affected them negatively. Only three Practice Service Staff reported that it affected them in a positive way.

Question 2: How would you rate your Division's attitude in regard to the new system?

As can be seen in Table 14, just over half of participants (53%) rated their group's attitude as negative in regard to the new system. This was reported to be due to a lack of understanding concerning the reports that were produced, the perception that the system was dysfunctional, confusion with reports, the system's poor functionality and the system being cumbersome. Only 15% of participants rated their Division's attitude toward the system as positive. Qualitative comments indicated that this was due to having insight into what to expect, and the view that people seemed to take on the system eagerly.

A selection of negative comments included:

"Change is always viewed with caution but because of poor communication, bitching and delays the culture had a negative attitude (SM4)"

"How could our organisation do this to us!!! Outrage!! We wouldn't do this to our clients (SM6)"

"If we can't get it right how can we help out clients with new systems (M9)"

"We have replaced a functional system with a dysfunctional one (M11)"

"Everyone hates it as it does not work properly (M19)"

"We can't understand our reports!! Some people on the reports left two years ago (S3)".

"We have replaced a functional system with a dysfunctional one (M11)".

"We saw the new system as helping us with timesheets and client information and these all appear to have created more work for us (M6)".

"Generally all comments about the new system are negative, there is not one single positive comment (A11)".

"We felt negative because the system seemed cumbersome and the support was minimal (A21)".

"Positive initially, however after a few weeks we as a group started to see many flaws in the system. Our attitudes went from positive to negative because of the systems failure to deliver a seamless transition (C4)".

"People were expecting, and told to expect one thing and received another (PSS7)".

"The problem is that all information and training was done on a broad base, nothing was done in fine detail. Divisions were left to find out by trial and error on what the system could or could not do on a day to day basis (PSS8)"

A selection of positive comments included:

"It was an exciting challenge to be a part of (C1)".

"Through experience with cultural change in previous jobs, I had an insight into what to expect. I also knew that it would only mean improvement to the old system (PSS9)".

"People seemed to take on the new system with an eagerness in hope that it would make their work easier (A19)".

Question 3: If your division had a culture that, in your opinion, was not supportive of the new system how could it have been improved?

As can be seen in Table 15, about half of the participants reported that more education about the new system (58%), more informative communication (50%) and greater participation from the business (50%) would have contributed to a more supportive division culture. These recommendations were closely followed by more regular communication and the ability to express concern, with less fear of consequences.

Table 15: Improvement in Divisional Culture

Q:3 If your division had a culture that, in your opinion, was not supportive of the new system, how could it have it been improved?							
Position	**Greater management. commitment to the system**	**Leader more overtly supports the system**	**More regular communication about the system**	**More informative communicatio n about the system**	**More education about the new system**	**Greater participation in the work processes associated with the system**	**Ability to express your opinions with less fear of negative consequences**
Partner N = 1					1	1	1
Senior Manager N = 6	1	1	1	1	1	2	
Manager N = 18	5	1	7	10	9	11	2
Accountan t N = 20	2	2	8	11	13	7	2
Consultant N = 7			2	1	2	4	1
Secretary N = 10	3	1	6	6	7	6	8
Practice Service Staff N = 13	7	6	7	7	9	7	7
Other N = 4			1	2	2		
Total = 79	**18** 23%	**11** 15%	**32** 42%	**38** 50%	**44** 58%	**38** 50%	**21** 27%

These results are consistent with those of the last study where the participants selected the same three factors: more informative communication, more education and greater participation, as possible improvements for their Division's culture.

Summary

Just over half (53%) of the participants reported that the attitudes and beliefs of their fellow workers did not affect their attitude toward the system. However, those who were affected were affected in a negative way. Again, just over half (53%) of participants

reported that their Division's culture was negative in regard to the new system. Similar percentages of participants reported that what would have improved the attitude of their division's culture was a preparedness to provide more education about the new system, more informative communication and greater participation in the development of the new processes.

These results were consistent with the last study where more informative communication, more education and greater participation were all rated highly as areas for improving culture.

7. Training and Information Sessions

Tables 16, 17,18 and 19 provide a summary of the results on computer training and information sessions.

Table 16: Summary of training results

Position	Q:1 Did you attend computer training and/or information sessions?			Q:5 Did you feel that you had enough appropriate knowledge after your computer training to use the system effectively in your role?			Q:6 Did you feel that you had enough knowledge after your information session to use the processes effectively in your role?			Q:7 Did you have enough support for any questions or problems when you went back to your Division?		
	Computer Training	Info. Sessions	No	Yes	No	Not Sure	Yes	No	Not sure	Yes	No	Not Sure
Partner N = 1			1									
Senior Manager N = 6	1	4	2	1			1	2	1	2	1	1
Manager N = 18	4	11	6		4			6		5	5	1
Accountant N = 20	2	7	13	1	1		2	5		2	5	1
Consultant N = 7	1	6	1	1			2	2	2	3	1	2
Secretary N = 10	7	6		1	6			6		3	6	
Practice Service Staff N = 13	12	7	1	3	7	2	1	6		4	6	1
Other N = 4	4	3		1	3		1	2		1	1	2
Total N = 79	**31** 40%	**44** 58%	**24** 31 %	**8** 25%	**21** 68%	**2** 7%	**7** 18%	**29** 74%	**3** 8%	**20** 38%	**25** 47%	**8** 15%

Question 1: Did you attend a computer based training program and/or information sessions?

As can be seen in Table 16, the majority (58%) attended information sessions with the remaining (40%) attending computer training. However, the participants who attended computer training would have also attended the information sessions. The difference between the percentage of participants who attended information sessions and computer training is due to only a selected group of participants being invited to computer training due to the limited access to the system. The participants who attended computer training were the Secretarial staff and the Practice Service staff. However, while the Practice Service staff were mostly positive about the new system the Secretarial staff were mostly negative about it, indicating that while the training assisted the attitudes of the Practice Service staff toward the system it did not promote a positive attitude with the Secretarial staff.

Question 2: If yes, what was <u>positive</u> about the computer based training and/or information sessions you attended?

Participants reported that the training provided relevant information, it afforded them the opportunity to hear other people's questions and provided an opportunity for participants to view the entire system. A selection of qualitative comments included:

Content:

"It provided relevant information in the use of the new system (A15)".

"It was good to hear other people's questions and responses (A20)".

"Well presented and thorough (SM2)"

"It raised awareness of the new system (M4)"

Trainers:

"The trainers were motivated and excited about the new system (SM3)".

"Information session presented professionally (M7)"

Documentation:

"Good information sessions, well run, good material (M5)

Question 3: what was <u>negative</u> about the computer based training and/or information sessions you attended?

Participants reported that the negative aspects of the training were that there was too much information for one session, that they needed documentation to take away with them, they needed more hands on experience, the training was not informative enough and that the trainer could not answer basic questions regarding the new system. A selection of qualitative comments are included below. They fell under three broad headings, content of the training, the documentation provided at training and the timing of the training.

Content

"Each session repeated too much (SM6)".

"We needed more hands on experience (M16)"

"Information session too high level, no detail provided (M7)"

"Presenters knew what was happening, but not necessarily why process decisions were made (M5)"

"The training was not informative enough (M9)".

"The training was too quick and unclear (S3)".

"A lot of it didn't make sense (PSS13).

"We needed to be shown the whole system not just our little part, so we could understand the full process (PSS11)".

Documentation

"We needed more documentation that we could take away and read (A1)".]

Timing of Training

"Timing of training was inappropriate (or should have been followed up at a later time as new developments were made) (M4)".

Question 4: How could have the computer training or the information sessions been <u>improved</u>?

Participants felt that information sessions could be improved by being more practical, having more informative trainers and more one-on-one training. A selection of qualitative comments include:

"More integration of sessions to avoid repetition (SM6)".

"The training needed to be more practical (M12)".

"I needed more information about how I would be impacted (M9)".

"More training for the trainers (S6,7&8)".

Question 5: Did you feel that you had enough appropriate knowledge after your <u>computer training</u> to use the system effectively in your role?

As can be seen in Table 15, about two thirds (68%) reported that they did not feel that they had enough appropriate knowledge after the computer training to use the system. This was reported to be due to participants feeling confused after the training sessions, and the sessions being too quick and too brief.

A selection of qualitative comments included:

"Felt totally confused after training (S6,7&8)".

"I had to use it several times before I gained familiarity with the system (S2)".

"A lot of the training was testing certain things and not the problems we would encounter in real life (PSS13)".

"Training was very brief. What we learned about the system was through trial and error (A1)".

Question 6: Did you feel that you had enough knowledge after your information session to use the processes effectively in your role?

As can be seen in Table 16, about three quarters of participants (74%) reported that they felt they did not have enough knowledge about the system after their information sessions. Participants commented that the training was confusing, the participants had to use the

system several times to gain familiarity, the training was presented too quickly and it did not cover problems that could occur in real life.

A selection of qualitative comments included:

"The sessions were an overview, there needed to be more tailored sessions with more real life examples (SM6)".

"No detail on what management information could be extracted (M7)".

"The session is hard to follow where no practical experience has incurred (C4)"

"I would actually like someone telling me how I should be using the system on a daily basis and summarising everything that it offers (C5)".

"Even though I can use the system (in a limited capacity) I don't fully understand its implication (A16)"

"I still had to call help desk and they didn't know either (S3)"

"Too short, too little information. The system was new to the trainers as well (PSS12)".

Question 7: Did you have enough support for any questions or problems when you went back to your Division?

As can be seen in Table 16, nearly half (47%) reported that they did not have enough support when they went back to their Division. Qualitative comments indicated that this was because it took days to receive answers to their questions, and often the help desk employees had to get the answers from somewhere else. The Secretarial and Practice Service staff made most of the comments of this kind, and this is probably due to these groups needing a lot of support in order to do their roles effectively. This could be due to these groups having to use the system the most in their daily work routine and also provide support in regard to the system to the Accountants and Managers. The 38% of participants who reported that they did have enough support and these participants also indicated that they had a number of people in their group that they could get assistance from.

A selection of qualitative comments from those participants who felt that they did not have enough support included:

"It was not until a manager from our group was seconded to the project that we had support (M12)"

"Helpdesk took too long to get back to us (M19)"

"It took a very long time to get an answer from the help desk (S1)".

"It was like the blind leading the blind (S2)

"It took days for any questions to be answered (PSS10)"

A selection of qualitative comments from those participants who reported that they did have enough support included:

"There were people on hand who had a good knowledge of the system to guide me if I experienced problems (A16)"

"Yes, all the system "Champions" were able to provide assistance (A20)"

"In my group a number of people were users so we were able to discuss our problems and come up with solutions (C1)".

Question 8: Overall, how would you rate the quality of the computer-based training you received in respect to the new system?

As can be seen in Table 17, less than half (45%) of participants reported that the computer-based training was good with more than one third (36%) reporting the training as poor.

Table 17: The quality of the training

Position	Q:8 Overall, how would you rate the quality of the computer based training you received in respect to the new system?			Q:9 Overall, how would you rate the conditions of the computer based training?			Q:10 Overall, how would you rate the quality of the information sessions you received in respect to the new processes?		
	Poor	Good	Neutral	Poor	Good	Neutral	Poor	Good	Neutral
Partner N = 1									
Senior Managers N = 6		1			1			3	1
Manager N = 18	1	2	1	2	1	1	1	4	6
Accountant N = 20		2			2		1	2	4
Consultant N = 7		1			1		2	2	1
Secretary N = 10	5	2		1	3	3	4		2
Practice Service Staff N = 13	2	5	5		8	4	2	3	2
Other N = 4	3	1		2	1	1	2		1
Total N = 79	**11** 36%	**14** 45%	**6** 19%	**5** 16%	**17** 55%	**9** 29%	**12** 28%	**14** 33%	**17** 39%

Question 9: Overall, how would you rate the conditions of the computer based training?

As can be seen in Table 17, only just over half (55%) of participants reported that the conditions of the computer-based training were good. While 16% of participants reported that the conditions were poor, their criticisms were more about the organisation of training rather than the conditions e.g. the duration of training was too short, difficulty getting into sessions and the training was too rushed.

A selection of qualitative comments illustrating these effects included:

"The numbers of participants were limited to manageable numbers and the physical comfort was good, however the time was too short" (PSS12)

"The training was good - but needed both computer based training and the information sessions together in order to put it all together (C1)".

"Difficult to get into the training sessions. Size and comfort good (S1)"

"I feel the training program was a little rushed. More one on one time should have been allocated (PSS8)".

Question 10: Overall, how would you rate the quality of the information sessions you received in respect to the new processes?

As can be seen in Table 17, the results were divided across most groups with 33% of participants overall reporting that the information sessions were good, 28% reporting that they were poor and 39% of participants answered "neutral" to this question. The disparity in the results could be due to different trainers running the information sessions, so that some participants may have attended information sessions that were presented in a clear manner and had their questions answered, and some participants may have attended sessions where the trainer was not as experienced and made them feel confused.

A selection of qualitative comments included:

"Very general information (C1)".

"It was not the staff, I feel they were helpful. Unfortunately the system had too many flaws (C4)".

"There were numerous hiccups and different answers (S2)"

"Some trainers were better than others. Too many sessions in too short a time frame making it hard to remember all the information (S4)"

"Extremely Poor - treated users as forced users, they had to use the system even if it wasn't meeting business requirements (M7)".

Question 11: Overall, how would you rate the competence (eg knowledge, training skills) of the trainers who conducted the <u>information sessions</u>?

As can be seen in Table 18, over half (60%) of participants reported that the competence of the trainers was good. However, 14% reported that the trainers were poor and this was reported to be due to the trainers not having the required skills in the information sessions, including inadequate communication skills and inconsistent information.

Table 18: Ratings on training sessions

Position	Q:11 Overall, how would you rate the competence (eg knowledge, training skills) of the trainers who conducted the information sessions.			Q:12 Overall, how would you rate the competence (eg knowledge, training skills) of the trainers who conducted the computer training.			Q:13 Overall, how would you rate the quality of the training material (eg handouts, manuals) that you received during the training sessions.		
	Poor	Good	Neutral	Poor	Good	Neutral	Poor	Good	Neutral
Partner N = 1									
Senior Manager N = 6		3	1		1			2	3
Manager N = 18		7	4		4		4	3	4
Accountant N = 20	1	6			2		3	2	3
Consultant N = 7		2	2		1		2	1	2
Secretary N = 10	1	2	3	3	3	1	3	3	3
Practice Service Staff N = 13	3	4		2	6	3	1	6	5
Other N = 4	1	1	1	1	1	1	1	1	2
Total N = 79	**6** 14%	**25** 60%	**11** 26%	**7** 23%	**18** 60%	**5** 17%	**14** 26%	**18** 33%	**22** 41%

These differing results may be due to the fact that there were different trainers who presented different information sessions and some were reported to be good and some were reported to be poor. Despite the majority saying that the trainers' competence and knowledge were good, there was only one positive qualitative comment. The negative comments included the trainers' communication skills being inadequate, lack of knowledge and the varied ability of the trainers.

The one positive comment was:

"The trainers were good - however because the system was still in the development stage it made it hard for them to give concrete answers to questions as some of the processes were still changing (C1)".

A selection of negative comments included:

"The trainers' knowledge was good but their communication skills were inadequate (S6, 7&8)".

"Had the impression that even the presenters didn't know what the system could do (M7)"

"I attended different areas of training and the ability of the trainers varied in all sessions (PSS2)

"The trainers did not have any skills in the particular information sessions and looked like they didn't know anything. They couldn't answer my questions (PSS13)".

Question 12: Overall, how would you rate the competence (eg knowledge, training skills) of the trainers who conducted the computer training?

As can be seen in Table 18, over half (60%) of the participants reported that the competence of the trainers was good, but 23% reported that it was poor. Again, the comments made were all negative and to do with the lack of consistency among the trainers and their lack of knowledge.

A selection of qualitative comments included:

"One was very good, the other one had only been with our organisation for a couple of weeks, so she knew the system well but not the implications to our organisation (S1)"

"The three day training was very good, the 1 1/2 day training very poor (PSS2)

"The trainers did not have any skills in the particular information session and it looked like they didn't know anything. They couldn't answer my questions (PSS13)"

Question 13: Overall, how would you rate the training material (eg handouts, manuals) that you received during the training sessions?

As can be seen in Table 18, the responses were divided with 41% of participants answering "neutral", 33% reporting the training materials were good and 26% reporting they were poor. No qualitative comments were provided for this question.

Question 14: Overall, how did the information or training you received (or did not receive) affect your attitude toward the new system?

As can be seen in Table 19, the responses were divided with 38% of participants reporting that it had a negative affect on their attitude, 40% answering "neutral", and only 22% reporting that it had a positive affect on their attitude. The Secretarial group particularly tended to report a negative affect. This result is of particular concern since they were the main source of information in regard to the system for their Divisions and also because they were one of the main users of the system. There was only one comment in response to this question:

"Negative! The information made it sound complex and difficult to use resulting in my apprehension (A20)".

Table 19: Ratings on Training, Attitudes toward system to present and future

Position	Q:14 Overall, how did the information or training you received (or did not receive) affect your attitude toward the new system?			Q:15 Overall, how would you rate your attitude toward the system at present?			Q:16 Overall, how do you rate your attitude toward future phases of the change program?		
	Negative	Positive	Neutral	Negative	Positive	Neutral	Negative	Positive	Neutral
Partner N = 1				1			1		
Senior Mng N = 6	3		3	3	1	2	2	2	2
Manager N = 18	8	2	9	12	3	3	5	5	8
Accountant N = 20	5	3	7	6	4	6	3	3	9
Consultant N = 7	2	1	2	3	1		3	1	
Secretary N = 10	6	2	1	5	3	1	6		4
Practice Service Staff N = 13	1	6	5	2	8	2	3	7	2
Other N = 4	1	1	1	3	1		1	2	1
Total N = 79	**26** 38%	**15** 22%	**28** 40%	**35** 50%	**21** 30%	**14** 20%	**24** 34%	**20** 29%	**26** 37%

Question 15: Overall, how would you rate your attitude toward the new system at present?

As can be seen in Table 19, the responses were divided with 50% of participants reporting that they felt negative toward the new system, only 30% reporting feeling positive and 20% feeling neutral. Contrary to the overall results, two thirds of the Practice Service Staff were positive. This might have been partly due to their being situated on their own floor and working together within their own Division so that they could offer each other instant support.

Question 16: Overall, how do you rate your attitude toward future phases of the change program?

As can be seen in Table 19, the responses were again divided with 37% of participants answering "neutral", 34% reporting their attitude was negative toward future phases of the program and only 29% reporting positive. The reasons for participants' negativity was that they could not see the benefit of the new system, the problems the system caused and the perceived lack of value that the system provided. The participants who felt positive did so out of hope that the system would improve.

A selection of negative comments included:

"I'm negative, but willing to be convinced that it will start to deliver value (P1)"

"The staff chosen to be part of the initial roll out where not the most appropriate (M2)"

"As I'm relatively new to the firm, any change doesn't make a big impact on my work practices. As I'm still learning the system, it is just another new concept that I have to embrace (M18)"

"The new system, in my opinion, causes problems such as not being able to write off time with unseen benefits (A8)"

"My attitude remains negative until I can be shown the benefits of the new system (M17)".

A positive comment included:

"I remain open to the new system processes once they are fully up and running. However, I hope to see a decline in my required administration time (eg for bills) (M4)"

Summary of Training and Information Sessions results

While the majority of participants reported attending either or both computer training and information sessions, most did not feel as though they had enough knowledge after the computer training or the information sessions and nearly half reported that they did not have enough support after training.

The ratings of the quality of training were poor with less than half of the participants rating the computer training as good and only a third rated the information sessions as good. This is an extremely poor result overall given that everyone in the organisation had to use the system to some extent, either through changes in work process (for example: filling out the correct forms to get a bill processed) or by actually having to use the system directly (for example: processing the bill).

While sixty percent of participants rated the competence of the trainers in the computer and information training as good, only 33% rated the materials they received in the training as good. Again, this is an extremely poor result overall when everyone within the organisation was affected and had to use the new system in some way or another.

Given the above results it is not surprising that half of the participants reported that they felt negative towards the new system with less than one third reporting that they felt positive. Similarly less than one third overall were positive in attitude toward future phases of the change program and close to one third were negative.

Discussion

Limitations of the study

A limitation of this study was its relatively low return rate compared with the previous study. This means that the results may be less representative of the Sydney office than the results of Study four were of the Adelaide office. While a larger number of responses were obtained in this study than in Study four, there were still insufficient numbers in many of the position considered to draw any confident conclusions about differences between the positions.

Involvement in prior change

Just over half of the participants had experienced some kind of organisational change prior to the current change but responses concerning whether it helped or impaired acceptance of the current change were divided with nearly half indicating it helped and nearly half that it neither helped nor hindered. Only a small number indicated that it impaired their acceptance.

Evaluation of the change program

Most of the participants' attitudes changed to negative throughout the change program due to the poor functionality of the system and the lack of perceived benefits. Not surprisingly, most participants rated the change process and outcome as unsuccessful. These results are in broad agreement with Robinson's (1989) research which suggests that a successful introduction of new technology may depend upon the assessment by users of the functional utility of the system.

Communication

While the majority of employees received relevant communications, only half rated the communication process as successful and only half reported that it was informative. The majority of participants reported that they did not receive adequate information from the Implementation Team or the Business about the change in regard to possible difficulties with the system and only half of the participants received information as to the reason for the new system and the new work processes that accompanied the system. Whilst most participants had the opportunity to ask questions they did not receive adequate answers.

These results are similar to those found in Study four and again support the research of Kotter and Schlesinger (1979) and Porras & Hoffer (1986) who stress the importance of getting employees to participate in the communication by setting up a feedback mechanism in order to rectify any problems, and to provide employees with regular communication that describes the benefits of the change and the rationale behind the change. Kotter & Schlesinger (1979) suggest that much of this information should be imparted one-on-one to enable the employee to ask questions and express any concerns. Klein (1994) also supports this position, and suggests that when communicating change efforts, face-to-face communication has a greater impact than any other single medium. He found that it was the interactive component of this process that is really effective as it helps to clarify any ambiguities that the employee may have and affords them the opportunity to voice their opinions and get an immediate response (Klein, 1994). Klein (1994) also suggests that employees need to receive information that enables them to have a reasonably full understanding of the personal implications of the change.

Working Relationships

Sixty percent of participants reported that their team's morale was affected in a negative way during the time of the implementation. The results also suggest that different groups

can be affected differently especially when their working relationships are altered with their peers and superiors. For example, the Secretarial group found themselves in a position of authority regarding the new system and thus had responsibility to frequently assist others especially their superiors. This is a finding that has not been prominently reported in the research literature and it would therefore warrant further research on a larger sample. In particular, it would be interesting to know to what extent this is more significant for information technology change compared with other kinds of change.

Organisational Culture

Just over half of the participants reported that their Division's culture was negative in regard to the new system. Improvements suggested included a culture that believed in the benefit of more education about new systems, more informative communication and greater participation.

A large percentage (41%) of the participants stated that they were affected by their Division's negative response to the change, and 90% of them were affected in a negative way.

Schein (1984) and Schneider (1990) make a distinction between an organisation's dominant culture and possible subcultures. The dominant culture is a set of core values shared by the majority of the organisation's members whereas subcultures, which are often overlooked within organisations, consist of values shared by a minority of employees that are often different to the dominant culture. Brown (1995) suggests that subcultures can weaken and undermine an organisation if they are in conflict with the dominant culture and/or the overall organisational objectives. Relating these theories back to the findings in the present study, it can be seen that aspects of a culture can have a negative impact upon the attempts by members of its groups to cope with change. Thus it is important for managers who are implementing new systems to be aware of this and to ensure that negative subcultures do not develop and, if they do, endeavour to manage them effectively to avoid disruption to other employees. This is consistent with research in the area of

subcultures in so far as subcultures can develop that either intensify or deviate from the core culture. At the most extreme, these subcultures can turn into counter-cultures that are opposed to the dominant culture of the organisation (Martin & Siehl, 1983; Trice, 1993; Trice & Beyer, 1993).

Computer Training and Information Sessions

Most participants felt that they did not have enough knowledge after training to do their jobs effectively and much of the training was not in context to their daily work routine, leaving employees feeling worried and concerned. They also did not receive adequate answers to their questions. This is consistent with the training literature that suggests that if training omits explanations of key factors such as how participants should use the information from the system in their daily work routine they will leave the training feeling lost (Currid, 1995). In the present study this seemed to be due to the training not being informative enough, the trainers' inability to answer basic questions regarding the new system and the training being too quick and unclear. The training left many of the participants feeling insecure, anxious and negative toward the system.

The most striking finding was the varied responses in regard to the effectiveness of the training. This finding could have been due to the variety of trainers and their different levels of knowledge, experience and training skills. Another possible explanation is that questions 1 to 4 were concerned with both the computer training and the information sessions, making it difficult for the researcher to know which participants were referring to. It would be advisable for future studies to separate questions involving different types of training.

Differences Between Positions

Prior Organisational Change

The data suggest that the majority of participants had experienced some kind of organisational change prior to the current change. The Accountant group was the only group where the majority reported that they did not experience any kind of change prior to the present one. Again, this was consistent with the last study and may be due to the fact that many accountants come into the firm as graduates and therefore would not have had any other organisational experience, including prior organisational change.

Evaluation of the change

The majority of participants reported that their attitude toward the Phase 2 rollout changed to negative, and the reasons for this were mainly due to the poor functionality of the system and the lack of perceived benefits of the system. The two groups who were most affected in this way were the Managers and the Accountants. The only group whose attitude tended to change to positive was the Practice Service Staff.

The only group, a majority of whom (55%) reported the change outcome as successful was the Accountant group. One possible reason for this is that the majority of Accountants had not experienced prior organisational change, so they may not have had anything to compare the recent change with.

The secretarial group was the most negative with 60% of the participants in this group reporting that they were negative about future phases of the implementation.

Communication

Of those participants who answered the question, nearly all (92%) reported that they received information about the new system. More than half of the Consultant and Manager groups were communicated to via meetings and the Manager group were the main group who accessed the website for communications regarding the new system. The Practice Service Staff were mainly communicated with through face-to-face communications and

memos. The two groups who mostly reported that they did get answers to their questions were the Managers and the Secretaries.

While less than one third the sample overall stated that they had an opportunity to discuss how the change would affect them, none of the eight secretaries was given this opportunity. While less than one quarter of the sample overall reported that they had an opportunity to provide input into the new processes, again none of the eight secretaries was given this opportunity.

Again, while less than one quarter of the sample reported that the Implementation Team listened to their concerns, none of the Secretarial group reported this. This is of particular concern for Secretaries since they were one of the groups that had most to do with the system.

The two groups with a large majority of who reported receiving information from the Business as to the reasons for the new system were the Managers and the Practice Service Staff.

Less than one third of the sample overall reported that the Implementation Team provided them with regular information in regard to what was happening during Phase 2. This was particularly the case for the Secretarial and Accountants groups.

While one third of participants rated the information as uninformative this was the case for the majority of the Consultant group. This could be due to the Consultants being communicated to mainly via memo and the fact that they were out of the office working with clients for a large part of the week.

While nearly half of the participants overall rated the overall communication process as unsuccessful none of the 10 secretaries rated it as successful.

Working Relationships

The only group indicating a positive affect of the implementation team on morale was the Practice Service Staff although only three out of 12 group gave this response. The particularly negative responses for the Secretarial group may have been due to their having more access to the system and being relied upon by others to print out reports and process bills.

Organisational Culture

About 40% of participants reported that the attitudes and beliefs of their fellow workers affected their attitude toward the system and in 90% of cases these affects were negative. The two groups most affected in this way were the Accountants and the Practice Service Staff.

Again, just over half (53%) of participants reported that their Division's culture was negative in regard to the new system. This was particularly evident in the manager and Accountant groups. The only positive responses came from about half of the Practice Service Staff and this is consistent where this group being the only group indicating any positive affects of the implementation on team morale.

Training and Information Sessions

The Secretarial and the Practice Service Staff were the only groups who attended computer training. Most of the participants in both of these groups felt that they did not have enough knowledge after the computer training or the information sessions and also felt that they did not get enough post training support.

Practical Implications for Organisations

The results suggest that employees' experience of prior organisational change, may affect their acceptance of any new organisational change. It may therefore be useful for organisations to check on employees' prior experiences of change, and if the affects have been negative, identify the relevant issues and adopt appropriate strategies to deal with them.

It is also important for organisations to be aware of the importance of ensuring that the new system is reliable and is beneficial to the users. If this does not occur, as the results suggest, it will be difficult to prevent employees from feeling negative toward that new system no matter how good the implementation is.

When organisations communicate information about a change to staff they need to ensure that it is provided in a concrete fashion so that employees have a good understanding of how the change will affect them. Organisations also need to set up a feedback mechanism and invite employees to participate in the process so that they can provide feedback, comment and suggestions in regard to the change process. This also provides a mechanism to detect problems and misunderstandings so that they can be quickly rectified. A feedback system of this kind also shows that the organisation is committed to the employees' participation in the implementation. The communication also needs to be face-to-face and one-on-one if possible so that employees can ask questions there and then. The communication should also tell employees about the benefits of the change and the rationale behind the change.

It is important for organisations to be aware that a change in working relationships, especially for the end users, may have a negative affect and that this could have an impact on team morale. The changes in working relationships for this group can include an increased workload, being responsible for assisting others within their team, especially their superiors. It may be useful for managers to monitor their team's working

relationships to ensure that they are running smoothly and if there is a change in reporting lines, that team members have a clear understanding of their role and responsibilities, their performance objectives and who they are reporting to.

The type of feedback, particularly of training, needs to be carefully considered if they are to proved accurate and informative assessments. It was found in this study and in Study four that while general assessments of training tended to be positive, assessments of specific aspects of training were much less positive. These results are consistent with research by Smithers (1994) that suggests that general assessments are not particularly effective in capturing the participants' true experiences. Many organisations do not evaluate their training properly. For example, Kirkpatrick (1978) found that 75 percent of organisation used the general reaction of the participants as a basis for evaluation, less than 20 percent measured behavioural changes and approximately 15% looked at on the job results as measured by supervisor ratings.

Organisations need to be aware that the negative attitudes of other co-workers may impact employees in a negative way. Managers also need to be aware of subcultures emerging in relation to negativity toward a system or the work processes surrounding the system. Managers may find it useful to assess their organisational culture and monitor their group's social climate. This could be done either through one on one discussion with members of the group or more formally via a survey for confidentiality.

Organisations need to ensure that employees have enough support when they go back to their Divisions, that the trainers are well equipped to answer employee questions in relation to the system, and for the materials to be clear and concise. Organisations may find it useful to evaluate each training session and its trainer(s) by asking for feedback from the participants so that they can make changes for future sessions. The present results suggest that it is important to survey all groups involved in training as some groups

may respond more positively or negatively than others, depending on their roles in the change program. The present results also suggest that this kind of survey is an important aspect of any change program as negative training experiences can leave participants feeling negative toward the new system.

CHAPTER 12: GENERAL DISCUSSION

Major issues concerning organisational change

Much of the research on organisational change identifies employee resistance as one of the major obstacles to successful implementations (Brockner, Greenberg, Brockner, Bortz, Davy & Carter, 1986). Resistance occurs because human beings often form patterns of habitual behaviour that contribute to their sense of well-being, security and comfort. When this routine is disrupted, through organisational change, employees can often feel anxious, stressed and they may have concerns about their survival within the organisation (Miller & Yeager, 1993).

One of the most recent and common organisational changes is the introduction of new information technology (IT) into an organisation and this can be particularly problematic as it involves new technology and equipment with associated changes in work procedures that could involve cultural changes as well. Cultural changes occur because often employees are required to form new working relationships and new ways of completing their tasks (Miller & Yeager, 1993).

The research in regard to organisational change has focussed on ways in which organisations can assist employees in order to encourage the acceptance of organisational change. This includes; participation in the change process, effective communication strategies, and a supportive organisational culture, leadership and training. Much of this research, however, has been associated with changes such as mergers, takeovers and downsizing and has failed to look at how these factors affect employee acceptance of new information technology.

While there has been important research in regard to the system factors that affect acceptance of IT change, such as perceived usefulness of the new system and its perceived ease of use (Davis, 1989), it has failed to look at the broader organisational factors that can affect an employee long before they have any contact with the new system. There has been some focus on what has been termed "exogenous variables" that can affect computing acceptance but these have only included internal support, internal training and

management support (Thong, Yap, & Raman, 1996) and they have failed to explore broader organisational issues that can affect computing acceptance. For example, many projects are up and running for many months before the new system is implemented, during which time employees can form opinions about the new system that are either positive or negative before they have actually encountered the new system. During this time the organisation needs to drive the change and promote the acceptance of the idea of the new technology, so that the employees are positive about the new system and in a positive frame of mind to receive training and information as to what the system can offer them and their role at work (Thong, Yap, & Raman, 1996).

The purpose of this thesis was to look at the following factors associated with the acceptance of new change in information technology (IT); the role of prior experience of change, effective communication strategies including participation in the change process, the organisational culture within which the employee works, their position and working relationships within the organisation, leadership and training (Bass, 1990; Bennis & Nanus, 1985; Conger 1989; Dopson & Neumann, 1998; Dunphy & Stace 1990; Fulmer & Gilkey, 1988; Klein, 1994; Kotter & Schelesigner, 1979; Peters 1988; Schein, 1990; Schwieger, Ivancevich & Power, 1987; Tichy & Devanna, 1984; Tichy & Ulrich, 1994; Yukl, 1989). The practical issues to be investigated concerned what organisations can do to prepare employees for new technology and to promote acceptance of a new system.

Methodological Issues

Study One

The first study used a qualitative method called a document analysis whereby case studies were read and evaluated in terms of the user issues. The documents were evaluations that a consulting firm conducted after different IT systems were implemented into a number of different organisations. Ten case studies were selected; five "unsuccessful" and five "successful" change processes as rated by the consultants in their reports. These were deliberately chosen in order to make a comparative evaluation. The purpose of the first

study was to identify the factors that contributed to a successful and unsuccessful system implementation.

A possible limitation of this methodology was that the data were secondary, in that the information and conclusions presented were based on someone else's interpretation of original interviews and questionnaires. However, despite this limitation, the case studies were very clear as to what questions were asked about the system and they covered most (though not all in every case) of the appropriate facets of a new implementation according to the research literature (Bikson, Stasz, Mankin, 1985; De & Farrat, 1998; Doll, 1985; Ein-Dor & Segev, 1978; Laudon & Laudon, 2000; McFarlan, 1981). Moreover, the case studies provided a reasonable amount of qualitative statements that came directly from the users, allowing the researcher to gain an understanding of the users' thoughts and feelings about the new systems.

Study Two

A qualitative methodology by way of interview was used for the second study. A large organisation was used in this study that was originally a family business (Organisation A) and then merged with another large corporation (Organisation B) creating a new company (Organisation C). As reported by the employees, the two organisations had very different cultures and this proved problematic during the merger. Shortly after the two organisations merged a new Information Technology system was put into place. The interviews took place approximately 12 months after the system had been implemented. The interviews were of approximately 1 hour duration each and the participants were given an information sheet two days prior to the interview so they were familiar with the research being conducted. Directly after the interview, the notes were transcribed verbatim from a tape recorder and the data were analysed by extracting relevant information that answered the study's research questions.

The study used a stratified purposeful sample (Patton, 1990) of ten individuals who were from Organisation C. There were three females and seven males. The participants were

selected after discussions between the researcher and the organisation's Project Manager. They were selected on the basis of their involvement with the new system and their varied perspectives of the change. The participants ranged from managers to general staff. Most participants had hands on involvement with the new system although one participant refused to use the new system but was nevertheless interviewed to obtain his views on the change and how it impacted him and his department.

One limitation of this study was its small sample size. However, the participants came from a range of positions within the organisation and so provided different perspectives of the change. For example, the systems implementers were interviewed as well as the employees who had to use the system. Another possible limitation was that the participants were volunteers who might have had some positive or negative bias that made them agree to participate in the study.

Study Three

A combination of qualitative and quantitative methodologies was chosen for Study three. The same organisation was used in Study three as Study two.

A structured questionnaire was used to gain an insight into employees' experiences during a major Information Technology change. The questionnaire had a combination of qualitative and quantitative questions. Qualitative methods such as open-ended questions were used to allow the researcher to gain an insight into the reactions of the participants and allow the participants to describe their experiences in their own words. The quantitative questions allowed them to rate each factor using a seven point likert scale and the qualitative questions allowed participants to provide verbal responses in relation to their experiences. The questionnaire consisted of eight sections: 1. Demographic variables, 2. Involvement in prior change. 3. Evaluation of the change, 4. Communication, 5. Leadership style, 6. Organisational Culture, 7. Training, 8. Coping Skills. 9. Personal Circumstances and 10. Impact of other changes in the organisation. These factors were based on Study two and the relevant research literature (Bass, 1990; Bennis & Nanus,

1985; Conger 1989; Dunphy & Stace 1990; Klein, 1994; Kotter & Schlesinger, 1979; Schein, 1990; Schwieger, Ivancevich & Power, 1987; Tichy & Devanna, 1984; Tichy & Ulrich, 1994; Yukl, 1989).

The questionnaires were electronically sent to 700 employees who had recently gone through a major organisational change. However, only 16 participants responded. It is not known exactly why this response rate was so low although the subsequent information suggested that employees were quite negative about the system implementation so they might have been reluctant to fill out a questionnaire. Moreover, discussion with the managers suggested that employees might not have wanted to complete the questionnaires because they were required to complete many similar questionnaires during the time of the implementation.

However, despite the limited numbers, the study provided some useful insights into the issues associated with information systems implementations that acted as a pilot study for the further studies that were carried out.

Study Four

In Study four a different organisation was used. The organisation was an international accounting and consulting firm who implemented a practice management system Australia wide. The same questionnaire was used (as in Study three) to gain an insight into employees' experiences during a major Information Technology change. However, the questionnaire was shortened as some of the feedback from participants suggested that the questionnaire took too long to fill out. Accordingly, some of the questions that were not always answered were omitted, particularly those that were more personal; for example, those questions concerning coping with stress. The leadership questions were omitted on the organisation's request due to the sensitivity of the project and many of the managers' concerns about their involvement in it. The main purpose of this study was to gain more participants, given that the response rate for Study three was so poor.

Another reason for using a different organisation was to see if the previous findings could be generalised to other organisations that were going through a similar Information Technology change. The organisation used had at the time of the study approximately 3000 employees throughout Australia. The participants used in this study came from the Adelaide office in South Australia.

The questionnaires were sent out via the internal mail system rather than via email as in the previous study. The questionnaires were sent to 80 employees and 52 responded to the questionnaire.

Study Five

The same quantitative and qualitative methodology was chosen for this study. The same organisation was used in Study five as Study four; that is, an international chartered accounting and consulting firm. The main purpose of this study was to gain a larger sample in order to examine differences between different positions in the organization in how they responded to the information technology change.

The questionnaires were sent via internal mail to 300 employees who had recently gone through a major implementation of a new information technology system. Eighty employees responded to the questionnaire. While the participants ranged from Partners to general employees and was representative of the types of end-users within the organisation as with the previous study, there was a relatively poor response rate. Possible reasons for the poor response rate include a greater emphasis than in the Adelaide office on employees being accountable for the chargeability of their time throughout the day, generally negative responses to the change program and the fact that in Study four there were designated "Champions of the change program" chosen to assist in distributing and collecting the questionnaires from the specified participants, whereas no such structure was in place for Study five. These "Champions" were well known within the Adelaide office and their influence might have made employees more willing to participate in the research.

While the number of responses was greater in Study five than Study four, there were still insufficient numbers in many of the positions to provide statistical comparisons between the positions. Comparisons were based largely on descriptive and qualitative data.

However, the patterns of results across all five studies using different organisations were generally consistent suggesting that the various organisational factors investigated, including positions, did influence employee acceptance and evaluation of the information technology programs.

Theoretical Findings

- *Contingency Theory (Joan Woodward, 1980)*

While Woodward (1980) conducted a study on technology at work, she used one hundred production firms which make it difficult to relate her findings directly to professional service organizations. Moreover, her model does not include issues associated with politics within the organization but is focused heavily on technology as a determinant of an organisation's structure excluding social and contextual factors of the organisation (eg working relationships, changes in jobs, the culture in which the technology is implemented etc.)

The results of the present research suggest that while IT technology is important in terms of its functionality on employee acceptance, other factors such as organisational culture, the style of communication and training also play a major role in IT technology being successfully implemented. The organisations studied in this thesis had structures that were quite separate from the similar IT technologies that were implemented, again differing from Woodward's (1980) findings that manufacturing technology is a determinant of structure.

- *Labour Process Model (Harry Braverman 1974)*

Consistent with Woodward's (1980) approach, Braverman (1974) focused on a manufacturing environment in his explanation of organisational change and technology. He examined technology in relation to the labour process and the worker and focused on class conflict, namely capital and labour, where capital seeks to continuously increase the productivity of labour. Braverman neglects other factors associated with employee resistance and he also assumes that management is a homogenous group whereas the present research suggests that individuals within different management positions often differ in their views on information technology change, including their acceptance and evaluation of the change process.

- *Kurt Lewin's Three Stage Process Model*

Kurt Lewin's (1951) three stage process model of change consists of the Unfreezing, Changing and the Refreezing stages.

The "Unfreezing" stage consists of the change agent or management generating a motivation to change in an attempt to overcome resistance. Lewin (1951) suggests that one way of achieving this is to demonstrate within an organisation that the current business processes are unsatisfactory. Relating this step to the current research, this did not seem to happen, as there was no perceived attempt to create dissatisfaction with the old system before bringing in the new. In fact this was one of the criticisms that employees had as they did not see the benefits of the new system over the old system.

In the "Changing" stage the change is actually implemented whereby the employees learn new skills and or acquire new values, attitudes and behaviours. One of the main criticisms of Lewin's Field Theory is that there has been no empirical evidence for it (Allan 1995; McLoughlin & Clark 1994). For example, researchers have argued that organisations are changing entities and are rarely "frozen", much less "refrozen" (Kanter, Stein & Jick, 1992). Another criticism is that linear models such as Lewin's often do not correlate with the actual unfolding of organisational change within organisations

(Buchanan & Boddy, 1992). All of these issues were factors that were found in the present studies to affect employee acceptance of change. For example, the organisations used in these studies had all been undergoing many changes for some time suggesting that they were not "frozen" and could not be "refrozen". These organisations were also involved in the types of industries that were competitive and required them to adopt a continuous improvement model to stay competitive so that they were continually changing at some level. These organisations also demonstrated that change does not occur in a linear fashion and that many change processes experience difficulties that require implementation teams to review and change the processes involved.

In the "Refreezing" stage the new skills, behaviour and attitudes become set into the culture of the organisation. Lewin (1951) suggests that organisations must reinforce the new behaviours with incentives or rewards, anticipate difficulties with the new system and set up feedback mechanisms. This was one of the criticisms of the change process in the current research in that the organisations did not set up any kind of feedback mechanism. In fact, in many cases they discouraged feedback. Nor was there any type of reward or incentive for people to use the system and solve problems associated with it.

The argument that organisations are now never "frozen" much less "refrozen" (Kanter, Stein & Jick, 1992) is particularly so in relation to new information technology. Organisations today, are continuously upgrading their technology to stay competitive in the market place (Dunphy & Stace, 1990; Terry & Callan, 1997; Gilmore, Shea & Useem, 1997).

- *Organisational Development*

The discipline of organisational development (OD) describes a model for implementing and managing change. Organisational development can target all levels of an organisation such as interpersonal, social processes, values, beliefs of work groups, the organisational structure and process. Firstly, organisational development is planned and follows a logical sequence. OD is a data based approach to change and involves goal

setting, action planning, implementation, monitoring and taking corrective action when necessary. Secondly, OD is problem-oriented; for example, it is based on theory and research from a number of disciplines including behavioural science, in order to find solutions to an organisation's problems. Thirdly, OD reflects a systems approach to change. OD is both systemic and systematic and more closely links the human resources and potential of an organisation to its technology, structure and management processes.

One of the criticisms of the organisational development model is that it is evolutionary rather than revolutionary and assumes sufficient time for effective and careful planning with widespread participation (Dunphy & Stace, 1990). However, many organisations are now faced with having to change very quickly due to takeovers, mergers and downsizing. These changes are often driven from the top down in a coercive manner (Dunphy & Stace, 1990). However, it could be argued that an organisation that is used to change, under the organisational development model is more "change ready", thus when fast change does occur the employees and management are better equipped to handle it effectively (Ivancevich, Olekalns & Matteson, 1997)

The organisation used in Study three loosely applied the principles of organisational development in terms of an ongoing process of improvement. However, this was not done in a systematic fashion throughout the organisation, but occurred in individual divisions and the success of this initiative was dependent upon the leader of each group. Some leaders felt that organisational development was important and others not.

- *Contingency Model of Change (Dunphy & Stace, 1990)*

Dunphy & Stace's (1990) model aims to classify the different approaches to organisational change. Their model combines two dimensions; the scale of change and the leadership style to form a matrix to indicate the various change approaches that could be adapted to an organisational change program.

Dunphy & Stace (1990) identify the following factors as important in the analysis of a situation. 1. the extent to which the current organisational practices are "in fit" with environmental conditions; 2. the extent to which there is resistance to the organisational change and; 3. the urgency with which the change must be implemented.

The four approaches to change according to Dunphy & Stace (1990) are the Developmental transitions approach; Task-focussed transition approach; Charismatic transformations approach and the Turnarounds approach.

Stace & Dunphy (1996) suggest that when implementing these approaches it is important to have appropriate leaders in order to translate new strategic visions into action and to ensure that the change is communicated effectively and is eventually translated into the concrete actions of employees.

In the present research both organisations (the energy firm and accounting firm) that were used in the research experienced task-focussed transitions whereby the change was strongly driven from the top and it represented constant and rapid change. Weak or inadequate leadership in these types of changes can prove to be a significant problem when using this type of approach (Dunphy & Stace, 1990). For example, one of the negative aspects of leadership found in Study three was that leaders did not explain to the employees how the change would affect them.

In Study three of the present research, while only three of the 12 managers might be classified as lacking in positive characteristics and overly negative in terms of handling the implementation, most managers had relatively few of the positive characteristics listed as appropriate for handling the implementation. The two negative behaviours that the majority of participants highlighted were that their leader did not explain how the change would affect them and their colleagues, and that their leader did not hold regular meetings whereby the staff could ask questions and get satisfactory answers. Only six of the participants rated the way their leader handled the implementation as successful.

- *Processual Approach to Change (Pettigrew, 1985; Dawson, 1994)*

Unlike other approaches, the processual approach to change views change as a complex dynamic process that does not necessarily fit into a predefined series of linear events. Dawson (1994) suggests that past change programs and future expectations are important to understanding the current contextual conditions under which change is being implemented. In Dawson's (1994) model there are three main groups of determinants that are used to explain the process of organisational transitions. These are the politics, context and substance of change

The "politics" of change includes several elements such as conflict and resistance, decision and non-decision making, processes of negotiation and consultation and how individuals and groups can have an influence on the substance, the transition and the outcome of organisational change. It is also concerned with ongoing power plays and political activity. In the organisations used in all of the present studies the politics of change were quite active with resistance at all levels starting with the senior management through to the end users. For example, senior management often refused to attend information sessions that resulted in them failing to act as role models by showing their support for the system and failing to get the information they needed to use the system. The end-users showed their lack of support by not using the system properly, by taking convenient short cuts. There was also a lack of participation and consultation and often when decisions were made they were not communicated to the business formally, leaving room for rumour and gossip. Power playing also occurred within the Implementation Team with information in regard to the project being kept from certain members of the team.

The "context" of change is the changing internal and external contextual conditions that can influence the current operations and future organisational expectations. A major external element for the organisation used in Studies two and three was the need to become more competitive. For the organisation used in Studies four and five an

important external element was the need to comply with the year 2000 requirements. To conform to the compliance a new system needed to be developed and implemented.

The internal elements for the organisation used in Studies two and three were the human resources in terms of employee resistance and lack of skilled team leaders in driving change and the changes in the new technology and subsequent work processes. The internal elements for the organisation used in Studies four and five were the different divisions within the organisation and their different system requirements, conflicts between the resources promised to the project and the actual resources given. This was mainly in terms of human resources such as key users that acted as an interface between the project and the business.

The "substance" of change consists of the core elements of particular workplace change initiatives. For example, in Studies four and five, the substance of change was the new IT system, the time frame in which it was implemented and the importance of the system in terms of Y2K compliance.

Dawson's (1994) view of organisational change as a complex dynamic process that is difficult to fit into predefined linear events fits well with the findings within the current research. While both organisations used in this research had a set timetable in which to implement the new information technology, the determinants of change as suggested by Dawson (1994) (politics, context and substance) all impacted upon the implementations throughout the entire project. Each of these is discussed in turn:

- *Politics of Change*

Dawson describes the politics of change as including several elements such as conflict and resistance, decision-making, processes of negotiation and consultation and how individuals and groups can have influence on the change outcome. In the organisations used in these studies the two main areas that were evident in regard to politics of change were different levels of resistance and conflict.

In the organisation used in Studies two and three there was considerable conflict about the system but also about the merger that was ongoing at the same time. The conflict and resistance was overt in this organisation and the focus of the employees' anger about the merger seemed to be placed upon the new information system. Their anger took many forms but one that was particularly confronting were posters that were put on the walls of the offices protesting about the system and requesting that the old system be re-implemented.

In the organisation used in Studies four and five, conflict between the implementation team and the business occurred. For example, the project manager for the implementation team was dismissed half way through the change implementation, there were conflicts over budgetary requirements and resources for the implementation team such as employees from the business being seconded onto the project. The conflict emerged because the Business promised to provide a certain amount of employees and then refused to do this when the time came. Resistance also occurred throughout the implementation from the business particularly with the manager group who were negative toward the new system. This was evident by their lack of attendance at information sessions about the new system. As a result, they had difficulty in understanding the new work processes associated with the change and provided a poor example to their employees who looked to them for leadership and approval of the new system.

- *The Context of Change*

The Context of change includes the inter-relationship between internal and external elements of the organisation. For example, external elements might include; changes in market conditions, the emergence of new technologies or management systems and changes in competitor environments. Internal elements include human resources, administrative structures, technology, products or services and history and culture.

The organisation used in Studies two and three resulted from a merger with another organisation in order to become more competitive in their industry. As part of the merger an organisational restructure took place together with the implementation of a new financial system. The internal elements that affected the change process were the human resources, (eg new skills were required and new ways of doing things and often new people); the administrative structures were altered by way of new work processes to support the system. This dramatically affected the current operating practices of the organisation as new work processes were implemented. The technology also had a dramatic impact upon the current operating practice as a new financial system was implemented together with accompanying work processes. Finally, the organisation taken over had a strong history and employees from that organisation found it very difficult to accept the new organisation's management system and culture. This impacted the change process and outcome in terms of a significant amount of resistance towards the new financial system as well as difficulties in merging the two cultures. Although the merger had taken place at least a year before the study was conducted the employees still identified more strongly with their old organisation than the new one.

The organisation used in Studies four and five also had external and internal elements that affected the organisation's current operating practice. One of the major influences that drove the organisation to implement its new practice management system was the need to become aligned to the year 2000 requirements.

The internal elements that influenced the current practice were the implementation of the new technology that provided the improved reporting systems, the new work processes that accompanied the new reporting system and the employees within the organisation who resisted the change.

- *The Substance of Change*

The substance of change consists of four main dimensions; the scale and scope of the change; the defining characteristics of the change program; the importance of the change to the survival of the organisation and the timeframe of the change.

In the organisation used in Studies two and three the change was a radical large-scale transformation as it consisted of a merger, downsizing, an organisational restructure together with the implementation of a new information technology system. The content of the change program involved merging the two organisations' cultures and the new technology system was implemented to facilitate this process. The employees reported that they saw it as an attempt to merge the two organisational cultures. Many employees protested at this as they felt their history had been lost. The change in Organisation C was implemented over a period of two and a half years with the changes being continuous during this time.

The Organisation used in Studies four and five implemented a large-scale information technology change but it did not involve a merger and restructure as experienced by Organisation C. The defining characteristic of the change program was that it was a new management system that would improve the financial reporting of the firm. The change was not important to the survival of the firm. The timeframe of the change evolved over an 18-month period.

- *New Wave Manufacturing Models*

The new wave manufacturing models emerged out of businesses themselves. The new wave manufacturing initiatives include several different methods such as Total Quality Management; Business Process Re-engineering and Best Practice Management (Storey, 1994).

While there are many of these methodologies in existence, the common themes that tend to run through them are flexibility, quality, teamwork and continual improvement. They

also promote employee participation and it is often the human factor that is critical to the success or failure of the implementation of the new principles (Agarwal & Karahanna, 2000; Storey, 1994). However, as the results of the present studies suggest, consultants who use these methodologies often do not have a deep understanding of the importance of managing the human resource processes that are associated with the workplace change being implemented. One of the main criticisms of the implementations in the current research was the lack of consideration of the human side of the change. Examples of this included the results from Studies three, four and five that found a lack of employee participation, lack of formal feedback mechanisms within the communication process whereby employees could voice their concerns and the inappropriate management of employee expectations. There also seemed to be a lack of understanding of how much the system would impact upon employees, especially in regard to the new work processes associated with the new system, such as filling in the appropriate forms in order to get a bill processed.

These results suggest that to be useful, these methodologies need to adequately consider the human side of the change process, and, in particular, the resistance that may occur and the organisational culture within which the change is implemented.

Practical Findings

Experiencing prior organisational change

Most participants in Studies four and five had experienced prior change and reported that it helped because they knew that it was good for the business and that change can be managed well. The Accountant group was the only group where the majority reported that they did not experience any kind of change prior to the present one. This could be due to their level of employment. Many of the Accountant group may have come into the firm as graduates and it could be their first job and thus they did not had the opportunity to experience organisational change.

Despite most people in Studies three and four reporting that experiencing prior change helped them, in Study five the results were almost evenly divided between those reporting that it helped their acceptance of the present change and those reporting that it neither helped nor impaired their acceptance.

Employee acceptance and evaluation of change

- *Change of Attitude*

Participants' responses toward the change process also varied with some remaining neutral or becoming less positive throughout the change process to some becoming very negative.

This was due (in Studies four and five) largely to poor functionality of the IT system, poor communication with no involvement in the decision making, the system being too slow, having greater expectations than what the system delivered, too much paper work, lack of confidence in using the system back at the workplace and frustrations with the system because it was difficult to use and did not provide accurate financial results. The only group whose attitude changed to positive was the Practice Service Staff. This may be due to this group having more extensive training and having to use the system on a daily basis, thus they became familiar with the system more quickly and gained more confidence in using it.

- *Attitude toward future change*

The participants in Study three felt confident about future change programs despite the difficulties experienced in previous change but the majority of respondents in Studies four and five felt neutral about future phases of the project. This would be of concern to organisations that are implementing change, as they need employees to be positive and use the system effectively in order to move forward to future phases successfully.

In Studies three and five most of the participants rated the implementation process as unsuccessful. However in Study four the participants were divided in regard to the success of the change process with slightly more saying it was successful than

unsuccessful. This evaluation appeared to depend to some extent on position as in both the Accountant group and Secretarial groups, the majority rated the change process as successful. In all the studies the participants were divided as to whether or not the change was successful or unsuccessful with results leaning slightly more toward unsuccessful.

These results are in broad agreement with Robinson's (1989) research which suggests that the perceived functional utility of a system is related to the usage of that system and which further suggests that a successful introduction of new technology may depend upon the potential users' assessment of the functional utility of the system. Relating Robinson's (1989) finding to the findings in Studies three, four and five, it was apparent from the qualitative comments that many participants perceived that the system's functionality in the studies was poor and the system did not produce the required results. This in turn left users feeling negative toward the system, with some users even avoiding the system.

The present results also suggest that organisational factors apart from the functionality of the system, influence employee acceptance and evaluation of the change process and outcome. While the statistical analyses were limited by the relatively low numbers of subjects and the large numbers of variables, taken together across the studies, they suggest that organisational factors like communication, leadership, organisational culture, working relationships and position in the organization can influence employee acceptance and evaluation of change. Thus, to facilitate employee acceptance of information technology change, organizations need not only to ensure that the new system is functional and meets its objectives, but that other organisational factors associated with the change process also need to be carefully considered.

Communication

The results of the present Studies suggest that there are specific elements of the communication process that can have a particularly important impact upon an employee's acceptance of new information technology and these are consistent with research in this area (Klein, 1994; Kotter & Schlesinger, 1979; Porras & Hoffer, 1986). The elements of

the communication process that are important for organisations to consider, fall under four headings: the content of the communication message; the timing of the communication; the medium in which it is presented and the extent to which employees are involved in the communication process (Klein, 1994; Kotter & Schlesinger, 1979). These are discussed in more detail below:

- *Content of the message*

The contents of the communications that were investigated in this thesis were; appropriate expectation of the system, the difficulties that may occur, benefits of the new system and work processes, the affect of the change on employees and reasons for the new system.

The majority of participants in Study five reported that they did not receive information as to the appropriate expectations that they should have about the system from the Business nor the Implementation Team nor were they given any information in regard to the possible difficulties that could occur with the system.

In regard to the benefits of the new system and work processes, nearly two-thirds of participants in Study four reported that they received information regarding the benefits of the new system. In Study five less than half of participants reported they received this information either from the Implementation Team or the Business

In regard to how the change would affect the employees, in both Studies four and five, only half or less of the employees were told how the change would affect them and their work roles.

In regard to the reasons for the new system and work processes, again the results were quite poor with only about half of the participants in both studies saying that they received this information. The results were also very poor in regard to appropriate expectations with well over half of the participants in both studies reporting that they did not receive this information from either the Business or the Implementation Team.

The failure of the communication process to reach all or most of the employees in regard to the appropriate expectations, benefits of the work process and the system, possible difficulties and reasons for the system resulted in the participants being approximately evenly divided as to whether or not the communication process was informative or uninformative. This is a poor result given the importance of the communication during any systems implementation (Kotter & Schlesinger, 1979).

- *The Timing of the communication*

In regard to the regularity of the information, participants reported the results to be quite different in Studies three, four and five. In Study three many of the employees said that they did not receive any communication about the systems implementation until two years into the project. The impact of this was considerable, with many employees feeling anxious and insecure about their jobs. This result promoted further investigation into the importance of regular communication in Studies four and five.

In Study four the majority (70%) of participants reported that they received regular communication in regard to the implementation but in Study five only 56% of participants said that they received this information from the Implementation Team and only 66% said that they received regular communication about the change from the Business.

- *The Medium*

In Study three, most participants were communicated to via newsletter, training sessions, staff meetings and memos. However, not one participant indicated that they received the same communication via every medium. The other interesting result in Study three was the contrast between the IT Manager's view of the communication and that of the participants. The IT Manager reported that the communication was very comprehensive much of which was targeted to management with the understanding that they would pass this information on to staff. However, this often did not happen, and the result highlights

the importance of checking the distribution of communication to ensure that all employees receive it.

In Study four, the majority of participants reported that they received communication about the change via memo, newsletter and face-to-face communication. Other than the Consultant group, who did not receive any information via the website, all the groups received communication via all methods.

In Study five, the majority of participants reported that they received communication about the change via memo, face-to-face and through meetings. The majority of participants reported that in their opinion, face-to-face communication was by far the most effective method, consistent with existing research (Klein, 1994). However, many organisations rely on email as an efficient source of communication throughout their organisation. It would seem that face-to-face communication may be needed to back email notifications; for example, by way of staff meeting or by inviting the employee to contact someone personally who could answer any questions that they may have. Kotter & Schlesinger (1979) also suggest that it is important for organisations to provide information about the change through one-on-one discussion. These discussions should inform staff of the rationale behind the change. The Managers, Accountants, Secretaries and Practice Service staff were the only groups who were communicated to via every medium.

These results support the research in this area that organisational change can be dealt with more effectively through strategic communication processes (Klein, 1994). Klein (1994) also found that in terms of communicating change that face-to-face communication has a greater impact than any other single medium. In the present study face-to-face communication was also shown to be very effective. Face-to-face communication seems to be effective as it helps to clarify any ambiguities that the employee may have and it affords them the opportunity of voicing their opinions there and then. Employees can also ask questions and get responses to their questions immediately (Klein, 1994).

- *Involvement in the communication processes*

In Study three most participants felt that they could ask questions or discuss the change with their managers. In Studies four and five most participants could ask questions about the change but the results suggest that only a small portion of those participants received adequate answers to their questions. When asked if the implementation team listened to their concerns and acted upon their feedback, only a small proportion in both studies reported that they did.

- *Feedback Mechanisms*

The combined results of all studies in this thesis suggest that the communication process could have been improved through more effective feedback mechanisms and more detailed information as to the content of the communication. The results suggest that while face-to-face communication may not be the most efficient method, it is the most effective. The results also highlight how ineffective communication may result not only in a lack of information, but also in negative employees' attitudes toward the new system. .

These results also support research that suggest that feedback mechanisms help employees to be part of the change process and act to reduce resistance during times of organisational change (Kotter & Schlesinger, 1979; Porras & Hoffer 1986).

Again, the present results support the research of Kotter & Schlesinger (1979) who stress the importance of involving employees in the communication by setting up a feedback mechanism to rectify any problems, and by providing employees with regular communication that describes the benefits of the change and the rationale behind the change.

Organisations also need to establish feedback mechanisms in their communication process to ensure that employees are participating in the process and can provide feedback to the implementation team along the way. The feedback mechanism will also alert the organisation to potential problems that can be avoided before they eventuate.

- *Face to Face Communication*

Kotter & Schlesinger (1979) suggest that much of this information should be imparted one-on-one to enable the employee to ask questions and express any concerns. Klein (1994) also supports this position, and suggests that when communicating change efforts, face-to-face communication has a greater impact than any other single medium. He found that it was the interactive component of this process that is really effective as it helps to clarify any ambiguities that the employee may have and it affords them the opportunity to voice their opinions and get an immediate response.

- *Concrete Information*

Klein (1994) also suggest that the information that organisations distribute need to be concrete so that their employees can be comfortable in the fact that they have a reasonably full understanding of the personal implications of the change irrespective of their attitudes toward the change itself.

- *Accuracy of Information*

The results in regard to the communication process have supported the importance for organisations communicating change in an accurate and informative way and on a regular basis. This should include information about the benefits of the new system, how it will affect the employees, the reasons for the new system and work processes, the possible difficulties that could occur and the appropriate expectations that the employees should have.

- *Distribution of Information*

Organisations also need to ensure that all employees receive all the information in regard to the change, as in Studies four and five only participants in certain positions received information as to the benefits of the new system.

Organisational Culture

In responses to questions about organisational culture, there was some confusion between this concept and the related concept of organisational climate. Participants in commenting on the effects of organisational culture not only referred to general topics like leadership and training which tended to reflect the organisation's culture, but also to the effects of the change process on organisational climate topics such as current employee attitudes and behaviours.

The major finding in regard to organisational culture was that it can negatively affect a system's implementation and/or associated changes such as mergers. Organisational cultures characterised by a lack of relevant training, and a lack of leadership support created a negative organisational climate in terms of negative attitudes and behaviours in relation to the new system. This work implies that employees may be less likely to be affected in a negative way if the organisational culture is improved by establishing more informative communication, more training and greater employee participation, that allow employees to express their opinions without fear of negative consequence.

The results suggest that organisational climate can be altered in a negative way during a system implementation. This can lead to the development of negative subcultures within the organisation. For example, in Study four the Manager group were particularly negative toward the new system and in Study five the Accountant group in particular reported being negatively affected in their attitude to the new system by the attitudes and beliefs of their fellow workers. These results are consistent with research in the area of subcultures (Trice, 1993). The results suggest that subcultures can develop and be relatively quickly made negative by a lack of information about the nature of the system change, the associated work processes, the benefits of the new system, and by the system not producing the expected results.

The results also suggest that when organisations experience other changes such as mergers concurrent with a systems implementation, the negative experiences of the other changes

can be projected on to the system. The results of Study three found that those employees that came from the original organisation that had been taken over found it very difficult to accept the new organisation's culture. The original organisation was very much a family business and had a lot of history associated with it and it was felt that this was taken away from them after the merger. Many of these broad cultural issues contributed to employees' negative views of the new system. This suggests that subcultures can have an influence on change processes in terms of employees actively resisting the change and therefore interfering with the change process.

The results also suggest that employees' attitudes can be altered in a positive or negative way due to the attitudes and beliefs held by their fellow workers, particularly the employees' managers or leaders. Managers can have a significant affect on the employees' attitudes as employees look to their managers for guidance, security and support. Thus, if the manager does not support the system the employees are less likely to support it (Yukl, 1989). Moreover, the present results suggest that certain groups can be affected more than others.

When asked about ways in which their organisational culture could have been more positive with respect to the change, participants from Studies four and five suggested that the culture could have been more supportive of regular and informative communication, education about the change, employee participation, and most importantly, employees expressing their opinions without fear of negative consequences.

An issue raised by the majority of participants in Study three was the difficulty of coping with the merging of two different organisational cultures. The culture within the organisation that took over the smaller organisation impinged upon employee acceptance of the change from two different perspectives: Firstly, the employees were affected by their own office culture and secondly, by the culture that existed within the broader organisation. For example, even if employees worked in a division that had a positive attitude about the change, they were still likely to be affected by the attitudes and beliefs

of employees in different divisions. The results suggest that an unsupportive culture can affect participants' attitudes toward the system. This finding is consistent with the work of Miller & Yeager (1993) who suggest that new information technology can often require a cultural change as well as a system change. This finding may suggest that when an organisation goes through a major system change, it may be beneficial to address the organisational culture in terms of attitudes toward the system by having the relevant leaders or managers talk to their divisions and by facilitating conversations about employees' attitudes.

Leadership

Most managers in Study three did not have the leadership qualities that are usually associated with successful implementations of change. The positive characteristics that the managers displayed concerning change included, explaining the reason for the change, involving their staff in the change process, answering questions in a way that was informative, and explaining the benefits of the system to them. The two negative behaviours reported by the majority of participants were that their managers did not explain how the change would affect them and their colleagues and they did not hold regular meetings where the staff could ask questions and get informative answers to them.

In general it was reported by participants in Study three that there was a lack of reliable leadership throughout the change and this caused the employees to feel ill at ease, especially those that were used to strong leadership they could count on, such as being kept informed of new changes and being spoken to by the owner of the company on a regular basis. After the change process occurred, there was lack of face-to-face contact about the change from management. This caused some of the employees to feel insecure about the changes going on around them. And, as mentioned in Studies four and five Section 1, many of the managers themselves were negative about the system and this had an affect on their employees. The results of the studies also suggested that there was a lack of key managerial behaviours, as suggested by Porras & Hoffer (1986) that are usually associated with successful change programs.

There has been much research in regard to leadership style and change and how this can influence an employee's acceptance of change (Bennis & Nanus, 1985; Conger, 1989; Yukl, 1989). For example, research suggests that through effective communication in regard to the organisation's vision, a leader can inspire employees to take control of their situation (Yukl, 1989). A type of leadership style that has been advocated in regard to change is the transformational leader. This type of leader is person-oriented, can motivate staff and empower them and often provides a great sense of emotional support during the organisational change process. They do this by talking positively to their staff about the change and listening to their concerns (Bass, 1990; Bennis, 1989; Conger 1989; Yukl, 1989). Whilst successful change programs do not need a transformational leader, a change program is more likely to be successful if the person running the change program has transformational characteristics.

Relating this research back to the results of Study three, it can be seen that some of the positive behaviours that the participants described in their managers, were the same as some of the characteristics held by transformational leaders; namely, involving staff in the change process, listening to their concerns and answering their questions.

Research has also focussed on managerial behaviours that are effective in change programs. For example, Porras & Hoffer (1986) conducted research into managerial behaviours that were successful during organisational change programs, and found that the following managerial behaviours were linked to successful change programs: leading by vision (eg: leaders need to shape their employees' behaviours to ensure that they reach the organisation's goals), functioning strategically (eg: talking about underlying causes and the consequences for acting upon them, resisting giving-in to short term pressures for quick results, fitting the organisational structure to the organisation's key objectives, planning for the skills and knowledge that will be required for the future, and creating a strategic design to guide operating plans), promoting information flow (eg: clearly communicating tasks that need to be completed, clearly expressing feelings, needs, expectations and

commitment, establishing multiple channels for communication and promoting direct cross-unit communication) and developing others (eg: teaching skills that employees need to do their jobs, helping subordinates identify their needs and aspirations, rewarding desired behaviours, delegating tasks based on employee competencies and according to their development plan, relating employees to a larger context, providing employees with accurate information regarding their performance, providing employees with personal grow experiences).

Given the research evidence on the role of leadership in the change process, it was unfortunate that this topic could not be investigated in Studies four and five. However, the fact that the researcher was not permitted to ask direct questions about this topic because management considered it to be a sensitive issue with respect to the change process, itself provides some evidence for the importance of leadership.

Training

The results for Studies four & five in relation to the evaluation of training were quite disappointing given its importance for an effective implementation. The main concern was that the participants left the training feeling that they did not have enough knowledge to perform their role effectively. This was due to a lack of adequate information in the training sessions that related the system back to the participants' daily work routine. The importance of this was particularly demonstrated in Study three where the trainers changed the training so it was in context with the employees work routine and found that the training was far more effective and relevant for the participants. The trainers made the changes to the training because of participant feedback that the training was not in the context of what the participants did at work. The results of Studies four and five also suggested that the training staff were inconsistent with some trainers being very good and other not being able to answer questions adequately, leaving the participants feeling anxious and lacking in confidence.

The training component of any IT implementation is extremely important because research has found that an individual's computer self-efficacy has an impact upon the way that employees perceive the system's ease of use. For example, the more hands on exposure an employee receives in regard to a new IT system, the more likely it is that they will view that system as being easy to use (Venkatesh & Davis, 1994). The results from Studies four and five support this research and suggest that organisations need to ensure that the training they provide to their employees is not only hands on and practical but is provided in a forum whereby the employees can have as much practical experience as possible before returning to their work station.

Working Relationships

The majority of participants in Study five reported that their team's morale was affected in a negative way during the time of the implementation. The groups that were affected the most in terms of the way their team worked and interacted were the Senior Managers, Consultants and the Secretarial group. This could have been due to the Secretarial group having more access to the system and being relied upon by others such as the Consultants and Senior Managers to print out reports and process bills. The secretaries were also looked upon as "experts" and were expected to assist all staff within their Divisions in regarding to the new system and the processes supporting the system. Many of the Managers also did not comply with the new work processes causing the Secretarial staff considerable inconvenience.

Most staff did not find the new work processes easy to cope with. In particular, the partners found that the new work processes altered their working relationship with their staff.

The more senior staff generally seemed to find it more difficult than the general staff to adapt to the new processes. Both groups also reported that the new work processes associated with the system increased their workload and they found them inconvenient because the system was difficult to use.

Coping Skills

The results in Study three suggest that the participants found the change moderately stressful and nearly all of the participants had their jobs altered in some way because of the changes within their organisation.

The types of coping strategies people used were talking with colleagues, with management and with family. Many also increased their time management to cope with their new responsibilities. These findings support the literature in this area in that employees who have to cope with change often use their social support networks (including family, friends and colleagues) as a way of bolstering their self-esteem (Billings & Moos, 1981; Callan, 1993; Holahan & Moos, 1987).

One third of the participants in Study three said that they would have found it beneficial to receive training in coping skills. Organisations who wish to provide this type of training may find employees, particularly male employees, more willing to attend if it is called 'time management training' (Robertson & Fitzgerald, 1992).

Personal Circumstances

The majority of participants in Study three reported that their personal life did not impact on the way they coped with the implementation. Only three of the 15 who answered the question reported that it did have an impact with one reporting that it had a positive impact and two reporting that it had a negative impact. Nevertheless, as noted in the discussion of Study three, if either of the two where it had a negative affect were in key positions with respect to the change, it could have had negative consequences for the change. This possibility also supports the need for open communication and feedback where any such problems can be quickly identified and resolved.

Half of the 14 participants in Study three indicated that the implementation had an impact on their personal life and most of these indicated that it had a slight to moderate negative

impact. Again, the findings support the need for a communication process that can quickly identify and resolve any such problems where appropriate.

Other Change Initiatives

The majority of participants in Studies two and three reported that they experienced other changes besides the implementation of the system. Some of these additional changes included a new organisational structure, working with contract staff, dealing with the exodus of long serving staff and the closing of some departments and subsequent loss of workmates. Most of the participants reported that the other changes occurred at the same time or shortly before the system implementation. However there were many variations on this that may indicate that the changes occurred in the different departments of this organisation at different times.

The majority of the participants felt that the other changes that were occurring within their organisation impacted upon their involvement of the implementation of the new system in a negative way. This finding supports Callan's (1993) view that radical style of organisational change can be highly stressful to employees. This is due to the fast pace and level of the change, the degree of uncertainty behind what the change will mean for the employees and the cultural changes associated with it (Callan, 1993). It also suggests that wherever possible, combining changes should be avoided (Robertson & Fitzgerald, 1992)

Change Program Design Tool/Risk Assessment

The results of the present research were used to develop a possible tool to assist managers and implementation teams in either evaluating their current change program or as a guide to the development of a future change program. While it would need further development in terms of establishing its reliability and validity, it is offered as an example of what such a tool might be like if it is to offer managers guidelines and assistance when developing and/or assessing their own change programs.

The assessment is designed to be user friendly in so far as it simply requires the manager to read the questions under each of the headings and circle *Yes* or *No*. It contains five different sections; communication, system factors, employee participation, training and leadership. A tentative weighting of factors has been attempted based on their importance in the present research. The factor scores are designed to provide an indication of whether a change program is at low, medium or high risk of problems in the human side of its implementation.

Example questions for the Communication factor include:

"Does your communication strategy include a launch where all employees are provided with all the relevant information about the change program?"

"Does your communication strategy provide all employees with regular updates about the progress of the change program (eg every 2 weeks, once a month)?"

"Have you obtained feedback from all relevant individuals and groups to indicate that the information provided has been accurately received?"

A full copy of the assessment can be found in Appendix H.

Differences Between Positions

The results comparing positions, while largely based on descriptive and qualitative data, nevertheless suggest that positions within the organization can affect how participants are personally affected by the change, how they are communicated to, how their working relationships are impacted and what type of training they receive. The results also seem to suggest that those employees who are more involved in the change (eg Partner and Secretarial Staff) seem to be in a better position within the organization in terms of being informed of the changes and being kept up to date. Differences between positions on the various factors are considered in the following sections.

Experience of Prior Change

In Study three, when asked how successful or unsuccessful the change program was in terms of new processes, participants were mostly divided between it being unsuccessful or neutral with only a few positive responses. The participants who reported the change program as successful were all in senior positions. These were the two line managers, the assistant accountant and the IT Manager.

In Study four, the senior employees were more likely than junior employees to experience prior organizational change. Out of the senior group it was the Senior Managers who reported that they felt that experiencing prior change helped them cope better with the current change they were experiencing. The Accountant group was the only group whose majority reported that they had not experienced prior change.

In Study five, the data suggest that the majority of participants had experienced some kind of organisational change prior to the current change. The Accountant group was the only group where the majority reported that they did not experience any kind of change prior to the present one. Again, this was consistent with the last study and may be due to their level of employment. That is, many accountants come into the firm as graduates and therefore would not have had any other organisational experience, including prior organisational change.

The majority of participants reported that their attitude toward the Phase 2 rollout changed to negative, and the reasons for this were mainly due to the poor functionality of the system and the lack of perceived benefits of the system. The two groups who were most affected in this way were the Managers and the Accountants. The only group whose attitude tended to change to positive was the Practice Service Staff.

The only group, a majority of whom (55%) reported the change outcome as successful was the Accountant group. One possible reason for this is that the majority of

Accountants had not experienced prior organisational change, so they may not have had anything to compare the recent change to.

The secretarial group was the most negative with 60% of the participants in this group reporting that they were negative about future phases of the implementation.

Communication

In Study three, participants were divided in terms of how successful the communication was and how informative it was, with most of the participants who rated the communication as informative being senior staff. Again, this is not surprising as the senior staff received the communication to keep them up to date but failed to pass it on to their employees. In particular, the IT Manager who was part of the implementation team had a different view of the success of the communication process than the other participants. This may be due to the fact that he administered much of the communication. The IT manager also reported that the implementation team actively encouraged discussion and used road shows to provide information and forums for open debate about the new system. This seems to be in contrast to other participants who reported that the communication could have been more comprehensive.

In Study four, the differences between the positions in relation to communication were quite dramatic and varied with the Partner and Secretarial groups being more involved in the new processes in terms of input and having their concerns listened to. The Consultant group was the only group where all participants reported that the information was accurate. The Consultant group also reported that they were provided with regular information but less than half of the Manager group reported this. The majority of the Accountant group reported that the communication they received affected them in a positive way but one third of the Senior Manager group reported that it affected them in a negative way.

In Study five, of those participants who answered the question, nearly all (92%) reported that they received information about the new system. More than half of the Consultant and Manager groups were communicated to via meetings and the Manager group were the main group who accessed the website for communications regarding the new system. The Practice Service Staff were mainly communicated to through face-to-face communications and memos. The two groups who mostly reported that they did get answers to their questions were the Managers and the Secretaries. Additional communication results for study 5 are summarised under the following headings:

- *Opportunity to Discuss how the Change would Affect them*

Out of all the groups, half of the Consultants and Accountants reported they had the opportunity to discuss how the change would affect them

- *Opportunity to Provide Input into the Processes*

Out of those participants who reported that they did not have an opportunity to provide input into the new processes, most of these came from the Manager and Secretary groups.

- *Feedback systems*

The two groups of whom the majority reported that the Implementation Team did not listen to their concerns were the Practice Service Staff and the Secretarial group. This is of concern, especially for the Practice Service staff and Secretaries, as these were the two groups who had the most to do with the system.

- *Reasons for the New System*

The two groups with a large majority of who reported receiving information from the Business as to the reasons for the new system were the Managers and the Practice Service Staff.

- *Regular Communication*

Sixty-percent reported that the Implementation Team did not provide them with regular information in regard to what was happening during Phase 2. This was particularly the case for the Secretarial group with the largest numbers including the Manager group, the Accountants, the Secretarial group and the Practice Service staff. About two thirds (67%) reported that the Business did not provide them with regular information in regard to what was happening during Phase 2. This was particularly the case for the Secretarial and Accountants groups.

- *Concerns or Queries*

About two thirds (67%) reported that they knew whom to contact in regard to any concerns they may have had about the system, and this was the case in nearly all groups.

- *Informative Communication*

The results were evenly divided with just over one third (36%) of participants reporting that the information was informative and the same percentage (36%) reporting that it was uninformative. The majority of the Consultant group rated the communication as uninformative and this could be due to the Consultants being communicated to mainly via memo and the fact that they were out of the office working at clients for a large part of the week. Thus they may have read the memos too late to gain any benefit from them. The Accountant group were the main group that rated the communication as informative, and while they received memos as did the Consultants, they work in the office on a daily basis, and this may have assisted them in terms of being kept up to date with the communications about the system.

- *Overall Communication Process*

Nearly half (46%) rated the overall communication process as unsuccessful, 31% were neutral and only 23% rated it as successful. Out of all the groups the Secretarial and Managerial groups' were most likely to report the communication process as unsuccessful

* *Affects of communication on Attitude*

The vast majority (83%) reported that the communication they received about the system affected them negatively in terms of how they viewed the system. Out of all the groups, the Secretarial and Accountant groups felt this way the most.

Culture

In Study three, In regard to the overall rating of the organisational culture, participants were divided with five rating the culture as unsupportive and seven rating it as supportive. The group who reported the culture as supportive or most supportive were those in line manager roles with 75% of them reporting the culture to be supportive compared to 60% of management reporting that the culture was unsupportive. The IT Manager also rated the culture as unsupportive.

In Study four, the Partner group reported that their division's culture was positive, while the Manager group reported it to be negative.

In Study five, just over half (53%) of the participants reported that the attitudes and beliefs of their fellow workers did not affect their attitude toward the system. However, those who were affected were affected in a negative way. The two groups that were the most affected by their colleague's attitudes were the Accountants and the Practice Service Staff.

Again, just over half (53%) of participants reported that their Division's culture was negative in regard to the new system. The Consultant group, in particular, felt that greater participation would have been beneficial to their culture, with the Secretarial group focusing on the need for more education about the new system and the ability to express their opinions with less fear of negative consequences. The Accountant group suggested that more informative communication and more education would have helped their Division's culture.

Coping Strategies

In Study three, the types of coping strategies that most of the participants used were talking to colleagues, talking to family and talking with management. However those participants that talked to management as part of a coping strategy were all senior staff. This may indicate that the more junior staff did not feel comfortable speaking to the management about their concerns or any questions they had. This may also reflect part of the culture within Organisation C.

Training

There were no differences in position in Study three however, in Study four, the main differences between groups in training were that the Secretarial/Practice service Staff groups was the group that received most of the hands on training, whilst the more senior staff only attended the Information Sessions.

In Study five, the majority of participants reported that they attended training, with 40% attending computer training and 58% attending the information sessions. These differences were due to the Secretarial and the Practice Service Staff being the only groups who attended computer training. The majority of the Secretarial and Practice Service Staff groups felt that they did not have enough knowledge after the computer training or the information sessions and also felt that thy did not get enough post training support.

Working Relationships

In Study four, the participants were divided into senior groups and general staff as the results from Studies two and three suggested that there were differences between these two groups in terms of how they perceived the changes and how they affected them. Out of all the questions asked in the questionnaire, the section on working relationships and the differences between positions was the most dramatic. For example:

1. The majority (65%) of the Partner/Manager group reported that they did not find the new processes easy to cope with. In contrast, most of the General Staff (72 %) reported that they did find the new work processes easy to cope with.
2. The majority of the Partner/Manager group (85%) reported that they found the changes in their work processes inconvenient. In contrast, the General Staff group were more evenly divided with only 38% reporting that they found the new work processes inconvenient.
3. Of the Partner/Manager group, 71% reported that their staff did not readily accept their new work processes. In contrast, just over half (54%) of the General Staff group reported that their partners and managers readily accepted the new work processes.
4. While the majority (64%) of the Partner/Manager group reported that the new work processes altered their working relationship with their secretary, the General Staff group (78%) reported that their working relationship with their Partner did not alter.
5. Approximately two thirds (65%) of the Partner/Manager group reported that they could not see the benefits of the new work processes, whilst the same percentage of the General Staff group (65%) reported that they could see the benefits of the new work processes.
6. Only about half of the Partner/Manager group reported that they readily accepted their new work processes with about one third saying that they did not readily accept it. While a majority of the General Staff group reported that they did not have difficulty explaining the new work processes to their Partner/Manager, it was only 58%, and 23% were neutral in response to this question.

In Study five, the majority (60%) of participants reported that their team's morale was affected in a negative way during the time of the implementation. The groups that were affected the most in terms of the way their team worked and interacted together were the Senior Managers, Consultants and the Secretarial group. This could have been due to the Secretarial group having more access to the system and being relied upon by others such

as the Consultants and Senior Managers to print out reports and process bills. The Secretarial group also reported that the changes in their working relationships affected them in a negative way.

Factors Affecting IT Change and other Organisational Changes

The findings in this thesis support Miller & Yeager's (1993) findings that technological change can have different affects to other organisational changes. This is due to technological change often requiring new work processes, new skills and new working relationships. These in turn can challenge basic beliefs and assumptions underlying the culture of the organization. Examples of these affects from the present research include:

New Work Processes

In Studies three, four and five in this thesis, many of the participants referred to new work processes that resulted from the implementation of the new system. A major reason for the relatively low rated success of the IT change programs was the failure of the new work processes to meet the goals of the new system or indeed to match those of the previous system.

The Acquisition of New Skills

In Studies three, four and five, all staff had to attend some kind of training either hands on computer training or information sessions in order to use the new system effectively. However, many felt that they did not leave these sessions with the knowledge they needed to use the system effectively.

New Working Relationships

Findings from Studies four and five suggested that the Partners, Senior Managers, Consultants and the Secretarial groups were affected most in terms of the way their team worked and interacted. In particular, the working relationships of senior staff with their secretaries altered due to their having to rely heavily on the secretaries concerning what

senior staff needed to do with respect the new processes. It was also found that many senior staff did not comply with the new work processes causing the Secretarial staff considerable inconvenience.

Limitations of the Research

While an advantage of this thesis was that it was conducted using employees in organisations that were actually experiencing a change in Information Technology, the data set was not large enough to provide reliable statistical analyses. Thus, while the data were representative of the employee population, the findings are heavily reliant on descriptive statistics and qualitative data. Nevertheless, the fact that many of the same factors recurred throughout the Studies in this thesis supports the validity of the findings.

A second major limitation in Studies three, four and five was that the organisations were very cautious about what information was allowed to be collected and the questionnaires were vetted to eliminate any sensitive questions. For example, all three organisations would not give permission for the researcher to comprehensively explore the leadership competency in driving organisational change and how leadership affects employee acceptance. Whilst some information was collected about this topic it was only obtained through its association with other factors.

Future research

a) Broadening findings

These results in this thesis need to be replicated in larger samples of employees in different positions who are going through implementations of new systems in order to be able to generalise these results to other organisations. However, as already indicated despite the small numbers, there were very consistent results across all five Studies that suggest that these results would be replicated in other Studies

b) Leadership style

The main area that needs further investigation is that of leadership style and its affects on acceptance of new information technology. While this study considered this area, limitations were put on the researcher in Studies four and five and leadership was not a variable that the organisation was willing to provide data for. However, the findings in Study three suggest that leadership does have a very significant role to play in the implementation of new information technology and this would be an area that would be useful to investigate further, particularly in terms of the characteristics that are most likely to promote user acceptance. This would enable organisations to identify those leaders or managers that may need coaching to develop the leadership skills required to facilitate IT change.

c) Family interface

The other area that this thesis considered to some extent was the impact of new systems on an employee's personal life. In Study three, half of the participants reported that the implementation had an impact on their personal life. Further research into this area would be useful in terms of identifying employees who are at risk and developing strategies that the organisation could use to assist such individuals. This could be in the form of an employee assistance program, workshops on stress and time management and coping with change workshops.

d) Impact of other change initiatives

The results of this research suggest that if an organisation is undergoing many changes simultaneously it is likely to affect the employee's involvement in the implementation of the new system in a negative way. Further research into this area would be useful and could provide organisations with strategies to put into place to assist employees who have to cope with many changes. Further research may also determine whether or not it is beneficial to only manage one change at a time or stagger the changes to minimise the impact.

e) Following change Over Time

Future studies could look at the change process over time with particular attention being given to the factors discussed in this thesis. This type of study would help to reveal what factors that were most important at different stages of the change process and the key points of vulnerability during the change process.

f) *Further development of Change Tool*

As discussed above, a change tool has been developed that could potentially be used by managers to design their own change program, monitor the progress of a change program and/or evaluate the success of a change program. However, before using this tool, there is a need to assess its use in different organizations in order to test its validity and reliability. As part of this process, feedback could be obtained from managers and consultants on the potential use of the usefulness of the assessment instrument.

APPENDIX A

UNIVERSITY OF ADELAIDE

DEPARTMENT OF PSYCHOLOGY

CONSENT FORM
(To be used to obtain informed consent of persons participating in research projects under the aegis of the Department of Psychology)

Participant's Name (capitals):.....

Project title: .....

Name of responsible investigator or supervisor:.....

Name of person who issues the form:.....

1. I consent to participate in the above project. The nature of the project, including questionnaires or procedures, has been explained to me, and is summarised on an information sheet I have been given.

2. I authorize the responsible investigator or the person named above to use these questionnaires or procedures with me.

3. I understand that:

a. I am free to withdraw from the project at any time.

b. The project is for the purpose of research or teaching, and not for treatment.

c. The confidentiality of the information I provide will be safeguarded.

d. There are no known adverse effects of these questionnaires or procedures.

Signed: ..... **Date:**

.....

(Participant)

Where the participant is not a student of the University and is under 18 years of age, the following section should be completed.

I consent to the participation of .....in the above project.

Signed: ..... **Date:** .....

(parent/guardian/in loco parentis)

Note: This form may be copied, or altered to fit the project. It is designed for use only when there are no known adverse effects of the questionnaires or procedures.

APPENDIX B

INFORMATION SHEET

****

I am currently conducting research into the factors that affect employee acceptance of new information technology. By determining these factors, strategies can be developed in an attempt to overcome resistance. By implementing these strategies, organisations can improve the effectiveness of implementation programs both in terms of how the change is implemented and the final outcome.

As you are aware your organisation has recently implemented a new financial system and accompanying work processes. You have been selected to participate in an interview because of your involvement in this change. The interview will be approximately one hour in duration and will focus on your experiences both positive and negative of the change and how it was managed. I am interested in your personal experiences so there are no wrong or right answers.

The content of the interview will be confidential and while the results will be written up they will be done so as themes and trends so individuals will not be identified. As mentioned above, the interview will take approximately one hour, however if you do not want to continue the interview you can withdraw at any time without prejudice.

If you have any questions or concerns about the research or your involvement please do not hesitate to contact me on .....(work) or .....(home).

Thank you for your participation and cooperation!

APPENDIX C

ORGANISATIONAL CHANGE QUESTIONNAIRE

Aim of the Research

The aim of the research is to elaborate on factors that effect employees' acceptance of new information technology in order to determine strategies to improve user acceptance and to identify crucial times within the change process. I am also interested in how employees cope with organisational change and how employees' personal lives affect the way they cope with organisational change.

Attached is a list of questions and I would appreciate it if you could answer them as honestly and as openly as you can. The questionnaire should take about 35 minutes to complete. There are no right or wrong answers. Please answer all questions and provide as many comments as you can, as this will assist me with my analysis. As you go through the questionnaire you may find questions that you feel are too personal to answer. If that is the case feel free to move on to the next question. To ensure confidentiality and anonymity please do not put your name on the questionnaire. Please email the completed questionnaire back to me by **Friday, 12th March 1999.** My email address is **jpeckham@.....com.au**

Personal Particulars

Age: ..... Length of employment:.....

Sex:..... Level of completed education:.....

Position within Organisation.....If you are a supervisor, what level are you?
(please cross the appropriate box)

MD	[ ]	Middle Manager	[ ]
General Manager	[ ]	Line Manager	[ ]
Group Manager	[ ]	Supervisor	[ ]

Who were you originally employed by: *(please cross the appropriate box)*

Organisation A [ ]
Organisation B [ ]
Other [ ] please specify.....

I would like to receive feedback as to the results of this study.

Yes [ ]

No [ ]

PRIOR INVOLVEMENT IN CHANGE PROGRAMS

In this section I am interested in whether you have been involved in organisational change prior to the current systems implementation within your organisation. I am also interested in how your prior experience or inexperience has affected the way you feel about the current systems implementation.

Question 1: Have you experienced a major organisational change in the past?
(please do not include the change you have experienced recently with the new system)

Yes [ ]

No [ ] If no, go to question 4.

If yes, how many major changes have you experience?

Can you briefly describe the change/changes you have experienced in the space below:

Question 2: Do you feel that experiencing a prior organisational change, helped or impaired your acceptance of the new system?
(please cross the appropriate box and/or provide qualitative comments)

Yes it helped the way I coped	[ ]	Yes it impaired the way I coped	[ ]
No it did not help the way I coped	[ ]	No it did not impair the way I coped	[ ]

Question 3: In what way did it affect your attitude toward the implementation of the new system? ***(please comment below)***

EVALUATION OF THE CHANGE

Question 1: The implementation of the new system has been occurring over 2 years. Describe the way your attitude toward the implementation has altered over time? ***(please cross the appropriate boxes both at the beginning of the implementation and at the end of the implementation).***

My attitude at the beginning of the implementation was:		**My attitude toward the end of the implementation was:**	
Very Positive	[ ]	Very Positive	[ ]
Positive	[ ]	Positive	[ ]
Neutral	[ ]	Neutral	[ ]
Very Negative	[ ]	Very Negative	[ ]
Negative	[ ]	Negative	[ ]

Question 2: **You have told me how you felt at the beginning and at the end of the implementation; I would now like you to describe how your attitude may have altered during the implementation and why it altered?** ***(please comment in the space below)***

Question 3: **If you felt negative at any time during the implementation process, please indicate why?** ***(please comment in the space below)***

Question 4: **Considering your experience from the IT implementation in your organisation, how would you feel about being involved in any future organisational change?** ***(please cross the appropriate box)***

I would feel very positive about any new change program [ ]

I would feel positive about any new change program [ ]

I would feel neutral about any new change program [ ]

I would feel negative about any new change program [ ]

I would feel very negative about any new change program [ ]

I don't know how I would feel about a new change program [ ]

Please make any other comments below:

Question 5: **Overall, how successful or unsuccessful was the implementation process adopted by your organisation in terms of <u>employee morale</u>?** ***(please cross the appropriate box)***

Extremely Unsuccessful	Very Unsuccessful	Unsuccessful	Neutral	Successful	Very Successful	Extremely Successful
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]

Please comment below:

Question 6: **Overall, how successful or unsuccessful was the change program in terms of process adopted by your organisation in terms of the <u>new system</u> and the <u>new work processes?</u>** ***(please cross the appropriate box)***

Extremely Unsuccessful	Very Unsuccessful	Unsuccessful	Neutral	Successful	Very Successful	Extremely Successful
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]

Please comment below:

COMMUNICATION

In this section, I am interested to know how you felt about the process and the quality of the information you received about the implementation.

Question 1: Did you receive information about the implementation? ***(please cross the appropriate box)***

Yes [ ]

No [ ] (If no, go to question 4)

Uncertain [ ]

Question 2: If yes, how was it communicated to you? ***(please cross as many relevant boxes)***

Face-to-face communication	[ ]	Newspaper	[ ]
Newsletter	[ ]	Personal Letter	[ ]
Memos	[ ]	A staff report	[ ]
Staff meeting	[ ]	Gossip or rumour	[ ]
A package of information	[ ]	Training session	[ ]

If there are any other ways that you were communicated to about the implementation, please specify below.

Question 3: Overall, how informative or uninformative was the information about the implementation? ***(please cross the appropriate box)***

Extremely Uninformative	Very Uninformative	Uninformative	Neutral	Informative	Very Informative	Extremely Informative
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]

Question 4: **As far as you know, was the change in regard to the implementation communicated to all levels of staff that would be affected?** ***(please cross the appropriate box)***

Yes [ ]

No [ ]

Don't know [ ]

Please comment below:

Question 5: **When the implementation was communicated did you have a chance to discuss or ask questions about it with management?** ***(please cross the appropriate box)***

Yes [ ]

No [ ]

Please comment below:

Question 6: **If you had the opportunity how would you have communicated to the staff about the new implementation?**

Please comment below:

Question 7: **Overall, how would you rate the success of the communication <u>process</u> (eg: how the information was delivered to you) concerning the implementation?** ***(please cross the appropriate box)***

Extremely Unsuccessful	Very Unsuccessful	Unsuccessful	Neutral	Successful	Very Successful	Extremely Successful
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]

Question 8: **Overall, how <u>information or uninformative</u> was the communication you received about the implementation?** ***(please cross the appropriate box)***

Extremely Uninformative	Very Uninformative	Uninformative	Neutral	Informative	Very Informative	Extremely Informative
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]

<u>LEADERSHIP STYLE</u>

In this section I am interested to know how your leader or supervisor handled the changes associated with the implementation of the new system. I would like you to provide me with information in regard to both the positive and negative aspects.

Question 1: **What was <u>positive</u> about the way your supervisor/manager handled the implementation with you and your team members?** ***(please cross as many boxes as applicable)***

Your leader explained the reason for the change [ ]
Your leader explained the benefits of the change to you [ ]
Regular meetings were put into place to address any questions that you may have had [ ]
Your leader involved you in the change process [ ]
You had a chance to discuss how the change would affect you [ ]
Your leader was positive about the change and shared this with his/her staff [ ]
When you asked your leader questions your leader answered them in a way that you found helpful and informative [ ]

If you have any other comments, please make them below:

Question 2: What was negative about the way your supervisor/manager handled the implementation with you and your team members? ***(please cross as many boxes as applicable)***

Your leader didn't encourage you to ask questions	[ ]
Your leader didn't talk to you about the change	[ ]
Your leader didn't explain how the change would effect you and your colleagues	[ ]
Your leader discouraged you from asking questions	[ ]
Didn't support the change and shared his/her negative attitude with the staff	[ ]
Your leader did not hold regular meetings whereby you could ask questions	[ ]

If you have any other comments, please make them below:

Question 3: Throughout the implementation process did you feel you could talk to your manager about your concerns if you had any? ***(please cross the appropriate box)***

Yes, I felt that I could talk about my concerns	[ ]
No, I did not feel like I could talk about my concerns	[ ]
This question doesn't apply to me	[ ]

Question 4: Please rate your manager's overall success in handling the implementation. ***(please cross the appropriate box)***

Extremely Unsuccessful	Very Unsuccessful	Unsuccessful	Neutral	Successful	Very Successful	Extremely Successful
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]

ORGANISATIONAL CULTURE

An organisation's culture is made up, in part, of the attitudes, values and beliefs that are held by the group or the organisation. In Section 5, I am interested in knowing if the organisational culture you worked in was supportive of the new system or detrimental to it and how this may have affected you.

Question 1: There are many ways to describe an organisation's culture, some are presented below. From the list below cross those that you feel accurately describe your organisation's culture prior to the implementation of the new system? ***(please cross the appropriate box)***

Training and development and provided to employees	[ ]
Your career was well managed	[ ]
There was a reward system in place for employees	[ ]
New staff members were socialised into the organisation	[ ]
The organisation's norms and values were communicated regularly	[ ]
Your organisation had a strong sense of history	[ ]
Your organisation had strong leadership and modelling	[ ]
You had the opportunity to participate in decision making	[ ]

If you have any other comments, please make them below:

Question 2: There are many ways to describe an organisation's culture and some are presented below. From the list below cross those that you feel accurately describe your organisation's culture after the implementation of the new system. ***(please cross the appropriate box)***

Training and development was provided to employees	[ ]
Your career was well managed	[ ]
There was a reward system in place for employees	[ ]
New staff members were socialised into the organisation	[ ]
The organisation's norms and values were communicated regularly	[ ]
The organisation had a strong sense of history	[ ]
Your organisation had strong leadership and modelling	[ ]
You had the opportunity to participate in decision making	[ ]

If you have any other comments, please make them below.

Question 3: **Did the attitudes and beliefs held by your fellow workers affect the way you personally accepted the implementation of the new system?** ***(please cross the appropriate box.***

Yes [ ]

No [ ] (If no, go to question 4)

If yes, did it generally affect you positively or negatively? ***(please cross the appropriate box)***

Positive [ ]

Negative [ ]

Question 4: **If your present culture, in your opinion, was not supportive of the implementation, how could it be improved?** ***(please cross the appropriate box)***

Management commitment to the change [ ]
Leader overtly supports change [ ]
Regular communication [ ]
Informative communication [ ]
Education about the change [ ]
Participation in the change [ ]
Ability to express your opinions without fear of negative consequences [ ]

If you have any other comments, please make them below:

Question 5: **Overall, how would you rate the extent to which the culture was supportive or unsupportive of the implementation?** ***(please cross the appropriate box)***

Extremely Unsupportive	Very Unsupportive	Unsupportive	Neutral	Supportive	Very Supportive	Extremely Supportive
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]

If you have any other comments, please write them below:

TRAINING

In this section I am interested in knowing if you received training and if you did, how you felt about the training in terms of quality and effectiveness.

Question 1: **Did you go through a training program?** ***(please cross the appropriate box)***

Yes [ ]

No [ ] (If no, go to Section 7)

Question 2: **If yes, what was positive about the training you received?**

Please comment below:

Question 3: **What was negative about the training you received?**

Please comment below:

Question 4: **If you had the opportunity, how would you have changed the training program to be more effective?**

Please comment below:

Question 5: **Overall, how would you rate the quality of the training you received in respect to the new system?** ***(please cross the appropriate box)***

Extremely Poor	Very Poor	Poor	Neutral	Supportive	Very Supportive	Extremely Supportive
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]

If you have any other comments, please make them below:

COPING SKILLS

In this section I am interested in knowing whether or not you used coping strategies to assist you in coping with the change process.

Question 1: **Was your job changed as a result of the implementation of the new system?** ***(please cross the appropriate box)***

Yes [ ]

No [ ] (If no, go to question 3)

Question 2: If your job was changed, how was it changed? ***(please cross as many relevant boxes as you can)***

New work role	[ ]
Worked with new people	[ ]
New Supervisor/Manager	[ ]
New work processes	[ ]
Larger workload	[ ]
Smaller workload	[ ]
Been demoted	[ ]
Been promoted	[ ]
New geographical location	[ ]
New workstation	[ ]
More supportive environment	[ ]
Less supportive environment	[ ]
Less supervisory contact	[ ]
More supervisory contact	[ ]

Please specify any other changes below that do not occur within the above list.

Question 3: How stressful did you find the implementation process? ***(please cross the appropriate box)***

Not stressful at all	Not Very Stressful	Only a bit Stressful	Moderately Stressful	Stressful	Very Stressful	Extremely Stressful
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]

Question 4: What types of coping strategies did you use, if any, to assist you with the implementation process? ***(please cross the appropriate boxes)***

Work

Increased time management	[ ]
Talk about it with work colleagues	[ ]
Talk about it with management	[ ]
Increased absenteeism from work	[ ]
Looked for another job	[ ]

Personal

Talk about it with spouse/family/friends	[ ]
Spend more time alone	[ ]
Increased alcohol intake	[ ]
Increased nicotine intake	[ ]

Social

Took up external activities (eg. sports, hobbies)	[ ] please specify .....
Increased external activities	[ ] please specify .....

Spiritual

Increased attendance at church	[ ]
Meditating/relaxation	[ ]

Please list any other coping strategies below that you used which are not covered in the above list.

Question 5: Would you have found it beneficial to have training in coping techniques? (e.g. time management) ***(please cross the appropriate box)***

Yes	[ ]
No	[ ]

Question 6: Overall, how well do you think you coped with the implementation process? ***(please cross the appropriate box)***

Extremely Poor	Very Poor	Poor	Neutral	Well	Very Well	Extremely Well
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]

If you have any other comments, please make them below:

PERSONAL CIRCUMSTANCES

In this section I am interested in finding out how your personal life and your work life interacted with one another during the implementation process and if either one affected the other. If any of the questions are too personal please leave them blank, you are in no way obliged to answer them if you do not wish to.

Question 1: Were there any significant events occurring in your personal life at the time of the implementation? ***(please cross the appropriate box)***

Yes [ ]

No [ ]

Please comment below if you wish to:

Question 2: Did your personal life circumstances impact upon the way you coped with the implementation? ***(please cross the appropriate box)***

Yes [ ]

No [ ] (If no, go to question 4)

If yes, was the impact positive or negative? ***(please cross the appropriate box)***

Positive [ ]

Negative [ ]

Question 3: **How would you rate the extent to which your personal life influenced the way you coped with the implementation process?** ***(please cross the appropriate box)***

Slightly	Moderately	Considerably	To a Great Extent	Completely
[ ]	[ ]	[ ]	[ ]	[ ]

Question 4: **Did the implementation process at work impact upon your personal life?** ***(please cross the appropriate box)***

Yes [ ]

No [ ] If no, you finish here

Question 5: **How would you rate the influence of the implementation on your personal life?** ***(please cross the appropriate box)***

Slightly	Moderately	Considerably	To a Great Extent	Completely
[ ]	[ ]	[ ]	[ ]	[ ]

If you have any additional comments to make, please do so below.

IMPACT OF OTHER CHANGE INITIATIVES

As was mentioned in the letter of introduction, your organisation has experienced numerous changes through the past two years. One of these changes has been the implementation of the new financial application and the new processes associated with it. In this section, I am interest to know whether the other change initiatives such as the organisational restructure had affected the way you coped with the implementation of the new system.

Question 1: Did you experience any other organisational changes at your organisation besides the implementation of the new system? ***(please cross the appropriate box)***

Yes [ ]

No [ ] If no, please finish here.

If yes, please describe the other changes in the space provided below

Question 2: When did the other organisational change/s occur in relation to the implementation of the new system?

Long before the new system implementation [ ]
Shortly before the new system implementation [ ]
At the same time as the new system implementation [ ]
Just after the new system implementation [ ]
Long after the new system implementation [ ]

Question 3: Did these other changes impact upon your involvement in the implementation? ***(please cross the appropriate box)***

Yes [ ]

No [ ] If no, please finish here.

Question 4: If Yes, did it impact in a positive or negative way?

Positive [ ]

Negative [ ]

Please comment in the space below:

If you have any additional comments to make, please do so below.

Thank you for your participation, it is greatly appreciated!

APPENDIX D

Dear Participant

Re: Invitation to participate in research into factors that effect employee acceptance of new information technology.

I am currently conducting research into the factors that affect employee acceptance of new information technology. By determining these factors, strategies can be developed in an attempt to overcome resistance. By implementing these strategies, companies can improve the effectiveness of implementation programs both in terms of how the change is implemented and the final outcome. This is of benefit to both the employer and the employees in terms of productivity, cost effectiveness, employee morale and staff satisfaction. Another benefit of conducting successful implementation programs is that it equips staff with the required skills, both in terms of behaviours and attitudes, should they be involved in any future implementations.

Your organisation has gone through numerous changes during the last two years, however, this research is specifically interested in the implementation of the new financial system and the new processes. You have been chosen to participate in this study because of your recent involvement in this change, thus your responses are very important to this research and will be representative of the general working population. Your answers will be completely confidential and anonymous and will only be used for the purpose of this research. Your participation is purely voluntary and your completion of the questionnaire will be an indication of your consent to participate in this study.

If you have any questions about the research or the questionnaire please do not hesitate to contact me on ..... (work) or ..... (home). If you are interested in receiving feedback about the results of this study please state this on the questionnaire where provided.

Thank you for your participation and cooperation.

Yours sincerely

Janine Peckham
PhD Student
Adelaide University

APPENDIX E

Dear.....

Please find attached a questionnaire from Janine Peckham who is a PhD student from Adelaide University. Janine is conducting research on organisational change in the area of new information technology and what organisations can do to facilitate employee acceptance.

The Senior Management here at ..... have endorsed Janine's research and we encourage you to participate by completing the attached questionnaire.

Yours sincerely

(signed).....

APPENDIX F

ORGANISATIONAL CHANGE QUESTIONNAIRE

Below is a list of questions and I would appreciate it if you could answer them as honestly and as openly as you can. The questionnaire should take about **15 minutes** to complete. There are no right or wrong answers. Please answer all questions and provide as many comments as you can, as this will assist me with my analysis. To ensure confidentiality and anonymity please do not put your name on the questionnaire. Please send the completed questionnaire back to me by **Tuesday 25th January, 2000** via internal mail.

Personal Particulars

Age.....

Length of Employment.....
(please include employment prior to your current employment)

Sex:.....

Level of completed education:.....

Position within your organisation *(please cross the appropriate box)*

Partner	[ ]	Manager	[ ]	Assistant Manager	[ ]
Director	[ ]	Senior Consultant	[ ]	Senior Accountant	[ ]
Associate Director	[ ]	Consultant	[ ]	Accountant	[ ]
Senior Manager	[ ]	Administration Manager	[ ]	Other:.....	
Secretary	[ ]	Practice Service Staff	[ ]		

SECTION 1: INVOLVEMENT IN CHANGE PROGRAMS

In this section I am interested in whether you have been involved in prior organisational change before the implementation of the new system. I am also interested in how your prior experience or inexperience has affected the way you accepted the new system.

Question 1: Have you experienced an organisational change in the past? *(please do not include the change you have experienced with the new system)*.

Yes [ ] No [ ] If no, go to question 3.

If yes, how many major changes have you experienced? .....

Can you briefly describe the change/changes you have experienced.

Question 2: Do you feel that experiencing a prior organisational change helped or impaired your acceptance of the new system? *(please cross the appropriate box)*

It helped my acceptance [ ]
It impaired my acceptance [ ]
It neither helped nor impaired my acceptance [ ]

Please describe why:

Question 3: As you are aware, Phase 2 of the new system was rolled out in October. Please tick the appropriate box to describe your attitude at the beginning of the Phase 2 roll out and at the present.

My attitude toward the new system at the beginning of Phase 2 roll out was:		My attitude toward the new system at present is:	
Very Positive	[ ]	Very Positive	[ ]
Positive	[ ]	Positive	[ ]
Neutral	[ ]	Neutral	[ ]
Negative	[ ]	Negative	[ ]
Very Negative	[ ]	Very Negative	[ ]

Question 4: **You have told me about your attitude at the beginning and at the end of Phase 2, I would now like you to describe your attitude during the rollout of Phase 2. If your attitude changed pleases describe how it changed and why it changed?** ***(please comment in the space below)***

Question 5: **Overall, how successful or unsuccessful was the change process adopted by the Implementation Team? (eg: the approach the Team took in order to deliver the new system)** ***(please cross the appropriate box)***

Extremely Unsuccessful	Very Unsuccessful	Unsuccessful	Neutral	Successful	Very Successful	Extremely Successful
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]

Please describe why:

Question 6: **Overall, how successful or unsuccessful was the change outcome adopted by the Implementation Team? (eg: the new practice management system)** ***(please cross the appropriate box)***

Extremely Unsuccessful	Very Unsuccessful	Unsuccessful	Neutral	Successful	Very Successful	Extremely Successful
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]

Please describe why:

Question 7: **Considering your experience with Phase 2 of the system what is your attitude toward the Phase 3 rollout?** ***(please cross the appropriate box)***

Extremely Negative	Very Negative	Negative	Neutral	Positive	Very Positive	Extremely Positive
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]

Please make any other comments below:

Question 8: **If you have a negative attitude toward Phase 3, what could the Implementation Team do to make you feel more positive about Phase 3?** ***(please comment below)***

SECTION 2: COMMUNICATION

In this section, I am interested to know how you felt about the process and the quality of the information you received about the new system.

Question 1: **Did you receive any information about the new system?** ***(please cross the appropriate box)***

Yes [ ]

No [ ] (If no, go to Section 3)

Uncertain [ ]

Question 2: **If yes, how was the new system communicated to you?** ***(please cross as many relevant boxes)***

Face-to-face communication	[ ]	Gossip or rumour	[ ]
Newsletter	[ ]	Website	[ ]
Memos	[ ]	Helpline	[ ]
Staff meeting	[ ]	Other.....	[ ]

Question 3: **When information about the new system was communicated did you have a chance to ask questions and did you receive adequate answers?** ***(please cross the appropriate boxes)***

Yes I had an opportunity to ask questions	[ ]
Yes I received adequate answers to my questions	[ ]
No, I did not have an opportunity to ask questions	[ ]
No, I did not receive adequate answers	[ ]

Question 4: **Were the benefits of the new system explained to you?**

Yes [ ] No [ ] Not Sure [ ]

Question 5: **Did you have an opportunity to discuss how the change would affect you?**

Yes [ ] No [ ] Not Sure [ ]

Question 6: **Did you have the opportunity to provide input into the new processes?**

Yes [ ] No [ ] Not Sure [ ]

Question 7: **Did the Implementation Team listen to your concerns and act upon feedback from your division?**

Yes [ ] No [ ] Not Sure [ ]

Question 8: **Did the Implementation Team provide accurate information?**

Yes [ ] No [ ] Not Sure [ ]

Question 9: Did the Implementation Team provide you with regular information about what was happening during Phase 2?

Yes	[ ]	No	[ ]	Not Sure	[ ]

Question 10: Did you know who to call for further information about the new system?

Yes	[ ]	No	[ ]	Not Sure	[ ]

Question 11: Overall, how informative or uninformative was the information about the new system? ***(please cross the appropriate box)***

Extremely Uninformative	Very Uninformative	Uninformative	Neutral	Informative	Very Informative	Extremely Informative
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]

Question 12: Overall, how would you rate the success of the communication <u>process</u> (eg: how the information was delivered to you) concerning the new system? ***(please cross the appropriate box)***

Extremely Unsuccessful	Very Unsuccessful	Unsuccessful	Neutral	Successful	Very Successful	Extremely Successful
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]

Question 13: Overall, in what way did the communication you received about the new system affect your acceptance of it? ***(please describe below)***

Question 14: Considering the information you received about the new system did the new system meet your expectations? ***(please describe below)***

SECTION 3: WORKING RELATIONSHIPS

The implementation of the new system brought with it several policy changes that effected work processes for partners, managers and their staff. The following are some questions in relation to these changes. There is a separate section for partners/managers and staff, please fill in the appropriate section.

If you are a partner/manager please fill in the following questions:

	Yes	No	Not Sure
Did you find it easy to cope with the new work processes that were put into place?	[ ]	[ ]	[ ]
Did the new policies associated with the new system change your work processes?	[ ]	[ ]	[ ]
Did the new work policies associated with the new system increase your workload?	[ ]	[ ]	[ ]
Did you find the changes in your work processes inconvenient?	[ ]	[ ]	[ ]
Did the new work processes alter your working relationship with your secretary or other staff members in any way?	[ ]	[ ]	[ ]
Did your staff readily accept the new work processes?	[ ]	[ ]	[ ]
Did you readily accept your new work processes?	[ ]	[ ]	[ ]
Could you see the benefit of the new work processes?	[ ]	[ ]	[ ]

If you are a general staff member, please fill in the following questions:

	Yes	No	Not Sure
Did you find it easy to cope with the new work processes that were put into place?	[ ]	[ ]	[ ]
Did the new policies associated with the new system change your work processes?	[ ]	[ ]	[ ]
Did the new work policies associated with the new system increase your workload?	[ ]	[ ]	[ ]
Did you find the changes in your work processes inconvenient?	[ ]	[ ]	[ ]
Did your partner/manager readily accept the new work processes?	[ ]	[ ]	[ ]
Did you have difficulty explaining the new work processes to your partner/manager?	[ ]	[ ]	[ ]
Could you see the benefit of the new work processes?	[ ]	[ ]	[ ]
Did the new work processes alter your working relationship with your partner/manager in any way?	[ ]	[ ]	[ ]

Please provide comments below:

SECTION 4: ORGANISATIONAL CULTURE

An organisation's culture is made upon, in part, of the attitudes, values and beliefs that are held by a group or organisation. In Section 4, I am interested in knowing if the organisational culture you worked in was supportive of the new system or detrimental to it and how this may have affected your acceptance of the new system.

Question 1: Did the attitudes and beliefs held by your fellow workers affect the way you personally accepted the new system? ***(please cross the appropriate box)***

Yes [ ] No [ ] Not Sure [ ]

If yes, did it generally effect your positively or negatively? ***(please cross the appropriate box)***

Yes [ ] No [ ] Not Sure [ ]

Question 2: How would you rate the extent to which the culture in your division was accepting of the new system? ***(please cross the appropriate box)***

Yes [ ] No [ ] Not Sure [ ]

Please provide comments below: ***(eg, in what way was it accepting or not accepting)***

Question 3: If your division had a culture that, in your opinion, was not supportive of the new system, how could it be improved? ***(please cross the appropriate boxes)***

Greater management commitment to the new system [ ]
Leader more overtly supports the new system [ ]
More regular communication about the new system [ ]
More informative communication about the new system [ ]
More education about the new system [ ]
Greater participation in the business processes associated with the new system [ ]
Ability to express your opinions with less fear of negative consequences [ ]

If you have any other comments, please make them below:

SECTION 5: COMPUTER TRAINING AND INFORMATION SESSIONS

In this section I am interested in knowing if you received computer based training or attended any information sessions in regard to the new system, and if you did, how you felt about the training in terms of quality and effectiveness.

Question 1: Did you attend a computer based training program and/or information sessions? ***(please cross the appropriate boxes)***

Yes, I attended a computer based training program [ ]
Yes, I attended an information session [ ]
No, I didn't attend any training [ ] (If no, go to question 10)

Question 2: If yes, what was positive about the computer based training and/or information sessions you attended?

Please comment below:

Question 3: What was negative about the computer based training and/or the information sessions you attended? ***(please comment below)***

Question 4: How could have the computer training or the information sessions been improved? *(please comment below)*

Question 5: **Did you feel that you had enough knowledge after your <u>computer training</u> to use the system effectively in your role?** ***(if you did not attend computer training go to question 6)***

Yes [ ] No [ ] Not Sure [ ]

Please explain why:

Question 6: **Did you feel that you had enough knowledge after your <u>information session</u> to use the processes effectively in your role?**

Yes [ ] No [ ] Not Sure [ ]

Please explain why:

Question 7: **Did you have enough support for any questions or problems when you went back to your division?**

Yes [ ] No [ ] Not Sure [ ]

Please comment below:

Question 8: **Overall, how would you rate the quality of the <u>computer based training</u> you received in respect to the new system?** ***(please cross the appropriate box) If you didn't receive computer base training please go to question 9)***

Extremely Poor	Very Poor	Poor	Neutral	Good	Very Good	Extremely Good
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]

Question 9: Overall, how would you rate the quality of the <u>information sessions</u> you received in respect to the new processes? ***(please cross the appropriate box)***

Extremely Poor	Very Poor	Poor	Neutral	Good	Very Good	Extremely Good
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]

If you have any other comments, please make them below:

Question 10: Overall, how did the information or training you received or did not receive affect your acceptance of the new system? ***(please describe below)***

Thank you for your participation, it is greatly appreciated!

APPENDIX G

ORGANISATIONAL CHANGE QUESTIONNAIRE

Below is a list of questions and I would appreciate it if you could answer them as honestly and as openly as you can. The questionnaire should take about **15 minutes** to complete. There are no right or wrong answers. Please answer all questions and provide as many comments as you can, as this will assist me with my analysis. To ensure confidentiality and anonymity please do not put your name on the questionnaire. Please send the completed questionnaire back to me by **Monday 6th March, 2000** via internal mail.

Personal Particulars

Age.....

Length of Employment.....
(please include employment prior to your current employment)

Sex:.....

Level of completed education:.....

Secondary [ ]
Tertiary [ ]
Post Graduate [ ]

Position within your organisation *(please cross the appropriate box)*

Partner	[ ]	Manager	[ ]	Assistant Manager	[ ]
Director	[ ]	Senior Consultant	[ ]	Senior Accountant	[ ]
Associate Director	[ ]	Consultant	[ ]	Accountant	[ ]
Senior Manager	[ ]	Administration Manager	[ ]	Other:.....	
Secretary	[ ]	Practice Service Staff	[ ]		

SECTION 1: INVOLVEMENT IN CHANGE PROGRAMS

In this section I am interested in whether you have been involved in prior organisational change before the implementation of the new system. I am also interested in how your prior experience or inexperience has affected the way you accepted the new system.

Question 1: Have you experienced an organisational change in the past? *(please do not include the change you have experienced with the new system)*.

Yes [ ] No [ ] If no, go to question 3.

If yes, how many major changes have you experienced? .....

Can you briefly describe the change/changes you have experienced.

Question 2: Do you feel that experiencing a prior organisation change helped or impaired your acceptance of the new system? *(please cross the appropriate box)*

It helped my acceptance [ ]
It impaired my acceptance [ ]
It neither helped nor impaired my acceptance [ ]

Please describe why:

Question 3: As you are aware, Phase 2 of the new system was rolled out in October. Please tick the appropriate box to describe your attitude at the beginning of the Phase 2 roll out and at the present.

My attitude toward the new system at the beginning of Phase 2 roll out was:		**My attitude toward the new system at present is:**	
Very Positive	[ ]	Very Positive	[ ]
Positive	[ ]	Positive	[ ]
Neutral	[ ]	Neutral	[ ]
Negative	[ ]	Negative	[ ]
Very Negative	[ ]	Very Negative	[ ]

Question 4: **You have told me about your attitude at the beginning and at the end of Phase 2, I would now like you to describe your attitude during the rollout of Phase 2. If your attitude changed pleases describe how it changed and why it changed.** ***(please comment in the space below)***

Question 5: **Did you benefit directly from the implementation of the new system?**

Yes [ ] No [ ] Not Sure [ ]

Please explain why:

Question 6: **Do you feel that the system, within Phase 2, is fully functional? (eg: reliable, accessible information output)**

Yes [ ] No [ ] Not Sure [ ]

Please explain why:

Question 7: **Overall, how successful or unsuccessful was the change process adopted by the Implementation Team. (eg: the approach the Team took in order to deliver the new system)** ***(please cross the appropriate box)***

Extremely Unsuccessful	Very Unsuccessful	Unsuccessful	Neutral	Successful	Very Successful	Extremely Successful
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]

Please describe why:

Question 8: **Overall, how successful or unsuccessful was the new system in terms of <u>outcome</u> (eg: the new practice management system)** ***(please cross the appropriate box)***

Extremely Unsuccessful	Very Unsuccessful	Unsuccessful	Neutral	Successful	Very Successful	Extremely Successful
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]

Please describe why:

Question 9: **Considering your experience with Phase 2 of the system what is your attitude toward the Phase 3 rollout?** ***(please cross the appropriate box)***

Extremely Negative	Very Negative	Negative	Neutral	Positive	Very Positive	Extremely Positive
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]

Please make any other comments below:

SECTION 2: COMMUNICATION

In this section, I am interested to know how you felt about the process and the quality of the information you received about the new system.

Question 1: **Did you receive any information about the new system?** ***(please cross the appropriate box)***

Yes [ ]

No [ ] (If no, go to Section 3)

Uncertain [ ]

Question 2: **If yes, how was the new system communicated to you?** ***(please cross as many relevant boxes)***

Face-to-face communication	[ ]	Gossip or rumour	[ ]
Newsletter	[ ]	Website	[ ]
Memos	[ ]	Nexline	[ ]
Staff meeting	[ ]	Other.....	[ ]

Question 3: **In your opinion what medium of communication was the most effective of those above?**

Question 4: **When information about the new system was communicated to you did you have a opportunity to ask questions and did you receive adequate answers?** ***(please cross the appropriate boxes)***

Yes I had an opportunity to ask questions	[ ]
Yes I received adequate answers to my questions	[ ]
No, I did not have an opportunity to ask questions	[ ]
No, I did not receive adequate answers	[ ]

Question 5: **Did you have an opportunity to discuss how the change would affect you?**

Yes	[ ]	No	[ ]	Not Sure	[ ]

Question 6: **Did you have the opportunity to provide input into the new processes?**

Yes	[ ]	No	[ ]	Not Sure	[ ]

Question 7: **Did the Implementation Team listen to your concerns and act upon feedback from your Division?**

Yes	[ ]	No	[ ]	Not Sure	[ ]

Question 8: Did the Implementation Team provide accurate information in regard to the following?

	Yes	No	Not Sure
The reasons for the implementation of the new system	[ ]	[ ]	[ ]
The new processes that were to be implemented	[ ]	[ ]	[ ]
The benefits of the new system	[ ]	[ ]	[ ]
The difficulties that may occur during implementation	[ ]	[ ]	[ ]
The appropriate expectation you should have in regard to the System (eg: what it could or could not do etc.)	[ ]	[ ]	[ ]

Question 9: Did the Business (eg. your division) provide you with accurate information in regard

The reasons for the implementation of the new system	[ ]	[ ]	[ ]
The new processes that were to be implemented	[ ]	[ ]	[ ]
The benefits of the new system	[ ]	[ ]	[ ]
The difficulties that may occur during implementation	[ ]	[ ]	[ ]
The appropriate expectation you should have in regard to the System (eg: what it could or could not do etc.)	[ ]	[ ]	[ ]

Question 10: Did the Implementation Team provide you with regular information about what was happening during Phase 2?

Yes [ ] No [ ] Not Sure [ ]

Question 11: Did the Business (eg. your division) provide you with regular information about what was happening during Phase 2?

Yes [ ] No [ ] Not Sure [ ]

Question 12: Did you know who to contact if you had any concerns or queries about the new system?

Yes	[ ]	No	[ ]	Not Sure	[ ]

Question 13: Overall, how informative or uninformative was the information about the new system? ***(please cross the appropriate box)***

Extremely Uninformative	Very Uninformative	Uninformative	Neutral	Informative	Very Informative	Extremely Informative
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]

Question 14: Overall, how would you rate the success of the communication <u>process</u> (eg: how the information was delivered to you) concerning the new system? ***(please cross the appropriate box)***

Extremely Unsuccessful	Very Unsuccessful	Unsuccessful	Neutral	Successful	Very Successful	Extremely Successful
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]

Question 15: Overall, in what way did the communication you received about the new system affect your attitude toward it? ***(please describe below)***

SECTION 3: WORKING RELATIONSHIPS

The implementation of the new system brought with it several policy changes that effected work processes for partners, managers and their staff. The following are some questions in relation to these changes. There is a separate section for partners/managers and staff, please fill in the appropriate section.

If you are a partner/manager please fill in the following questions:

	Yes	No	Not Sure
Did you find it easy to cope with the new work processes that were put into place?	[ ]	[ ]	[ ]
Did the new policies associated with the new system change your work processes?	[ ]	[ ]	[ ]
Did the new work policies associated with the new system increase your workload?	[ ]	[ ]	[ ]
Did you find the changes in your work processes inconvenient?	[ ]	[ ]	[ ]
Did the new work processes alter your working relationship with your secretary or other staff members in any way?	[ ]	[ ]	[ ]
Did your staff readily accept the new work processes?	[ ]	[ ]	[ ]
Did you readily accept your new work processes?	[ ]	[ ]	[ ]
Could you see the benefit of the new work processes?	[ ]	[ ]	[ ]
Did the new work processes alter your working relationship with your colleagues in any way?	[ ]	[ ]	[ ]

If you are a general staff member, please fill in the following questions:

	Yes	No	Not Sure
Did you find it easy to cope with the new work processes that were put into place?	[ ]	[ ]	[ ]
Did the new policies associated with the new system change your work processes?	[ ]	[ ]	[ ]
Did the new work policies associated with the new system increase your workload?	[ ]	[ ]	[ ]
Did you find the changes in your work processes inconvenient?	[ ]	[ ]	[ ]
Did your partner/manager readily accept the new work processes?	[ ]	[ ]	[ ]
Did you have difficulty explaining the new work processes to your partner/manager?	[ ]	[ ]	[ ]
Could you see the benefit of the new work processes?	[ ]	[ ]	[ ]
Did the new work processes alter your working relationship with your partner/manager in any way?	[ ]	[ ]	[ ]
Did the new work processes alter your working relationship with your colleagues in any way?	[ ]	[ ]	[ ]

Question 1: Did the overall implementation of the new system effect your team in terms of morale in a positive or a negative way?

Positively [ ] Negatively [ ] Not Sure [ ]

Please explain how:

Question 2: Did the overall implementation of the new system affect the way your team worked together and/or interacted?

Yes [ ] No [ ] Not Sure [ ]

If yes, please explain how:

Question 3: Did the overall implementation of the new system affect the way your team worked with other teams within your organisation?

Yes [ ] No [ ] Not Sure [ ]

If yes, please explain how:

Question 4: If your working relationships were altered in any way please rate how this affected your attitude towards the new system?

Extremely Negatively	Very Negatively	Negatively	Neutral	Positively	Very Positively	Extremely Positively
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]

SECTION 4: CULTURE

An organisation's culture is made upon, in part, of the attitudes, values and beliefs that are held by a group or organisation. In Section 4, I am interested in knowing if the organisational culture you worked in was supportive of the new system or detrimental to it and how this may have affected your acceptance of the new system.

Question 1: Did the attitudes and beliefs held by your fellow workers affect your attitude toward the new system? ***(please cross the appropriate box)***

Yes [ ] No [ ] Not Sure [ ]

If yes, did it generally effect your positively or negatively? ***(please cross the appropriate box)***

Extremely Negatively	Very Negatively	Negatively	Neutral	Positively	Very Positively	Extremely Positively
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]

Question 2: How would you rate your Division's attitude in regard to the new system? ***(please cross the appropriate box)***

Extremely Negatively	Very Negatively	Negatively	Neutral	Positively	Very Positively	Extremely Positively
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]

Please provide comments below: (eg. in what way was it positive or negative).

Question 3: **If your Division had a culture that, in your opinion, was not supportive of the new system, how could it be improved?** ***(please cross the appropriate boxes)***

Greater management commitment to the new system [ ]
Leader more overtly supports the new system [ ]
More regular communication about the new system [ ]
More informative communication about the new system [ ]
More education about the new system [ ]
Greater participation in the business processes associated with the new system [ ]
Ability to express your opinions with less fear of negative consequences [ ]

If you have any other comments, please make them below:

SECTION 5: COMPUTER TRAINING AND INFORMATION SESSIONS

In this section I am interested in knowing if you received computer based training or attended any information sessions in regard to the new system, and if you did, how you felt about the training in terms of quality and effectiveness.

Question 1: **Did you attend a computer based training program and/or information sessions?** ***(please cross the appropriate boxes)***

Yes, I attended a computer based training program [ ]
Yes, I attended an information session [ ]
No, I didn't attend any training [ ] (If no, go to question 13)

Question 2: **If yes, what was positive about the computer based training and/or information sessions you attended?**

Please comment below:

Question 3: **What was negative about the computer based training and/or the information sessions you attended?** ***(please comment below)***

Question 4: **How could have the computer training or the information sessions been improved?** *(please comment below)*

Question 5: **Did you feel that you had enough appropriate knowledge after your computer training to use the system effectively in your role?** ***(if you did not attend computer training go to question 6)***

Yes [ ] No [ ] Not Sure [ ]

Please explain why:

Question 6: **Did you feel that you had enough knowledge after your information session to use the processes effectively in your role?**

Yes [ ] No [ ] Not Sure [ ]

Please explain why:

Question 7: **Did you have enough support for any questions or problems when you went back to your Division?**

Yes [ ] No [ ] Not Sure [ ]

Please comment below:

Question 8: **Overall, how would you rate the quality of the <u>computer based training</u> you received in respect to the new system?** ***(please cross the appropriate box) If you didn't receive computer base training please go to question 9)***

Extremely Poor	Very Poor	Poor	Neutral	Good	Very Good	Excellent
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]

Question 9: **Overall, how would you rate the conditions of the <u>computer based training</u> (eg. time available, number of participants, physical comfort)**

Extremely Poor	Very Poor	Poor	Neutral	Good	Very Good	Excellent
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]

If you have any other comments, please make them below:

Question 10: Overall, how would you rate the quality of the <u>information sessions</u> you received in respect to the new processes? ***(please cross the appropriate box)***

Extremely Poor	Very Poor	Poor	Neutral	Good	Very Good	Excellent
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]

If you have any other comments, please make them below:

Question 11: Overall, how would you rate the competence (eg. knowledge, training skills) of the trainers who conducted the <u>information sessions?</u>

Extremely Poor	Very Poor	Poor	Neutral	Good	Very Good	Excellent
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]

If you have any other comments, please make them below:

Question 12: Overall, how would you rate the competence (eg. knowledge, training skills) of the trainers who conducted the <u>computer training?</u>

Extremely Poor	Very Poor	Poor	Neutral	Good	Very Good	Excellent
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]

If you have any other comments, please make them below:

Question 13: Overall, how would you rate the quality of the training material (eg: handouts, manuals) that you received during the training sessions.

Extremely Poor	Very Poor	Poor	Neutral	Good	Very Good	Excellent
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]

Question 14: Overall, how did the information or training you received (or did not receive) affect your attitude toward the new system (*please describe below)*

Extremely Negative	Very Negative	Negative	Neutral	Positive	Very Positive	Extremely Positive
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]

Question 15: Overall, how would you rate your attitude toward the new system <u>at present?</u>

Extremely Negative	Very Negative	Negative	Neutral	Positive	Very Positive	Extremely Positive
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]

Question 16: Overall, how do you rate your attitude toward <u>future</u> phases of the change program?

Extremely Negative	Very Negative	Negative	Neutral	Positive	Very Positive	Extremely Positive
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]

If you have any other comments, please make them below:

Thank you for your participation, it is greatly appreciated!

APPENDIX H

TECHNOLOGY CHANGE PROGRAM ASSESSMENT

This assessment tool has been developed to assist in designing, monitoring and evaluating a technology change program in terms of employee acceptance. In particular, it can also be used to identify critical areas of a change program that may have received insufficient attention. It can be used for large-scale change involving an entire organisation or for a small change involving only one department within an organisation.

The assessment focuses on the change process and the factors that need to be considered to optimise its success in terms of employee acceptance. Consideration of the factors can contribute to greater employee acceptance of organisational change through identification of strengths and weaknesses within a change management program.

This assessment could also be used by change managers who are part of a broader Implementation Team. Such a team could consist of a project manager, system design personnel, user testing groups etc. In this case the tool could be used for a specific department within the broader Implementation Team.

To use the assessment simply read the questions under each of the headings and circle Yes or No. Some of the factors have been weighted according to their importance as suggested by research. For example a "5" rating was given to the questions that were important according to the thesis and fell within the 90 to 100% range. The percentages are the descriptive statistics that represent how participants responded to each particular question throughout the thesis. For example 77% of participants responded that they did not have described to them the appropriate expectations of the new system or procedure. Certain questions were given a "4" rating because they fell within the 60 to 79% range, and a "3" rating was weighted to some questions because they fell within the 20 to 59% range. The "1" rating was given to those questions that did not seem to be as crucial to the success of the implementation, being in the 1 to 19% range, but might enhance the process if used.

When you have completed the questionnaire, add up the scores for the different factors to find out whether the change program is at low, medium or high risk of problems in terms of user acceptance.

COMMUNICATION		
Timing of the Communication	**Yes**	**No**
Does your communication strategy include a launch where all employees are provided with all the relevant information about the change program?	0	5
Does your communication strategy provide all employees with regular updates about the progress of the change program (eg every 2 weeks, once a month)?	0	4
Does your communication strategy ensure that all employees are kept informed of any unforeseen changes to the change program?	0	1
Does your communication strategy include provision for an increase in relevant information immediately prior to the implementation of the new system?	0	1
Content of the Message	**Yes**	**No**
Does your communication describe the appropriate expectations of the new system or procedure?	0	4
Does your communication describe the difficulties that may occur with the new system or procedure?	0	4
Does your communication describe the reasons for the new system or procedure?	0	3
Does your communication describe the benefits of the new system or procedure?	0	3
Does your communication describe the reasons for the new associated work processes?	0	3
Does your communication provide all the relevant facts (including time lines, responsibilities etc) about the change?	0	1
Does your communication provide employees with an understanding of how they will be personally affected (eg: in regard to the specific role or job within the organisation).	0	1
Have you obtained feedback from all relevant individuals and groups to indicate that the information provided has been accurately received?	0	1
The Medium	**Yes**	**No**
Does your communication plan include managers having one on one discussion with all their relevant employees about the change?	0	3
Does your communication plan include face-to-face conversations via staff meetings?	0	3
Does your communication plan include sending newsletters out to all your employees?	0	1
Does your communication plan include sending out memos via email to all your employees?	0	1
Does your communication plan include a website whereby employees can access up to date information about the change?	0	1
Distribution of Information	**Yes**	**No**
Does your communication strategy ensure that every employee who will be affected by the change receives informative information about the change? (this may include employees that are not directly involved with the system but whose work processes have changed because of the new system)	0	4
Does your communication strategy ensure that every employee who will be affected by the change receives regular information about the change? (this may include employees that are not directly involved with the system but whose work processes have changed because of the new system)	0	4
Does your communication strategy identify any individuals or groups that may need more detailed information about he change? (eg. end users).	0	1
Have these special individuals or groups received the more detailed information they need and has feedback been obtained to ensure that they have received it?	0	1

Communication cont.

Level of Risk	Score	Comment
Low Risk	0-8	Congratulations! Your score indicates that you have a good communication plan in place that will be effective in providing information to your employees. If you had any scores within a shaded category you are advised to reassess the possibility of including that strategy in your communication plan.
Medium Risk	9-20	Your score indicates that you have quite a few strategies that need to be included to ensure that you have an effective communication plan to deliver to your employees. You are advised to review your selection and where you have answered "no", re-evaluate how you could include that strategy in your communication plan. Pay particular attention to the shaded areas.
High Risk	21-49	Your score indicates that your communication plan is at high risk of being unsuccessful. In order to prevent this, you need to re-evaluate your selections, paying particular attention to the shaded areas as these are the most important strategies to include in your communication plan.

CHANGE PROGRAM DESIGN TOOL/RISK ASSESSMENT

SYSTEM FACTORS	Yes	No
Do the employees have an opportunity to provide input into the design of the new system or procedures in terms of the business requirements?	0	4
Do the employees have an opportunity to provide input into the functional requirements of the new system or procedure?	0	4
Do the employees have an opportunity to provide input into the ease of use of the system or procedures?	0	3
Will a representative of the employees be involved in user testing?	0	1
Is there a mechanism set up where by change personnel can seek feedback from employees about problems or complaints about the system?	0	1
Is there a help desk set up for ongoing support regarding the new system or procedure?	0	1

Level of Risk	Score	Comment
Low Risk	0-2	Congratulations! Your score indicates that your employees are involved in the design of your new system.
Medium Risk	3-7	Your score indicates that you have some strategies that need to be included to ensure that your employees are involved in the systems side of the implementation. Review your answers and focus on where you have answered "No' to the shaded strategies.
High Risk	8-14	Your score indicates that you need to involve your employees in the design of your new system. In order to do this, re-evaluate your selections, paying particular attention to the shaded areas as these are the most important strategies to include.

CHANGE PROGRAM DESIGN TOOL/RISK ASSESSMENT

EMPLOYEE PARTICIPATION	Yes	No
Is there a system in place before, during and immediately after the change process to ensure that employees receive answers to their questions about the change process?	0	4
Is there a system in place before, during and immediately after the change process to ensure that employees receive answers to their complaints or suggestions about the change process?	0	4
Do your employees have the opportunity to provide input into the new change processes?	0	4
Do your employees have an opportunity to provide input into the new work processes?	0	4
Do your employees have an opportunity to provide input into the new system?	0	4
Are employees given the opportunity to discuss with their managers and the change agents how the change will affect them?	0	3
Are employees given the opportunity to ask their managers questions about the change?	0	1
What mechanism is in place to ensure that the change team can receive and action feedback from the employees?	0	1
Is there a feedback mechanism to log complaints or suggestions about the new system or procedure?	0	1

Level of Risk	Score	Comment
Low Risk	0-4	Congratulations! Your score indicates that you have invited your employees to participate in the change process. By doing this you will find that your employees will have ownership about the change and are more likely to accept the changes you are introducing.
Medium Risk	5-15	Your score indicates that you have some strategies that need to be included to ensure that your employees are more involved in the change process. Go back to your results and review your scores, paying particular attention to the shaded areas.
High Risk	16-26	Your score indicates that your change program is at high risk of user resistance by not involving your employees in the change process. Review your results and try to include more of the shaded strategies into your change program.

CHANGE PROGRAM DESIGN TOOL/RISK ASSESSMENT

TRAINING	Yes	No
Does the content of your training programs have enough information to ensure that employees are able to use the system effectively in their role?	0	4
Are your trainers competent (eg appropriate qualifications and experience) in their training ability?	0	4
Have you set up a post-training support system to ensure that employees have a contact point if they have problems or questions with the system	0	3
Does the content of your training programs ensure that it is in context of the employees' daily work routine?	0	1
Are the training sessions practical and hands on so that employees can practice what they need to do back in their work environment?	0	1
Can one-on-one attention be provided in the training session if needed by employees?	0	1
Have you set up information sessions for managers/team leaders to educate them on how to assist employees to cope with change?	0	1
Have you arranged to run 'coping with change' workshops for employees?	0	1
Do you have provisions for employees who are not coping with the change?	0	1
Have you set up education sessions for managers to assist them to identify those employees who are not coping with change and how to assist those employees?	0	1
Have you developed documentation that supports the training sessions that employees can take away?	0	1
Are the trainers knowledgable and experienced on the system they are training in?	0	1
Are the training sessions scheduled at convenient times so that employees can attend them readily?	0	1
Has enough time been allocated to the training sessions to ensure that employees do not feel rushed and have time to practice their new skills?	0	1
Is the training room physically comfortable?	0	1
Have you planned on evaluating the training program in terms of the employees' skill level before and after training?	0	1
Is training appropriately scheduled with respect to the change? That is, not too long or too short a time before the change takes place)	0	1

Level of Risk	Score	Comment
Low Risk	0-3	Congratulations! Your score indicates that you have a good training program in place that is likely to be effective in providing new skills for your employees. If you had any scores within a shaded category you are advised to reassess the possibility of including that strategy in your training program.
Medium Risk	4-14	Your score indicates that you have some strategies that need to be included to ensure that your training is more successful. Re-evaluate your answers and try and select more of the shaded strategies.
High Risk	15-24	You scores indicate that your training program is at high risk of failing to provide your employees with the environment and skills needed to effectively use your new system. Re-evaluate your answers and select more of the shaded strategies for inclusion in your training program.

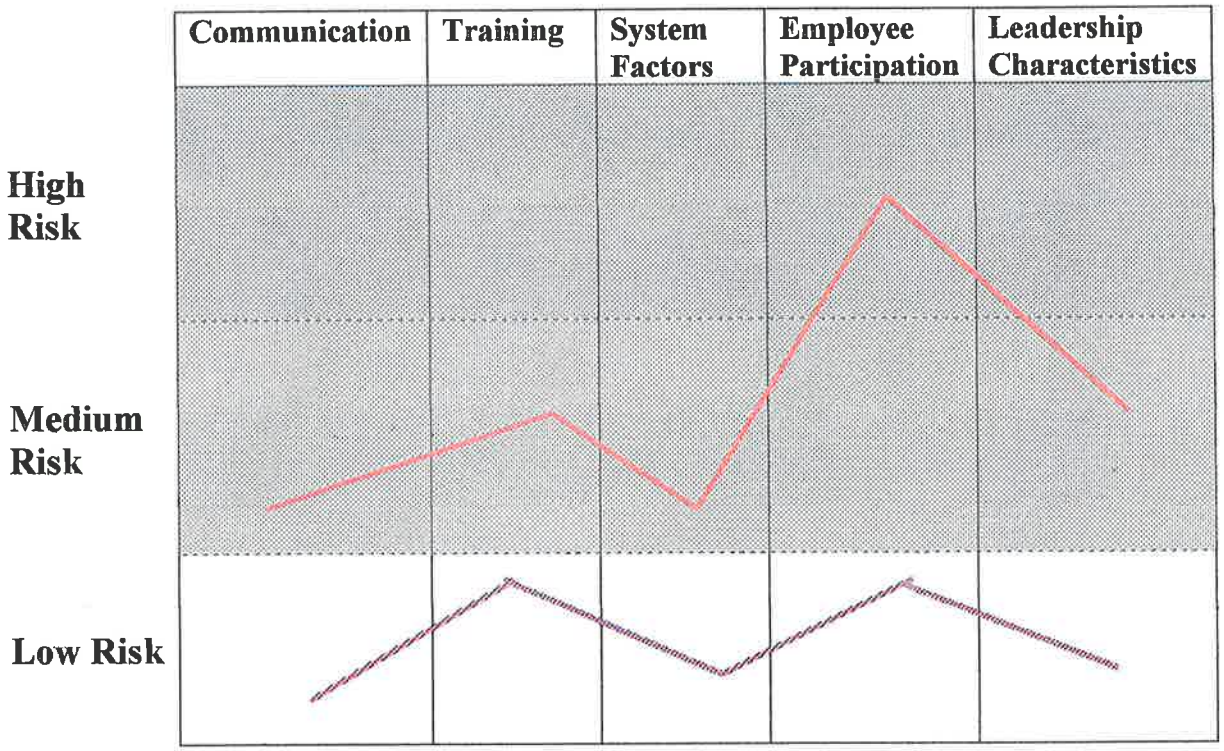
CHANGE PROGRAM DESIGN TOOL/RISK ASSESSMENT

LEADERSHIP CHARACTERISTICS		
Below are the leadership characteristics and behaviours you should look for when selecting the members of your change team. When scoring this section rate the team as a whole (eg if all the members of your team are willing to explain the reasons for the change to employees you would circle "Yes". However, if even one member would not be willing to do this you need to circle "No".) Your change team will.....	Yes	No
Explain the reason for the change to the employees.	0	4
Involve employees in the change process.	0	3
Answer questions in a way that is informative and accurate.	0	3
Hold regular meetings where employees can ask questions and get answers	0	3
Explain the benefits of the new system	0	1
Explain how the change will affect employees	0	1
Regularly talk about the change before, during and after the implementation.	0	1
Remain personally positive about the change and express this to employees.	0	1
Use specific strategies to motivate and inspire employees about the change.	0	1
Use specific strategies to empower staff to take control of their situation	0	1
Provide a sense of emotional support to employees	0	1
Listen to employees concerns about the change.	0	1
Have you made provision for providing training and/or coaching on leading change to those members of your change team that are inexperienced or lack some of the ideal characteristics mentioned above.	0	1

Level of Risk	Score	Comment
Low Risk	0-3	Congratulations! Your score indicates that you have selected an Implementation Change Team that have leadership characteristics and behaviours that are associated with successful systems implementations.
Medium Risk	4-12	Your score indicates that you have less than ideal members on your change team with the characteristics and behaviours to facilitate a successful systems implementation. You need to review your team and either provide training and coaching in the areas that are needed or replace that team member with a person who has more of the characteristics listed above.
High Risk	13-22	Your score indicates that you do not have very many members with those characteristics and behaviours that are usually associated with successful systems implementations. Review your choice of team members and evaluate whether they need training or coaching or need to be replaced on your team.

CHANGE PROGRAM DESIGN TOOL/RISK ASSESSMENT

Overview of Results: Example of presentation of results



Red = **Actual**
Purple = **Ideal**

Bibliography

Ackroyd, S. Burrel, G., Hughes, M. & Whitaken, L. (1988). The Japanisation of British Industry? *Industrial Relations Journal*, *19*(1), 11-23.

Agarwal, R & Karahanna, E. (2000). Time flies when you're having fun: Cognitive absorption and beliefs about information technology usage. *MIS Quarterly*, *24*, 665-690.

Alderfer, C.P. (1976). Change process in organizations. In M.D. Dunnette (Ed.), *Handbook of Industrial and Organisational Psychology*. (pp. 1592-1638). Chicago, IL: Rand McNally.

Allan, C (1995). *The process and politics of change at Vicbank*. In Quality Management: The Theory and Practice of Implementing Change (P. Dawson & G. Palmer) (pp125-136) Longman, Melbourne.

Anderson (1997). Locus of control, coping behaviours, and performance in as stress setting: A longitudinal study. *Journal of Applied Psychology*, *62*, 446-451.

Arndt, S., Feltes. J. & Hanak, J. (1983). Secretarial attitudes toward word processors as a function of familiarity and locus of control. *Behaviour and Information Technology*, *2*(1), 17-22.

Ashford, S. (1988). Individual strategies for coping with stress during organisational transitions, *Journal of Applied Behavioural Science*, *24*(1), 19-36.

Barron I, & Curnow, R. (1979). *The Future with Microelectronics*. Milton Keynes, Bucks: Open University.

Bass B.M., (1990) Bass and Stodgillis Handbook of Leadership, 3rd ed., Free Press, New York.

Bate P. & Mangham I. (1981). Exploring Participation. John Wiley and Sons, Chichester.

Bedeian, A.G. (1980). *Organization Theory and Analysis*, Dryden Press, Chicago

Bem, B.M. (1967). Self perception: An alternative interpretation of cognitive dissonance phenomena, *Psychological Review*, *74*, 183-200.

Bemmels, B. & Reshef, Y. (1991). Manufacturing Employees and Technological Change. *Journal of Labour Research*, *12*(3). 231-246.

Bennis, W. & Nanus, B. (1985). *Leaders*, Harper & Row, New York.

Berg, B. (1989). *Qualitative Research Methods for the Social Sciences*, Allyn & Bacon, Boston.

Bernier, D. (1998). A study of coping: successful recovery from severe burnout and other reactions to severe work-related stress. *Work & Stress*, *12*(1), 50-65.

Bies, R.J. (1987). The predicament of injustice: The management of moral outrage. In L.L. Cummings & B.M. Shaw (Ed.), *Research in Organisational Behaviour*. *9*, (pp 289-319). Greenwich, CT:JAI Press.

Bikson, TK. & Stasz, C., Mankin, D.A. (1985). *Computer Mediated Work. Individual and Organisational Impact in One Corporate Headquarters*. Santa Monica, CA: Rand Corporation.

Billings, A.G. & Moos, R.H. (1984). Coping, stress and social resources among adults with unipolar depression, *Journal of Personality and Social Psychology*, *46*, 877-891.

Billings, A.G., & Moos, R.H. (1981). The role of coping responses and social resources in alleviating the import of stressful life events. *Journal of Behavioural Medicine*, *4*, 139-157.

Bjorn-Anderson, N. (1983). Information technology and power change in organisations – Prospects of technology agreements and technology assessments. In K. Grewlick & F. Pederson (Eds), *Power and Participation in an Information Society*. (pp 249-289) Brussels: EEC.

Blackler, F. (1988). Information technologies and organization: Lessons from the 1980s and issues for the 1990s. *Journal of Occupational Psychology*, *61*, 113-127.

Blauner, R. (1964). *Alienation and Freedom: The Factory Worker and his Industry*, Chicago University Press, Chicago.

Blumberg, M. & Gerwin, D. (1984). Coping with advanced manufacturing technology. *Journal of Occupational Behaviour*, *5*, 113-131.

Boyle, C. Wheale, P. & Surgess, B. (1984). *People, Science and Technology. A Guide to Advanced Industrial Society*, Wheatsheaf, Brighton.

Braverman, H. (1974). *Labour and Monopoly Capital. The Degradation of Work in the Twentieth Century*, Monthly Review Press, New York.

Bridges, W. (1980). *Transitions*. Reading, MA: Addison-Wesley.

Brockner, J. (1988). The effects of work layoff on survivors: Research, theory and practice. In B.M. Shaw & L.L. Cummings (Eds). *Research in Organisational Behaviour* (pp 213-256). Greenwich, CT. JAI Press

Brockner, J. (1990). Scope of justice in the workplace: How survivors react to co-worker layoffs. *Journal of Social Issues, 16*, 95-106.

Brockner, J., Davy. J., & Carter, C. (1985). Layoffs, self-esteem, and survivor guilt: Motivational, affective and attitudinal consequences. *Organisational Behaviour and Human Decision Processes, 36*, 229-244.

Brockner, J., Greenberg, J., Brockner, A., Bortz, J., Davy, J. & Carter, C. (1986). Layoffs, Equity Theory, and Work Performance: Further Evidence of the Impact of Survivor Guilt. *Academy of Management Journal, 29*(2), 373-384.

Brockner, J., Grover, S., Reed, T., DeWitt & O'Malley, (1987). Survivors' Reactions to Layoffs: We get by with a little help from our friends: *Administrative Science Quarterly, 32*, 526-541.

Brown, A. (1995). *Organisational Culture*, Pitman, London.

Buchanan D., & Huczynski, A. (1997). *Organisational Behaviour and Introductory Text*, (p 467). London, New York, Prentice Hall.

Buchanan, D. & Boddy, D. (1983). *Organisations in the Computer Age*: Technological Imperatives and Strategic Choice, Aldershot, Hants: Gower.

Buchanan, D. & Boddy, D. (1992). The Expertise of the Change Agent: Public *Performance and Back Stage Activity*, (p 62). Prentice-Hall International, London

Buchanan, D. Boddy, D., & McCalman J. (1992). *Getting in, Getting on, Getting out, and Getting back.* In A. Bryman (Ed.), Doing research in organisations (pp 53-67). London. Routledge.

Burawoy, M. (1979). *Manufacturing Consent: Changes in the Labour Process under Monopoly Capitalism*, Chicago University Press, Chicago.

Burgess, R.G. (1993). *In the Field: An Introduction to Field Research*. Routledge, London and New York.

Burns, J. (1980). The revolution in the office. In T. Forester (Eds.), *The Microelectronics Revolutions* (pp. 220-231) Oxford: Blackwell.

Callan, J, Terry D.J. & Schweitzer, R.T., (1994). Personal resources, coping strategies and adaptation to organizational change: Direct or buffering effects. *Work & Stress*, *8*, 372-383.

Callan, V.J. & Dickson C. (1992). Managerial coping strategies during organizational change. *Asia-Pacific Journal of Human Resources*, *30*, 47-59.

Callan, V.J. (1993). Individual and organisational strategies for coping with organizational change. *Work & Stress*, *7*, 1, 63-75

Chaplin, J.P. (1985). *Dictionary of Psychology*, 2nd edition, Dell Publishing.

Child, J. (1975). *The industrial supervisor in People and Work* (eds G. Esland, G. Salaman & M. Speakman) Holmes McDougall, Edinburgh.

Chown, S.M. (1972). The effect of flexibility-rigidity and age on adaptability in job performance. *Industrial Gerontology, 13*, 105-121.

Citrome, L. (1997). Layoffs, Reductions-in-force, Downsizing, Rightsizing: The Case of a State Psychiatric Hospital. *Administration and Policy in Mental Health*, *24*(6), July, 523-533.

Clutterbuck, D. & Crainer, S. (1990). *Makers of Management. Men and Women Who Changed the Business World*, Macmillan, London.

Cohen, S & Edwards, J.R. (1989). Personality characteristics as moderators of the relationships between stress and disorder. In R.W. Neufeld (ed.) Advances in the Investigation of Psychological Stress (Wiley, New York). Pp 235-283.

Cohen, S. & Wills, T.A. (1985). Stress, Social Support and the Buffering Hypothesis. *Psychological Bulletin*, September, 310-357.

Collins, D. (1998). *Organisational Change: Sociological perspectives*. Routledge, London.

Conger, J.A. (1989). Leadership: the art of empowering others, *Academy of Management Executive*, *3*, 17-24.

Coyle, J.A.M. (1999). Employee Participation and Assessment of an Organisational Change Intervention. A Three-wave Study of Total Quality Management. *The Journal of Applied Behavioural Science,* Vol. 35 (4). 439-456ss.

Currid, C. (1995). Fighting 'technology shock'. When new computer systems can lower productivity, *Information Week, Feb6*, n513, 63(1).

Digital Planet 2002: The Global Information Economy, Executive Summary.

Daniel, W. W. (1987). *Workplace Industrial Relations and Technical Change*. London: Frances Pinter.

Davis, F.D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. *IT Usefulness and Ease of Use MIS Quarterly,* September. 319-340.

Davis, F.D. (1993). User acceptance of information technology: System characteristics, user perceptions and behavioural impacts. *International Journal Man-Machine Studies*, 38, 475-487.

Davis, F.D., Bagozzi, R.P., Warshaw, P.R. (1992). Extrinsic and Intrinsic Motivation to Use Computers in the Workplace. *Journal of Applied Social Psychology*, *22*, 1111-1132.

Davis, L. & Taylor, J. (1975). Technology effects on job, work and organization structure: A contingency view. In L. Davis & A. Cherns (Eds), (pp. 220-241) *The Quality of Working Life*, Vol 1. New York: The Free Press.

Davy, J.A., Kinicki, A.J. & Scheck, C.L. (1991). Developing and testing a model of survivor responses to layoffs. *Journal of Vocational Behaviour*, *38*, 302-317.

Dawson, P. & Palmer, G. (1995). *Quality Management: The Theory and Practice of Implementing Change*, Longman Cheshire, Melbourne.

Dawson, P. (1994). *Organisational Change: A Processual Approach*, Paul Chapman Publishing, London.

Dawson, P. (1996). *Technology and Quality: Change in the Workplace*. International Thomson Business Press.

de Vaus, D.A. (1991). *Surveys in Social Research*, Third Edition. UCL Press London, Allen & Unwin.

De, P. & Farrat, T.W., (1998). An Information System Involving Competing Organisations. *Communications of the ACM*, 41, 12 December.

DelBalzo, J.M. & Miller, A.R. (1989). A New Organisational Flight Pattern. *Training Development Journal*, *43*(3), 40-44.

DeLone, H. & McLean, R. (1992). Information System Success: The Quest for the Dependent Variable". *Information Systems Research*, 3(1).

Doll, W.J. (1985). Avenues for Top Management Involvement in Successful MIS Development. *MIS Quarterly*, March.

Dopson, S. & Neumann, J.E. (1998). Uncertainty, Contrariness and the Double-bind: Middle Managers' Reactions to Changing Contracts. British Journal of Management, Vol 9, S53-S70.

Dubin, R. & Champoux, J.E. (1977). Central life interests and job satisfaction. *Organisational Behaviour and Human Performance*, *18*, 366-377.

Dubin, R. (1956). Industrial workers' worlds: A study of the "central life" interests" of industrial workers. *Social Problems*, *3*, 131-142.

Dubin, R. (1959). *The Sociology of Industrial Relations*, Prentice Hall, Englewood Cliffs.

Dunford, R.W. (1990). A reply to Dunphy & Stace. *Organization Studies*, *11*(1), p131-134.

Dunphy, D. & Stace D. (1990). *Under new management*. New York: McGraw-Hill.

Dunphy, D. (1981). *Organisational Change by Choice*, McGraw-Hill, Sydney.

Ein-Dor, P. & Segev, E. (1978). Organisational Context and the Success of Management Information Systems. *Management Science*, 24, June.

Festinger, L. (1957). *A theory of cognitive dissonance*, Row Peterson, Evanston, III.

Folkman, S. (1984). Personal control and stress and coping processes: A theoretical analysis. *Journal of Personality and Social Psychology*, *46*, 939-949.

French, W.L., Bell, C.H. & Zawacki, R.A., (1983). *Organisation Development: Theory, Practice and Research*. Plano, TX: Business Publications.

Frenkel-Brunswick, E. (1949). Intolerance of ambiguity as an emotional and perceptual personality variable. *Journal of Personality, 18*, 108-143.

Friedman, A. (1977). *Industry and Labour: Class Struggle at Work and Monopoly Capitalism*, Macmillan, London.

Fulmer, R.M. & Gilkey, R. (1988). Blending corporate families: Management and organisational development in a post merger environment, *Academy of Management Executive*, *2*, 275-283.

Gardner, D.G., Dunham, R.B., Cummins, L.L., & Pierce, J.L. 1987(a). Employee focus of attention and reactions to change. *Journal of Applied Behavioural Science, 23*, 351-370.

Garrahan, P. & Stewart, P. (1992). *The Nissan Enigma*, Mansell, London.

Geertz, C. (1973). *The Interpretation of Cultures*, Basic Books, New York.

Gill, C. (1985). *Work, Unemployment and the New Technology*, Cambridge: Polity Press.

Gilmore, T.N., Shea, G.P., Useem, M. (1997). Side Effects of Corporate Cultural Transformations. *The Journal of Applied Behavioural Science, 33,* 174-189.

Grunberg, L., Anderson-Connolly, R., Greenberg, E.S. (2000). Surviving Layoffs. *Work and Occupations*, *27*(1), 7-31.

Guimaraes, T. (1997). 'Empirically testing the antecedents of BPR success', *International Journal of Production Economics*, *50*(2), 192-210

Hamilton, V.L., Broman, C.L., Hoffman, W.S., & Renner, D.S. (1990). Hard times and vulnerable people: Initial effects of plant closing on Autoworkers' mental health. *Journal of Health and Social Behaviour*, *31*, 123-140.

Hammer, M. & Champy, J. (1993). Reengineering the Corporation: A Manifesto for Business Revolution, *Harper Business*, New York.

Henriques, U.R. (1979). *Before the Welfare State. Social Administration in Early Industrial Britain*, Longman, London.

Hobsbawn, E.J. (1969). *Industry and Empire*, Penguin, Harmondsworth.

Holahan, C.L, & Moos, R.H, (1987). Personal and contextual determinants of coping strategies. *Journal of Personality and Social Psychology, 52*, 946-955.

Holohan, C.J. & Moos, R.H. (1987). Personal and contextual determinants of coping strategies. *Journal of Personality and Social Psychology, 51*, 389-395.

Howell, J.M. & Higgins, C.A. (1990) Champions of Change: Identifying, Understanding, and Supporting Champions of Technological Innovations. *Organisational-Dynamics, 19*(1), 40-55.

Iacovini, J. (1993). The human side of organisational change. *Training & Development, 47*(1), 65(4).

International Labour Office (1993). *Lean Production and Beyond: Labour Aspects of a New Production Concept*, ILO, Geneva.

Ivancevich J., Olekalns, M. & Matteson M. (1997). Organisational Behaviour and Management. McGraw Hill, Australia.

Ives, Blake, Olson, M.H. & Baroudi, J. (1983). "The Measurement of User Information Satisfaction". *Communications of the ACM* 26.

Kanter, R.M. (1989). *When Giants Learn to Dance*, Simon and Schuster, London.

Kanter, R.M., Stein, B.A. & Jick, T.D. (1992). *The Challenge of Organisational Change: How Companies Experience it And Leaders Guide It*, Free Press, New York.

Kirkpatrick, (1978) in Smithers, R.D. (1994). The Psychology of Work and Human Performance, Second Edition. Chapter 5, pp 130-168. Harper Collins *College Publishers.*

Kivimaki, M., Vahtera, J., Koskenvuo, M., Uutela, A., & Pentti, J. (1998). Response of hostile individuals to stressful change in their working lives: test of a psychological vulnerability model. *Psychological Medicine, 28*, 903-913.

Klein S.M. (1994). Communication strategies for successful organisation change. *Industrial Management. 36*(1), 26.

Kotter, J. & Heskett, J. (1992). Corporate Culture and Performance. Free Press, New York.

Kotter, J.P. & Schlesinger, L.A. (1979). Choosing strategies for change, *Harvard Business Review*, 102-12

Kotter, J.P. & Schlesinger, L.A. (1979). Choosing strategies for change, *Harvard Business Review*, *57*(2), 106-114.

Kreitner, R. & Kinicki, A. (1989). *Organisational Behaviour* 3rd edition. Library in Congress.

Kummerow, E.H. (2000). Towards the measurement of organisational culture. Unpublished PhD Thesis. The University of Adelaide.

Laudon, C.K. & Laudon, J.P. (2000). *Management Information Systems – Organisation and Technology in the Networked Enterprise*, 6th edition, Prentice Hall.

Lawler, E.E. (1976). Control Systems in Organisations. In M.D. Dunnette (Ed.), Handbook of Industrial and Organisational Psychology. Chicago, IL: Rand McNally Pp 1247-1292.

Lawlor, E.E. (1986). *High involvement management*. San Francisco, California: Jossey-Bass Inc.

Lawrence, P.R. (1969). How to deal with resistance to change. *Harvard Business Review*, *47*, 4-5.

Leavitt, H, & Whisler, T. (1959). Management in the 1980s. *Harvard Business Review*, *36*, 41-48.

Lewin, K. (1951). *Field Theory in Social Science*, Harper and Row, New York.

Littler, C. (1982). *The Development of the Labour Process in Capital Societies*, Heinemann, London.

Littler, C. (1983). Deskilling and changing structures of control, in *The Degradation of Work? Skill, Deskilling and the Labour Process* (ed S. Wood). Hutchinson, London.

Lucas, H.C. (1981). *Implementation: The Key to Successful Information Systems. New York*: Columbia University Press.

Luo, L. & Cooper, C.L. (1990). Stress of job relocation: progress and prospect, *Work and Stress*, *4*, 121-128.

MacKenzie, D. & Wajcman, J. (1985). *The Social Shaping of Technology*, Open University Press, Milton Keynes.

Malone, T.W. (1981). "Toward a Theory of Intrinsically Motivating instruction", *Cognitive Science*, *4*, 333-369.

Manganelli, L. & Raspa, S. (1995). *'Why re-engineering has failed'*, Management Review (USA), July, 39-43.

Mangham, I. (1979). *The Politics of Organisational Change*. Administrative Science Quarterly, *26*, 563-77.

Manz, C.C., Keating, D.E., & Donnellon, A. (1990). Preparing for organisational change to employee self-management: The managerial transition. Organisational Dynamics, 19, 15-26.

Margulies, N. & Raia A.P. (1978). *Conceptual Foundations of Organisational Development*. New York: McGraw-Hill.

Martin J. & Siehl, C. (1983). Organizational Culture and Counterculture, *Organisational Dynamics*, Vol 12, p52.

McFarlan, F.W. (1981). Portfolio Approach to Information Systems. *Harvard Business Review*, September – October.

McLoughlin, I. & Clark, J. (1994). *Technological Change at Work*, 2nd edn, Open University Press, Milton Keynes.

Melling, J. (1981). Men in the middle or men on the margin? The historical development of relations between employers and supervisors in British industry, in *The International Yearbook of Organisation Studies*, (pp.242-270) (eds D. Dunkerley and G. Salaman). Routledge & Kegan Paul, London.

Miller, A.R. & DelBalzo, J.N. (1989). *Enhancing supervisory and managerial response to survey feedback.* Paper presented at the Annual Conference on Creativity and Innovation in Public Service by the American Society of Public Administration, Atlantic City, NJ.

Miller, A.R. & Yeager, R.J. (1993). Managing Change: A corporate application of rational-emotive therapy. *Journal of Rational-Emotive & Cognitive-Behaviour Therapy*, Vol 11(2), 65-76.

Miller, A.R. (1992a). Managing change in the workplace. In W. Dryden & L.K. Hill (Eds). *Innovations in rational-emotive therapy* (pp 272-285). Newbury Park, California and London, England: Sage Publications, Inc.

Miller, A.R. (1992b). The application of RET to improve supervisory response to subordinate survey feedback. *Journal of Cognitive Psychotherapy*: An International Quarterly, *6*, 295-304.

Minichiello V, Aroni, R., Timewell, E. & Alexander, L. (1995). *In-Depth Interviewing*, 2nd edition, Longman Australia.

Monden, Y. (1983). *Toyota Production Systems: Practical Approach to Production Management*, Industrial Engineering and Management Press, Norcross, GA.

Moos, R.H. & Billings, A.G. (1982). Conceptualising and measuring coping resources and processes. In L. Goldberger & S. Breznitz (Eds), *Handbook of stress: Theoretical and clinical aspects*, (pp. 212 – 230), New York: Macmillan.

Moran & Volkwein, (1992). Cited in Kummerow, E.H. (2000). Towards the measurement of organisational culture. Unpublished PhD Thesis. The University of Adelaide.

MORI (1979). Microelectronics: *The Views of Senior British Management*. London: Market and Opinion Research International.

Neumann, J.E. (1993/1994). 'Shifting Figure and Ground Sequence and Pace During Comprehensive Organisational Change', Review, The Travistock Institute, 38042

Neumann, J.E. (1989). Why People Don't Participate in Organisational Change. In R.W. Woddman and W.A. Pasmore (Eds.), Research in Organisational Change and Development, 3, 181-212. JAI Press, Greenwich, CT.

Nora, S. & Minc, A. (1978). L'Information de la Societe. Paris: La Documentation Francaise. In Blackler, F. (1988). Information technologies and organization: Lessons from the 1980s and issues for the 1990s. *Journal of Occupational Psychology*, *61*, 113-127.

Northcott, J., Fogarty, M. & Trevor, M. (1985). *Chips and Jobs: Acceptance of New Technology at Work*. London: Policy Studies Institute.

O'Hara, V. (1995). Wellness at Work: Preventive Health Practices for the Workplace. New Harbinger Publications Inc.

Offerman, L.R. & Gowing, M.K. (1990). Organisations of the Future: Changes and Challenges, *American Psychologist, 45,* 95-108.

Parker, M. & Slaughter, J. (1988b). *Choosing Sides: Unions and the Team Concept*, South End Press, Boston.

Parker, S.K., Chmiel, N. & Wall, T.D. (2000). Work Characteristics and Employee Well-Being Within a Context of Strategic Downsizing. *Journal of Occupational Health Psychology*, *l* 2(4), 289-303.

Parse, R., Coyne, A. & Smith, M. (1985). *Nursing Research: Qualitative Methods*, Brady Communications Company, Bowie, Maryland.

Patton, M.Q. (1990). *Qualitative evaluation and research methods*, Newbury Park: Sage.

Pearlin, L & Schooler, L. (1978). The structure of coping, *Journal of Health and Social Behaviour*, *19*, 2-21.

Peters, T. (1988). *Thriving on Chaos: Handbook for a Management Revolution*, Macmillan, London.

Pettigrew, A. (1973). *The Politics of Organizational Decision-Making*, Tavistock, London.

Pettigrew, A. (1985). *The Awakening Giant: Continuity and Change in Imperial Chemical Industries*, Oxford: Basil Blackwell.

Pfeffer, J. (1981). *Power in Organsiations*, Pitman, Boston.

Porras, J.I. & Hoffer, S.J. (1986). Common behaviour changes in successful organisation development efforts. *The Journal of Applied Behaviour Science, 22*(4), 477-494.

Porras, J.I., & Robertson, P.J. (1994). *Organisational development: Theory, practice and research*. In M.D. Dunnette & L.M. Hough (Eds). Handbook of Industrial and Organisational Psychology (2nd Ed.). (pp.719-822). Palo Alto, GA: Consulting Psychologists Press.

Prochaska, J., DiClemente, C. & Norcross, J. (1982). In search of how people change: Applications to addictive behaviours. *American Psychologist*, *47*(9), 1102-1114.

Pugh, D.S. (ed) (1990). *Organisational Theory*: Selected Readings, 3rd edn, Penguin wood.

Rafaeli, A. (1986). Employee attitudes toward working with computers. *Journal of Occupational Behaviour*, *7*, 89-107.

Reichers & Schneider, (1990). Cited in Kummerow, E.H. (2000). Towards the measurement of organisational culture. Unpublished PhD Thesis. The University of Adelaide.

Robertson, J.R. & Fitzgerald, I.F. (1992). Overcoming the masculine mystique: preferences for alternative forms of assistance among men who avoid counselling. *Journal of Counselling Psychology*, 39, 240-246.

Robinson, D. (1989). End-User reactions toward working with Computer-Based Information Retrieval Systems (CBIRS). *Applied Ergonomics*, September, 174-180.

Rodin, J. & Salovey, P. (1989). Health Psychology, *Annual Review of Psychology*, *40*, 533-579.

Rokeach, M. (1948). Generalised mental rigidity as a factor in ethnocentrism. *Journal of Abnormal Psychology*, *43*, 259-278.

Rose, M. (1988). *Industrial Behaviour*: Research and Control, 2nd edn Penguin, Harmondsworth.

Rousseau, (1988). Cited in Kummerow, E.H. (2000). Towards the measurement of organisational culture. Unpublished PhD Thesis. The University of Adelaide.

Schein, E. (1984). "Coming to a new awareness of organisational culture'. Sloan *Management Review*. Vol. 25, 3-16.

Schein, E.H. (1990). Organisational culture, *American Psychologist*, *45*, 109-119.

Schein, (1985). Cited in Kummerow, E.H. (2000). Towards the measurement of organisational culture. Unpublished PhD Thesis. The University of Adelaide.

Schermerhorn, J., & Hunt, J. & Osborn, R. (1994). *Managing Organisational Behaviour*, 5th edn, Wiley & Sons, New York.

Schmenner, R. & Lackey, C. (1994). "Slash and Burn Doesn't Kill Weeds": Other Ways to Downsize the Manufacturing Organisation. *Business Horizons*, July-August, 80-97.

Schneider, (1985). Cited in Kummerow, E.H. (2000). Towards the measurement of organisational culture. Unpublished PhD Thesis. The University of Adelaide.

Schneider, B. (1990). *Organisational Climate and Culture*. Jossey Bass, San Francisco.

Schwartz & Davis, (1981). Cited in Kummerow, E.H. (2000). Towards the measurement of organisational culture. Unpublished PhD Thesis. The University of Adelaide.

Schweiger, D.L. & Ivancevich, J.M. (1985). Human resources: the forgotten factor in mergers and acquisitions, *Personal Administrator*, 30, 47-61

Schweiger, D.L., Ivancevich, J.M. & Power, F.R. (1987). Executive action for managing human resources before and after acquisition, *Academy of Management Executive*, *1*, 127-138.

Shadur, M.A. & Bamber, G.J. (1994). Toward lean management? International transferability of Japanese management strategies to Australia. *The International Executive*, *36*(3), 343-64.

Shaw, J.B., Fields, M.W., Thacker, J.W. & Fisher, C.D. (1993). The availability of personal and external coping resources: their impact on job stress and employee attitudes during organisational restructuring, *Work & Stress*, *7*(3), 229-246.

Siegall & McDonald (1995). Focus of attention and employee reactions to job change. *Journal of Applied Social Psychology*, *25*(13), 1121-1141.

Smircich, L. (1983). Concepts of culture and organisational analysis, Administration *Science Quarterly*, 339-358.

Smithers, R.D. (1994). The Psychology of Work and Human Performance, Second Edition. Chapter 5, pp 130-168. Harper Collins *College Publishers.*

Stace, D. & Dunphy, D. (1996). *Beyond the Boundaries: Leading and Re-Creating the Successful Enterprise*, McGraw-Hill, Sydney.

Steffy, B.D., Jones, J.W. & Noe, A.W. (1990). The impact of health habits and life-style on the stressor-strain relationship: An evaluation of three industries, *Journal of Occupational Psychology*, *63*, 217-229.

Stewart, G.L. & Manz, C.C. (1997). Understanding and overcoming supervisor resistance during the transition to employee empowerment. In R.W. Woodman & W.A. Pamore (Eds), Research in organisational change and development (Vol. 10 pp. 169-196. Greenwich, CT:JAI.

Stone, D.L., Kemmerer, B., & Gueutal, H.G. (1984). Relationships between rigidity, self-esteem and attitudes about computer-based information systems. *Psychological Reports*, *55*, 991-998.

Storey, J. (ed) (1994). *New Wave Manufacturing Strategies. Organisational and Human Resource Management Dimensions*, Paul Chapman Publishing, London.

Tapscott, D. (1996). *The Digital Economy: Promise and Peril in the Age of Networked Intelligence*, McGraw-Hill, New York.

Taylor, F. (1911). *The Principles of Scientific Management*, Harper, New York.

Terry, D.J. & Callan, V.J. (1997). Employee Adjustment to Large-Scale Organisational Change. *Australian Psychologist*. *32*, 203-210.

Tetrick, L.E. & LaRocco, J.M. (1987). Understanding, prediction and control as moderators of the relationship between perceived stress, satisfaction and psychological well-being, *Journal of Applied Psychology*, *72*(4), 538-543.

Thomson, P. (1983). *The Nature of Work. An Introduction to Debates on the Labour Process*, Macmillan, London.

Thong, J.Y.L., Yap, C..S., & Raman, K.S. (1996). Top Management Support, External Expertise and Information Systems Implementation in Small Businesses. *Information Systems Research, 7:2),* 248-267.

Tichy, N.M. & Devanna, F. (1984). Transformational Leadership, Wiley, New York.

Tichy, N.M. & Ulrich, D.O. (1994). "The Leadership Challenge – A Call for the Transformational Leader", *Sloan Management Review*, Fall, 59-68.

Touraine, A. (1955). L'evolution du Travail ouvrier aux usines Renault, Centre National de la Recherche Scientifique, Paris, In. Dawson, P. *Technology and Quality Change in the Workplace*, (p 38), Thomson Business Press.

Trice, H. & Beyer, J. (1993). *The Cultures of Work Organisations*. Englewood Cliffs, NJ, Prentice Hall.

Trice, H. (1993). *Occupational Subcultures in the Workplace*. ILR Press, Ithaca, New York.

Turnbull, P.J. (1988). The limits to Japanization: Just-in-Time labour relations in the UK automotive industry, *New Technology, Work and Employment*, *3*, 7-22.

Tyler, T.R. & Bies, R.J. (1990). Beyond formal procedures: The interpersonal context of procedural justice. In J. Carrol (Ed). *Applied Social Psychology and Organisational Settings*, (pp 77-98), Hilldale, NJ: Erlbaum.

Venkatesh, V. & Davis, F. (1996). A Model of the Antecedents of Perceived Ease of Use: Development and Test. *Decision Sciences*, *27*(3), 451-481.

Venkatesh, V., & Davis, F.D. (1994). Modeling the determinants of perceived ease of use. *Proceedings of the International Conference on Information Systems*, Vancouver, Canada, 213-227.

Verespej, M.A. (1990). Worker involvement - Yea teams? Not always, Industry Week, 289, 104-105.

Walker, C.R. & Guest, R.H. (1952). *The Man on the Assembly Line*, Harvard University Press, Massachusetts.

Wells, L.E., & Marwell, G. (1976). *Self-esteem: its conceptualisation and measurement.* Beverly Hills, CA: Sage Publications.

Wernecke, D. (1985). Women, the vulnerable group. In T. Forester (Ed.). *The Information Technology Revolution*. (pp. 400-418) Oxford: Blackwell.

Wilkinson, A., Marchington, M., Goodman, J., & Ackers, P. (1992). Total quality management and employee involvement. *Human Resource Management Journal*, *2*(4), 1-20.

Wilkinson, B. & Oliver, N. (1988). Editorial. *Industrial Relations*, *19*(1), 7-10.

Willmott, H. (1995). The odd couple? Re-engineering business processes, managing human resources. *New Technology, Work and Employment*, *10*(2), 89-98.

Winn, A. (1969). The laboratory approach to organization development: A tentative model of planned change. In R.T. Golembiewski (1969). Organisational development in public agencies: Perspective on theory and practice, *Public Administration Review, 29,* 367-378.

Wong, L. & McNally, J. (1994). Downsizing the Army: Some policy implications affecting the survivors. *Armed Forces and Society*, *20*, 199-216.

Wood, S. (1991). Japanization and/or Toyotaism. *Work, Employment, and Society*, *5*(4), 567-600.

Wood, S. (ed) (1983). *The Degradation of Work? Skill, Deskilling and the Labour Process*, Hutchinson, London.

Wood, S. (ed) (1989). *The Transformation of Work?* Unwin Hyman, London.

Woodward, J. (1980). *Industrial Organisations: Theory and Practice*, 2nd edn, Oxford University Press, Oxford.

Wynne, B. & Otway, H. (1982). Information technology, power and managers. In N. Bjorn-Anderson, M. Earl, O. Holst & E. Mumford (Eds), *Information Society: For Richer or For Poorer*. (pp 207-217), Amsterdam: North Holland.

Yin, P.K. (1989). *Case study research. Design and methods*. Newbury Park, California: Sage.

Yukl, G.A. (1989). *Leadership in Organisations*, Prentice-Hall, Englewood Cliffs, NJ.

Zoltan, E. & Chapanis, A. (1982). 'Experience with and attitudes toward computers; accountants vs lawyers vs pharmacists vs physicians', *Behaviour and Information Technology*, *1*(1), 55-68.