ACCOUNTING

FOR

TOTAL QUALITY MANAGEMENT

A thesis
submitted in fulfilment
of the requirements for the Degree
of
Doctor of Philosophy
at the
University of Waikato
by
BEVERLEY RAE LORD

———

University of Waikato
2000

Abstract

This thesis examines changes to the culture of three manufacturing organisations, two of which had implemented total quality management (TQM), and one in which a TQM implementation was unsuccessful. The effects of this organisational change on accounting systems and accountants were also examined.

Ethnographic research was carried out in the three organisations, using several methods of evidence gathering: semi-formal and informal interviews and conversations, analysis of documents (such as internal accounting reports, newsletters, non-financial performance measures, production records, and newspaper, magazine and journal articles), and non-participant observation at meetings and in the factories.

The evidence was viewed from three different perspectives, as promoted by Martin & Meyerson (1988), looking at integration, differentiation and ambiguity. Content themes characteristic of TQM and documented changes to management accounting systems subsequent to TQM implementation were identified in the literature. The practices and artifacts in each organisation were then compared with each other and with the content themes.

The integration perspective highlights consensus between content themes, practices and artifacts, and between organisational actors. It assumes a unitary culture with a powerful change agent effecting the organisational change. Seen from this perspective, two of the organisations had made cultural changes consistent with TQM characteristics, and had also made many of the changes to accounting systems predicted in the literature.

However, looking at the evidence from the differentiation perspective uncovered many examples of lack of consensus and conflict both between content themes themselves and between content themes, practices and artifacts. One of the "successful" organisations had made few changes to its accounting systems and had several subcultures which resisted change.

The simultaneous existence of both harmony and conflict, and consensus and lack of it results in ambiguity for the organisational members. People differ in

the way in which they deal with ambiguity, ranging from action paralysis through to using it as a motivation for innovation. The presence of ambiguity provides an explanation for the lack of success in implementing TQM in the third organisation, and for the lack of accounting change in one of the organisations which had successfully changed to TQM.

This research contributes to knowledge in two ways. Firstly, it uses all three of Martin & Meyerson's (1988) paradigms to look at TQM environments. This model has not been used in this setting before. Secondly, in using ambiguity to explain cultural and accounting change (or the lack of it), it provides an alternative viewpoint to the literature to date, which has been exclusively integrative and differentiating.

Acknowledgments

Contents

Chapter 1
Introduction

INTRODUCTION

The title of this thesis is "Accounting for total quality management". The thesis "accounts" for total quality management (TQM) by examining changes to organisational culture, including accounting systems and accountants, as a result of a change (or attempted change) to TQM. The reactions of and interactions between people in three organisations are looked at from three perspectives, or paradigms, as developed in a theoretical model by Martin & Meyerson (1988). The integration paradigm "emphasizes consistency among cultural manifestations and organization-wide consensus among cultural members" (p. 102); "the differentiation paradigm stresses inconsistency and lack of consensus" (p. 107); and in the ambiguity paradigm "cultural manifestations are not clearly consistent or clearly inconsistent with each other. Instead, the relationships among manifestations are characterized by a lack of clarity" (p. 115).

The writing of this thesis represents a journey for me, the researcher. The original thesis proposal reflects my positivist/post-positivist stance at the beginning of the journey, the stated aim of the research then being to find "The effect of major change in management philosophy on management accounting". However, while carrying out the field research and afterwards, I was also reading extensively on research methodology. The delay between starting "data"-gathering in 1994 and completing the research in 2000 is indicative of the struggle I was experiencing in defining my changing ontological, epistemological and methodological stance. Not only were my ways of looking at the "data" changing, but also I was struggling with how to "analyse" and present my findings. Denzin (1994), in explaining how the researcher goes through the process of interpretation of field data, refers several times to the process as one of "wrestling". That is how I found the writing of this thesis.

FINDING THE RESEARCH TOPIC

My interest in organisational change was stimulated by attendance at a seminar for managers on change management. The course itself was rather prescriptive (with papers on such topics as "How to manage change" and "Six steps to effective change"). However, the interesting thing for me was hearing the experiences of a number of the participants in the course who were

experiencing major change in their organisations, including change to TQM. As TQM was topical, I read some of the literature on the impact of TQM (often called the just-in-time (JIT) philosophy in the accounting literature) on accounting systems, and prepared a research proposal.

Based on my initial reading of the accounting literature (which will be reviewed in detail in chapter 3), I concluded that

> despite considerable documentation of successful implementation of the JIT philosophy, particularly in the US, there has been limited evidence of subsequent changes in management accounting systems. Those documented in detail are most often divisions of the same two or three large firms. Outside the US, research on the relationship between JIT implementation and changes in management accounting is precursory and exploratory (Research proposal).

I therefore stated in the research proposal that I proposed to "undertake a number of case studies in manufacturing firms, observing their corporate culture and management accounting systems before, during and after a major change in management philosophy", this major change being a change to TQM.

The research proposal contained only two sentences referring to corporate culture: the last sentence above, and the bold, unsupported statement: "A total change to the JIT philosophy entails a change in corporate culture, that is, it affects the whole firm." My subsequent literature search revealed a vast literature on organisational culture, from many methodological perspectives. In order to keep the thesis focussed and manageable, I narrowed down the focus on culture to fit my interpretive methodological stance. The literature on culture as it relates to TQM is presented in chapter 3.

FINDING THE ANALYSIS MODEL

I identified and spent a considerable amount of time in three firms, two of which had implemented TQM and one in which TQM was to be implemented (details are given in chapter 4). As I commenced research at the first two of the three research sites, I found practices which I had not expected, such as accounting not changing, and resistance to both TQM and accounting change. I began to

realise that the literature that I had read was one-sided, only presenting cases of successful change to TQM and subsequent changes to management accounting systems. I also realised that my way of looking at the findings was one-sided too: I had entered the research sites with expectations of what I would find, like a positivist with a hypothesis to test. Although I had read a few papers that were critical of TQM, I had dismissed them as "extreme".

The turning point was when I found two papers particularly addressing research on organisational culture. In these two papers, Meyerson & Martin (1987) and Martin & Meyerson (1988) claim that most organisational researchers look at culture from only one perspective, or paradigm as they call it. The most usual perspective is the one that they call "integrative". This perspective defines culture as "that which is shared by and/or unique to a given organization or group" (Meyerson & Martin, 1987, p. 624). In contrast, the "differentiation" paradigm pays "attention to inconsistencies, lack of consensus, and non-leader-centred sources of cultural content. This approach emphasizes the importance of various subunits, including groups and individuals ... who represent constituencies based within and outside the organization" (Meyerson & Martin, 1987, p. 630). In their two articles, Martin and Meyerson describe another perspective, the "ambiguity" paradigm, which they say is especially useful during organisational change, as it takes into account ambiguity and confusion. Martin and Meyerson suggest that researchers should use all three perspectives. (Actually carrying out this suggestion has its problems, which are addressed in the conclusion.)

Most of the published research on TQM implementation and its effect on management accounting systems takes the perspective of Martin & Meyerson's (1988) integration paradigm. There have been some dissenting voices who have tried to present arguments against TQM, which could be classified under the differentiation paradigm. However, no researchers appear to have yet looked at TQM implementation from the ambiguity perspective.

FINDING MY METHODOLOGICAL POSITION

My methodological "journey" also went through the three "paradigms" of Martin and Meyerson. To begin with my proposal and way of looking at research evidence was integrative: I saw only positive relationships, regularities, unity, support for what I had read in the literature, etc. Then I began to read some of

the differentiation literature, based on Marx, Foucault, Ricoeur, and others, which enabled me to "see" lack of consensus, conflict, and contrasts to the literature I had read earlier. However, it was difficult to look at research and my findings from both these opposing perspectives at the same time. Admitting that both consensus and conflict were present was paradoxical – there was ambiguity present. Not only did I detect ambiguity in the organisations, but I also experienced it myself as a researcher in a changing environment. These issues are covered in later chapters.

CONTRIBUTION TO KNOWLEDGE

This thesis contributes to knowledge by building on Martin and Meyerson's (1988) model and applying it to a different cultural change situation: a change to TQM. It presents the findings from the research sites using the three perspectives: integration, differentiation and ambiguity. Geertz (1973, p. 25) claims that this is a valid way in which interpretive researchers add to knowledge:

> Studies do build on other studies, not in the sense that they take up where the others leave off, but in the sense that, better informed and better conceptualized, they plunge more deeply into the same things.... Previously discovered facts are mobilized, previously developed concepts used, previously formulated hypotheses tried out; but the movement is not from already proven theorems to newly proven ones, it is from an awkward fumbling for the most elementary understanding to a supported claim that one has achieved that and surpassed it.

The analysis from the ambiguity perspective particularly contributes to knowledge, as this perspective does not appear to have ever been used in explaining successful and unsuccessful TQM implementations, although it has been used in a few explanations of accounting systems in different settings. The presence of ambiguity helps explain unsuccessful TQM implementations or unexpected reactions (such as lack of accounting change) in successful TQM implementations.

ARRANGEMENT OF THE THESIS

The next chapter relates Martin and Meyerson's (1988) three paradigms to other literature on research methodology.

Chapter three briefly examines some of the literature on culture and cultural change, particularly relating it to Martin and Meyerson's (1988) three paradigms. Then the literature on TQM is presented, much of it from the integrative viewpoint, some taking a differentiation view, and a few referring to ambiguity. The literature on expected accounting change in a TQM environment is also presented, from the three perspectives.

In chapter four the three research sites are introduced and methods for collecting evidence are detailed. Chapters five, six, and seven analyse the findings from the integration, differentiation and ambiguity perspectives respectively. Finally, some limitations of Martin and Meyerson's model and of this research are acknowledged and some conclusions drawn.

REFERENCES

Denzin, N. K. (1994). The art and politics of interpretation. In N. K. Denzin, & Y. S. Lincoln (Eds.), *Handbook of Qualitative Research* (pp. 500-515). Thousand Oaks: Sage.

Geertz, C. (1973). *The interpretation of cultures: Selected essays.* New York: Basic Books.

Martin, J., & Meyerson, D. (1988). Organizational cultures and the denial, channeling and acknowledgment of ambiguity. In L. R. Pondy, R. J. Boland & H. Thomas (Eds.), *Managing ambiguity and change* (pp. 93-125). Chichester: Wiley.

Meyerson, D., & Martin, J. (1987). Cultural change: An integration of three different views. *Journal of Management Studies, 24,* 623-647.

Chapter 2
Research methodology

INTRODUCTION

All researchers approach their research with certain assumptions about the research process and how knowledge is obtained. There have been a number of attempts to classify research according to these assumptions. The next section shows the differences between natural and social sciences, which Burrell & Morgan (1979) attempted to capture in their classification model of social science research. Burrell & Morgan's (1979) model is presented, followed by some criticisms and adaptations of it. Martin & Meyerson's (1988) model is then related to other research classifications. The chapter ends with a statement of the current methodological stance of the author.

SOCIAL SCIENCE RESEARCH

Natural science and scientific method

Over the centuries scientists have developed methods of exploring the natural world, in order to establish the laws of nature. Philosophers of science have labelled the accepted method of scientific discovery "scientific method."

Basically, scientific method follows these steps: a hypothesis is suggested about a possible behaviour or relationship of nature; a test of the hypothesis is devised and carried out; then, depending on whether the results of the test provide support for or refute the hypothesis, deduction is used to generalise the results to other similar circumstances. In the use of scientific method, the scientist is assumed to be a neutral observer, approaching the hypothesis formation with no prior bias, and not affecting the testing of the hypothesis in any way (Chalmers, 1976, p. 9; Henderson et al., 1992, pp. 4-5).

Why social science is different

The principles of natural scientific method also dominated the carrying out of social science research. Colville (1981, pp. 121, 122) asserts that

> there has been a belief that science as epitomized by the natural sciences represented not just one type of knowledge or mode of knowing but the only form of true knowledge.... Social scientists tacitly accepted that there was no fundamental distinction to be drawn between the social and physical

sciences and also that the social world, in line with the physical world, consisted of a single order of phenomena whose behaviour could be explained in terms of constant and immutable laws.

However, there are a number of reasons why it might not be appropriate to apply natural scientific method unaltered to social science situations.

Social science does not deal with inanimate or unthinking subjects — it studies human beings in their everyday life situations. Because humans are reasoning, self-willed creatures, their actions cannot be simplified to a number of immutable, certain laws. As Winch (1958, pp. 92-93) points out, "even given a specific set of initial conditions, one will still not be able to predict any determinate outcome to a ... trend because the continuation or breaking off of that trend involves human decisions".

Whereas natural science researchers focus solely on the object under investigation, Winch (1958) and Covaleski & Dirsmith (1990) highlight that social studies involve researchers coming to understand their *own* learning processes at the same time as they seek to understand the behaviour of those they are studying.

Unlike the physical phenomena being studied by natural scientists, most of the phenomena being researched by social scientists are not concrete. Instead, social scientists study intangible phenomena such as relationships, interaction, social structures and organisations. Also, as Chua (1986a, p. 604) notes, people "cannot be treated as natural scientific objects because they are self-interpretive beings who create the structures around them".

Natural science studies must include enough information about method and materials that other researchers can replicate the study to show that the results are the same no matter who carries out the research. Social science studies, on the other hand, cannot be replicated, because every social situation is unique. "The researcher's understanding and theory become paramount. The theory must come from the researcher; and it follows that since the situation considered will never be repeated, we have to trust the researcher's reading of the situation" (Puxty, 1993, p. 58).

SOCIAL SCIENCE METHODOLOGIES

Various social scientists (including, more recently, accounting researchers) have tried to classify the social science literature according to the prior theoretical and philosophical assumptions of particular writers and schools of thought. One particularly influential classification model was that developed by Burrell & Morgan (1979).[1] The next sub-section describes their model. Criticisms of the model are then explored, followed by a recent adaptation of the model, by Laughlin (1995), which overcomes many of the criticisms.

Burrell & Morgan's four paradigms

Burrell & Morgan (1979) develop a two dimensional model of social science philosophies.

The first dimension classifies philosophies according to the objectivity of the researcher. This dimension actually includes four continuums of assumptions about ontology, epistemology, the researcher's view of human nature, and methodology.

Ontology relates to the essence or nature of the phenomena being studied. Researchers at the objective end of the continuum postulate "that the social world external to individual cognition is a real world made up of hard, tangible and relatively immutable structures. Whether or not we label and perceive these structures ... they still exist as empirical entities". The subjective "position revolves around the assumption that the social world external to individual cognition is made up of nothing more than names, concepts and labels which are used to structure reality" (Burrell & Morgan, 1979, p. 4).

Epistemology "is predicated upon a view of the nature of knowledge itself ... whether knowledge is something which can be acquired" — the objective extreme — "or is something which has to be personally experienced" (Burrell & Morgan, 1979, p. 2) — the subjective extreme.

---

[1] Other classifications include: Guba & Lincoln's (1994) positivism, postpositivism, critical theory and constructivism; and Morgan & Smircich's (1980) six categories: reality as a projection of human imagination, as a social construction, as a realm of symbolic discourse, as a contextual field of information, as a concrete process or as a concrete structure.

All social science must have an assumption concerning human nature, "since human life is essentially the subject and object of enquiry" (Burrell & Morgan, 1979, p. 2). At the objective extreme, humans are regarded as mechanistic responders to external circumstances. The subjective extreme attributes to humans the free will to create and respond to their own interpretation of the environment.

The stance that particular researchers take on ontology, epistemology and human nature will influence the way in which they investigate social phenomena, that is, the methodology chosen. The objective extreme treats "the social world like the natural world, as being hard, real and external to the individual", focussing on "relationships", "regularities" and "universal laws" (Burrell & Morgan, 1979, pp. 2, 3). The subjective extreme is more concerned with "an understanding of the way in which the individual creates, modifies and interprets the world" (Burrell & Morgan, 1979, p. 3).

Burrell & Morgan (1979) combine the four different assumptions above into one dimension, which they label "subjective-objective". Although the four elements that make up the dimension are all continuums on which it is likely researchers would take an intermediate position, Burrell & Morgan also treat the amalgam as though it were a dichotomy.

The second dimension of the model is the dichotomy between the "sociology of regulation" and the "sociology of radical change". The sociology of regulation refers to "the writings of theorists who are primarily concerned to provide explanations of society in terms which emphasise its underlying unity and cohesiveness. ... It attempts to explain why society tends to hold together rather than fall apart." The sociology of radical change "is essentially concerned with man's emancipation from the structures which limit and stunt his potential for development. The basic questions which it asks focus upon the deprivation of man, both material and psychic" (Burrell & Morgan, 1979, p. 17). Although they admit that this dimension could also be a continuum, Burrell & Morgan make it into a dichotomy by insisting that "one must always be committed to one side more than another" (p. 19).

The completed model thus consists of four boxes, which Burrell & Morgan call "paradigms", as reproduced in the diagram below. Because they say that each

of the dimensions are dichotomies, they arrive at four mutually exclusive paradigms.

THE SOCIOLOGY OF RADICAL CHANGE

'Radical humanist'	'Radical structuralist'
'Interpretive'	'Functionalist'

SUBJECTIVE   OBJECTIVE

THE SOCIOLOGY OF REGULATION
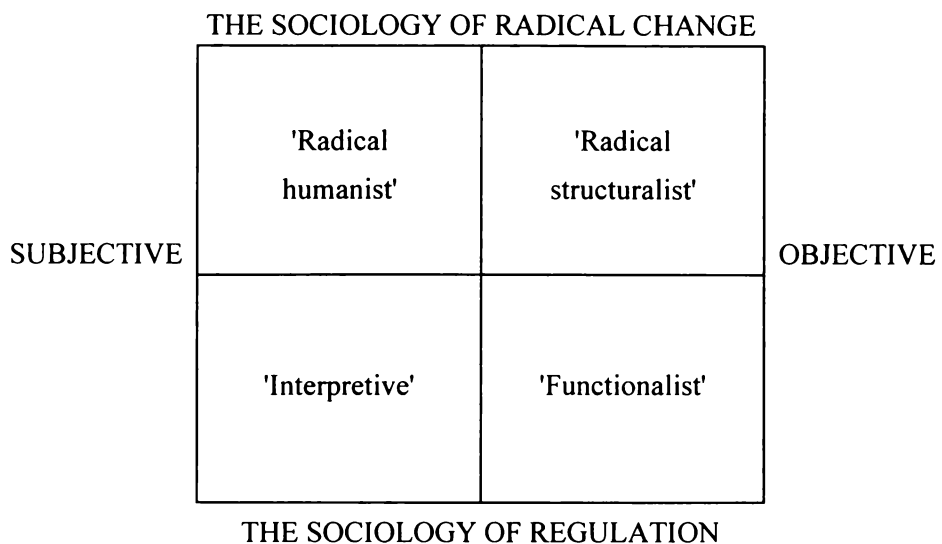
Figure 2.1: Burrell & Morgan's model of social science paradigms

(From Figure 3.1, Burrell & Morgan, 1979, p. 22)

Having developed the above model, Morgan & Burrell then review the major philosophical schools of thought, assigning each to one of the paradigms.

Criticisms of Burrell & Morgan

Although many writers have found Burrell & Morgan's four paradigms a useful way of classifying similar schools of thought, and locating their own philosophical position, there have been a number of criticisms of the model.

Firstly, Willmott (1990) criticises the mutual exclusivity of the four paradigms. He gives examples of writers that have tried to combine objectivity and subjectivity, such as Berger & Luckmann (1967), Silverman (1970), Freire (1972) and Giddens (1976, 1979, 1984). As well as the mutual exclusivity of the paradigms, Chua (1986a, p. 603) also criticises Burrell & Morgan for "their misreading of Kuhn as advocating irrational paradigm choice", and for encouraging "the latent relativism of truth and reason". Claiming that the differences between radical structuralist and humanist paradigms are "dubious" (p. 603), Chua (1986a) presents a classification of accounting research with three categories: mainstream, interpretive and critical. Chua's mainstream perspective is analogous to Burrell & Morgan's functionalist paradigm, and

Chua's critical perspective includes both Burrell & Morgan's radical humanist and radical structuralist paradigms.

Secondly, the dichotomy on both dimensions does not take into account the fact that researchers may take intermediate positions on the continuums. Although Burrell & Morgan (1979) admit that intermediate positions are likely [2], their model does not take that into account. Hopper & Powell (1985) use Burrell & Morgan's model to classify accounting research, with three main categories similar to those of Chua (1986a): functional, interpretive and radical. However, they recognise the continuous nature of the subjective-objective dimension by sub-dividing functional into "three sub-groups – objectivism, social systems theory, and pluralism" (Hopper & Powell, 1985, p. 432).

Thirdly, the objective-subjective dimension actually consists of *four* sets of assumptions. Given that it is possible to take intermediate positions on some of these assumptions, one cannot presume that a researcher tending towards the objectivist extreme on one assumption will necessarily be objectivist on all. Hopper & Powell (1985, p. 431) mention that the four elements "are not always well related" and are "analytically distinct". However, they claim that "there are often strong relationships between the positions adopted on each continuum", and take that as justification for grouping them together.

Laughlin's adaptation

Laughlin (1995) adapts Burrell & Morgan's model to partially address the above criticisms. He adds an intermediate category on each dimension to recognise the fact that the dimensions are really continuums, not dichotomies: he labels each end of each dimension "high" and "low" and calls the intermediate category, "medium". He permits even finer ordering by placing different schools of thought within the boxes according to their relative positions on each of the dimensions.

Laughlin also recognises that the subjective-objective dimension actually contains four assumptions. However, instead of using a five dimensional

---

[2] For example, referring to assumptions about human nature, they state: "social science theories ... must incline ... to one or other of these points of view, or adopt an intermediate standpoint" (p. 6); and, when referring to the regulation-radical change dimension, they admit that one may be close to "the middle ground" (p. 19).

model (which cannot be easily depicted on paper), he re-groups the assumptions to produce a three dimensional model. The "theory" dimension includes Burrell & Morgan's ontology and epistemology categories; and Laughlin's "methodology" includes Burrell & Morgan's human nature category as well as methodology. Laughlin's "change" category alters Burrell & Morgan's regulation-radical change dimension slightly. Laughlin suggests that researchers who believe in "high" change will not only point out the need to change, but will also take "a position on whether the investigation is intentionally geared to achieve change in the phenomena being investigated" (Laughlin, 1995, p. 66).

MARTIN & MEYERSON'S MODEL

Martin & Meyerson's (1988) model has been chosen as a basis for structuring the analysis sections of this thesis. This particular model was chosen partly for pragmatic reasons: I read it at a time when I was struggling with how to analyse and present the conflicting findings in my field work. Martin & Meyerson's three "paradigms" provided definitions and categories of analysis that I could relate to my findings and also my methodological journey.

As with the classification models above, Martin & Meyerson's (1988) model refers to "paradigms": integration, differentiation and ambiguity. Although Martin and Meyerson do not refer in detail to methodology and assumptions, their three paradigms can be related to those of Burrell & Morgan (1979) and Chua (1986a).

The integration paradigm emphasises consensus and unity within an organisation. Researchers using this perspective often only interview managers and do not spend long in an organisation (Martin & Meyerson, 1988). This paradigm is analogous to Burrell & Morgan's (1979) functionalist paradigm and Chua's (1986a) mainstream category.

The differentiation paradigm, in contrast, "stresses inconsistency and lack of consensus" (Martin & Meyerson, 1988, p. 107), which is similar to Burrell & Morgan's (1979) radical paradigms and Chua's (1986a) critical category.

The ambiguity paradigm does not seek regularities, laws and consensus. Rather it recognises that there will be differences in interpretation in a social

setting, and that any patterns of relationships are ever changing. This is similar to Burrell & Morgan's (1979) and Chua's (1986a) interpretive paradigms.

However, Martin and Meyerson do not present their paradigms as a way of classifying the researcher's prior assumptions, but rather as a way of viewing, organising and analysing the *findings* of a research project. Aside from the implication that the differentiation and ambiguity paradigms require longer research time in an organisation than the integration paradigm usually requires and research at more levels than just managerial, Martin and Meyerson do not refer to research method.

Also, Martin and Meyerson suggest that researchers view their research findings from the perspective of all three paradigms.[3] Burrell & Morgan (1979, pp. 24-25) on the other hand claim that researchers will fall into only one paradigm and rarely change paradigms. Hopper & Powell's (1985, p. 456) contention that "it is the intellectual duty of all academic researchers to acknowledge and substantiate" their "values and beliefs about the nature of the social sciences and society", and Laughlin's (1995) suggestion that researchers state their methodological stance imply that they too believe that a researcher, when carrying out a particular piece of research, can only hold one paradigmatic position.

Therefore, I am using Martin and Meyerson's model not as a way of presenting my methodological assumptions. Instead the model can be thought of as the theoretical "skeleton" (Laughlin, 1995) which is fleshed out by the findings. As proposed by Geertz (1973), this study adds to knowledge by building on Martin & Meyerson's model, and applying it in a completely different field.

Problems with trying to view the evidence from all three perspectives and other problems and limitations in applying Martin & Meyerson's (1988) model are explored in the last chapter.

---

[3] "Any cultural context is more fully understood – in its current complexity and in its potential for innovation – when it is viewed, sequentially and repeatedly, from each of the three paradigmatic perspectives" (Martin & Meyerson, 1988, p. 122).

MY CHOICE OF METHODOLOGY

Hammersley (1992, pp. 50-51) states that "the aim of social research is to represent reality ... from some point of view which makes some features of the phenomena represented relevant and others irrelevant. Thus, there can be multiple, non-contradictory[4] and valid descriptions and explanations of the same phenomenon". Research papers usually include a section on methodology and method, which enables the reader to determine from which perspective the researcher is viewing the phenomena under investigation.

As Hopper & Powell (1985, p. 429) point out, "certain fundamental theoretical and philosophical assumptions underlie *any* piece of research — there is no such thing as a totally objective or value free investigation". Instead of maintaining the illusion of complete objectivity, social scientists need to recognise the assumptions and values that they bring with them when approaching the phenomena under research. Some of these assumptions have already been enumerated in the above section (the discussion of Burrell & Morgan's paradigms and Laughlin's extension of their work).

Laughlin (1995, p. 65) suggests that it is not only an advantage, but it is important for researchers to choose their stance on theoretical and methodological problems before commencing a piece of empirical research. Having decided on a particular set of prior assumptions enables the researcher to identify biases and exclusions intrinsic to those assumptions. Using models like those of Burrell & Morgan and Laughlin, researchers can identify themselves with alternative schools of thought that are already well established.

Not only do researchers need to acknowledge to themselves that they approach their research with prior assumptions and biases, they also need to be prepared to defend their chosen position (Jones, 1983; Roslender, 1990; Laughlin, 1995).

Laughlin (1995, Table I, p. 80) tabulates the prior beliefs associated with various positions on the three dimensions of his model. I will use the brief descriptions in this table to define my stance on each dimension.

---

4   Presumably there can also be valid *contradictory* explanations!

Theoretical stance

I believe the detail derived from case studies of various organisations may be used to provide substance to "skeletal" generalisations derived from theory and the literature. Therefore, on Laughlin's model, I would place myself medium to low on theory characteristics and ontological belief.

Methodological stance

I hold a subjectivist view on human nature: I believe that people use their free will in any organisational environment, and do not just respond mechanistically to external stimuli. Because researchers too are human, they cannot completely divorce themselves from the people they are observing. Therefore, the reaction of and with the researcher is acknowledged and taken into account in the case study research undertaken.

I chose a qualitative method of research. Although I used various means of "data" collection, I predominantly used unstructured interviews. By getting to know the people working in the firms on a more personal level, I was able to find out some of their doubts, worries, disagreements and problems — that is, I was able to gain more than a rosy, managerially biased view of the firm.

Using Laughlin's model, my stance on methodology characteristics is low.

Change stance

I was interested in examining existing relationships, not in changing the status quo. Therefore, my stance on change characteristics is low.

The school of thought that my stance corresponds to most closely is symbolic interactionism (see Laughlin, 1995, Figure 2, p. 70), which falls into the interpretive paradigm of Burrell & Morgan's (1979) model.

SYMBOLIC INTERACTIONISM

Description

Chua (1986a, p. 615) summarises the aims of interpretive research:

interpretive knowledge reveals to people what they and others are doing when they act and speak as they do ... the aim of the interpretive scientist is to enrich people's understanding of the meanings of their actions, thus increasing the possibility of mutual communication and influence.

As part of the interpretive paradigm, symbolic interactionism has this focus on the human element in organisations, and particularly on interactions between people.

Blumer (1969, p. 49), who coined the term "symbolic interactionism", summarises its basic premises:

> human group life consists of the fitting to each other of the lines of action of the participants; such aligning of actions takes place predominantly by the participants indicating to one another what to do and in turn interpreting such indication made by the others; out of such interaction people form the objects that constitute their worlds; people are prepared to act toward their objects on the basis of the meaning these objects have for them; human beings face their world as organisms with selves, thus allowing each to make indications to himself; human action is constructed by the actor on the basis of what he notes, interprets, and assesses; and the interlinking of such on-going action constitutes organizations, institutions, and vast complexes of interdependent relations.

The difference between non-symbolic and symbolic interactionism is illustrated by an analogy with boxing:

> Non-symbolic interaction takes place when one responds directly to the action of another without interpreting that action; symbolic interaction involves interpretation of the action. Non-symbolic interaction is most readily apparent in reflex responses, as in the case of a boxer who automatically raises his arm to parry a blow. However, if the boxer were reflectively to identify the forthcoming blow from his opponent as a feint designed to trap him, he would be engaging in symbolic interaction. (Blumer, 1969, p. 8)

An organisation is therefore a combination of multiple interactions between people, and may also involve joint actions and interactions. Research in organisations must therefore uncover more than one individual's actions, but must recognise interactions and other people's ways of seeing things. Actions

and interactions not only relate to other people (a "horizontal linkage"), but also to past and future actions (a "vertical" linkage) (Blumer, 1969, p. 20).

The purpose of interpretive studies is not to generalise from the case(s) studied to the general population, but instead "the intent is to understand the deeper structure of a phenomenon, which it is believed can then be used to inform other settings" (Orlikowski & Baroudi, 1991, p. 5)

Research phases

Interpretive research is not concerned with finding out cause-and-effect relationships. Instead, the focus is on finding out: how an organisation works; how the members of the organisation see the world (Smircich, 1983b, pp. 163, 164); what are the deeply-embedded rules that structure the social world, including how they arise, and are sustained and modified; and what are the typical motives that explain action (Chua, 1986a, p. 614).

The only way to test the validity of the premises of symbolic interactionism is to examine interaction in practice in human groups (Blumer, 1969, p. 49). Blumer (1969) suggests that research be carried out in two phases: exploration and inspection. During the exploratory stage the researcher acquires an understanding of the research site by both collecting data and simultaneously testing and revising the research question and the focus of the data collection.

In the inspection phase, the researcher takes a particular analytical element, such as a type of action, an object, an interaction or an interpretation, and inspects that element in all the empirical instances in which it has been found. The researcher tries to see that element from the point of view of the actor(s) and the surrounding environment. Smircich (1983b, p. 165) considers that this type of research can be evaluated by "the integrity, the soundness, of the analysis".

Symbolic interactionism in accounting

There are two ways in which 'accounting' can be related to interactionist research. Firstly, "Financial control systems affect ... both managerial interactions in the context of accounting information and also managerial behaviour overtly faced with accounting information" (Puxty, 1993, p. 69). Therefore, research may uncover how accounting information forms part of the

background environment for other interactions, and how the accounting figures are used in interaction. For example,

> accounting numbers may be used to actively mobilize bias, to define the parameters permissible in organizational debates, and to legitimize particular sectional interests (Chua, 1986a, p. 617).

Also, research may examine the way in which accountants themselves interact with others in the organisation. For example, the researcher may uncover what accountants "notice, pay attention to, and treat as meaningful" and "the pattern of formal and informal exchange of verbal and non-verbal communications taking place" (Boland, 1979, p. 267) between accountants and other managers or their subordinates.

This research examines both of the above relationships. It shows how accounting systems change in TQM environments, and also how in one organisation accounting information is ignored or supplemented. The reactions and interactions of the accountants in the changing organisations is also addressed.

REFERENCES

Berger, P. L., & Luckmann, T. (1967). _The social construction of reality: A treatise in the sociology of knowledge._ Garden City, New York: Doubleday. Referenced in Willmott (1990).

Blumer, H. (1969). _Symbolic interactionism: Perspective and method._ Englewood Cliffs, NJ: Prentice-Hall.

Boland, R. J. (1979). Control, causality and information system requirements. _Accounting, Organizations and Society, 4,_ 259-272.

Burrell, G., & Morgan, G. (1979). _Sociological paradigms and organisational analysis: Elements of the sociology of corporate life._ London: Heinemann.

Chalmers, A. F. (1976). _What is this thing called science? An assessment of the nature and status of science and its methods._ St. Lucia, Queensland: University of Queensland Press.

Chua, W. F. (1986a). Radical developments in accounting thought. _The Accounting Review, 61,_ 601-632.

Colville, I. (1981). Reconstructing "behavioural accounting". _Accounting, Organizations and Society, 6,_ 119-132.

Covaleski, M. A., & Dirsmith, M. W. (1990). Dialectic tension, double reflexivity an the everyday accounting researcher: On using qualitative methods. _Accounting, Organizations and Society, 15,_ 543-573.

Freire, P. (1972). _Pedagogy of the oppressed._ Harmondsworth: Penguin. Referenced in Willmott (1990).

Geertz, C. (1973). _The interpretation of cultures: Selected essays._ New York: Basic Books.

Giddens, A. (1976). _New rules of sociological method._ London: Hutchinson. Referenced in Willmott (1990).

Giddens, A. (1979). _Central problems in social theory._ London: Cambridge. Referenced in Willmott (1990).

Giddens, A. (1984). *The constitution of society.* Cambridge: Polity. Referenced in Willmott (1990).

Guba, E. G., & Lincoln, Y. S. (1994). Competing paradigms in qualitative research. In N. K. Denzin, & Y. S. Lincoln (Eds.), *Handbook of Qualitative Research* (pp. 105-117). Thousand Oaks: Sage.

Hammersley, M. (1992). *What's wrong with ethnography? Methodological explorations.* London: Routledge.

Henderson, S., Peirson, G., & Brown, R. (1992). *Financial accounting theory: Its nature and development* (2nd Ed.). Melbourne: Longman Cheshire.

Hopper, T., & Powell, A. (1985). Making sense of research into the organizational and social aspects of management accounting: A review of its underlying assumptions. *Journal of Management Studies*, 22(5), 429-465.

Jones, G. R. (1983). Life history methodology. In G. Morgan (Ed.), *Beyond method: Strategies for social research* (pp. 147-159). Beverly Hills: Sage.

Laughlin, R. (1995). Empirical research in accounting: alternative approaches and a case for "middle-range" thinking. *Accounting, Auditing and Accountability Journal, 8*(1), 63-87.

Martin, J., & Meyerson, D. (1988). Organizational cultures and the denial, channeling and acknowledgment of ambiguity. In L. R. Pondy, R. J. Boland & H. Thomas (Eds.), *Managing ambiguity and change* (pp. 93-125). Chichester: Wiley.

Meyerson, D., & Martin, J. (1987). Cultural change: An integration of three different views. *Journal of Management Studies, 24*, 623-647.

Morgan, G., & Smircich, L. (1980). The case for qualitative research. *Academy of Management Review, 5*, 491-500.

Orlikowski, W. J., and Baroudi, J. J. (1991). Studying information technology in organizations: Research approaches and assumptions. *Information Systems Research, 2*(1), 1-28.

Puxty, A. G. (1993). *The social and organizational context of management accounting.* London: Academic.

Roslender, R. (1990). Sociology and management accounting research. *British Accounting Review, 22,* 351-372.

Silverman, D. (1970). *The theory of organisations: A sociological framework.* London: Heinemann. Referenced in Willmott (1990).

Smircich, L. (1983b). Studying organizations as cultures. In G. Morgan (Ed.), *Beyond method: Strategies for social research* (pp. 160-172). Beverly Hills: Sage.

Willmott, H. (1990). Beyond paradigmatic closure in organizational enquiry. In J. Hassard & D. Pym (Eds.), *The theory and philosophy of organizations: Critical issues and new perspectives* (pp. 44-60). London: Routledge.

Winch, P. (1958). *The idea of a social science and its relations to philosophy.* London: Routledge & Kegan Paul.

Chapter 3
Culture, TQM & Management Accounting

INTRODUCTION

This chapter begins by presenting the literature on organisational culture and cultural change, as seen from the point of view of each of the three paradigms: integration, differentiation and ambiguity. Then the literature on total quality management and its effect on management accounting systems is presented from the three perspectives.

ORGANISATIONAL CULTURE

Defining culture

Defining culture, whether at national or at organisational level, is problematic: culture is not an object; it is an "abstract concept ... used to interpret behaviour" (Meek, 1988, p. 465). Even in the dictionary, culture has a number of definitions, including: "the total of the inherited ideas, beliefs, values, and knowledge, which constitute the shared bases of social action"; "the total range of activities and ideas of a people"; and, "the artistic and social pursuits, expressions and tastes valued by a society or class" (McLeod, 1991, p. 237).

According to some researchers, culture arises from shared symbols, language, ideology, beliefs, rituals, myths, stories and dominant metaphors (Fischer & Dirsmith, 1995; Pettigrew, 1979; Meek, 1988; Bartunek & Moch, 1987). Van Maanen & Barley (1985, p. 32) define culture as "an all-embracing and largely taken-for-granted way of life shared by those who make up the society".

Definitions of culture in the context of societies may be applied to organisations as well. Allaire & Firsirotu (1984) bring together the several schools of thought that have developed in cultural anthropology, relating them to notions of organisational culture found in the management and organisational literature. They divide cultural theories into two major categories: those that view culture as being integrated into the social system (a sociocultural system) and those that view "cultural and social realms [as] distinct but interrelated" (a system of ideas) (Allaire & Firsirotu, 1984, p. 196). Allaire & Firsirotu (1984) then classify major research schools into these two categories. The sociocultural system includes functionalist, functionalist-structuralist, historical-diffusionist and ecological-adaptionist research schools. The ideational system includes cognitive, structuralist, mutual equivalence and symbolic research schools.

Allaire & Firsirotu (1984, p. 216) attempt to include all ways of looking at organisational culture in their definition of organisational culture:

> a particularistic system of symbols shaped by ambient society and the organization's history, leadership and contingencies, differentially shared, used and modified by actors in the course of acting and making sense out of organizational events. Organizational culture, thus conceived, is a powerful tool for interpreting organizational life and behaviour and for understanding the processes of decay, adaptation and radical change in organizations.

This researcher subscribes to the ideational category, in particular, the symbolic interactionist school's view of culture as "shared meanings and symbols" (Allaire & Firsirotu, 1984, p. 196). Organisational culture, from this interpretive perspective, "gradually emerges and takes shape as a consequence of the social interactions among its members" (Fischer & Dirsmith, 1995, p. 384).

In Martin & Meyerson's (1988) opinion, definitions and descriptions of organisational culture differ according to the paradigm through which the researcher is viewing the organisation.

Integration paradigm

The integration paradigm assumes that all, or at least most, organisational members share the same culture (Martin & Meyerson, 1988). That is, the integration paradigm assumes a unitary organisational culture. Van Maanen & Barley (1985, p. 37) claim that "unitary organizational cultures evolve when all members of an organization face roughly the same problems, when everyone communicates with almost everyone else, and when each member adopts a common set of understandings for enacting proper and consensually approved behavior".

Martin & Meyerson (1988) note that researchers using the integration perspective often only interview managers and do not spend long in the organisation. Louis (1985, p. 77) provides a reason for this lack of depth: if researchers assume a unitary culture, "it should not matter where one looks to find it or who one chooses as informants ... one might develop a description of the organization's culture from talking with key executives and assume that their descriptions apply throughout the organization".

Differentiation paradigm

However, Louis (1985, p. 76) challenges the premise "that an organization is possessed of a single culture, one that is pervasive throughout the organization". She argues that treating different hierarchical levels as the same is an error: each level is "a potential site of distinct culture" (Louis, 1985, p. 77). Researchers who only spend a short time in an organisation may wrongly decide that the first cultural content that they detect is the "organisational" culture.

Other authors emphasise the notion that there are likely to be subcultures in any organisation. For example, Georgiou (1973) notes that organisational members may not all be working towards the same goals. He criticises the depersonalisation of organisations in academic organisational theories. Instead, he advocates a research paradigm that tries to understand "the emergence of organizations, their structure of roles, division of labor, and distribution of power, as well as their maintenance, change, and dissolution ... as outcomes of the complex exchanges between individuals pursuing a diversity of goals" (p. 308). Dermer (1988, 1990) and Dermer and Lucas (1986) develop this idea. They point out that in any organisation there are a number of stakeholders. Smircich (1983b, p. 162) uses a different terminology, referring to "multiple meaning systems or 'counterrealities' that may be in competition with one another".

Although Van Maanen & Barley (1985, p. 38) recognise subcultures, their definition of an organisational subculture includes the claim that members of subcultures "identify themselves as a distinct group within the organization". However, members of subcultures do not necessarily have to realise that they are a distinct group, even though an outsider might interpret their culture as being distinct from others.

Ambiguity paradigm

Meyerson & Martin (1987, p. 625) define ambiguity as "that which is unclear, inexplicable, and perhaps capable of two or more meanings". It may arise because "information that is expected is absent" (p. 625) or as a result of "inherently irresolvable conflict or irreducible paradox" (pp. 625-626). "In the ambiguity paradigm, cultural manifestations are not clearly consistent or clearly

inconsistent with each other. ... Differences in interpretation are seen as incommensurable, irreconcilable, and unavoidable" (Martin & Meyerson, 1988, p. 115). "Individuals share some viewpoints, disagree about some, and are ignorant of or indifferent to others" (Meyerson & Martin, 1987, p. 637).

According to Martin and Meyerson, the three paradigms deal with ambiguity differently, and in ways related to their definitions of "culture". The integration paradigm denies ambiguity (Meyerson & Martin, 1987; Martin & Meyerson, 1988) or recognises it only in the transition from one cultural state to a new one (Meyerson & Martin, 1987). The differentiation paradigm recognises ambiguity as lying "only in the interstices among the subcultures" (Martin & Meyerson, 1988, p. 112). Ambiguity is channelled away, freeing "subcultural members to perceive and respond to only a small part of the complexities and uncertainties of the organization's environment, thus avoiding action paralysis" (Martin & Meyerson, 1988, p. 112). The ambiguity paradigm, on the other hand, recognises ambiguity. Reactions to it range from revelling in it and legitimating it as "a source of innovation creativity, or productive change" through to accepting it "with reluctance, as an inevitable part of life" (Martin & Meyerson, 1988, p. 113).

Cultural change

The literature on cultural change can be applied to both unitary organisational cultures and subcultures. Bartunek & Moch (1987) present three orders of cultural change. First order changes are incremental changes within the existing cultural framework. In second order change, a change agent attempts to effect cultural change by changing the shared symbols, meanings, etc., of the existing culture, thus replacing one culture with another. Third order change involves the members of a culture seeing the need for second order change and implementing it themselves.

Integration paradigm

The integration paradigm views cultural change "in terms of a monolithic process, as an organization-wide phenomenon" (Meyerson & Martin, 1987). A researcher viewing cultural change from the perspective of the integration paradigm will see ways in which symbols, language, myths, etc. are changed in order to successfully change the culture (see, for example, Westbrook, 1993).

Attempts to change the culture of an organisation may meet with differing levels of success. For example, Gagliardi (1986, p. 131) categorises the results of attempted cultural change as: "apparent cultural change, cultural revolution, or cultural incrementalism". Apparent change is only superficial. Cultural revolution "is always extremely costly and necessitates the large-scale defection of old and an influx of new personnel, financial and emotional disinvestments, corresponding new investments, the destruction of old symbols and the creation of new ones" (Gagliardi, 1986, p. 130). Cultural incrementalism depends on "a success which can be attributed, directly or indirectly, to the leader's beliefs" (Gagliardi, 1986, p. 131).

Meyerson & Martin (1987, p. 629) claim that integration paradigm descriptions of cultural change "focus on the actions of a leader". These descriptions also present "internal incidences of turmoil [as] essential precursors to cultural change".

Differentiation paradigm

However, change in organisations involves individuals and groups who may be in conflict. As Dermer (1990, p. 67) puts it, "an organization is a regulated, but not necessarily unified or controlled, ecosystem wherein a good many agendae exist". Therefore, "the deeper the level at which culture change is required and the more cultures there are in the organization, the more difficult and time consuming the culture-change process" (Kilmann et al., 1986, pp. 90-91). Schein (1984, p. 14) claims that "managed change will always be a painful process and will elicit strong resistance. ... No single model of such change exists: managers may successfully orchestrate change through the use of a wide variety of techniques, from outright coercion at one extreme to subtle seduction through the introduction of new technologies at the other extreme".

Greenwood & Hinings (1988) classify the results of proposed change into four categories: inertia (no attempt to change), aborted excursions (unsuccessful attempts to change), unresolved excursions (neither successful change nor a return to the original state), or re-orientations (successful change). The "track" an organisation takes when faced with change depends on the relationship between organisational structures ("embodiments of ideas, beliefs and values ... expressions of intentions, aspirations and meanings", p. 295) and both the

degree of commitment to the present structure and the dominance of particular interest groups within the organisation.

Researchers subscribing to the differentiation paradigm will be looking especially at conflict between subcultures. "Diffuse and unintentional sources of change are more salient. ... discussions of cultural change emphasize fluctuations in the content and composition of subcultures, variations in the structural and inter-personal relations among subcultures, and changes in the connections between subcultures and the dominant culture" (Meyerson & Martin, 1987, p. 634).

For example, Laughlin (1991) builds on Greenwood and Hinings work, drawing also from Habermas' critical theory. He focuses particularly on change attempts being forced on an organisation by the environment: an environmental "disturbance", "jolt", "kick" or "noise". The organisation may make the change desired by the external force, or it may react against the external force and resist being colonised.

On the other hand, Meyerson & Martin (1987, p. 636) refer to "abrupt jolts" being "caused by subcultures' adaptive responses, experiments, and idiosyncratic actions". Referring to the literature on loose coupling (e.g., March & Olsen, 1976; Meyer & Rowan, 1977; Weick, 1976), Meyerson & Martin (1987, p. 636) claim that these jolts are "dampened by loose coupling. ... loose coupling may inhibit organization-wide changes. Top down organization-wide planned change efforts would have to cope with loosely coupled information channels and subunits' differential responses to information. ... Because locally based changes are often diffuse and loosely coupled to each other, their organization-wide repercussions are difficult to predict and problematic to control".

Applying this concept of resistance to change to a TQM environment, Wilkinson et al. (1992, p. 118) note that "managements are said to give insufficient attention to examining the underlying values and behaviour of employees, with the result that there is a failure to achieve the 'culture change' which is necessary if TQM is to be successfully implemented."

Ambiguity paradigm

Martin & Meyerson (1988, p. 118) suggest that in organisations experiencing ambiguity, consensus may be achieved on one level, on another it may result in action paralysis or action "generated without full comprehension or consensus concerning its meaning or intended effects". However, they note that "culture research has seldom used an ambiguity-acknowledging perspective. ... Thus, relatively little is known about the symbolic interpretation of artifacts in cultures portrayed from an ambiguity-acknowledging perspective" (Martin & Meyerson, 1988, p. 118).

This research took place in three organisations, two of which had changed to TQM and one which was attempting the change. The change (or attempted) change of the organisational culture, and some of the effects of sub-cultures and ambiguity are presented in the analysis chapters.

In this research, the introduction of total quality management and its effect (if any) on management accounting is the cultural change of interest. The rest of this chapter focusses on the TQM literature from the three perspectives: integration, differentiation and ambiguity.

TOTAL QUALITY MANAGEMENT

Various modern management approaches are being tried in New Zealand manufacturing firms. Perry et al. (1993) and Mendzela (1995) suggest that this is a response to increased competition following deregulation and economic reform in the 1980s. Mendzela (1995, p. 44) also considers that many of the features of modern management approaches, such as "wider job roles; more flexible production techniques; ... quicker take-up of technology; ... greater social mobility and equality; more front-line staff discretion", are "intrinsic to New Zealand's remoteness, small population and history". One of these modern management approaches is total quality management (TQM), which is seeing widespread application in the Western world (Hankes, 1993).

Most of the research on TQM that has been published to date views TQM through the lens of the integration paradigm. This research includes a considerable number of reports of changes to management accounting

systems as a result of TQM implementation. This integrative research is presented in the next section.

There is also a growing body of literature taking the opposing, differentiation perspective on TQM. This literature is presented in the following section.

There appears to be no literature on ambiguity in TQM implementations and operations. This is one area in which this thesis contributes to the body of knowledge. There is some accounting literature relating to ambiguity, but not in relation to TQM.

Integration perspective

Defining TQM

Providing a definition of Total Quality Management (TQM) is problematic. Wilkinson & Witcher (1993, p. 48), although writing in a journal named *Total Quality Management*, claim that "there is still no universally recognized definition of TQM", with most authors either avoiding defining the term or listing the attributes of a TQM environment. For example, Hankes (1993, p. 28) defines TQM as "the continuous improvement in quality, productivity and effectiveness obtained by establishing management responsibility for processes as well as outputs". Feigenbaum's (1991, p. 6) definition of TQM's predecessor, Total Quality Control (TQC), seems to include all the elements contained in other authors' lists:

> an effective system for integrating the quality-development, quality-maintenance, and quality-improvement efforts of the various groups in an organization so as to enable marketing, engineering, production, and service at the most economical levels which allow for full customer satisfaction.

The difficulty in agreeing on a definition arises because any definition reifies TQM, whereas TQM is not an object existing in its own right — any so called definitions are actually lists of management methods and operational techniques being practised in certain environments and not in others.

Even when TQM is used to describe an organisation, what is understood by the term differs between users. Some organisations claim they are using TQM because they have certification, such as ISO 9000, from an accredited quality

organisation. Other managers consider that quality certification is only a part of TQM, and list other elements that must be present before they would consider TQM is being practised.[1]

In the management accounting literature, there is some interchangeability between the terms TQM and just-in-time (JIT). For example, Cobb (1991) promotes JIT as a philosophy including quality, employee involvement, and steady production flow.

The following section lists and expands on elements included in most descriptions of TQM. From an integration perspective, organisations which include many of the following elements could be said to be "practising TQM".

Elements of TQM

Elements of TQM include: a focus on customers, continuous improvement of products and processes, employee involvement and management commitment to TQM.

Customer focus

Quality can be defined in terms of product design: providing "product features which meet customer demands" (Sohal et al., 1992, p. 284), in other words, giving customers the product they want, the quality they want, when they want it (Hall, 1989; Hogg, 1993; Russell, 1993; Jeffords et al., 1994). Customers include internal customers, such as the next process on the manufacturing line, or the functions that use a particular accounting report. Feigenbaum (1991, p. 11) suggests that the provision of quality starts with "the identification of customer quality requirements" and finishes when "the product has been placed in the hands of a customer who remains satisfied".

Customer satisfaction can be achieved by increasing the speed of "design, development, procurement, manufacturing, assembly and test cycles" (Russell, 1993, p. 315; Walker, 1992). Operational changes to achieve customer satisfaction include shortening lead-times (Schonberger, 1986; Hall, 1989), preventative maintenance (Sohal et al., 1992), replacing quality inspection at

---

[1] For a fuller treatment of this issue, see Fowler & Lord (1995) and Carr et al. (1997).

the end of the process with the development of quality processes (Hollingworth, 1992; Sohal et al., 1992; Hogg, 1993; Jeffords et al., 1994) and cooperation with suppliers (Turk, 1990; Hogg, 1993).

Some firms are attempting to measure customer satisfaction by recording customer comments (Carlson & Young, 1993) and surveying customers, asking if they are satisfied (Levine, 1993; Hogan, 1994).

Continuous improvement

Quality also concerns "the processes by which value is added to products and services" (Hogg, 1993, p. 196). Some writers suggest that the firm analyse all activities undertaken, classifying them as either value-adding or non-value-adding (Hall, 1989; Thackray, 1990b; Jeffords et al., 1994). Resources of the firm can then be re-balanced (Bellis-Jones & Hand, 1989; Carlson & Young, 1993).

Value-adding activities are improved or simplified by removing all waste (Turk, 1990). These improvements include reducing set-up time, streamlining production flow, balancing the factory load, grouping machines in cells, and reducing the number of discrete parts.

Non-value-adding activities are eliminated (Hall, 1989). For example, it has been suggested that material handling and inventory tracking and valuation activities can be reduced or even eliminated by holding zero inventories and using just-in-time (JIT) purchasing.

Employee involvement

A key element of total quality management is involving everyone in the firm in the quest for quality. Operators are responsible for detecting, recording and solving their own problems, usually in small groups (Schonberger, 1989; Ripley & Ripley, 1992; Hogg, 1993; Johnson, 1993; Hassan et al., 1993; Porter & Parker, 1993; Dawson & Palmer, 1995; Abernethy & Lillis, 1995; Ittner & Larcker, 1997).

Ways of improving communication are developed (Hankes, 1993; Porter & Parker, 1993), with opportunities for free interaction with both fellow employees

and management (Fisher & Davis, 1992; Jeffords et al., 1994; Daniel & Reitsperger, 1992).

As the workforce is expected to be more flexible, and usually multi-skilled (Hall, 1989; Wruck & Jensen, 1994), opportunities are provided for education and training (Sohal et al., 1992; Hogg, 1993; Porter & Parker, 1993).

Both Hassan et al. (1993) and Lammert & Ehrsam (1987) emphasise that more appropriate performance measures need to be developed to encourage employee involvement and team work.

Some firms have modified their reward structures for staff (Wilkinson et al., 1992; Hogg, 1993). Examples include: "certificates, coffee and pastries during morning meetings, ... coffee mugs" (Gerner & McIntire, 1993, p. 38), named gym bags, and TQM awards presented at the Christmas party (Idstein, 1993). Monetary rewards, such as "salary increases, bonuses, and promotions" (Juran, 1989, p. 316), have also been found to be important (Wruck & Jensen, 1994; Reitsperger, 1986).

Commitment of senior management

For the "empowerment" of workers to work in practice, the culture of the organization must become supportive (Mallinger, 1993; Stanleigh, 1993; Westbrook, 1993), with commitment and involvement by managers (Bossink et al., 1992; Hollingworth, 1992; Sohal et al., 1992; Wilkinson et al., 1992; Hankes, 1993). Hogg (1993, p. 197) declares that successful employee empowerment is so different from traditional management philosophies that it requires a paradigm change, from confrontation to cooperation. Instead of managers "keeping workers in line and assigning blame when something goes wrong", they take on a facilitation role, "creating an environment in which workers are allowed to excel". Dawson & Palmer (1995, p. 29) claim that TQM requires "a climate of trust, co-operation, and a non-adversarial system of industrial relations." Porter & Parker (1993) found that commitment of senior management was the most important, even essential, factor in a successful implementation of TQM.

Some authors warn that a balance is needed between employee empowerment and involvement of senior management (Wruck & Jensen, 1994; Ittner & Larker, 1995, 1997). Employees may be best able to identify problems, but do

not have the overall picture, and hence do not know the relative importance of those problems. Wruck & Jensen (1994) recommend that problems be initiated at lower levels, by those who have specific knowledge of operations, but that ratification and monitoring be by a higher level manager or group. Ittner & Larcker (1995, 1997) suggest that senior management select improvement projects, because they can see how they fit into company strategy and which suggestions will be a source of competitive advantage.

If total quality management is truly "total", the principles and problem solving methods should be applied at all levels of the organisation. However, Wruck & Jensen (1994, p. 281) note that "in practice ... it seems that the use of TQM's philosophy and scientific approach by top management teams and boards of directors is rare."

Management accounting changes in a TQM environment

Many writers have argued that traditional cost and performance measures are inappropriate or misleading in a TQM environment. For example, Jayson (1987, pp. 20-21) summarised the problem:

> current measurements such as monthly net income or ROI do not measure
> what impact decisions made on the factory floor have on the company's
> ability to achieve its goal.

Neumann & Jaouen (1986, p. 132) state that "traditional cost accounting data is obsolete in a repetitive manufacturing environment". Kaplan claims that frequently cost accounting gives "the wrong measures" ("Relevance regained ...", 1988, p. 40), which "will not be appropriate for an automated production environment where factors critical to success are quality, flexibility, and the efficient use of expensive information, workers and capital" (Kaplan, 1984, p. 101). Other authors claim that traditional management accounting systems may "inhibit" (McNair et al., 1988), "impede" (Turney & Anderson, 1989) and "stifle" (Seglund & Ibarreche, 1984) flexible and innovative changes in manufacturing.

McNair et al. (1990, p. 28) criticise financial reports for being "too aggregated, too late, and too one dimensional to be useful to operating managers". Dale (1991) also shows how traditional cost and management accounting information is too late and irrelevant for planning and day-to-day operation of

businesses. Coulthurst (1989c, p. 39) points out that computerisation has introduced a further danger of information overload, with "a tendency to produce the ever more detailed information on a monthly basis because the firm prepares monthly accounts".

Nanni et al. (1988), Drury (1990) Cobb (1991) and M. Smith (1994c) demonstrate dysfunctional behaviours that may be encouraged if traditional, periodic, financial performance measures are used in the new environment. These behaviours include: overproduction to produce a favourable variance; taking no improvement or corrective actions because a variance is within existing standards; measuring by organisational unit instead of by process; measuring some aspects in great detail while ignoring the strategically important things that are difficult to measure, such as quality, reliability, leadtimes, flexibility and customer satisfaction; and measuring only in financial terms.

If TQM is truly "total", that is, applied to all areas of the business, then not only production systems but also management accounting systems should be continuously improving (Calvasina et al., 1989; Turney & Anderson, 1989; Swenson & Cassidy, 1993; Hanks et al., 1994). The professional literature documents a number of firms that have adapted their accounting systems to new operating environments. Extra information is provided, paperwork and tracking is simplified and reduced, reporting is improved and simplified, and methods of allocating and classifying costs are changed. With all these changes, the role of the management accountant has altered as well.

Extra information

Operational, not financial

Along with the increased involvement of operators, there is a need to collect data that is relevant to operators' problem-solving and decision-making (Hogg, 1993). The focus has been on operational performance measures (Turney & Anderson, 1989; Daniel & Reitsperger, 1992; Wruck & Jensen, 1994; Jeffords et al., 1994; Hopper & Joseph, 1995) and statistical sampling (Patell, 1987, Sohal et al., 1992; Hogg, 1993). Reported examples of such measures include: vendor quality and delivery performance, setup costs and times, process times, production rates, parts mix processed, number of operators who

worked, cell time per part, first-test quality, defects and errors, scrap and rework, cost of quality (lost opportunities & conformance), customer satisfaction, warranty costs, customer returns, attitudes of customers and suppliers (Rao, 1989; Turk, 1990; Howell et al., 1992; Buehlmann & Stover, 1993; Carlson & Young, 1993; Caudron, 1993; Swenson & Cassidy, 1993; Ittner & Larcker, 1997).

Operational performance measures are typically chosen by operators, rather than the accountant or management (see for example, Turney, 1993; Hassan et al., 1993). Operators are also responsible for collecting, analysing and acting on the measures (Hassan et al., 1993; Tayles & Woods, 1995). This is contrary to what has been suggested by Kaplan & Norton (1992, 1993), who maintain that measures should be selected by managers to make sure they address the organisation's strategic objectives and competitive demands. However, the top-down imposition of measures proposed by Kaplan & Norton has been found to have behavioural implications. For example, Thorne et al. (1994, p. 11) found that, in an environment in which there were already many operational measures, there "appeared to be a lack of confidence in the measures" developed by the top management team "and an unwillingness to subject managers to the rigors of implementing and evaluating" them.

The particular non-financial performance measures need to be "tailored to the individual firm and its management" (Coulthurst, 1989c, p. 39). In some organisations changing to TQM, operators initially found it difficult to decide on relevant measures (Gerner & McIntire, 1993; Jeffords et al., 1994). As a starting point, and in order to place a limit on the number of measures, Coulthurst (1989c, p. 39) suggests determining factors critical to the success of the firm: "operational measures of performance must then be calculated which will assess achievement of the critical success factors".

Reasons for non-financial measures

Green et al. (1991, p. 53) claim that non-financial measures of performance are "indispensable" in modern manufacturing environments. There are a number of reasons why this may be so.

Non-financial performance measures are easier for many users to understand (McIlhattan, 1987; Turk, 1990), as physical units are the "language used on the

shop floor" (Phillips & Collins, 1990, p. 35). Because non-financial measures do not have to be translated into financial terms and communicated back to the users, they provide more timely information (Phillips & Collins, 1990), which is "quicker and easier to access" (Turk, 1990).

Non-financial measures supplement financial results in enabling monitoring of trends and developments ("Relevance regained ...", 1988), "measurement and control of process efficiency" (Clark & Baxter, 1992, p. 55), and focussing on needs of stakeholders and customers (Sharman, 1993). Non-financial measurements designed to support changes to TQM have been found to "stimulate behavior consistent with the company's strategic goals" (Howell et al., 1992, p. 63), and to result in enhanced performance (Chenhall, 1997).

Tayles & Woods (1995, p. 20) found that "non-financial measures exert a major influence on management decisions and receive greater short-term prominence than the financial results. Taking a longer-term view, performance measures also drive strategy, for example, indicating where additional spending is required to improve performance". Measuring key non-financial characteristics may also result in "increased profitability" (Nanni et al., 1992, p. 10).

Simplification and reduction of paperwork and tracking

In TQM environments, especially those in which JIT purchasing and production are operational, the amount of paperwork required has been significantly reduced and streamlined.

Reduced paperwork related to purchasing

When TQM is coupled with JIT purchasing, paperwork related to purchasing has been dramatically reduced (Patell, 1987). Turk (1990, p. 32) also found that relationships with suppliers changed, as firms worked in partnership with suppliers, helping them "learn and understand the JIT philosophy", applying it to "their own facilities".

Simplified accounting for work-in-process

Just-in-time production usually results in a change from batch to process costing (Seglund & Ibarreche, 1984; Neumann & Jaouen, 1986; Ferguson,

1988; Swenson & Cassidy, 1993) or standard costing (Calvasina et al., 1989). In some firms inventory tracking was greatly reduced (Phillips & Collins, 1990; Swenson & Cassidy, 1993) or eliminated (Turney & Anderson, 1989), with costs being "backflushed" sometimes only once (Turney & Anderson, 1989; Turk, 1990) — on completion of production (Neumann & Jaouen, 1986; Foster & Horngren, 1988) — or at regular intervals (Patell, 1987).

However, Calvasina et al. (1989) criticise the lack of inventory tracking in these simplified systems, claiming that the reduction in that activity merely produces an increase in another non-value-adding activity: physical counting of inventory (see Neumann & Jaouen, 1986).

Simplified labour recording

A number of firms found that direct labour had reduced to such a low level that it was no longer traced (Neumann & Jaouen, 1986; Dugdale & Shrimpton, 1990; Turk, 1990). In other cases direct labour recording was simplified (Patell, 1987). For example, Turk (1990) reports that Harley-Davidson record the number of people at work each day and the amount of overtime consumed each day, rather than direct labour hours. At the Portables Division of Tektronix Inc., "direct labour workers record their time only if they are *not* working on normal production tasks" (Turney & Anderson, 1989, p. 43).

Improved accuracy of necessary paperwork

In the same way that employees in the factory continuously look for ways to improve their processes, a number of organisations have applied continuous improvement to their accounting systems. For example, Xerox made significant improvements in the accuracy of billing, using a cartoon character in training personnel on how to correctly enter billing information (Buehlmann & Stover, 1993). Other improvements to accounting systems include improved clarity of order forms (Idstein, 1993) and automation of manual procedures (Woods, 1989a).

Improved and simplified reporting

Coulthurst (1989c, p. 39) has warned against the over-reporting which can result from computerisation, suggesting that "people should concentrate on

what they need to know to do their jobs as effectively and efficiently as possible". Applying TQM to reporting has resulted in some cases in the elimination of certain reports (M. Smith, 1994a, 1994b) and outdated records (Gerner & McIntire, 1993).

Reduced reliance on variance analysis for control

M. Smith (1994a; 1994b, p. 56) found from surveying report users that the most "irrelevant or inappropriate" report was "the despised monthly comparison of actual to budget, together with the analysis of subsequent unfavorable variances. Decision makers almost universally regard this report as an absolute waste of time".

A number of reasons why variance analysis should be abandoned in a TQM environment have been advanced. Firstly, reliance on standards works against the TQM principles of continuous improvement and flexibility. For example, Hanks et al. (1994, p. 28) criticises standards, saying that they "place unnecessary ceilings on expectations and actually form a barrier to constant improvement". Turney & Anderson (1989) report that budgets and standards are used for planning and inventory valuation, but neither they nor variances are used for continuous improvement. Abernethy & Lillis (1995, p. 252) found that there was a "negative relationship between flexibility and the role of efficiency-based performance measures".

Secondly, Deming, one of the early proponents of TQM, believed that most of the variation in performance measured by budgets, standard costs and variance analysis was attributable to natural random variation intrinsic to manufacturing systems. Hence attempts by workers "to adjust stable processes to reduce unfavorable variances ... may make the situation worse" (Castellano et al., 1995, p. 27). M. Smith (1994c, p. 111) warns that "a focus on unfavourable variances may mean that wrongly trended, but favourable, variances are ignored".

Thirdly, rewarding managers based on variances causes undesirable behaviours. Castellano et al. (1995, p. 27) claim that "managing by the numbers encourages employees to manipulate the process in order to achieve accounting targets ... arbitrary numerical goals that foster an atmosphere of fear, create competition, and build barriers between departments". Turk (1990,

p. 36) suggests that "group measurements would be better than individual measurements".

A number of alternatives to the traditional variance report have been suggested and developed. Reports have been tailored for the users, often operators on the production floor (Neumann & Jaouen, 1986; Patell, 1987). For example, Woods (1989a, p. 44) reports that a "simplified summary report for production cost centers" was developed, primarily by production department representatives. Daniel & Reitsperger (1992, p. 76) mention "specific quality cost information for internal failure on a monthly basis" and "daily quality feedback in nonmonetary terms to manufacturing management".

Instead of variances, trends are being reported and analysed. For example, Coulthurst (1989c, p. 39) proposed concentrating on "significant departures from expectation ... rather than reporting in detail everything that happens", or comparing "performance against previous period(s) performance, rather than standard or budget". Tracking and reporting trends demonstrates whether or not continuous improvement is taking place (Seglund & Ibarreche, 1984; Hanks et al., 1994).

Nanni et al. (1992, p. 5) found that variance analysis reports had been replaced by reports that supported and provided feedback on current management initiatives and "the success of strategies and tactics".

Frequency of reporting

Coulthurst (1989c, p. 39) suggests that the frequency of reporting "should be determined by utility rather than the routine accounting timetable". Nanni et al. (1992) found that management reports were both more highly aggregated and less frequent. Tayles & Woods (1995, p. 19), on the other hand, report that "there is a considerably greater number of reports prepared now because more events are being monitored". However, these are not traditional management accounting reports. Reporting in TQM environments is not bound to period-end accounting, but is often daily or even hourly (Turk, 1990; Maskell, 1986)

Visual display

Because non-financial measures are used frequently and by many employees, they are often displayed visually where all employees can see them

(Schonberger, 1989; Tayles & Woods, 1995), often on the shop floor (Maskell, 1986; McIlhattan, 1987). Different modes of display are used, such as graphs (Lea & Parker, 1989).

Costing changes

Most documented changes to accounting systems in a TQM environment include changes to costing systems, such as changed bases for allocation of overhead and different ways of classifying costs.

Changed bases for allocation of overhead

In some cases, attempts have been made to trace costs directly to activities and thus to products instead of allocating overheads (Dugdale & Shrimpton, 1990; Carlson & Young, 1993). When allocations have been made, the basis of allocation has moved away from direct labour to other, often multiple, bases (see, for example, Patell, 1987; Rao, 1989). Often these new bases of allocation are related to activities, rather than the traditional labour hours or cost or material usage bases (Neumann & Jaouen, 1986; Turney & Anderson, 1989; Woods, 1989a; Dugdale & Shrimpton, 1990; Turk, 1990). However, Rao (1989) found that the desire to use multiple overhead bases necessitated changes to accounting software.

Sometimes overhead allocation bases were chosen not necessarily because they reflected incurrence of costs but to influence engineering decisions (Turney & Anderson, 1989). Nanni et al. (1992, p. 6) report that activity based costing initiatives in themselves are "among the least effective programs in which [the manufacturing firms studied] are engaged". It is the cost driver analysis which provides "the vast majority of the benefits".

Different classification of costs

Traditionally, costs are classified as either fixed or variable, and either manufacturing (direct materials, direct labour and overhead) or non-manufacturing (selling, administrative, finance). In a TQM environment, new classifications of costs have been developed.

Quality costs

The concept of measuring costs of quality, broken down into categories for appraisal, prevention, and internal and external failure, was being promoted as early as 1956 (see Feigenbaum, 1956). It appears that some firms are measuring these costs (see, for example, Seglund & Ibarreche, 1984; Buehlmann & Stover, 1993; Carlson & Young, 1993; Tayles & Woods, 1995). Stanleigh (1993) demonstrates, with examples from his consulting practice, how measurement of cost of quality enables root causes of poor quality to be determined and fixed.

However, it appears that not many firms using TQM measure cost of quality as promoted in the textbooks. Ross (1994), in a survey of 61 Australian manufacturing firms with quality systems accreditation, found that only 19% of the companies surveyed measure cost of quality using the four categories of prevention, appraisal, internal failure and external failure. Fowler (1994, pp. 124-126), in a survey of 41 NZ companies that had implemented TQM, found that, although 73% "record the costs of quality" at some time, only 10% (3 companies) always record quality costs. No information was provided on whether these quality costs were broken down into the four categories.

Hall (1989) suggests that monitoring and improving non-financial measures may be sufficient without having to put a dollar figure on the cost of quality. In fact, Nanni et al. (1992, p. 10) found that "systematic improvement was not observed" after adoption of cost of quality measures, whereas non-financial measures "resulted in increased profitability". Recording and tracking certain quality costs may not be necessary because defects have declined so much that the quality costs have become insignificant (Turney & Anderson, 1989). Organisations aiming for zero defects would argue that "increased attention to the prevention of defects will, in the long run always lead to a decrease in total costs. Therefore, periodically quantifying cost figures for quality would be an unnecessary and possibly even misleading exercise" (Daniel & Reitsperger, 1991, p. 604).

Value-added and non-value-added costs

Another classification of costs that has been promoted for use in an environment in which continuous improvement is paramount is the distinction

between value-added and non-value-added costs. All activities and their costs are analysed, and activities that do not add value to the product are eliminated (Howell et al., 1992; Carlson & Young, 1993). Thus resources are released for use elsewhere in the business. Howell et al. (1992) suggest that the accounting department could particularly benefit from this type of analysis!

Changed role for management accountants

Should the accountant be involved?

There are differing opinions about the role of the accountant in environments that have changed to TQM. In some companies, non-financial indicators are part of the management accounting system, and financial executives are proactive both in suggesting indicators and in proposing more effective ways of monitoring performance and reducing overall cost (McIlhattan, 1987). Some claim that management accountant participation in organisational change is vital, because of accountants' "ability to interpret and integrate both financial and non-financial information" (Sharman, 1993, p. 29) and "to provide the goal-setting and feedback information that will allow operating personnel to focus on the improvements that are needed to compete in the global marketplace" (Daniel & Reitsperger, 1992, p. 76). Two financial controllers with experience in the implementation of TQM, interviewed by Hankes (1993, p. 28), suggest that both accounts and quality control people "are likely to have analytical and statistical skills that will be useful" in performance measurement.

Swenson & Cassidy (1993, p. 47) warn that "management accountants must take an active role in the implementation of innovative manufacturing systems; otherwise, the accounting function will be an impediment to innovation". Green et al. (1991, p.53) also caution that unless accounting practitioners "assume a more proactive role ... there is a continuing likelihood that the accounting database will be ignored or bypassed".

On the other hand, Nanni et al. (1992) report that the most successful non-financial performance measurement systems have been developed independently from management accounting systems. M. Smith (1994b, p. 51) found that accountants gave the impression of being "people who were too busy collecting and disseminating information to spend the time needed to analyze and interpret its key features in a way meaningful to the user". Clark &

Baxter (1992, p. 54) criticise "financial directors and controllers [for being] prone to spending excessive time on short-term 'financial engineering' and regulatory accounting", and Vollmann (1989) notes from his experience that accountants can block changes.

New role

It appears that if accountants are to be part of the organisational change they need to change their role in the organisation. Clark & Baxter (1992, pp. 33-34) suggest that the accountant change from being "scorekeeper to coach", helping operating managers quantify and audit nonfinancial information, and translate the nonfinancial data into the language of money for senior management". Turney & Anderson (1989, p. 41) report that "accounting went from being a watchdog to being a change facilitator". Part of the "coaching" may be educating management colleagues on "which information is suitable for control and which for decision making (Ferguson, 1988, p. 50).

Accountants are now being required to work more as part of a team, for example, with "production, engineering, and marketing" (Turney & Anderson, 1989, p. 41; see also Tayles & Woods, 1995; Fowler, 1994; Daniel & Reitsperger, 1992). Their role is often to provide financial figures for use by the team in decision-making. For example, Tayles & Woods (1995, p. 15) report that accountants are performing cost benefit analysis of improvements (after changes have happened), indicating "potential financial consequences" of customer complaints, and evaluating the financial impact of TQM.

Accountants are being called on for their analytical (Shea & Kleinsorge, 1994) and reporting skills (Sillince & Sykes, 1995). Tayles & Woods (1995) found in their research that the accountant is being asked to process requests for "explanation[s] of cost and efficiency figures and for information to help with generating statistics being produced in the other departments" (p. 15). The accounting function is a central "collection point for the aggregation of [performance measure] information and its interpretation" (p. 19).

Should accounting change?

Emore & Ness (1991) suggest that one reason for a reluctance to changing accounting practices may be the need to extract financial and tax accounting

information. However, especially with the speed and storage increases of modern computers, companies are finding it possible to keep two sets of accounts — one for external reporting and another for internal decision making and control (Kaplan, 1988; Dugdale & Shrimpton, 1990).

Ferguson (1988) cautions against making too many changes in the accounting system at the start. He suggests that initially the firm just change from job to process costing, and then experiment with different methods and make changes gradually.

On the other hand, Lammert & Ehrsam (1987, p. 37) suggest that:

> cost accountants, cost analysts, and financial or cost managers ... may be the least receptive to change! Many of them have built their careers on traditional cost accounting systems. In many cases, they have been so involved in the details of the traditional system that they have not recognized the 'big picture' changes that have occurred in cost structure and behavior because of advances in manufacturing technology.

They recommend intense re-education for cost and financial personnel, including "[assigning] cost managers to periodically work in manufacturing departments".

Even when accountants want to change, Shea & Kleinsorge (1994, p. 67) suggest that they may be slower to react to changes in production operation for a number of reasons: because of their existing heavy workload, because the existing "accounting systems and management practices have been in place for an extended period of time", and because they are not familiar with the requirements of their new role as analyst rather than "number cruncher".

Even when accounting personnel seem to be eager to make changes, Patell (1987, p. 809) found that "changes in the cost accounting systems lagged changes on the shop floor", by up to six years (Turk, 1990; Ross, 1994).

As the previous pages have shown, there is a considerable literature on TQM and its expected effect on accounting and accountants, as viewed from the integration perspective. However, Wilkinson & Witcher (1993, p. 53) note "the absence of discussion about organizational political issues" in the existing TQM literature. They claim that "most of the TQM literature has been written by ...

general practitioners, mainly consultants [or] specialists from quality and operational backgrounds." These authors have given "optimistic", "prescriptive", "anecdotal" and "partial" accounts with "little questioning of underlying assumptions" (Wilkinson & Witcher, 1993, p. 54). However, a number of authors have taken the opposing, differentiation perspective when examining the effects of TQM on personnel and accounting. These are reviewed in the next section.

Differentiation perspective

Martin & Meyerson's (1988) differentiation paradigm enables the researcher to uncover lack of integration, and failure of assumptions promoted in the unquestioning literature. A number of authors have attempted to provide a counterbalance to the integrative reports of TQM implementation, that is, to use the differentiation perspective. Some of these authors criticise the integration perspective's managerial focus, and its focus on TQM processes rather than on employees. Other authors take Marxist or Foucauldian perspectives, pointing to exploitation and excessive surveillance of employees. This literature is covered in the following sections.

All the accounting-related studies reviewed above (in the Integration Perspective section) are from a managerial perspective, without considering that there may be other subunits in the organisations with different viewpoints and agendas. They all assume that TQM is desirable and unproblematic and that management accounting changes observed should be found in other TQM environments. Recently a few accounting authors have taken a critical stance toward the role of accounting in TQM and related modern manufacturing environments. This literature is presented at the end of this section on the differentiation paradigm.

Criticisms of TQM

Lacks an employee focus

Ezzamel (1994, p. 274) labels TQM a "managerialist initiative" without any concern for the effects on the quality of life of the employees. He points out that TQM applications are usually initiated and promoted by top management. Wilkinson & Willmott (1995, p. 13) claim that the managers themselves are

being pressured by shareholders "to organize the work of employees in ways that are more profitable".

Wilkinson & Willmott (1995, p 10) also claim that "prevailing structures of ownership and control ... remain largely unaddressed by quality initiatives because these structures are taken as given and are assumed to be legitimate". They give several examples of apparent employee empowerment, without real changes to the existing organisational hierarchy:

> Are employees empowered to remove management, or even to reduce the effort made in exchange for a cut in wages? Or are they empowered only to take responsibility for activities that were previously undertaken by other employees (e.g. supervisors, quality controllers), without a commensurate improvement in their own wages and conditions? Does quality management facilitate the development of participation on key issues of resource allocation and accountability? Or does it use participation primarily as a stratagem for reducing managerial overheads and for promoting self-discipline, including the continuous identification and consenting introduction of efficiency gains at the point of production? (Wilkinson & Willmott, 1995, p. 17)

Ezzamel (1994, p. 272) adds that, although employees are used to implement and run a TQM programme, they are then measured, monitored and controlled using top-down techniques.

Ezzamel (1994, p. 273) also shows how TQM's emphasis on customers is "underpinned by a belief in the supremacy of the market principle", which results in a neglect of the "political dimension of the organization, and ... [a] failure to take adequate account of the costs, economic and otherwise, of market-based controls". According to Ezzamel (1994), the result of this over-emphasis on the external customer is a neglect of the needs of the internal customers, that is, the employees.

Wilkinson et al. (1992) discuss employees in the context of the concept of "hard" and "soft" aspects of TQM. "Hard" aspects are "production techniques, including statistical process control, changes in the layout, design processes and procedures of the organization, just-in-time inventory control and, most importantly, the seven basic TQM tools used to interpret data" (Wilkinson et al., 1992, p. 117). The "soft" aspects include "customer awareness ... customer-

care programmes" (Wilkinson et al., 1992, p. 117) as well as "employee involvement and commitment" (Wilkinson, 1992, p. 326).

According to Wilkinson & Willmott (1995), the hard side of TQM has been emphasised to the detriment of the soft side. "Much attention and effort has been directed at the measurement and documentation of procedures and outcomes through the use of flow charts, scatter diagrams, control charts, etc. Comparatively less consideration is given to the 'softer' process of winning employee support for, and commitment to, the TQM philosophy of continuous improvement" (Wilkinson & Willmott, 1995, p. 8)

Also, the hard and soft aspects of TQM are "inherently contradictory" (Ezzamel, 1994, p. 272), because the hard aspects are abstract, emphasising procedures and ignoring the effect on the quality of life for the people who have to apply them. Thus the hard and soft sides may be a source of tension (Wilkinson, 1992). The conflicts of interest between the hard and soft sides, between the managerial focus and the employees' needs, may result in employee resistance (Wilkinson & Willmott, 1995; Wilkinson, 1992).

Exploits employees

Some authors, taking a Marxist perspective, claim that management do not merely ignore or underestimate employees, but that they use TQM to exploit them (see, for example, Morris & Wilkinson, 1995, Dawson & Webb, 1989, and other references below).

Wilkinson (1992, p. 326) points out that so-called employee empowerment may be seen "as increasing pressure on employees by getting them to take on more responsibility". Dawson & Webb (1989, p. 236) go further, claiming that new production arrangements such as TQM, in their drive for continuous improvement, "serve capital in the search for more efficient exploitation of labour ... the requirement to participate in incremental improvements in process and product engineering is consistent with attempts to incorporate the workforce in the projects of capital without extending to any substantive control over business strategy or the dispersal of profits". The usage of physical measures of performance bring the same pressures to succeed and the same framework of reward or punishment that former reliance on financial measures did (Ezzamel, 1994, p. 271).

Ezzamel (1994, p. 271) claims that group dynamics are exploited too. Team structures bring pressure from peers to always work at peak capacity and never be absent (Sewell & Wilkinson, 1992) and team work results in more responsibility for team members and leaders without any more rights (Morris & Wilkinson, 1995) or benefits (Wilkinson & Willmott, 1995).

Steingard & Fitzgibbons (1993, p. 31) go to the extreme of claiming that the rhetoric and practice of TQM "conceals a capitalist schema of alienation, dehumanization, and totalitarianism". Other authors provide examples of this dehumanisation. For example, Klein (1989) warns against rigid application of JIT and statistical process control (SPC). She claims that JIT and SPC can cause workers to lose individual and team autonomy, and to lose autonomy over methods. Boje & Winsor (1993, pp. 63-64) allege that multi-skilling, rather than leading to employee empowerment, "in fact only allows greater worker interchangeability on the assembly line".

Means of surveillance

The concept of Bentham's Panopticon as developed by Foucault has also been applied to TQM environments (Sewell & Wilkinson, 1992; Wilkinson & Willmott, 1995; Linstead and Grafton-Small, 1992). The Panopticon was a design for a prison which allowed optimal surveillance of all prisoners at all times from a central tower. The prisoners, however, would not be able to ascertain when they were under surveillance. "The feeling of being observed ... would be effective in the exercise of discipline whether there was anyone in the central tower or not" (Linstead and Grafton-Small, 1992, p. 349).

The concept of the Panopticon has been applied to settings other than prisons. For example, in a factory, "direct surveillance can be undertaken for supervisory purposes to reinforce the asymmetry of power between ... the employer and employee" (Sewell & Wilkinson, 1992, p. 274). The plant layout in a typical JIT/TQC factory "offers a high degree of *visibility*" (Sewell & Wilkinson, 1992, p. 279). The operational performance measures and visual display of TQM enhance the ability of management to increase surveillance and maintain control over the work force (Sewell & Wilkinson, 1991, 1992; Wilkinson & Willmott, 1995; Ezzamel, 1994).

Discipline is not only exerted from management – peer pressure from other team members is also used to discipline individuals (Sewell & Wilkinson, 1992, p. 281). This may take the form of "over displays of individual worker performance and errors" (Boje & Winsor, 1993, p. 63) or refusing to replace absent team members (Sewell & Wilkinson, 1992). "It has been found that the demands for consensus and conformity among one's peers provide a more compelling method of worker control than coercion from managerial levels" (Boje & Winsor, 1993, p. 63).

Computerised records are also a means of surveillance and control. Sewell & Wilkinson (1992) observed in their research that there were computer systems recording production figures, updated hourly, so that production rates could be calculated and used as objectives, and the individual who caused an error could be pinpointed and punished. Sometimes these figures are publicly displayed. "Employees know that such information is generated by, available to, and the property of, the central power" (Sewell & Wilkinson, 1992, p. 280-281).

Boje & Winsor (1993, p. 62) claim that TQM controls people through indoctrination, resulting in self-surveillance and self-control: "employees are seduced into Taylorizing their own jobs, with the end result being savings for the company at the expense of workers". TQM programmes require employees to make suggestions about how their jobs could be improved. However, these suggestions often "result in greater workloads for the suggesters.... workers have been found to be far more willing to accommodate substantial increases in workloads and responsibilities if these are the consequence of their own suggestions" (Boje & Winsor, 1993, p. 65).

However Alvesson & Willmott (1992, p. 9) criticise the use of Foucault: "In the case of Foucault's work, a comparatively limited field of vision and the absence of a clear 'positive' message ... limit its appeal as an inspiration for developing critical management studies".

Critical theorists aim to "unmask domination to provide the basis for social change" (Lawrence & Phillips, 1998, p. 157). Lawrence & Phillips (1998) suggest that a critical analysis of TQM could use a framework such as Habermas' concept of ideal speech situations. This could enable organisations to be restructured "so that interests and values other than those associated

with management (such as pleasure, autonomy, creativity, and morality) are able to be accounted for in corporate decision making" (Lawrence & Phillips, 1998, p. 158).

Guru led

Another school of thought classes TQM as "guru"-led. Clark & Salaman (1998, p. 138) claim that "over the last 30 years senior managers have been assailed by ... a steady stream of apparently highly attractive suggestions for re-modelling their businesses; ideas which in succession have risen and fallen in popularity and use." Guru theory provides a number of reasons why gurus have such a powerful impact on managers. Clark & Salaman (1998, p. 146), examining the existing literature on management gurus, sum up the conventional explanations of the influence of gurus:

> Gurus are defined as the dominant, initiating partners, exploiting the naiveté, vulnerability of their client managers, selling them glib promises, fads, empty slogans; confusing them through their rhetoric, dazzling them with their performances. Managers, on the other hand, are conceived largely as passive, docile consumers of gurus' ideas and recommendations, inherently vulnerable to gurus' blandishments, anxiously searching for reassurance and support, looking desperately for new ideas.

In contrast to this view, Clark & Salaman (1998, p. 155) suggest an alternative argument: that gurus not only espouse a new way of managing, but they also define the managers. By using stories of other successful companies with charismatic leaders who "save" their companies, gurus define managers "in a central, critical heroic, almost mystical role ... responsibility for successful outcomes and transformation lies with senior management: success depends on the charisma, vision, energy, courage of senior management".

Tuckman (1994) compares the change to TQM to a religious conversion: the guru is the evangelist, and TQM trainers are the priesthood. Firstly, management are convinced of the need for cultural change, that, is they are converted. Then the workers are proselytised. "Symbols and icons of this conversion begin to appear, with plaques confirming the quality training, pens, lapel badges, certificates and drink coasters – all bearing a quality message logo" (Tuckman, 1994, p. 743). The "customer becomes deified" and the

"values of the market" are set up as the ideal (Tuckman, 1994, p. 744). However, according to Tuckman (1994, p. 732), the way in which TQM is introduced and operated is still hierarchical and bureaucratic, enhancing "managerial prerogative" and allowing "management determination".

Accounting changes from a differentiation perspective

The majority of the literature on accounting change in a TQM environment is from the integration perspective, as presented earlier. However, very recently some more critical papers have begun to appear. Although these are not specifically addressing accounting's relationship to TQM, they address related topics, such as team work (an element of TQM) and World Class Manufacturing (often including TQM).

Ezzamel & Willmott (1998) explain successes and failures of teamwork implementations using the concept of self-identity. Ezzamel & Willmott argue that some workers may accept exploitative methods and measures if they see them as enhancing or continuing their personal self-narrative, for example, as being "empowered". "For many employees, taking increased responsibility for control may be more shunned or feared ... than it is desired while, for others, additional responsibility may be welcomed as a means of enhancing self-identity" (Ezzamel & Willmott, 1998, p. 364-5). Accounting calculations, such as bonus payment calculations "partially dependent on team performance", have a role in "conditioning, confirming, and contradicting employees' sense of self-identity" (Ezzamel & Willmott, 1998, p. 391).

However, Ezzamel et al. (1998) found that new accounting techniques such as throughput accounting and activity based costing were perceived to be a means of management surveillance, subordination and discipline of the workers on the shopfloor. Workers' resistance to them was able to render them inoperable. "Workers either refused to acknowledge or accept the validity of the data, claimed that is was beyond their understanding, or dismissed it as 'just more management bullshit' that was designed for the purpose of 'work intensification'" (p. 31). The workers inflated downtime and manufacturing time figures to "account for lost production or poor performance figures" (p. 33).

In a case study of a UK firm implementing World Class Manufacturing (WCM) (including TQM), Jazayeri & Hopper (1999, p. 263) found that

management accounting superficially appeared unaffected by WCM. The budgetary control system run by the accounting department remained intact. Product costing systems were not changed to incorporate Activity-Based drivers, as predicted in the literature. However, there was a marked decline in the influence of the accounting department, partly due to the cost module within MRP-II.[2] The accountant became dependent on production for cost data. Whilst his responsibilities continued to include the preparation of financial accounts and periodic budgets, cost management in terms of cost reduction, target setting, diagnosis and problem-solving came to lie with production.

A similar lack of accounting involvement was found at one of the sites in this research. Conflict and lack of consensus provide one explanation of this lack of change. This topic is covered in more detail in the differentiation perspective chapter.

Ambiguity perspective

De Cock (1998) warns against taking extreme views, either the extreme views of those promoting TQM or those of critical theorists who claim that TQM "conceals a capitalist schema of alienation, dehumanization, and totalitarianism" (Steingard & Fitzgibbons, 1993, p. 32). The ambiguity paradigm allows a middle position between these two extremes, in which the researcher acknowledges contradictions and lack of consensus without necessarily expecting resolution or corrective action. This approach recognises "the irresolvability of organizational tensions and contradictions" (Lawrence & Phillips, 1998, p. 157).

Martin & Meyerson (1988, p. 112) identify three types of ambiguity:

> uncertainty, contradiction and confusion. Uncertainty refers to a lack of predictability in, for example, the organization's environment or technology. Contradiction refers to cultural manifestations and interpretations that are capable of double meanings, as in, for example, a paradox or an

---

[2] Materials Requirement Planning (MRP) and its later version Manufacturing Resource Planning (MRP-II) are computerised production scheduling systems. MRP-II includes a standard costing module.

irreconcilable conflict.   Confusion is caused by ignorance or lack of information, rather than awareness of contradiction.

Meyerson & Martin (1987, p. 638) use a web as a metaphor for the ambiguity paradigm:

> Individuals are nodes in the web, temporarily connected by shared concerns to some but not all the surrounding nodes. When a particular issue becomes salient, one pattern of connections becomes relevant. That pattern would include a unique array of agreements, disagreements, pockets of ignorance, and hypocrisy. A different issue would draw attention to a different pattern of connections.

Patterns that do develop may or may nor be intentional, and are a result of "interminable ambiguity" and tension rather than managerial control (Golding, 1991, p. 582).

Martin & Meyerson (1988, p. 118) claim that "culture research has seldom used an ambiguity-acknowledging perspective". There also does not appear to be any research using the ambiguity paradigm as a way of looking at the relationship between TQM and subsequent accounting change (or lack of change).

Ambiguity and TQM

Wilkinson et al. (1997) acknowledge that "there is a basic ambiguity in Total Quality Management (TQM) in that, while managers seek the commitment and co-operation of their employees, increased control over the work process is a cornerstone of TQM" (p. 799). However, in their analysis of TQM applications, they do not develop the concept of ambiguity as having a role and being an explanation for divergence between integration and differentiation perspectives.

Dean & Bowen (1994, p. 394) describe total quality as "a hazy, ambiguous concept", with early "gurus" promoting differing aspects. In an attempt to resolve the ambiguity in even defining total quality, Dean & Bowen (1994) present what they consider to be the most important features: the principles of customer focus, continuous improvement, and teamwork, along with the activities and techniques that support these principles. They then explore the

ways in which these principles of total quality relate to existing management theories, without addressing the subject of ambiguity any further.

De Cock (1998, p. 150) shows the ambiguity present in TQM environments which is not obvious when one takes a position of either "wholesale rejection of TQM" or "wholesale adoption ... For example, despite extending processes of management control, TQM- ... -inspired initiatives, in many cases, also expand employee discretion and eliminate sources of frustration ... Without TQM ... initiatives, fewer companies would perhaps pay attention to teamwork or challenge certain practices ... The TQM ... constructs carry their own contradictions and paradoxical effects". De Cock (1998) recommends that researchers take a middle path in trying to make sense of observations, neither dismissing the claims of TQM nor seeing only its benefits. This is what the ambiguity paradigm does: recognises the co-existing conflicting claims of TQM gurus and their critics.

Ambiguity and accounting

There are some accounting studies that include references to ambiguity. Mostly of these are not in reference to TQM or similar environments. For example, Munro (1995) has presented a case of ambiguity being used as a way of managing in the absence of management accounting systems. Berry et al. (1985) illustrate how ambiguity in accounting information helped an area of a coal board cope with ambiguities both internally (in production) and also with external bodies (trade unions and government).

In a theoretical paper, Cooper et al. (1981) examine present roles of accounting in organisations and then speculate about alternative roles for accounting in ambiguous settings. They argue that "accounting systems represent an *ex post* rationalization of actions, rather than an *ex ante* statement of organizational goals" (p. 188). Accounting information also helps "create an organizational history ... Future actions may then be justified by the same explanations which had helped to make sense of previous action" (p. 181). They claim that "Accounting systems encourage imitation and coercion by defining the problematic (by choosing which variables are measured and reported) and they help to fashion solutions (by choosing which variables are treated as controllable)" (p. 182). It therefore follows that changing what is measured and controlled may help foster innovation and change. In

ambiguous environments, Cooper et al. (1981) suggest "reducing the emphasis on performance evaluation in accounting systems ... encourag[ing] the processing of large volumes of data (as potential information) ... utiliz[ing] and encourag[ing] informal systems" (p. 186) and "encouraging reconsideration of budgetary methods, types of reports and uses of such reports" (p. 187).

Saravanamuthu (1998, p. 6), who researched an organisation using TQM and JIT, found that "contradictions and ambiguity inherent in accounting systems and information are themselves the cause of much conflict and contradiction in the workplace, which could contribute to overt, if not internalised, conflict over social construction of organisational reality". For example, supervisors on the shop-floor had different perceptions of how well the business was doing compared with "senior management's vision of reality which was portrayed by accounting information" (Saravanamuthu, 1998, p. 21).

Saravanamuthu (1988, p. 33) claims that "the ambiguous nature of accounting makes it possible to use accounting information politically to meet demands of different interest groups". She gives examples of accounting figures being used to show workers that if they were more productive they would ensure their job security. However, there was ambiguity and contradiction in the "myth of equating productivity with viability of operations (hence job security for the workforce). ... the temporal contradiction inherent in this myth ensured the continuance of long-term intensification of work in pursuit of the elusive short-term viability" (Saravanamuthu, 1998, p. 33).

Although Saravanamuthu (1998) mentions ambiguity at the beginning of her paper, she does not explicitly develop this idea in her subsequent analysis. Thus her work could not be said to be from the ambiguity perspective.

Because of the lack of use of this paradigm, "relatively little is known about the symbolic interpretation of artifacts in cultures portrayed from an ambiguity-acknowledging perspective" (Martin & Meyerson, 1988, p. 118). This thesis seeks to redress this imbalance by presenting examples of ambiguity from two of the research sites, one of which had changed to TQM and the other which was attempting the change.[3]

---

[3]   Reasons for choosing only two sites in the analysis of ambiguity are presented in the next chapter.

CONCLUSION

As can be seen from the reference list at the end of this chapter, most of the existing literature dealing with the impact of TQM on management accounting systems is published in professional journals, such as *Management Accounting* (both the UK and the US journals) and the *Journal of Cost Management*. Many of the articles are written by accountants or consultants closely associated with the management changes in the business.

In contrast, the research for this thesis has been carried out by a researcher quite independent of the firms where the research took place. Although this may cause problems with the researcher interpreting observed events incorrectly, there is also an advantage in using independent observers: they can sometimes see interactions that the participants cannot perceive because the interactions are taken for granted or the participants are too closely involved in them.

There are a few academic studies examining quality strategies and issues related to TQM in a number of diverse countries (Japan, United States, Australia, Canada, Germany, and New Zealand). However, these studies, using survey methods, have a number of weaknesses, such as using data gathered by consultants (Ittner & Larcker, 1995, 1997), questionable differentiation between firms pursuing quality strategies and those with other strategies (Daniel & Reitsperger, 1991, 1992), small sample size (Chenhall, 1997) and low response rates (Daniel & Reitsperger, 1992). A case study such as the research for this thesis avoids the problems inherent in survey research.

Most of the published case study research on the impact of TQM on management accounting systems deals with U.S. firms or subsidiaries, such as OHMEDA (Seglund & Ibarreche, 1984), Hewlett Packard (Neumann & Jaouen, 1986; Patell, 1987; Dugdale & Shrimpton, 1990), Harley-Davidson (Turk, 1990), Xerox (Buehlmann & Stover, 1993), American Express (Carlson & Young, 1993), Cummins Engine Co. (Gerner & McIntire, 1993), Kane Graphical Corp. (Idstein, 1993), and Sterling Chemicals (Wruck & Jensen, 1994). There are a few cases from other countries, such as Australia (M. Smith, 1994a, b), Denmark (Dahlgaard et al., 1992) and the U.K. (Tayles & Woods, 1995). This research adds to the non-U.S. cases on the implementation of TQM and its impact on management accounting.

As very little research examines accounting in TQM environments (or lack of accounting change) from a differentiation perspective, this research makes a contribution in this area.

The most significant contribution of this research is its usage of the ambiguity perspective on successful and unsuccessful TQM implementations and related accounting changes or lack of change. Although there are references to ambiguity in TQM and in accounting systems, there does not appear to be any research using this perspective to analyse change in a TQM setting.

REFERENCES

Abernethy, M. A., & Lillis, A. M. (1995). The impact of manufacturing flexibility on management control system design. *Accounting, Organizations and Society, 20*, 241-258.

Allaire, Y., & Firsirotu, M. E. (1984). Theories of organizational culture. *Organization Studies, 5*(3), 193-226.

Alvesson, M., & Willmott, H. (1992). Critical theory and management studies: An introduction. In M. Alvesson, & H. Willmott (Eds.), *Critical Management Studies* (pp. 1-20). London: Sage.

Bartunek, J. M., & Moch, M. K. (1987). First-order, second-order, and third-order change and organization development interventions: A cognitive approach. *Journal of Applied Behavioral Science, 23*(4), 483-500.

Bellis-Jones, R., & Hand, M. (1989). Are total quality management programmes a fact or a management fad?. *Management Accounting (CIMA), 67*(5), 36-37.

Berry, A. J., Capps, T., Cooper, D., Ferguson, P., Hopper, T., & Lowe, E. A. (1985). Management control in a area of the NCB: Rationales of accounting practices in a public enterprise. *Accounting, Organizations and Society, 10*(1), 3-28.

Boje, D. M., & Winsor, R. D. (1993). The resurrection of Taylorism: Total Quality Management's hidden agenda. *Journal of Organizational Change Management, 6*(4), 57-70.

Bossink, B. A. G., Gieskes, J. F. B., & Pas, T. N. M. (1992). Diagnosing total quality management — part 1. *Total Quality Management, 3*(3), 223-231.

Buehlmann, D. M., & Stover, D. (1993). How Xerox solves quality problems. *Management Accounting (NAA), 75*(3), 33-36.

Calvasina, R. V., Calvasina, E. J., & Calvasina, G. E. (1989). Beware the new accounting myths. *Management Accounting (NAA), 71*(6), 41-45.

Carlson, D. A., & Young, S. M.   (1993).   Activity-based Total Quality Management at American Express. *Journal of Cost Management*, 7(1), 48-58.

Carr, S., Mak, Y., T., and Needham, J. (1997). Differences in strategy, quality management practices and performance reporting systems between ISO accredited and non-ISO accredited companies. *Management Accounting Research, 8*, 383-403.

Castellano, J. F., Roehm, H. A., & Hughes, D. T.   (1995).   The Deming philosophy: A new paradigm for management accounting systems. *CMA Magazine*, February, 25-28.

Caudron, S. (1993). Keys to starting a TQM program. *Personnel Journal*, 72(2), 28-35.

Chenhall, R. H. (1997). Reliance on manufacturing performance measures, total quality management, and organizational performance. *Management Accounting Research, 8*, 187-206.

Clark, A., & Baxter, A.   (1992).   ABC + ABM = Action: Let's get down to business. *Management Accounting (CIMA)*, June, 54-55.

Clark, T., & Salaman, G. (1998). Telling tales: Management gurus' narratives and the construction of managerial identity. *Journal of Management Studies, 35*(2), 137-161.

Cobb, I.   (1991).   Understanding and working with JIT. *Management Accounting (CIMA), 69*(2), 44-46.

Cooper, D. J., Hayes, D., & Wolf, F.   (1981).   Accounting in organized anarchies: understanding and designing accounting systems in ambiguous situations. *Accounting, Organizations and Society, 6*, 175-191.

Coulthurst, N.   (1989c).   Organising and accounting for the new factory. *Management Accounting (CIMA), 67*(5), 38-41.

Dahlgaard, J. J., Kristensen, K., & Kanji, G. K. (1992). Quality costs and total quality management. *Total Quality Management, 3*(3), 211-221.

Dale, D. (1991). Time for change. *Australian Accountant*, February, 31-35.

Daniel, S. J., and Reitsperger, W. D. (1991). Linking quality strategy with management control systems: Empirical evidence from Japanese industry. *Accounting, Organizations and Society, 16*, 601-618.

Daniel, S. J., and Reitsperger, W. D. (1992). Management control systems for quality: An empirical comparison of the U. S. and Japanese electronics industries. *Journal of Management Accounting Research, 4*, 64-78.

Dawson, P., & Palmer, G. (1995). *Quality management: The theory and practice of implementing change.* Melbourne: Longman.

Dawson, P., & Webb, J. (1989). New production arrangements: The totally flexible cage? *Work, Employment and Society, 3*(2), 221-238.

De Cock, C. (1998). 'It seems to fill my head with ideas': A few thoughts on postmodernism, TQM and BPR. *Journal of Management Inquiry, 7*(2), 144-153.

Dean, J., & Bowen, D. (1994). Management theory and total quality: Improving research and practice through theory development. *Academy of Management Review, 19*, 392-418

Dermer, J. (1988). Control and organizational order. *Accounting, Organizations and Society, 13*, 25-36.

Dermer, J. (1990). The strategic agenda: Accounting for issues and support. *Accounting, Organizations and Society, 15*, 67-76.

Dermer, J. D., & Lucas, R. G. (1986). The illusion of managerial control. *Accounting, Organizations and Society, 11*, 471-482.

Drury, C. (1990). Cost control and performance measurement in an AMT environment. *Management Accounting* (CIMA), November, 40-46.

Dugdale, D., & Shrimpton, S. (1990). Product costing in a JIT environment. *Management Accounting (CIMA), 68*(3), 40-42.

Emore, J. R., & Ness, J. A. (1991). The slow pace of meaningful change in cost systems. *Journal of Cost Management,* Winter, 36-45.

Ezzamel, M. (1994). From problem solving to problematization: Relevance revisited. *Critical Perspectives on Accounting, 5,* 269-280.

Ezzamel, M., & Willmott, H. (1998). Accounting for teamwork: A critical study of group-based systems of organizational control. *Administrative Science Quarterly, 43,* 358-396.

Ezzamel, M., Willmott, H., & Worthington, F. (1998). Accounting, power and resistance in the "plant with a problem". Proceedings of *Second Asian Pacific Interdisciplinary Research in Accounting Conference*, Osaka, Japan, 4-6 August, 1998, CD-ROM.

Feigenbaum, A. V. (1956). Total quality control. *Harvard Business Review, 34*(6), 93-101.

Feigenbaum, A. V. (1991). *Total quality control* (3rd Ed., rev.). New York: McGraw-Hill.

Ferguson, P. (1988). Accounting for just in time: Sorting out the conflicting advice. *Management Accounting (CIMA), 66*(11), 48-50.

Fischer, M. J., & Dirsmith, M. W. (1995). Strategy, technology, and social processes within professional cultures: A negotiated order, ethnographic perspective. *Symbolic Interaction, 18*(4), 381-412.

Fisher, T. J., & Davis, D. (1992). An application of the Deming philosophy in an Australian company. *Total Quality Management, 3*(1), 107-114.

Foster, G., & Horngren, C. T. (1988). Cost accounting and cost management in a JIT environment. *Journal of Cost Management*, Winter, 4-14.

Fowler, C. J. (1994). The management accountant's role in the implementation and operation of a total quality management programme. Unpublished masters thesis, University of Canterbury, New Zealand.

Fowler, C. J., & Lord, B. R. (1995). ISO and TQM. *Chartered Accountants Journal of New Zealand, 74*(10), 33-38.

Gagliardi, P. (1986). The creation and change of organizational cultures: A conceptual framework. *Organization Studies, 7*(2), 117-134.

Georgiou, P. (1973). The goal paradigm and notes towards a counter paradigm. *Administrative Science Quarterly,* 291-310.

Gerner, J., & McIntire, R. (1993). Q is for quality. *Management Accounting (NAA), 75*(3), 37-38.

Golding, D. (1991). Some everyday rituals in management control. *Journal of Management Studies, 28*(6), 569-583.

Green, F. B., Amenkhienan, F., & Johnson, G. (1991). Performance measures and JIT. *Management Accounting (NAA), 72*(8), 50-53.

Greenwood, R., & Hinings, C. R. (1988). Organizational design types, tracks and the dynamics of strategic change. *Organizational Studies, 9*(3), 293-316.

Hall, R. W. (1989). World-class manufacturing: Performance measurement. In P. B. B. Turney (Ed.), *Performance excellence in manufacturing and service organizations: Proceedings of the Third Annual Management Accounting Symposium* (pp. 103-110). San Diego, CA: National Association of Accountants Committee on Academic Relations and American Accounting Association Management Accounting Section.

Hankes, J. (1993). Great expectations. *Management Accounting (CIMA), 71*(8), 28-33.

Hanks, G. F., Freid, M. A., & Huber, J. (1994). Shifting gears at Borg-Warner Automotive. *Management Accounting (NAA)*, February, 25-29.

Hassan, N., Brown, H. E., Saunders, P. M., & Koumoutzis, N. (1993). Stolle puts world class into memory. *Management Accounting (NAA), 74*(7), 22-25.

Hogan, W. M. (1994). How to apply TQM to the Internal Audit Function. *Internal Auditing*, Winter, 3-14.

Hogg, R. V. (1993). A quality journey: Observations and suggestions regarding continuous process improvement. *Total Quality Management, 4*(2), 195-214.

Hollingworth, P. (1992). Challenge those recession blues. *Managing Service Quality, 3*(1), 403-405.

Hopper, T., & Joseph, N. (1995). The dissection of a dinosaur: Experiments in control at Toyota. *Management Accounting (CIMA)*, May, 34-38.

Howell, R. A., Shank, J. K., Soucy, S. R., & Fisher, J. (1992). *Cost management for tomorrow: Seeking the competitive edge.* Morristown, NJ: Financial Executives Research Foundation.

Idstein, , J. R. (1993). Small company TQM: Each person is critical to the process. *Management Accounting (NAA), 75*(3), 39-40.

Ittner, C. D., & Larcker, D. F. (1995). Total Quality Management and the choice of information and reward systems. *Journal of Accounting Research, 33* Supplement, 1-40.

Ittner, C. D., & Larcker, D. F. (1997). Quality strategy, strategic control systems, and organizational performance. *Accounting, Organizations and Society, 22*, 293-314.

Jayson, S. (1987). Goldratt & Fox: Revolutionizing the factory floor. *Management Accounting (NAA)*, May, 18-22.

Jazayeri, M., & Hopper, T. (1999). Management accounting within world class manufacturing: A case study. *Management Accounting Research, 10*, 263-301.

Jeffords, R., & Graybeal, S., & Davey, F. (1994). Applying TQM to the internal audit department. *Internal Auditing*, Winter, 15-22.

Johnson, R. S. (1993). TQM: Leadership for the quality transformation. *Quality Progress*, April, 47-49.

Juran, J. M. (1989). *Juran on leadership for quality: An executive handbook.* New York: Free Press.

Kaplan, R. S. (1984). Yesterday's accounting undermines production. *Harvard Business Review*, July-August, 95-101.

Kaplan, R. S. (1988). One cost system isn't enough. *Harvard Business Review*, January-February, 61-66.

Kaplan, R. S., & Norton, D. P. (1992). The balanced scorecard — measures that drive performance. *Harvard Business Review*, January-February, 71-79.

Kaplan, R. S., & Norton, D. P. (1993). Putting the balanced scorecard to work. *Harvard Business Review*, September-October, 134-147.

Kilmann, R. H., Saxton, M. J., & Serpa, R. (1986). Issues in understanding and changing culture. *California Management Review, 28*(2), 87-94.

Klein, J. A. (1989). The human costs of manufacturing reform. *Harvard Business Review*, March-April, 60-61, 64-66.

Lammert, T. B., & Ehrsam, R. (1987). The human element: The real challenge in modernizing cost systems. *Management Accounting (NAA)*, *69*(1), 32-37.

Laughlin, R. C. (1991). Environmental disturbances and organizational transitions and transformations: Some alternative models. *Organization Studies, 12*(2), 209-232.

Lawrence, T. B., & Phillips, N. (1998). Commentary: Separating play and critique: Postmodern and critical perspectives on TQM/BPR. *Journal of Management Inquiry, 7*(2), 154-160.

Lea, R., & Parker, B. (1989). The JIT spiral of continuous improvement. *Industrial Management & Data Systems*, (4), 10-13.

Levine, C. (1993). How TQM worked for one firm. *Journal of Accountancy*, September, 73-79.

Linstead, S., & Grafton-Small, R. (1992). On reading organizational culture. *Organization Studies, 13*(3), 331-355.

Louis, M. R. (1985). An investigator's guide to workplace culture. In P. J. Frost, L. F. Moore, M. R. Louis, C. C. Lundberg, & J. Martin (Eds.), *Organizational culture* (pp. 73-93). Beverly Hills: Sage.

Mallinger, M. (1993). Ambush along the TQM trail. *Journal of Organizational Change Management*, 6(4), 30-42.

March, J. G., & Olsen, J. P. (1976). Organizational choice under ambiguity. In J. G. March & J. P. Olsen (Eds.), *Ambiguity and Choice in Organizations* (pp. 10-23). Bergen: Universitetsforlaget.

Martin, J., & Meyerson, D. (1988). Organizational cultures and the denial, channeling and acknowledgment of ambiguity. In L. R. Pondy, R. J. Boland & H. Thomas (Eds.), *Managing ambiguity and change* (pp. 93-125). Chichester: Wiley.

Maskell, B. (1986). Management accounting and Just-in-time. *Management Accounting (CIMA)*, *64*, September, 32-34.

McIlhattan, R. D. (1987). How cost management systems can support the JIT philosophy. *Management Accounting (NAA)*, September, 20-26.

McLeod, W. T. (Ed.). (1991). *New Collins dictionary and thesaurus in one volume*. Glasgow: HarperCollins.

McNair, C. J., Mosconi, W., & Norris, T. (1988). *Meeting the technology challenge: Cost accounting in a JIT environment*. Montvale, NJ: National Association of Accountants.

Meek, V. L. (1988). Organizational culture: Origins and weaknesses. *Organization Studies, 9*(4), 453-473.

Mendzela, J. (1995). Down under on top when it comes to management practice. *Management*, December, 44-45.

Meyer, J. W., & Rowan, B. (1977). Institutional organisations: Formal structures as myth and ceremony. *American Journal of Sociology, 83*, 340-363.

Meyerson, D., & Martin, J. (1987). Cultural change: An integration of three different views. *Journal of Management Studies, 24*, 623-647.

Morris, J., & Wilkinson, B. (1995). The transfer of Japanese management to alien institutional environments. *Journal of Management Studies, 32*(6), 719-730.

Munro, R. (1995). Managing by ambiguity: An archaeology of the social in the absence of management accounting. *Critical Perspectives on Accounting, 6,* 433-482.

Nanni, A. J., Dixon, J. R., & Vollmann, T. E. (1992). Integrated performance measurement: Management accounting to support the new manufacturing realities. *Journal of Management Accounting Research, 4*(Fall), 1-19.

Nanni, A. J., Miller, J. G., & Vollmann, T. E. (1988). What shall we account for? *Management Accounting (NAA),* January, 42-48.

Neumann, B. R., & Jaouen, P. R. (1986). Kanban, zips and cost accounting: A case study. *Journal of Accountancy,* August, 132-141.

Patell, J. M. (1987). Cost accounting, process control, and product design: A case study of the Hewlett-Packard personal office computer division. *The Accounting Review, 62,* 808-839.

Perry, M., Davidson, C., & Hill, R. (1993). Business environments and the viability of workplace reform. *New Zealand Journal of Business, 15,* 35-52.

Pettigrew, A. M. (1979). On studying organizational cultures, *Administrative Science Quarterly, 24,* 570-580.

Phillips, A., & Collins, D. E. (1990). How Borg-Warner made the transition from pile accounting to JIT. *Management Accounting (NAA), 72*(4), 32-35.

Porter, L. J., & Parker, A. J. (1993). Total quality management - the critical success factors. *Total Quality Management, 4*(1), 13-22.

Rao, A. (1989). Manufacturing systems - Changing to support JIT. *Production & Inventory Management, 30*(2), 18-21.

Reitsperger, W. D. (1986). Japanese management: Coping with British industrial relations. *Journal of Management Studies, 23*(1), 72-87.

Relevance regained: An interview with Professor Robert S. Kaplan. (1988). *Management Accounting* (CIMA), September, pp. 38-42.

Ripley, R. E., & Ripley, M. J. (1992). Empowerment, the cornerstone of quality: Empowering management in innovative organizations in the 1990s. *Management Decision, 30*(4), 20-43.

Ross, P. (1994). The impact of total quality management systems on existing management accounting reports. Paper presented at AAANZ Conference, Brisbane, July.

Russell, T. R. (1993). How do human characteristics fit into total quality management. *Total Quality Management, 4*(3), 313-323.

Saravanamuthu, K. (1998). Political use of management accounting information: "When I use a word it will mean just what I choose it to mean neither more nor less ..." (Humpty Dumpty). Proceedings of *Second Asian Pacific Interdisciplinary Research in Accounting Conference*, Osaka, Japan, 4-6 August, 1998, CD-ROM.

Schein, E. H. (1984). Coming to a new awareness of organizational culture. *Sloan Management Review, 25*, 3-16.

Schonberger, R. J. (1986). *World class manufacturing.* New York: Free Press.

Schonberger, R. J. (1989). World-class performance management. In P. B. B. Turney (Ed.), *Performance excellence in manufacturing and service organizations.* Proceedings of the Third Annual Management Accounting Symposium (pp. 1-5). San Diego, CA: National Association of Accountants Committee on Academic Relations and American Accounting Association Management Accounting Section.

Seglund, R., & Ibarreche, S. (1984). Just in time: The accounting implications. *Management Accounting (NAA)*, August, 43-45.

Sewell, G., & Wilkinson, B. (1992). 'Someone to watch over me': Surveillance, discipline and the Just-in-Time labour process. *Sociology, 26*(2), 271-289.

Sharman, P. (1993). The role of measurement in activity-based management. *CMA Magazine*, September, 25-29.

Shea, J. E., & Kleinsorge, I. K. (1994). TQM: Are cost accountants meeting the challenge? *Management Accounting (NAA)*, April, 65-67.

Sillince, J. A. A., & Sykes, G. M. H. (1995). The role of accountants in improving manufacturing technology. *Management Accounting Research, 6*, 103-124.

Smircich, L. (1983b). Studying organizations as cultures. In G. Morgan (Ed.), *Beyond method: Strategies for social research* (pp. 160-172). Beverly Hills: Sage.

Smith, M. (1994a). Improving management accounting reporting practices: A "Total Quality Management" approach (Part 1). *Journal of Cost Management*, Winter, 50-57.

Smith, M. (1994b). Improving management accounting reporting practices: A "Total Quality Management" approach (Part 2). *Journal of Cost Management*, Spring, 49-56.

Smith, M. (1994c). *New tools for management accountants.* Melbourne: Longman Professional.

Sohal, A. S., Ramsay, L., & Samson, D. (1992). Quality management practices in Australian industry. *Total Quality Management, 3*(3), 283-299.

Stanleigh, M. (1993). Accounting for quality. *Australian Accountant*, October, 27-29.

Steingard, D., S., & Fitzgibbons, D., E. (1993). A postmodern deconstruction of total quality management. *Journal of Organizational Change Management, 6*(5), 27-42.

Swenson, D. W., & Cassidy, J. (1993). The effect of JIT on management accounting. *Journal of Cost Management, 7*(1), 39-47.

Tayles, M., & Woods, M. (1995). The developing role of the accountant for TQM: Innovations in management accounting? Paper presented at 18th Annual Congress of the European Accounting Association, Manchester, May.

Thackray, P. (1990b). The issue is quality: Part 2. *Management Accounting (CIMA), 68*(9), 22.

Thorne, H., Gurd, B., & Southwick, A. (1994). Performance measures for manufacturing industry. Paper presented at AAANZ Conference, Brisbane, July.

Tuckman, A. (1994). The yellow brick road: Total Quality Management and the restructuring of organizational culture. *Organization Studies, 15*, 727-751.

Turk, W. T. (1990). Management accounting revitalized: The Harley-Davidson experience. *Journal of Cost Management*, Winter, 28-39.

Turney, P. B. B. (1993). Beyond TQM with workforce activity-based management. *Management Accounting (NAA), 75*(3), 28-31.

Turney, P. B. B., & Anderson, B. (1989). Accounting for continuous improvement. *Sloan Management Review, 30*(2), 37- 47.

Van Maanen, J. (Ed.) (1995). An end to innocence: The ethnography of ethnography. In J. Van Maanen (Ed.), *Representation in ethnography* (pp. 1-35). Thousand Oaks: Sage.

Van Maanen, J., & Barley, S. R. (1985). Cultural organization: fragments of a theory. In P. J. Frost, L. F. Moore, M. R. Louis, C. C. Lundberg, & J. Martin (Eds.), *Organizational culture* (pp. 31-53). Beverly Hills: Sage.

Vollmann, T. (1989). Changing manufacturing performance measurements. In P. B. B. Turney (Ed.), *Performance excellence in manufacturing and service organizations*. Proceedings of the Third Annual Management Accounting Symposium (pp. 53-62). San Diego, CA: National Association of Accountants Committee on Academic Relations and American Accounting Association Management Accounting Section.

Walker, R. (1992). Rank Xerox — management revolution. *Long Range Planning, 25*(1), 9-21.

Weick, K. (1976). Educational organizations as loosely coupled systems. *Administrative Science Quarterly, 21*, 1-19.

Westbrook, J. D. (1993). Organizational culture and its relationship to TQM. *Industrial Management*, January/February, 1-3.

Westbrook, Jerry D. (1993). Organizational culture and its relationship to TQM. *Industrial Management*, January/February, 1-3.

Wilkinson, A. (1992). The other side of quality: 'soft' issues and the human resource dimension. *Total Quality Management*, 3, 323-328.

Wilkinson, A., & Willmott, H. (Eds.) (1995). *Making quality critical: New perspectives on organizational change.* London: Routledge.

Wilkinson, A., & Witcher, B. (1993). Holistic total quality management must take account of political processes. *Total Quality Management*, 4(1), 47-56.

Wilkinson, A., Allen, P., & Snape, E. (1992). TQM and the management of labour. *Management Decision*, 30(6), 116-123.

Wilkinson, A., Godfrey, G., and Marchington, M. (1997). Bouquets, brickbats and blinkers: Total Quality Management and employee involvement in practice. *Organization Studies, 18*, 799-819.

Woods, M. D. (1989a). How we changed our accounting. *Management Accounting (NAA)*, February, 42-45.

Wruck, K. H., and Jensen, M. C. (1994). Science, specific knowledge, and total quality management. *Journal of Accounting and Economics, 18*, 247-287.

Chapter 4
The research sites and research methods

INTRODUCTION

The research for this thesis took place in three manufacturing firms. In some ways the choice of firms was opportunistic. An opportunistic approach is recommended by Buchanan et al. (1988), who suggest gaining access whenever possible through contact people in or related to the organisations.

However, the three sites also provided contrasts which were of interest from a theoretical point of view. Of the two organisations that have changed to TQM, one has changed accounting systems completely and integrated them with the organisational philosophy, whereas the other has made only cosmetic changes to accounting. The third organisation was to have been an example of the process of organisational change, but, as TQM was not successfully implemented, it also provided a rare example of a failure of TQM.

This chapter details how I obtained access to each firm, and the methods of collecting evidence. It also briefly describes the historical background and how TQM has been implemented and operationalised in each setting.

WHITEWARE

Gaining access

I became interested in the first site as the result of a conversation with a colleague. This colleague attended a course on TQM which included a factory visit. He came back saying, "You've got to see this factory. It's an absolutely textbook case of TQM, just-in-time, kanban, everything!" I found some newspaper articles on the firm, Whiteware Ltd, and wrote to the plant manager named in the articles. After six weeks, having heard nothing, I rang the firm. The plant manager had changed, and the new plant manager wanted some more information about my proposed research. I sent him a letter and a short research statement. (See Appendices 4.1 and 4.2 to this chapter for copies of the letters, and Appendix 4.3 for the research statement.) When I rang again, the plant manager said he wasn't sure what exactly I wanted, but I could come in and meet the financial controller, and try to convince the financial controller that it would be worthwhile letting me come.

At that interview, the plant manager was warm and friendly, and very enthusiastic about the firm and the changes that had been made. The financial controller was cool, and gave me the impression that I was going to waste a lot of his time. However, he agreed to try having me come one morning a week for four weeks and see how it went. After the interview, the plant manager took me on a tour of the factory. Starting on the next Thursday, I visited the firm once a week for three or four hours for the next four months, as well as sitting in on some meetings at other times.

Evidence gathering methods

Several evidence gathering methods were employed, including formal and informal interviews, observation, and document perusal.

I interviewed several people in the office (i.e., the financial controller, the accounts payable clerk, the supply manager and the human resources manager), taping the interviews and later transcribing them.[1] For interviews in the factory, however, it was not practical to tape, because of the background noise. Also, I thought that taping was intimidating for most interviewees, except office employees who are used to making dictaphone tapes themselves. When I did not tape, I either took notes during the interview or made notes and dictated comments to myself after the interview. For these semi-formal interviews, I had a number of questions written out, but I let the conversation develop naturally, only referring to my list when one avenue of conversation dried up.

I also had many informal conversations with managers and employees, while I was looking around the factory, in the cafeteria during breaks, and at social events that I was invited to. I wrote up what I remembered of these conversations after leaving the site.[2]

---

[1] Quotes from taped interviews will be in italics.

[2] Quotes not in italics have been reconstructed from my notes taken at the time of the conversation and/or from field notes written up or dictated soon after the conversation. Although these are not verbatim, I recorded key words, especially pejorative or emotive phrases. Therefore the sense and tone of these quotes closely represent the actual conversations.

I was free to observe anything anywhere in the factory. As well as observing employees at work, I sat in (or stood in!) on many meetings: morning stand-up meetings, process improvement team meetings, quality meetings, and monthly team leaders' meetings. The only meeting I was not allowed to attend was the top management meeting.

I was able to peruse management financial reports and a lot of historical documents. I also read all the displays on the walls. These included: minutes of process improvement team meetings, graphs of key performance indicators, statistical process control graphs, skills boards, production plan boards, production problems boards, etc.

Initially I looked around the factory with the plant manager, and the financial controller showed me the historical display (a mini-museum of things that the firm has manufactured during its more than a century history). After that, I wandered around by myself, looking at things and talking to people. I do not think employees aligned me with either the plant manager or the financial controller. People would say, "I've seen you around here a lot. What are you doing?" I would answer that I was doing research on changes that had taken place since the introduction of TQM, and ask them, "What do you think of the changes?" People would thus enter into conversation quite naturally, and I did not perceive that they were being careful what they said to me in case it got back to management.

Through a chance conversation I located a former factory employee of the firm (who lived in the same block of flats as one of my daughters). I interviewed him about conditions in the factory before TQM was introduced.

History of introduction of TQM

The Christchurch factory of Whiteware Ltd manufactures a large home appliance. Product is produced according to demand from the Auckland head office, which is responsible for sales and marketing. Appliances from Whiteware's Christchurch factory supply the domestic market and are exported to Australia.

Early history

Whiteware was set up in the 1870s as a family engineering business, and has occupied the same site for more than a century. Over the years it produced a wide range of products, including locomotives for New Zealand Railways, enamel mugs and candle holders, cast-iron grates, wrought iron fences, lampposts and decorative work, baths, handbasins, and even grenades and mortar bombs during World War II. The appliance that it now specialises in is a well known household brand in New Zealand.

In the 1960s the family sold their interests in the firm. After several changes of ownership it was eventually bought in the late 1980s by a large, home-appliance manufacturer in Australia.

In the decade before this last purchase it was owned by a public company. Although this former company expressed positive plans for Whiteware in their annual reports, many of the staff at the time criticise their way of trying to achieve success. Several people mentioned the owners' focus on reducing product cost, resulting in lower quality and an inferior product. As one person scathingly said, "While the 'bean-counters' owned it, it really ran down, until it was almost closed. The 'bean-counters' sold off some of the buildings and other assets and focused on lowering product cost rather than improving quality — that was the only way that the accountants knew to make money from the business."

Working conditions were bad, too, as no money was used for up-keep of the buildings and plant. One person who still works in the factory described it as "a Dickensian workshop — monochrome, dingy, dark." Another worker described the factory as "a real shambles — higgledy piggledy." There were piles of scrap and unfinished work stacked on the shop floor. "Each area was *very* untidy and dirty."[3]

There was no accurate method of determining inventory needs. For example, in assembly, a store person would come around in the morning asking what each worker needed for the day. As someone who worked in the factory at that time recalls:

---

[3]   Unattributed quotes are from interviews and conversations in the course of the field work.

You would look at what you had and say "This looks a bit low — better have some more of these", and the store person would write it down and deliver it. You could easily forget something, or the store person might find that what you wanted was not there. As the stoves came along the assembly line, if you didn't have a part that needed to be on it, you had to take it off the line. Therefore there was a huge build up of incomplete ovens stacked wherever there was space. The assembly line stopped *every day*. You would have to make knobs or scrape masking from painted parts until the line moved again.

There was also a lot of wastage. For example, in assembly, a worker might ask the store person for a particular screw.

The store person would bring a plastic bag containing about 1 000 screws and tip it into the bin. Some might fall onto the floor, but no-one worried because there were a thousand of them anyway, so who would miss a few! As you would probably only sweep your area once a week, you would never be able to return spilt screws to the correct container.

As the financial controller summed it up:

[The former company] were a very hard company to work for. They were really only interested in returns on funds, not long term improvement of the company. Consequently everything that we did was to knock out the cost out of products. It was very short term, absolutely short term.... It meant that there was no capital invested in this company ... Even though the company survived, it was really how long it was going to survive for.

Trimming costs included laying people off, and also reducing the quality of the product, for example, by reducing metal sizes and using cheaper materials and components.

A new direction

The Australian company that bought Whiteware in the late 1980s saw its potential — "there was space, equipment and labour available to make it into a successful business."

The Australian company had already started experimenting with new management techniques in their Australian factories. They announced in an

annual report at that time that flexible manufacturing, employee involvement, and a just-in-time approach to materials and stock had resulted in a reduction in warehousing space and stock levels, while improving responsiveness to the market.[4]

Introduction of Total Quality Management

To begin with, a consultant was hired to introduce TQM to the Christchurch plant. Recollections about the effectiveness of the consultant differ. One manager stated that the consultant "did more damage than good in the implementation of TQM — he represented that he knew more about TQM than he really did". However, another manager remembers him as

> *quite an exceptional person. He probably did what was required to be done to make the major drastic changes.... So a lot of dirty work was done by this person — he really dug deep and pointed fingers and threatened and all that type of thing. He was quite an exceptional person, but you could either love or hate him, and a lot of people hated him, and a lot of companies won't even have him back in their companies.*

In 1991 a new plant manager, Peter, was brought in from Australia to turn the business around. He had had many years of experience with TQM in five firms including Toyota.

All of the staff were required to attend one or two seminars on TQM. Changes took place immediately, starting with the sheet metal shop and proceeding department by department over about twelve months.

Factory appearance

As a start the sheet metal shop was re-laid in a more streamlined fashion with markings on the floor indicating work processes. All the machinery was painted, and the factory was painted inside and cleaned up. This painting was done very quickly in order to show that the company was really interested in change, but it has caused some concern since then. In making the machinery

---

[4] Most documents quoted in this chapter cannot be fully referenced without losing promised anonymity of the firms and interviewees (see letters and research statement in appendices to this chapter.)

look spruce, painters applied enamel paint to everything. However, they did not grease bolts before painting, and they painted over instruction and safety labels, etc. Some engineering staff would like to have the machines repainted properly, but it would now be a massive job to remove the enamel paint.

Wall space in both the factory and the office is now used for displays: monthly reports from team leaders, minutes of process improvement team meetings, charts showing the skills of workers in each area, boards recording daily production and problems, cartoons and posters about aspects of the TQM philosophy, etc.

Kanban

In May 1991 kanban[5] was introduced, based on its usage in some of the parent company's Australian factories. A team was formed to implement a kanban system in the Christchurch factory. They started the kanban first in the Assembly department, waited three months until results showed, then worked back through the departments, introducing it to one department at a time. It took twelve months to get kanban established in the whole factory.

As the plant manager put it, "the team members cottoned on quickly to how kanban worked, because it is basically such an easy system". It has been easy to adapt the system to special needs. For example, a blind team member has Braille embossed on the kanbans that he uses, and a dyslexic employee had coloured spots on kanbans that he used, indicating which operations were to be performed on those particular parts.

The kanban system is built on trust — stores are not locked, because parts need to be taken when the kanbans indicate they are needed.

Kanbans are hung on pegs when the re-order point is reached. There are three levels of pegs in each area: Urgent, Today and Tomorrow. When the re-order point is reached, the kanban ticket is hung on the tomorrow row. At the beginning of each day the team leader moves any remaining Today kanbans to

---

[5] Kanban is an inventory management system in which tickets (or sometimes containers or carts) indicate the need to manufacture, move or order inventory. As it is a "demand-pull" system, kanban is claimed to greatly reduce lead times, decrease inventory and improve productivity (Neumann & Jaouen, 1986). Kanbans at Whiteware are tickets which indicate what part to make or purchase, and in what quantity.

the Urgent row, the Tomorrow kanbans that were hung up the previous day are moved up to the Today level, and there are empty pegs on the Tomorrow level waiting for kanbans during that working day.

Managers and team leaders can see at a glance whether there is little work to do in an area, or whether kanbans are banking up. Team members from an area with few kanbans can then be moved to a busy area. Because they are multiskilled, it is easy to move them around like this, preventing idleness and bottlenecks.

Since October 1993, New Zealand suppliers have been gradually included in the kanban system. By August 1994, 60% of suppliers were cooperating. One particular supplier was resistant to the proposed change, saying he did not want "more bloody Whiteware systems!" However, Whiteware's kanban consultant went to the supplier's site, showed him how the system would work for him, and helped him set up his own kanban system, which has "revolutionised the supplier's business".

Total Quality Management

A chart in the boardroom summarises Whiteware's definition of total quality management. This chart is reproduced in Figure 4.1. Ways in which Whiteware is attempting to fulfil each of the four aims specified on the chart are detailed in later chapters.

ISO 9001

ISO 9001 certification was obtained very quickly (in eight months), as Whiteware already had a lot of the documentation in place because of TQM. One person described ISO as "complementary to TQM", but not as important as TQM. As another person put it, "ISO is like a ratchet. It stops the firm from slipping back, but does not by itself cause improvement. TQM identifies areas for improvement, which ISO requires them to include in the documentation. Therefore once improvements have been made and documented, ISO stops slippage."

Total quality management

1. **Satisfy your customers.** We try to give our customers what they want and the quality they want and when they want it.

2. **Continually improve through small steps.** Many little steps and the occasional big step, that's the way to do things.

3. **Involve everybody in improvement.** Problems are easier to fix when we sit down with our workmates and figure out how to solve them.

4. **Control through measurement and statistics.** If we measure things we know exactly what it is we're dealing with. This makes problems easier to fix.

Figure 4.1

Just-in-time inventory

Managers differed in their assessment of whether inventory size had improved with kanban. One team leader said that the press shop used to manufacture in *huge* batches, regardless of demand. Reaction time to the frequent stock-outs was three to seven days. Now, with kanban, the press shop is not making for inventory. Reaction time to the now infrequent stock-outs is often less than a day.

However, the financial controller asserts that stocks have increased with kanban. He suggests that one reason for this is that stocks were in control already before kanban started.

> *Here, through the computer system that we were operating we had a very minimal stock of work in progress and that is basically because of the person we had in supply — she was really on the ball, and she actually took control of it, and the working stock was minimal and ... we were able to get the*

> *stocks down to a pretty reasonable level. Sometimes to our detriment because it got too low: if there was a change in production you couldn't respond to it.*

It took a while for the size of each kanban quantity to be stabilised at the best level, so initially the introduction of kanban resulted in increased inventories to prevent stock-outs.

However, there have been other changes concurrent with the change to kanban. The firm has offered much more flexibility, therefore they must keep enough inventory of components (many of which have lead-times of four or five months) to be able to make any model. Also, production has doubled, yet cycle time has decreased from one month to 24 hours. Therefore, although the amount and dollar value of inventory is higher, it is smaller in proportion to production.

Results

TQM has successfully reversed the fortunes of the company. The parent company reports that the Christchurch factory has "made substantial productivity gains" (Annual Report, 1992), increased exports to "a creditable 23% of production ... gained market share" (Annual Report, 1993), "successfully countered" increased competition and positioned itself "well for ongoing growth of market share and continued development of business partnerships" (Annual Report, 1995, p. 11). By 1994, production had increased from 60 to 220 units per day. By 1994, exports, which were zero when the firm was taken over, "had reached slightly more than 40 per cent of total production .... The company's domestic market share had also climbed from about 25% when it was taken over to about 40%" (Newspaper article, 1994). Whiteware's contribution to the group's net profit increased from $10 000 (Annual Report, 1989) to a high of $3 284 000 in 1994 (Annual Report, 1994, p. 36).

FINEFOODS

Gaining access

I heard about Finefoods through a colleague who had carried out some research there. This colleague had invited the factory manager and the

accountant to give a presentation to a post-graduate seminar which I attended. I also attended a local meeting of the New Zealand Society of Accountants at which the colleague and the accountant spoke. The colleague subsequently published a paper about the accounting system that had been developed at Finefoods, which provided some of the background for this chapter.[4]

Finefoods Ltd produces frozen and dehydrated food for both the New Zealand market and for export. The company is owned by a large U.S. company.

My colleague's main contact was with a manager of the parent company based in Auckland. This manager was interested in business systems and improvements. Therefore I wrote directly to him (see Appendix 4.4 for a copy of the letter). The accountant at Finefoods' Christchurch factory contacted me. He intimated over the phone that, although the Auckland manager had said that I could carry out research at the Christchurch factory, there had been a number of research teams in the factory and the accountant felt that they were becoming "over researched".

I commenced my research with an interview with the accountant, in which he gave an overview of the recent history of the company and the changes to management, organisational running and accounting that had taken place. I visited the factory four more times, three times to observe at meetings and once to join in with a factory tour. Even in the short time I was there, I observed and was told of a number of interesting features of their application of TQM, some of which were similar to those I was observing at Whiteware, some of which were quite different. However, having been given the impression that there had been too many researchers there, I decided to discontinue research at that site.

Evidence gathering methods

The initial interview with the accountant lasted for three hours, and was taped and transcribed. The accountant was very friendly and talkative. During a coffee break he showed me the cafeteria and the area next to it, pointing out various displays on the walls.

When I sat in on meetings I was introduced at the beginning. Then I observed and took notes. The meetings seemed to run as usual, i.e., I do not think they were "performing" differently because I was there, although once or twice

someone would say to me something like: "You're not writing this all down, are you?" (I was! I made notes on the topics of conversation and also on interactions, body language, etc.)

For the tour of the factory I tagged along with a group of food processing students visiting from Thailand. We were given an introductory talk first, explaining the production processes. Then we were taken on a tour around the plant, which was in operation.

History of introduction of TQM

Early history

Finefoods was started in the 1930s as a family business. It was taken over in the 1980s by a New Zealand public company, who, on advice from consultants, decided to decentralise. On being split off as a separate business unit, Finefoods

> *inherited a massive loss situation.... Everybody was on the line. Shutting the business was the first option for [the new owners], and it was a real fight and struggle to survive and keep the business going and turn it around. Under that scenario change could be as radical as you want, and was needed.*

An Auckland manager had already been promoting a "flatter" organisational structure. With Finefoods splitting into a separate business unit, he was able to take action to realise his vision.

Finefoods adopted TQM, although they did not use that name. "This involved the division of the organisation into a set of semi-autonomous work centres, and giving the supervisors and employees in each work centre the ability to make decisions critical to the manufacture of a quality product in a timely fashion. Since 1986 the company has worked hard to develop the work-centre culture and to provide the management and employees with the appropriate tools and systems" (Newspaper article, 1994).

Early in the 1990s the whole Finefoods company was purchased by a U.S. company, the present owners. The Finefoods subsidiary has several branches spread over New Zealand, with a head office in Auckland, whose *"responsibilities include finance, product development, marketing, sales and*

information systems." Information gathered for this thesis relates solely to the Christchurch operation.

Work centre management

The Christchurch factory is divided into work centres reflecting the processing flow, such as processing, freezing, storage, packing and distribution. These processing work centres are supported by service centres, such as administration, logistics, personnel, engineers, boilers, and technical services.

Each work centre has a manager *"who is virtually autonomously responsible for that function, and his philosophy is that it's his business, and he'll make the decisions within that work centre as if he owned the business.... He's got his team of people there and [that work centre is] their responsibility."*

When the present management accountant began work at the Christchurch factory, the

> *work centre split was in place, [but] it wasn't working. The words were all there, but no one was walking the walk. ...The turn around as far as this branch is concerned took place when there was a management change ... The first thing [the new branch manager] did was get [the Auckland improvements manager] to come down and start running work centre management philosophy courses and virtually everybody went through the course.*

Each of the work centre managers was allowed to implement the principles at their own rate. Faster moving centres inspired the slower ones to keep making changes.

ISO 9000

Finefoods did not have ISO certification at the time that the research was carried out. They were working towards ISO in one of their operations, because it was required by some of their customers and potential customers. However, the processes to achieve high quality are in place, and generally the firm tries to gain customer approval by offering opportunities to view the processes and systems in operation, rather than by producing the ISO certificate. One interviewee was of the opinion that it is possible to have ISO

certification, and still produce second-rate product, if certification is obtained *"with lip-service in mind only."* Also, obtaining and keeping certification is an extra cost, which they are trying to avoid.

Results

Before work centre management was effectively implemented, the Christchurch branch of Finefoods

> *was losing heaps and heaps of money ... and I mean millions.... We are now the star performer of the company.*

The U.S. parent company's 1994 Annual Report claims that: "Our purchase of Finefoods ... has turned out to be a home run. The relationship ... has been extraordinarily productive".

DOORWAYS

Gaining access

Three months after my last contact with Whiteware I received a phone call from the plant manager, Peter. He said that he had left Whiteware and was starting work that week at Doorways. They had hired him as factory manager in order to implement TQM there. I immediately asked, "Would you be interested in someone documenting the process of change from the beginning?" and he replied, "Yes."

I made my first visit to the site on the next Monday (after Peter had been there only one week), and subsequently visited the factory every Thursday morning for the next two months. Then I visited irregularly, in order to sit in on various meetings, until the end of the year. On making contact in the new year, I discovered that Peter had left Doorways and moved to another small firm. Although a number of changes had occurred at Doorways under Peter's management, he had concluded that TQM would never be successfully implemented there, mainly because of the attitude of the owner and the owner's influence on the organisational culture. (These issues will be addressed in a later chapter.)

Evidence gathering methods

Every time I visited the site, I wandered around the factory, observing changes that had been made since the last time I was there. I either made notes and drew diagrams on a small notepad or dictated into a dictaphone which I carried around in my jacket pocket.

I also chatted to people in each area, both about the work they were doing, and what they thought of the changes that Peter was making. I did not take notes while having these casual conversations, as I thought that would be intimidating and that people would be more careful what they said. Instead, I would go outside or into the cafeteria after talking to people and summarise what they had said into the dictaphone.

I sat in on several meetings. During these, I took notes, including observations on the group dynamics and how the meetings were run.

Because I was initially shown around the factory and introduced to people by Peter, I think people aligned me with management. Although I told people that what they said would not be repeated to Peter, some people took it for granted that what they said would be passed on. For example, someone made a suggestion about having departmental budgets, so that workers could see whether there was enough money for them to do overtime. A couple of weeks later, this same person asked me what Peter thought of the idea of departmental budgets, as though I had immediately told Peter what he had said. However, several people spoke quite frankly to me about their negative and cynical feelings.

History of introduction of TQM

Early history

Doorways was started in the late 1980s. It is owned by a husband and wife team. The husband, who has a marketing background, is the managing director. To begin with the firm only made one product. Much of the work, such as metal pressing, was done outside the firm. An electronic part of the product was originally imported. However, each electronic part had to be checked and altered, and many were returned because of faults. Doorways therefore designed their own part which is now produced in-house.

After two or three years the factory moved to the bigger building where it is currently housed. To begin with they only used about a third of the building, leasing the rest out. One early employee described the building as "dirty and unpainted".

Then the owner took an opportunity to look through the factory of a well-known New Zealand home appliance manufacturer. He also took the managers of each department in Doorways to look at that factory. As a result of what they saw there, they upgraded the Doorways factory: rearranged the machinery, painted the floor and painted aisles.

As more and more work was done in the factory instead of being sent out to specialist firms, Doorways took over the whole building. One result of the quick growth was inefficiencies in the factory layout. For example, the newly purchased turret and ANC presses are at the opposite end of the factory from the press shop. This necessitates waiting for and using a fork lift to transfer work in progress from one end of the factory to the other and back again once the work on the computerised presses has been completed.

However, on the suggestion of one of the workers, cellular manufacturing had already been introduced in one area of the factory. This overcame the problem of people on an assembly line working at different speeds.

There was already a quality assurance (QA) system in place before Peter came. For example, in the press shop there were QA cards on the crates and boxes of parts. They were colour coded: green meaning "okay to use", yellow — "hold for supervisor's decision" and red — "not available for use". As parts came off presses and machines, everyone was supposed to check their work and make sure it went into the correct box. The firm had also already gained ISO 9001 certification.

Compared with Whiteware, Doorways was reasonable tidy and clean when Peter started there. They already operated a just-in-time system, only making the two products to order and immediately shipping them out (except for Australian orders which have to be packed into a container).

The attempted change to TQM

Peter gradually introduced changes in employee involvement, communication, making work visible, the factory appearance and reporting. Details of these changes are included in later chapters. The change to kanban and some changes in factory appearance will be briefly introduced here.

Kanban

In the first week, as a first step in the introduction of kanban, Peter thought up a system for making jobs visible. He bought some clothes pegs (bright colours on purpose, to brighten the place up) and hung them on boards in each work area. Orders were hung on the pegs, making immediately visible how much work was waiting to be completed. One of the workers said the peg board of orders was very useful: "Before it was just a whole lot of papers stuck to the side of the machine, and we couldn't really see what work was coming up."

To begin with the pegs were not in categories (Urgent, Today, Tomorrow). Peter wanted first of all to get them used to making jobs visible.

The kanban consultant from Whiteware oversaw the introduction of kanban cards, beginning with the press shop and adapting Whiteware's system to fit Doorways. An improvement was noted almost immediately: "Kanban is a much better system than what we were using. Now when I get down to the trigger point, I send the kanban card back to the press shop and they make some more. Previously I would get to the bottom of the bin and then ask for some more to be made. There would be a delay while they made it, and they might be delayed waiting for materials to come in, and then I would have to drop everything to try and catch up."

Factory appearance

There were a number of examples of changes to the factory appearance that made visible the changes in management philosophy that were being espoused.

Peter copied a number of posters from Whiteware that had cartoons and slogans about TQM. Machines were repainted in the firm's colours. Everyone was encouraged to keep floors clear. For example, in one area bins containing

parts used in assembly were stacked on trolleys rather than on the floor. Finished sub-assemblies were supposed to be kept up off the floor as well.

Results

Peter only stayed at Doorways for seven months. TQM had not been successfully implemented by the time he left the firm. Reasons for the lack of success and for Peter's departure are explored in later chapters.

MY RESEARCH JOURNEY

When I commenced research at Whiteware I was just beginning to be aware of and trying to get away from my positivist training and assumptions. Two months later I started research at Finefoods.

At the time that the research at Finefoods was carried out, I was early in my methodological journey away from positivism. Although I was beginning to be aware of other perspectives on the evidence before me, I was still only able to "see" examples of unity. In my visits to the site I did not have enough contact with people below management level to be able to get their perspective on changes that had been made, or to observe sub-cultures and other evidence of lack of consistency and lack of consensus. Because of the comments of the accountant about the organisation being "over researched' and the implication that researchers were taking people away from their work, I did not feel I could ask for access for a more interpretive study. Therefore I am unable to interpret the evidence from that site from the differentiation or ambiguity perspectives. Thus findings from Finefoods are only discussed in chapter 5, from the integration perspective.

By the time I made my last visit to Whiteware, and during the whole time I was at Doorways, I was already aware of and looking for conflict and ambiguity. Therefore the findings from these two firms are discussed in all the analysis chapters.

REFERENCES

Buchanan, D., Boddy, D., & McCalman, J. (1988). Getting in, getting on, getting out, and getting back. In Bryman, A. (Ed.) *Doing research in organizations* (pp. 53-67). London: Routledge.

Neumann, B. R., & Jaouen, P. R. (1986). Kanban, zips and cost accounting: A case study. *Journal of Accountancy*, August, 132-141.

APPENDIX 4.1:
INITIAL LETTER TO WHITEWARE LTD

{date}

{company address}

Dear {contact},

Some of my colleagues visited your firm a couple of weeks ago, as participants in the Management Foundation's course on Total Quality Management (TQM). They were very impressed by the change in your firm, especially by the Kanban system and the employee involvement in your TQM programme.

I am just commencing research for a PhD (or a DPhil as it's called at Waikato, where I am enrolled). I am interested in looking at firms that have changed their management philosophy and corporate culture to include such things as continuous improvement, employee involvement and empowerment, reduction or elimination of non-value-adding activities, and total quality management. As an accounting academic, I am especially interested in any effects of a change in management philosophy on the management accounting function.

Would it be possible to do a study in your firm? If possible, I would like to be able to observe at regular intervals (say once a week for a morning or afternoon) over a reasonably long time frame (a year or more). At the beginning I would need a bit of a tour to find out how the business is run, and would spend some time documenting what changes have been made. After that I would like to be able to watch what is actually happening like "a fly on the wall." I wouldn't want to keep anyone from their everyday work, so you could use me to do some jobs, too, if you wanted to, as that would help me find out what people are doing as well. If you have someone working specifically on management accounting, I am particularly interested in what they are doing, and any impacts of the changes on them.

Looking forward to hearing from you,

Warm regards,

APPENDIX 4.2:
SECOND LETTER TO WHITEWARE LTD

{date}

{company address}

Dear {contact},

Re PhD Research at Whiteware - Christchurch

Further to our phone conversation yesterday, I am enclosing a more detailed research statement.

The Christchurch Whiteware factory is well known for having successfully implemented Total Quality Management (TQM). I am sure some changes will already be apparent in your accounting systems (which your comments on the phone seemed to indicate). Documenting the changes that have been necessary at your plant would be useful for your own company's information, for other companies implementing TQM concepts, and in our teaching of accountants here at the university. This information can be presented without revealing either the identity of your firm, or any sensitive cost information.

If you agree to let me do research in your company, I will, of course, fit in with you as regards the most convenient times.

Looking forward to hearing from you,

Kind regards,

APPENDIX 4.3:
RESEARCH STATEMENT

Description

I am interested in studying firms that have changed their management philosophy and corporate culture to include such things as continuous improvement, employee involvement and empowerment, reduction or elimination of non-value-adding activities, and total quality management.

I am especially interested in any effects of a change in management philosophy on the management accounting function. If empowerment has been given to all members of the organisation, the management accountant should also be examining ways to reduce waste and continuously improve the management accounting. I want to see if this is in fact happening. If it is, I would like to document what management accounting techniques have been abandoned, and why, and what new techniques or measures have been introduced, and why.

Because the above management changes have been generically named "Japanese" management techniques, there has been some dispute over whether or not they can be applied in Western settings. This study will provide some evidence of their applicability in the New Zealand setting, and may uncover some adaptations specific to our culture. As well as being the basis of my PhD thesis, the results and conclusions of my study would be used both in teaching accounting students in the university, and in informing practitioners.

Costs

There would be no dollar cost to participating firms.

If possible, I would like to be able to observe at regular intervals (say once a week for a morning or afternoon; or for several days consecutively in university vacations) over a reasonably long time frame (a year or more). At the beginning I would need to be shown around the factory to find out how the business is run, and would spend some time documenting what changes have been made. After that I would like to be able to observe what is actually happening, interview any of the personnel, and have access to archival

material such as accounting records, press releases, minutes of board meetings and other historical data.

Benefits

I would like to perform some of the everyday work in order to properly familiarise myself with the way jobs are performed. I would be willing to work in both the office and the factory. This labour will, of course, be free of charge.

The study will also benefit the firm by providing documentation of changes that have taken place in the firm. Although anonymity of both the firm and each employee interviewed and observed can be guaranteed, if, with prior explicit permission, the firm does not mind being named in publications[6], published results of the study will provide free promotion of the firm.

The concepts of total quality management, continuous improvement and just-in-time production and purchasing have become widely known because a few Japanese and US firms have allowed case studies such as this one to reveal how they have managed change. Further documentation in the NZ setting will display participating firms as being progressive and innovative, as well as assisting other firms in changing their management style. The study will benefit other firms by providing information about likely effects of making major changes in management style. The study should identify benefits, possible pitfalls and problems, and solutions that the people in the firm under study had to learn by trial and error.

Scope

In order to show several perspectives of the effect of a major change in managerial philosophy, I propose to study three or four firms over a two to four year time frame. The study needs to continue in each individual firm for at least a year, in order to identify ongoing changes. (US studies show that it takes several years before the effects of major managerial change show in management accounting.)

---

[6]   As well as the PhD thesis, possible publications include articles in professional and academic journals.

Practical details for participating firms

Initial Tour

On the initial visit to the site, I would like to have a tour of the whole facility. I envisage that this would take at least an hour, and would require someone familiar with the whole operation to act as a guide.

Location

For the duration of my study, I would like to work closely with the (management) accountant. A desk and chair would be useful in a quiet, out of the way location. I will bring a lap top computer from the university.

I would be available to assist with some of the accounting and manufacturing tasks if that would be helpful. As well as helping me to see what is actually being done, this would compensate the firm to some extent for the time and information they are providing me.

Time frame

I envisage spending a half or whole day a week on site. As well as observation and participation as detailed above, I would like to be able to interview both managers and employees when necessary and when convenient. These "interviews" would range from casual conversations with employees (for example, asking for explanations of what they are doing) to longer interviews for more detailed information (for example, an hour or so asking for historical background about particular processes).

Confidentiality and anonymity

Unless I have permission, I will disclose neither the identity of any person interviewed/observed nor information that could lead to identification of the person providing the information. The identity of the firm will not be disclosed without permission. This confidentiality and anonymity applies both in interviews with other members of the firm and in subsequent publications of the study.

APPENDIX 4.4:
LETTER TO FINEFOOD'S PARENT COMPANY

{date}

{company address}

Dear {contact},

I have heard about the innovations at Finefoods from my colleague ..., from a presentation given by [the plant manager and the accountant] to the MCom management accounting class which I supervise, and from a presentation given by [my colleague and the accountant] to the Christchurch Corporate Sector of the Society of Accountants.

I am commencing doctoral research, and am particularly interested in studying firms like Finefoods that have had a major change in their management philosophy and corporate culture. As an accounting academic, I am especially interested in whether or not these management changes have had any effect on management accounting.

I would like to study three or four firms that have implemented total quality management (TQM) and related techniques. Would it be possible to include Finefoods in my study?

Although there would be time and information costs to the firms that I study, I would hope that my research would also provide benefits to the firms, and to management and accountants in New Zealand and overseas. Details of costs and benefits, and my proposed research methods are contained in the attached Research Statement. Confidentiality and anonymity can be assured, if desired.

Yours faithfully,

Chapter 5
Findings: Integration Paradigm

INTRODUCTION

The next three chapters analyse the findings of this research through the lenses of each of the three paradigms. This chapter looks at TQM from the integration paradigm, using all three research sites as examples. In this chapter regularities and comparisons with expected changes are highlighted. The following chapter examines Whiteware and Doorways using the differentiation lens. Chapter 7 will compare the findings at Whiteware and Doorways, highlighting ambiguities.

CHARACTERISTICS OF THE INTEGRATION PARADIGM

According to Martin & Meyerson (1988, p. 95), researchers of culture "most frequently" examine practices and artifacts in an organisation, and classify them into content themes. Practices may be "explicitly dictated by an organization's rules, procedures, and structures" or be more informal, "behavioural norms" (Martin & Meyerson, 1988, p. 95). Artifacts include rituals, ceremonies, organizational stories, jargon and special language, humour, and physical arrangements. Content themes are the researcher's interpretations of the practices and artifacts.

The first major characteristic of the integration paradigm is consistency. Martin & Meyerson (1988) identify three types of consistency: action, symbolic, and content. "Action consistency occurs when content themes are consistent with an organization's formal and informal practices" (p. 102). Symbolic consistency "occurs when the symbolic meanings of artifacts, such as stories and jargon, are congruent with a firm's formal and informal practices. ... Content consistency occurs when content themes are consistent with each other" (pp. 102-103).

The second essential characteristic of the integration paradigm is consensus. "The integration paradigm focuses upon content themes, practices, and artifacts that are supposedly perceived and interpreted in the same ways by all, or at least most, members of a culture" (Martin & Meyerson, 1988, p. 103).

"A final characteristic that is exhibited by most, but not all, integrating views of culture: past or present leaders of an organization are seen as the source of most cultural manifestations" (Martin & Meyerson, 1988, p. 103).

This chapter uses the integration paradigm as a way of synthesising and analysing the findings of the research at all three sites. Firstly the major elements of TQM (content themes) are linked with practices and artifacts in the firms, demonstrating the extent of their application. The second major section examines changes in management accounting (content themes) as evidenced by practices and artifacts in the firms. The last major section discusses the findings, showing that they provide support for the notions of a unitary culture, consistency, consensus, and the importance of the change agent.

CULTURAL CHANGE

There are three factors that are relevant to successful TQM implementation (a cultural change) when viewed from the integration perspective. The first factor is the precursor to change: change is likely to be instigated because of some "internal incidences of turmoil" (Meyerson & Martin, 1987, p. 629). The second relevant factor is changes in artifacts: a change agent uses changes in artifacts, such as symbols, language, myths and physical arrangements, to bring about cultural change. Thirdly, the change agent, or leader, is an integral part of the change process.

Need for cultural change

Both Finefoods and Whiteware were experiencing "internal incidences of turmoil" (Meyerson & Martin, 1987, p. 629) when the decision was made to change to TQM.

The incentive for change at Finefoods arose out of the decision by the parent company at the time to decentralise. Looking at results for individual business units revealed that some units had been performing badly. As Finefoods had *"inherited a massive loss situation"*, they had to either make changes or face closure. The accountant summed up how he found the Christchurch branch when he moved there:

> *Christchurch was the worst of all type environments. It was driven by engineers, union involvement was absolutely chronic, management was lacking direction, and whilst [a] sort of work centre split was in place, it wasn't working. The words were all there, but no one was walking the walk.*

At the time that the Australian company took over Whiteware, the firm was performing badly. The Australian company saw Whiteware's potential – there was space, equipment and labour available to make it into a successful business. (It was noted, however, that even if the business failed the factory was on a prime piece of real estate, close to the centre of the city, which could be sold.) TQM was presented as the only way to save the business: *"If we wanted to survive, we had to change our total attitude in how we operated"*.

Unlike the other two companies, Doorways was a successful, growing firm when the change to TQM was attempted. Introducing TQM was the idea of the owner/manager of the firm, Don. As his background was in marketing, not manufacturing, this had caused problems in manufacturing: "Don had had no manufacturing experience, so systems were not documented or well structured". Also it was found that Don was over-optimistic in his predictions: "Don would make predictions, but we weren't sure how accurate they were.... If he had over-estimated, which we suspected ... then we would be overstocked." Managers had therefore developed their own predictions and ordered accordingly without letting Don know: *"Don has been so optimistic in his sales [forecast] that the factory got used to not ordering for that — they would say, this is what we think the sales will be, and they were right — because if they had ordered for [Don's forecast], we would have been massively overstocked."*

Recognising some of his own weaknesses in the area of manufacturing, the owner of Doorways employed Peter to effect the change to TQM because Peter had a history of successful change management in several other firms.

Changes in artifacts to effect cultural change

Leaders use symbols to signal to others in the organisation what the leader's vision is for the firm (Bower & Weinberg, 1988). Westbrook (1993, p. 3) claims that, in organisations trying to effect a cultural change, "there must be a conscious effort to replace negative cultural components with positive ones". The change to total quality management at the research sites was symbolised by many changes in artifacts. Examples will be given in subsequent sections of this chapter. However, some of the early changes in artifacts will be mentioned here.

At all three sites there was a necessary "initiation ceremony": courses or seminars on the new management philosophy were run for all employees. For example, at Finefoods it was obvious to all employees that a change was taking place. According to the accountant, the Auckland manager came down to Christchurch and started *"running work centre management philosophy courses"*, which *"virtually everybody"* attended.

> *We got in team building experts, had two day experiential type courses for everybody ... everybody went through it and was basically told that "This is the management structure and environment that is going to be in place. It is going to give everybody the opportunity of taking responsibility for what they do ... it is going to happen – it's got to happen or we're just not going to be here." It was done in a lot nicer way than that, but that was the guts of the thing!*

At Whiteware all of the staff were required to attend one or two seminars on TQM. As an employee who was there at the time of the change remembers it:

> *We had a big seminar where the whole staff attended. ... we were told then that TQM would be coming in, and this was basically what the seminar was – the build up to that.*

When Peter decided he was going to move from Whiteware to Doorways he took all the management team from Doorways around Whiteware to show them how TQM operated there, and what he was likely to want to try. Then the managers said to him, "Everybody who works in the factory would like to come and have a look too." So he took all the workers around as well. One of the workers said that seeing around Whiteware helped her to see that the workers there were very positive towards the changes that had been made, and enjoyed the working environment.

Three weeks after starting at Doorways, Peter held a training session for the whole workforce. He talked about TQM and showed slides and videos of Whiteware and the local Toyota plant. The aim was to show Doorways' staff what TQM involved and how kanban was going to work for them.

Another change in artifacts (physical arrangements) at Whiteware was to show the breakdown of the distinction between "upper" management and the workers. This was symbolised by purposely getting workers into the office and

administration area; for example, the venue for daily stand-up meetings is the *board* room. A former employee of Whiteware said that before TQM, "The factory staff and the office staff never really saw each other." Now the factory team leaders are in and out of the office daily. They also prepare their own reports on the computers and photocopier in the office.

Factory employees and work centre managers at Finefoods are also often in the administration area, for meetings and process improvement presentations. Volunteers from the factory give visitors to the site a short talk about Finefoods' processes in the board room before showing them through the factory.

Another symbol of the breakdown of traditional management hierarchy at Whiteware was that the plant manager managed "by wandering around" (Peters & Waterman, 1982). He was often seen in the factory, and employees were able to talk with him directly without having to go up through any hierarchical channels.

Peter also used symbols of the new "no hierarchy" regime at Doorways. He was always in the cafeteria for morning and afternoon tea and lunch at the same time as the factory staff, and he sat amongst them and chatted to them. In his first week at the factory he wore jeans, and worked alongside the employees on all the machines, in order to familiarise himself with the various processes. At meetings he also displayed symbols of being on the same level as others at the meetings. For example, he did not sit at the head of the table, and he often sat in a relaxed posture with his foot up on a chair.

The change to kanban at Whiteware brought its own new artifacts: new physical arrangements and jargon. For example, there are the kanbans themselves, which are colour coded according to department: Press shop - green, Enamel - pink, Powder coat - blue, Stores - yellow, Suppliers - purple, Spare parts - White. There has also developed new jargon related to kanban: kanbans that authorise parts to be manufactured are called "make kanbans", the store is called the "supermarket" and the place on the line where they are required is called the "dairy"; when "make kanbans" arrive in a production department they are hung up on a stand called a "kanban tree".

Colour was used as a symbol of change at Doorways as well. For example, the early kanban system consisted of brightly coloured clothes pegs. Although the factory was reasonably tidy and had been recently painted, Peter started a

programme of repainting machines blue. He also provided large gold rubbish bins and smaller green ones. (The company colours are blue and gold, and green had been associated with good quality under the existing QA system.)

The appearance of the Doorways cafeteria changed too. Peter's wife made bright checked tablecloths, newsletters and business periodicals were provided, and a "cafeteria lady" was hired to cook and provide food and hot drinks.

Role of the leader

In cultural change, as seen from the integration paradigm perspective, there is a key agent for change. Westbrook (1993, p. 2) refers to "heroes ... people who exemplify the culture". At Finefoods, Whiteware and Doorways, a new manager, the catalyst for cultural change, appears in this "hero" role.

The change at Finefoods is attributed to the new branch manager, Ted.

> *The turn-around as far as this branch is concerned took place when there was a management change and Ted came from Hastings. ... Ted was the sort of guy that was going to make it happen.*

The new plant manager at Whiteware, Peter, was also attributed with saving the firm:

> The firm wouldn't be here now if it weren't for Peter.

> The company was in such a bad way that change had to be immediate and accomplished within 12 months. Therefore Peter often had to say, 'Do it my way! It will work — you wait and see.'

As the above three subsections show, the necessary precursors to cultural change were present at both Finefoods and Whiteware: a need for change, changes in artifacts and a change agent. The following subsections show that both firms successfully changed to TQM, as evidenced by the existence of characteristics of TQM: a customer focus, a drive for continuous improvement, involvement of employees, and commitment of senior management. The change agent at Doorways attempted to effect these changes as well, as will be noted below. However, these changes were not always adopted. Possible reasons for resistance to the changes are covered in chapter 6 (differentiation

paradigm), and ambiguous readings of them and responses to them are explored in chapter 7 (ambiguity paradigm).

CHARACTERISTICS OF TQM

Using the characteristics of TQM (as detailed in chapter 3) as content themes (Martin & Meyerson, 1988), the following pages show the extent to which each firm had embraced TQM.

Customer focus

Finefoods' and Whiteware's focus on the customer can be seen in their emphasis on quality that will satisfy the customer, in the reduction in complaints from customers and in their inclusion of the internal customer.

Quality

Finefoods' management recognised that more than price was necessary for customer retention and differentiation of the product:

> *Quality is inherent in the customers' acceptance of the product, and how much they are willing to pay for it ... Along with improving the overall cost structure of the business, [we had to] move into the quality area and other ways of actually differentiating our product so that we could establish customer relationships which would allow us to maintain a premium to a certain extent over and above what happened in the major commodity markets in the world. So quality had a big influence.*

Finefoods used principles of ISO 9000 without applying for certification; that is, they made sure they had quality processes in place, building quality control into the process rather than just inspecting for quality at the end of production.

Whiteware's aim is to provide even higher quality than the customer demands or expects. Twice a day two people from the office perform a quality check on the latest unit of product to leave the assembly line. They visually inspect it as though they were prospective purchasers, recording any faults that they notice. Any faults that appear frequently are investigated, and in some cases design changes are effected to overcome them.

After making the change to TQM, Whiteware were able to quickly obtain ISO 9001 certification, as they already had quality processes and documentation in place.

Customer complaints

Each product produced by Finefoods has specified quality standards that must be met. However, even if these specifications are being met, complaints from customers stimulate ideas of how to improve quality to a higher standard. For example, customer complaints about the amount of foreign matter (vegetable or fruit stalks or leaves) in the product stimulated an improvement team investigation. It was found that product was within specifications, but a tightening of specifications was advised in order to keep customers happy.

At Whiteware customer satisfaction is monitored through records of warranty claims and reasons for replacements and service calls. Trends in these figures are reported each month, the aim being a reducing trend in claims and calls, and definitive solutions to problems causing them.

At Doorways the administration staff decided they needed to know more about the products. They all visited parts of the factory where product was being assembled, and employees doing the assembly showed them where faults were likely to occur. The administration staff found this helped when customers phoned in reporting faults. Often they could simply tell them a solution, such as re-setting an overload switch, without having to pass the caller on to someone else.

Internal customer awareness

At Finefoods everyone is trained to be aware also of their internal customers (i.e., the next work centre). Work centres can refuse to accept sub-standard product from the previous work centre, or charge them for the cost of scrap and extra work. Therefore there is an incentive to keep standards high.

There is also an emphasis on providing quality product for internal customers at Whiteware. Inspection of quality is not left solely until the end of the assembly line, but is the responsibility of everyone from supplier through to finished product. In the past, specific employees were quality inspectors. If faults were found by the inspectors, they had to be sent back for rework. Now

everyone checks their own work. For example, beside each machine in the press shop there is a board on which problems are recorded. Every thirty minutes a buzzer sounds to remind workers to check what they are currently working on. Operators can make the decision to stop manufacturing before scrap mounts up.

These half-hour checks were instituted at Doorways as well. The benefits were noted by an employee:

> The idea of checking a part every thirty minutes is good too. One time we had a new, inexperienced employee. He was put on a machine and told to cut the steel, but no one showed him exactly how to do it, what were the pitfalls, and what it should be like when it was cut. He didn't realise that when you pushed the piece of steel in it would bounce back from the guide, so he cut all the pieces too short. That cost the company a lot in wasted steel and wasted time. Now mistakes are found within half an hour.

Continuous improvement

Finefoods and Whiteware use a number of means of ensuring continuous improvement. Both firms make departments responsible for thinking of ways of improving their own processes. Improvements are reinforced by changes in standards at Finefoods. Various other ways of improving through reducing waste are practised at Whiteware.

Improvement projects

Each work centre at Finefoods is supposed to make at least one improvement suggestion a month. These do not have to be large or expensive ideas: the Auckland manager who ran the seminars on work centre management "says striving for perfection should not deter companies from achieving simple and humble goals along the way" (Magazine article,[1] 1994).

When someone thinks of a possible improvement, they form a team to research the idea. The team prepares a report stating the problem, the

---

[1]   As noted in the previous chapter, full references for some documentary evidence cannot be given without jeopardising the anonymity of the firms.

proposed solution, the cost, and the total savings, with supporting evidence, drawings, calculations etc. The improvement proposals are presented by one or more of the team at a monthly meeting. The plant manager and accountant then decide whether or not the improvement can proceed.

For example, on a couple of the production lines the results were showing that there was a problem with a lot of downtime. To begin with no one knew what was causing it. However, after a while the people on the line noticed that two or three times a day the nuts were coming off one of the paddle elevators that the product travels along. Production had to be stopped each time so the nuts could be done up again. A team was formed, comprising workers from the line and an engineer. Analysis and measurement of the downtime showed that thousands of dollars per annum were being lost in downtime and loss of production. A solution was found which only cost about $2 000 to effect: the bolts were turned around the other way, so that whenever the line was shut down to have a size change it entailed only *"a bit of preventative maintenance"* to make sure the nuts were all tight.

A certain amount of the budget is ear-marked for these improvements, so in most cases the suggestions are accepted. Often the process is shortened by the proposers approaching the plant manager directly, and quite often a number of the proposals presented at the monthly meeting have already been implemented!

There is a process improvement team for each area of the firm at Whiteware, such as press shop, enamel shop, assembly, stores, maintenance, design and development, and housekeeping. Each team meets about once a month to discuss ideas for improvement and to review the progress of suggestions for improvement from previous meetings. In the three years from the introduction of TQM until 1994, there had been more than 500 suggestions for improvement, and more than 70% of them had been implemented.

Improvements include reduction of non-value-adding activities. For example, there is a limited amount of machinery in the press shop, and set-up times can be as long as three hours. Set-up times have been reduced and team members are always working on quicker ways to set-up presses. There is also a new, computerised press. This is especially time saving for making spares for old models for which there are now no dies: instead of having to do each

action one by one the machine can be programmed, from the design, to do the whole operation.

During the first two or three years of TQM, there were minimal funds available for capital investment. Employees could suggest changes but they had to be simple and cost very little. However, the shortage of cash at that time helped to show everyone that *"for little or no cost you can improve a lot of things that you do day by day"*.

Later on, improvements could be carried out without having to obtain management permission as long as they saved more than $100 p.a. and would result in an increase in quality or employee safety. More costly improvements would go through the capital budgeting process.

One month before starting at Doorways, Peter visited the factory and set up process improvement teams there. By the time he started, they had already had one or two meetings and made some suggestions for improvements. However, there was not extra cash available for implementing suggestions, so the teams were encouraged to "work on areas requiring more brains than cash". Peter encouraged teams to provide measurements and costings for other changes so that "when cash flow allows you have a scientific basis for asking".

Positive variances

At Finefoods positive variances are seen as possible improvement opportunities: *"Once you start to look at why it's positive, you can potentially start to replicate it, and make that step down improvement in your cost structure."* Standard costs are continuously updated to take into account improvements that have been made. The accountant explained the relationship between standard costing and continuous improvement:

> *I personally believe that the standard system works in conjunction with continuous improvement, and actually gives continuous improvement a focus, because what better way of proving the continuous improvement environment is working than continually pushing your standard costs of production down?*

Waste reduction

At Finefoods a lot of resources previously spent on engineering functions have been freed up. Before the change to work centres: *"There were more engineers here than there were food-process workers, virtually!!"* The number of engineering support staff has been drastically reduced (to about a tenth of the former number).

Whiteware reduces waste through multiskilling of employees, and through aspects of the kanban system.

Idle time has been reduced by encouraging employees to be multi-skilled. In each work area there is a chart listing all team members that work in that area on one axis and all the jobs performed in that area on the other axis. Blue spots indicate which jobs each worker is able to perform, and a movable red spot under each name shows them which particular job they are required to do today. Team leaders can assess by looking at kanbans which areas are not very busy and which areas need more workers, and re-deploy the staff accordingly. Thus idle time is avoided. In some areas, such as stores and assembly, job rotation also helps prevent occupational overuse syndrome and boredom.

Lead-times, inventory levels and waste have been reduced by the kanban system. For example, instead of providing thousands of screws at a time (see example in chapter 4):

> Kanbans only contain enough for half a day's work. [Also] the area is swept
> daily. Because there are only a few screws there at a time, if there happens
> to be one dropped you can usually identify it and return it to its proper box.
> Also team members take care not to lose parts because there are only a few.

Another saving has been in levels of stock produced and held. In the past there would have been three to seven days worth of stock. Now there is "often less than one day's worth, that is, almost Just-In-Time".

Preventative maintenance would prevent or reduce downtime. The maintenance team are not happy that they are doing enough preventative maintenance; for example, I heard comments like: "we'll eventually have a check list for each machine", and "I want to get all this information on

computer. I would like to have a preventative maintenance system working by next year". However, another employee who has been with the firm a long time said that there are significantly more repairs and maintenance on machinery, plant and buildings since TQM was introduced.

Multi-skill boards like those at Whiteware were put up at Doorways when Peter arrived. Whereas before there had been "a policy of letting people up-skill if they wanted to or showed aptitude", now Peter actively encouraged everyone to learn new skills. One area of the factory immediately took up the suggestion that they should be multiskilled. Over the next weeks they rotated jobs until they could all do each other's jobs.

Employee involvement

At both sites employees are involved in measurement of processes and in suggesting improvement activities. There has been an increase in communication, not only from the top down, but also from the bottom up and sideways in the organisation. Training is provided, so that employees can be more involved, and there are rewards, mainly for team work.

Collecting and acting on measures

Employees in each work centre at Finefoods are empowered to make decisions, choose performance measures, and make continuous improvements. The accountant said,

> *Our job is basically to provide them with enough information so that they can monitor what's going on all of the time. But financial information is only a small part of it.... [A work centre may notice that something is getting out of control.] If you have people that care about the business and care about the work centre where they work, they can then start reacting to make decisions that will minimise the effect to the company.*

The initiative for measuring processes does not always come from the work centre itself. For example, technical services had noted that there was no system for checking the processing line: people relied on noticing problems as they walked around. If tests were done, the results were not recorded. Therefore technical services divided processing into six areas, and initiated a system of checking and recording faults and corrective action taken. What was

to be measured and recorded was decided in consultation with work centre managers and engineers.

The team leaders at Whiteware decide what key performance indicators to record and report. Although the plant manager made suggestions originally, the team leaders were allowed to modify or delete these original measures and replace them with ones that they felt were more appropriate. The enamel department provided an example of a modification: specks in the white enamel are a big problem, and solving it is not totally within the department's control. For example, windy weather (especially the gusty nor'west wind prevalent in summer) increases the incidence of specks, yet the age of the building prevents them from making it completely windproof. The effect of the wind was reduced by putting up cloth curtains around the white enamel area. At the same time, they relaxed the standard for the size of speck that is acceptable to or unnoticeable to the customer, resulting in significantly fewer reworks.

Improvement teams

An essential part of the work centre philosophy at Finefoods is the concept that everyone should treat their work centre as their own business. Therefore work centre managers are allowed to make their own decisions. When they ask permission, the manager or accountant turns the question back on them:

> _"If you owned the business, would you do it?" If they say, "Yes", go ahead; if they say, "No" – there's your answer._

As well as work centres being responsible for making monthly improvement suggestions, occasionally there is a bigger project for which a special team is formed. This team of people can apply their particular expertise in working towards "a team solution to the project".

As mentioned above, Whiteware process improvement teams meet regularly, and team members can suggest improvements to be discussed at these meetings. Team members also make many suggestions to team leaders as they think of them. In many cases these suggestions can be implemented immediately without having to go through any formal process. Also, every morning each of the factory teams has a short meeting at which team members may make suggestions, for example, for how to overcome problems delaying production, or how to prevent a similar problem occurring in future.

Someone is assigned responsibility for implementing the suggestions, and that person reports back with progress and assessment of the success of the suggestion. If suggestions are not able to be carried out, because they are outside the control of that department, or because they cost too much, this lack of progress is reported back to everyone as well.

Communication

Finefoods has many different kinds of meetings to ensure communication. Each work centre has regular meetings. Some are very formal, on a particular day each month, with an agenda; others are informal, for example, *"daily over a cup of tea"*.

There is a weekly meeting in which work centre managers discuss their centres: information, concerns, problems with their centre and possible effects on other work centres. Then two days later there is another meeting in which the work centre managers focus on the branch: issues to be resolved, opportunities, improvements and developments affecting the future direction of the whole branch. These two meetings enable a balance to be achieved between work centre managers wanting their own centre to be the best performer, and keeping the good of the company as a whole as the main focus.

Each month there is a meeting with work centre managers, and they pass on the information discussed in that meeting to their teams. Even some commercially sensitive information is communicated to all staff. For example, the firm told their employees when they were negotiating a bid to take over another company. Although management did not feel they should disclose the timing and the cost of the bid, they let employees know why the bid was being made, the benefits and attractions of it, and how it would affect the company.

Information is also communicated via notice boards. The accountant showed me a staff notice board in the cafeteria, commenting that he had noticed that not very many people read it. My impression of it was that it contained too much writing and not enough visual, easy to assimilate information. In contrast, blueprints for a new conveyor had been attached to another notice board in the factory: not only had workers looked at the plans, they had written on them, showing what would not work and making suggestions for alterations.

When the new plant manager, Peter, first began to introduce the principles of TQM to Whiteware, he told the then managing director, "We're all going to stop work for ten minutes each day for team meetings." The managing director was shocked. "Do you know what that's going to *cost* us?" he asked. "No," Peter replied, "but I have an idea what it's going to *save* us!" Now these short meetings (called "stand-up" meetings, because most people just stand around in a rough circle) are held regularly.

Thirty minutes after work begins each morning, all team leaders spend about fifteen minutes with the plant manager. The plant manager tells team leaders anything important for smooth production that day, such as planned production numbers of each model, any shortages, and problems which may affect production in various departments. Each team leader reports on problems in their departments which may affect others, such as staff absent and faults that will affect the next department in the process. Everyone offers suggestions on how to overcome the problems so that production can proceed as planned if at all possible. For example, one time a supplier had had to take his wife to hospital, so was unable to supply Whiteware with some parts needed for that day's production. One of the engineers from Whiteware arranged that they would borrow the tooling and make the part themselves until the supplier was back on the job. On other occasions, staff are moved between departments to redress imbalances caused by absenteeism.

Just before morning tea, each production department has a five minute "stand-up" meeting. Team leaders pass on the production information that they were given at the meeting with the plant manager. This is also a time for announcements about social activities, and sometimes for noting or reporting back on improvement suggestions from the team members.

Process improvement teams usually meet monthly, for about one hour during work time. There are also other regular meetings, such as the monthly "human resource" meeting which has a volunteer representative from each department, weekly meetings of maintenance and administration departments, and five minute daily meetings of production team leaders to discuss quality issues.

Once a month team leaders meet with management, to report on trends in their key performance indicators. Each team leader must prepare an overhead projector transparency of graphs of the indicators. The team leader gives

reasons for favourable or unfavourable trends, talks about initiatives they are taking to correct problems, and reports on quality improvements undertaken in the last month by their department. Managers and other team leaders can ask questions and give suggestions.

Financial information is reported as part of this monthly team leaders' meeting; e.g. market share, scrap losses, protective clothing costs, total sales value, consumables costs, direct labour premium (overtime), and energy costs (electricity, diesel & light oil). According to the financial controller,

> It's not too sensitive for the team leaders to know that information. It doesn't include the financial loss or profit, but gives an indication of sales, because that will have an implication for production levels, so they can understand whether it's going above budget or below budget, [and] what the consequence of that will be. [We also disclose our] market share – how we're going against that – are we keeping our market share the same, or is it going up and down? So it gives them some understanding about hard business, because it's their business as well.

Each week one employee is chosen to be the "roving reporter". This person attends one stand-up meeting for each department during the week, reporting to each department what they have heard in the previous meetings that they have attended in other departments. Information communicated in this way is not only production-related, but includes special occasions, people leaving, and new things that are happening in other departments. One of the office workers thought that "the roving reporter idea has improved communication between the departments immensely". For example, when the office people were supplied with new furniture, that information was communicated very quickly to the other departments via the roving reporter.

The office staff have morning tea together once a week, with each of the office staff taking turns to provide food (home-made or bought). As one of the staff commented: "This is a chance for office staff to talk together as we don't usually get all of the morning team together. We go to morning tea in two sittings, and some don't go at all".

Each week a notice, called "Hotwires", is displayed on each notice board. This includes the latest news about visitors to the factory, people who are going on courses, business news, and also "gossip" items such as who has had a baby,

who is leaving, and similar information that has been picked up by the roving reporter.

Before Peter started at Doorways, meetings were infrequent: "Sometimes we would go two months between management meetings". Even if there were problems it was hard to get a chance to talk about them: "[The owner-manager] wouldn't have been here, or would have been too busy."

Peter started the morning meeting with team leaders immediately. The team leaders noticed an improvement in communication straight away. For example, one leader said, "Before people took it for granted that you knew what was going on in other departments, so they didn't think to tell you. Now everyone knows."

Peter also introduced the concept of short meetings before or after morning tea, in which team leaders could communicate necessary production information to their team. (Unlike at Whiteware, Doorways workers sat down for these meetings, so they were called "sit-down meetings".) One worker said that he really liked the sit-down meetings because he found out what production he was expected to do that day, "rather than them coming about five minutes before they want it and saying, 'Oh, by the way, we need such and such!'" Also, knowledge about delays saved unnecessary overtime being worked. For example, this same worker found out at the meeting that the container was leaving a day late, so instead of working overtime and then seeing that output sitting there for a day, he knew that he had an extra day to get it done.

One of the team leaders pointed out another advantage of the sit-down meeting: "It's better in that I can say what is really going on, instead of the gossipers getting a garbled version and spreading it around."

All of the management team appreciated having management meetings weekly: "It's better having them weekly. We're getting on top of issues and know which to attack first"; "They are a place to bring up things that we would have put off in the past.... Now we can bring them up, and often it's worth discussing them with everyone at the meeting."

Dissemination of information was also effected through the use of notices. From the beginning, process improvement team minutes were displayed on a

notice board near the stairs up to the cafeteria. This notice board was gradually smartened up; for example, red dividers were placed between each team's report, sectioning the board into an area for each team.

Peter established a weekly staff newsletter. He had the idea of making several copies and putting them in plastic stands (like the ones that hold menus in some restaurants) on the cafeteria tables. The newsletters, which aid communication, are thus easy to read.

The firm's mission statement was printed out and attached to the wall in all areas of the factory. It contained statements under the headings:

- Our vision — what we want to be
- Our mission — why are we here?
- Key goals — what we must do
- Key initiatives — how we do it

The increased communication within the firm also affected information flows to customers: "information is being communicated ... through us to the customers. [The production manager] is thinking about the effect of what is happening in the factory (delays, etc.) on the customers, and letting us know so we can let the customers know."

Training

With responsibility for performance measurement and improvement being shifted to line staff, Finefoods recognised that some of the staff did not have the educational background to cope with the added literacy and numeracy demands. Therefore the company pays for employees to have reading or mathematics lessons or to pursue any other sort of training they want to undertake.

At Whiteware everyone is encouraged to be multiskilled, with higher monetary rewards for multiskilling. There is also opportunity for managers and team leaders to make visits to other plants in New Zealand and Australia and to attend conferences and meetings.

The plant manager's own philosophy was one of continuous learning, and he communicated this to his employees by recommending books to them (and to

the researcher!). For example, one of the staff read *The Goal* (Goldratt & Cox, 1986). The plant manager then gave it to several managers, and discussed with them what changes they needed to make to incorporate the principles in the book.

At Doorways he gave all the new team leaders a copy of *The One Minute Manager* (Blanchard & Johnson, 1983) to read. If they wrote him a one page summary of it, giving their impressions, he gave them the book to keep. Another symbol of this attitude to learning was introduced at Doorways: business periodicals were circulated around all office staff and then placed in the cafeteria so that all staff were able to read them.

Peter's attitude to learning and teaching was evident when he chaired team leaders meetings. He always commented on something good or gave praise before asking questions and talking about changes. He used humour:

> Team leader: My team want us to discuss overtime hours
>
> Peter: Magic wand broken down, has it?

and understandable analogies:

> There are two languages in a business: the language of things which you use
> in the factory, and the language of money which management use. We want
> you to try to be bilingual, try to talk in management language as well. When
> you get to the end of an improvement project, ask the accountant to help you
> to put your improvement into money terms. If you are improving the
> profitability of the company it is going to make our jobs more secure;

and

> Introducing a change like TQM is like [the game of] bull-rush. To start off
> with you're like the person standing in the middle and everyone's standing at
> one end or the other, but as they run past you catch one or catch two until
> after a while you've got a few people in the middle with you who are also
> keen on the idea. Then eventually you have so many people in the middle

that the few who are left at the end either drop out of the game[2] or can't help but get caught as well.

Training at Doorways included ideas on meeting format and the use of problem solving tools. Some employees realised what method Peter was using: *"He's very heavy on generalities, and visual reminders and vision and stuff like that. He doesn't start by giving them texts of TQM philosophies, but he starts by putting some of these little things round, which individually take very little, but start to build building blocks."*

Rewards

Ceremonies and celebrations communicate values to the organization. ...
Excellent organizations celebrate accomplishments and encourage teams to
celebrate their accomplishments as a way of motivating to be productive
(Westbrook, 1993, p. 2).

One reward that I heard discussed at Finefoods was a plan to give all permanent staff members pens with their names on them. Also once a year a New Zealand-wide conference is held at which each branch presents its two best improvements from the past year. An award is made to the best improvement overall.

Whiteware show their staff that they appreciate their contribution to the company by paying for social occasions such as breakfast three or four times a year, a barbecue during work hours to celebrate the launch of a new model, and an annual picnic for staff and families. Ten employees were selected, by a draw, to attend a major rugby game. Free lunch was provided at the factory (on a Saturday), and they were transported to and from the game by bus.

---

[2] At Whiteware some employees had "dropped out of the game": one team leader reported that "most of the dissenters have left". Although there were no redundancies as a result of the introduction of TQM, people who left were not replaced, as the efficiencies brought about by TQM meant that less people could do the same amount of work. As a long-time employee remembered:

For instance, the assembly line: at one stage back in the 1970s, we were producing 120 [items of the product] a day, with 120 staff. We're now producing 120 plus with 35 staff in the same department.

The staff "earn more than they used to before the [TQM] system was introduced, and earnings have gone up more than the New Zealand average" (Newspaper article, 1992)

Team leaders were all invited to a new product release, as a recognition of their contribution to the new model development. Also team leaders were able to reward employees who perform particularly well with a morning tea, a present at Christmas or anything small that they wanted to.

Less than a month after Peter started at Doorways, the firm provided a free barbecue for all staff during work hours. This was promoted as a way to thank everyone for the work that they had put into developing a new model.

Commitment of senior management

Porter & Parker (1993) found that, in implementing a change to TQM, the commitment of senior management was essential to success. The essential role that the change agent played in both Finefoods and Whiteware has been reported above. The role of management in implementing change, and their attitude towards the team structure, indicates that senior management were committed to the changes that were being made.

The branch manager at Finefoods sees his role as providing resources, motivation and support to the work centre managers.

> *[Management have] got to be leaders, motivators, trainers, environment creators, if you like – we've got to produce the environment in which people can maximise their potential in doing the job.*

Before the change to TQM, Whiteware was a traditional hierarchical organisation. As one of the managers said:

> *Previously there was a lot of dictatorship ... Management (and I was part of that management) had to solve all the problems ... everyone was ready to sit back and watch it go wrong.*

Now the whole firm is organised into teams, with each team having responsibility for solving their own problems. The same manager notes that now team leaders

take a lot of the responsibility that management were handling previously and
[are] making a better job of it. Simply because they're on the shop floor, they
see what's happening ... They're closer to the action than we were ever.

It can be seen from the above examples that both Finefoods and Whiteware
display the necessary precursors to and elements of TQM, and some of these
elements were already evident at Doorways. That is, their practices and
artifacts indicate that each of the expected elements of TQM (the content
themes) are present.

CHANGES TO MANAGEMENT ACCOUNTING

As discussed in detail in chapter 3, documented cases of TQM implementation
from the integration perspective include the following changes to management
accounting systems: the provision of operational, non-financial information,
simplification and reduction of paperwork and tracking, improved and simplified
reporting, and changed methods of allocating and classifying costs. There was
also evidence of a changing role for the management accountant. Many of
these changes were found at Finefoods and Whiteware.[3] These are detailed
below.

Operational, non-financial information

Operational performance measurement

There have been many documented cases of firms moving to a much greater
use of non-monetary and operational measures of performance (see, for
example, Schonberger, 1989; M. Morgan, 1990; Turk, 1990; Idstein, 1993;
Levine, 1993; Sharman, 1993; Shea & Kleinsorge, 1994; Thorne et al., 1994).

Each work centre at Finefoods has developed both their own standards and
their own performance measures. The measures include the *"obvious financial
ones of performance against budget and standards"*. However, many non-
financial measures of performance have also been developed, such as tonnes
of steam used per tonne of production, electricity usage, yields, product loss,

---

[3]   There had not yet been time for many changes to accounting at Doorways.

electrical downtime, quality related downtime, foreign matter in the product, and information for statistical process control. These measures are seen as an important part of the improvement process:

> *If you've got a way of measuring your input and output of any part of the process, then you can set a performance measure for that part of the process, and once you're monitoring that then you can start tweaking around and seeing how to improve.*

Statistical process control (SPC) is also used at Finefoods, especially in one operation where *"they have a very tight tolerance process, and they have got quite sophisticated in their use of SPC techniques to control their process"*.

At Whiteware each team leader is responsible for collecting and reporting on trends in a number of "KPI's" (key performance indicators). The team leaders select indicators that will help them measure and control improvement in their areas. They develop measures of quality and improvement, such as: production compared with planned production, downtime hours, absenteeism, rejects, scrap and rework cost, accidents and cost of protective clothing. Having to collect these figures regularly makes extra work for the team leaders. One team leader described it as "heaps more work". However, not only management but also team leaders consider that it is the team leaders' job to record these indicators.

Operator involvement

It is the operators at Finefoods who choose, collect, analyse and act on operational measures.

> *They produce it, they use it, they have it all on their boards in the work centre, their people understand it, and using that information [they] are constantly coming up with ideas and ways of improving the process. People on the line have a better understanding of SPC techniques and the effects on meeting customer and government regulations than probably we do or other experts who think they are experts in using SPC. They utilise that information for making improvements on the line, because they're the only people who are actually sitting there doing the job that can see that "if we changed that ..."*

Team leaders at Whiteware must take responsibility for scrap and defects in their own area. Previously, there were "piles of scrap" in several departments that nobody was taking responsibility for. Because the dollar value of scrap was aggregated and reported in total by the financial controller, it was not obvious which department was responsible for it. Now with figures on scrap being collected and reported by department (and by smaller cells as well in big departments), everyone is being more careful to avoid increases in scrap.

Simplification and reduction of paperwork and tracking

As the TQM philosophy includes total involvement of everyone in an organisation, simplification and continuous improvement should not be confined to manufacturing processes, but should extend to administration and management accounting systems as well (Neumann & Jaouen, 1986; Vollmann, 1989; M. Morgan, 1990; Turk, 1990; Walker, 1992; Gerner & McIntire, 1993; Shea & Kleinsorge, 1994).

Reduced paperwork

Patell (1987) shows how a firm using JIT managed to reduce the amount of paperwork related to purchasing, even though the number of deliveries tended to increase.

Whiteware, which has a kanban system running from suppliers right through the factory, has also been able to simplify purchasing. As most suppliers are on the kanban system, there is no need to write out orders or quote order numbers on invoices. The kanban card *is* the order. (If they wish, suppliers can write the kanban card number on their invoice.) Even for suppliers in other cities, there is no need to write an order – the kanban card is slipped into a plastic sheath that can be fed through the fax machine.

When an order is delivered, the store person receipts it in, checking the actual delivery against the packing slip. The only recording required by the inward goods store is the part number.

Instead of each order being invoiced by the supplier, as happened in the past, several deliveries are recorded on one invoice. This reduces the amount of work involved in the payment of creditors.

There is also less paperwork related to production plans. Previously they would have to spend time every day printing out plans for the next day's work. If the computer was down, this would hold them up, and they would have to try and think which jobs needed to be done. Kanban is "a lot better and easier": the kanban itself is the "production plan".

Simplified accounting for work-in-process

In a JIT environment, the amount of inventory on hand will have reduced substantially. Therefore, several firms have decided to simplify accounting for work-in-process inventory (Neumann & Jaouen, 1986; Patell, 1987; Schonberger, 1989; Turney & Anderson, 1989; Turk, 1990; Shea & Kleinsorge, 1994).

Before TQM and kanban were introduced at Whiteware, inventory was accounted for at eleven points of the production process. Every week stock totals had to be recorded at these eleven points. However, everyone found the system *"horrendous"*, and people just wrote down any figure on the stock sheets, with the resulting information being *"way up the spout"*. Now transfers are only recorded as materials enter production, as parts go into the assembly department, and as product is finished. With much less time and effort being spent on counting, the inventory has become much more accurate.

One of the team leaders at Whiteware recalled the changes the firm had been through regarding stock control. They began with visual control, and then moved to computerised stock control. However he commented: "Kanban, as [we have] now, is immeasurably better than computer stock control because of the difficulty of getting data into the system with the latter."

As Finefoods processing is seasonal, they are not able to operate on a JIT system, and have to store large quantities of inventory. The computerised system they have developed is a standard cost, transfer costing system, with work centre managers being responsible for recording standard costs as the product leaves their department. Each manager accepts incoming product at standard cost from the previous department, which provides a check on accurate inputting of information. With the new system developed, they have found that costing and inventory information is more reliable and any mistakes

are generally picked up on the day they occur and fixed at the time, rather than being found at the end of the month or not at all.

Simplified labour recording

Many firms adopting elements of TQM have also increased their use of technology, with a subsequent reduction in direct labour. In some firms, labour cost has reduced so significantly that firms have simplified their recording of labour costs (see Neumann & Jaouen, 1986; Patell, 1987; Turney & Anderson, 1989; Vollmann, 1989) Turk (1990) documents how one company controlled labour costs by recording and monitoring absenteeism and overtime rather than direct labour hours.

Labour is still a significant proportion of costs at Whiteware, and is still recorded traditionally. However, absenteeism is monitored daily, as the production for the day may be affected by several people being absent in one department. Absenteeism and reasons for it are reported daily at the early morning meeting with the plant manager, and if necessary employees are transferred from another department in order to ensure production can continue as planned. Overtime in each department is also monitored, and reasons for overtime levels are discussed at meetings.

Automation of manual accounting procedures

In some firms, continuous improvement initiatives have included automation of some manual accounting procedures (Woods, 1989a; Emore & Ness, 1991; Shea & Kleinsorge, 1994).

Finefoods designed their own database, manufacturing and accounting package to fit the change in philosophy and the organisation by work centre. Finefoods' accountant felt that *"the management change demanded that the accounting system change to suit it."* The system was introduced gradually, with only physical measures being entered to begin with, and then dollar amounts being added once the system was running properly. Even though the accountant was very involved in the design of the system, he recognises that the principles of continuous improvement also need to be applied to computer systems. He compared the custom-made program with other manufacturing packages, and at the time of the interview he was considering whether they

needed to change packages or incorporate some of the features that are available in other packages. Even though the firm has invested considerable time and expense in designing and programming their own accounting package, the accountant is ready to change to another package if necessary in order to continuously improve.

Improved accuracy of necessary paperwork

Buehlmann & Stover (1993) and Idstein (1993) report on efforts to improve the accuracy of necessary accounting-related paperwork.

One of the improvement suggestions carried out in the office at Whiteware, as recorded on an improvements plaque, was to streamline handling of debtors: "new forms [were] designed and [the] complete system made more efficient and less time consuming".

Improved and simplified reporting

Schonberger (1989), Vollmann (1989), Woods (1989a), and Shea & Kleinsorge (1994) document cases of accounting reports being simplified. Shea & Kleinsorge (1994, p. 66) tell of cost accountants' surprise at finding that "reports were not used at all, were not providing necessary information, or were too late to be useful ... these accountants were told to 'simplify, simplify, simplify'."

At both Finefoods and Whiteware, reporting of both financial and non-financial information has become much more visible, and is often simplified to graphical format rather than accounting report format.

Finefoods have found it effective having display boards in each department. As well as operational measures (some of which are displayed as graphs on these boards), improvements are also put on the boards for comments.

While acknowledging that cost and financial performance reports remain a necessary part of reporting, Finefoods' monthly report to head office contains summaries of a wide variety of physical measures used to evaluate the performance of work centres, and reports on continuous improvement activities already actioned and proposed.

At Whiteware there are a lot of displays on the walls, both in the factory and in the administration area. Graphs of performance measures are displayed both in the departments where they are collected, and on a noticeboard near the cafeteria, so that employees not only see how they are improving, but can compare their department with others. In each department, there are graphs and charts on the wall, recording such things as production (updated hourly), rejects and reasons (updated as they occur), power consumption (updated weekly), percentage of product "right the first time" (updated daily), accidents, and the correct order for various processes. There are also samples of both standard parts and parts with different faults that have caused them to be rejected. If in doubt, workers can compare with the samples before deciding whether or not they have a problem. There are also definitions of TQM, cartoons, slogans, and drawings of new models, as well as white boards recording delays, improvements, and multiskilling.

The format of monthly reports for management have also changed: the first pages now consist almost exclusively of graphical displays of quality, improvement and financial information – not only financial figures, but also non-financial information such as scrap, rework and defects. Each graph is marked with a face indicating good ☺, indifferent ☺ or bad ☹. These graphs make it very easy to see trends and focus on areas that need attention. Some of the traditional pages of figures are included at the back of the reports in case anyone wants to see what the graphs are based on, but the figures are not discussed in detail. The plant manager claimed that in management meetings little time is spent on going over what has happened in the past – most of the time is spent on planning new models and discussing improvements.

Costing changes

Reduced reliance on variance analysis for control

Turney & Anderson (1989), Hall (1989) and Hanks et al. (1994) show companies in TQM environments placing a reduced reliance on standard costing and variance analysis, and giving more emphasis to monitoring of trends rather than variances in performance.

Both Finefoods and Whiteware use standard costing systems and report on variances and performance compared with budgets. The accountant at

Finefoods implied that they had to be evaluated that way because they were a cost centre. However, both firms de-emphasise "good versus bad" variances, and focus on trends.

As Finefoods' accountant said,

> You've got to hold people responsible for what goes on, but you've also got to accept that there are going to be variances ... a positive variance or a negative variance.... It's not that one's good and one's bad - it's just that you're not working to where you expect to be. The most important thing is to find out why. Then you get people to start to focus on the drivers of the variance, and the fact that a positive variance has reasons.... Once you start to look at why it's positive, you can potentially start to replicate it, and make that step-down improvement in your cost structure.

At Finefoods, the work centre managers are totally responsible for setting their standards and adjusting them as continuous improvement makes them out of date.

Changed bases for allocation of overhead

With reductions in direct labour, firms have begun to consider different bases for allocation of overhead costs (Neumann & Jaouen, 1986; Turney & Anderson, 1989; Woods, 1989a, b; Shea & Kleinsorge, 1994).

The major change in Finefoods' costing system arose from the need to allocate service centre costs on a basis that work centre managers could accept. Work centres are charged for all costs that that centre incurs, including the costs of engineering, storage, steam and electricity. With work centre managers being trained to understand and operate their centres as "mini-businesses", they had to understand on what basis they were being charged for service centre usage, and had to agree to the cost they were being "charged". Cost drivers were determined [4] and costs allocated based on budgeted service department costs.

---

[4] Service departments and their cost drivers include:

Quality assurance:	quality labour hours, number of tests for bacteria
Engineering:	engineering labour hours
Storage bins:	packed weight tonnes
Boiler:	kilograms of steam used
Electrical:	electricians' labour hours, megawatt electricity used

Different classification of costs

Carlson & Young (1993), Sharman (1993) and Turney (1993) advocate the measurement of activity costs as a starting point in reducing non-value-adding costs. Some firms measure costs of quality, breaking quality costs down into categories such as appraisal, prevention and failure (Dahlgaard et al., 1992; Sohal et al., 1992; Buehlmann & Stover, 1993; Stanleigh, 1993; Ross, 1994; Brinkman & Appelbaum, 1994). However Hall (1989) suggests that monitoring and improving non-financial measures may be sufficient without having to put a dollar figure on the cost of quality.

The staff at Finefoods "has been encouraged to focus on value-added activities. One of the outcomes of this emphasis has been improved control of waste and losses" (Journal article, 1994). Although there are many non-financial measures at Finefoods, they have cost figures as well, as part of their activity-based costing system. However, these measures are not grouped together and reported in the quality cost categories suggested in the literature.

At Whiteware many non-value-adding activities, such as rework, downtime, overtime, and service calls, are measured non-financially, and continuous improvement is monitored by observing trends in these non-financial measures.

Changed role for management accountants

A number of researchers advocate accountants being actively involved in cultures that are changing. For example, Laughlin & Lowe (1990, p. 37) state that "accounting systems and their designers should be actively involved in critically analysing the current state of the organisation and society of which they are part, and looking for what changes they can bring", and Maskell (1986, p. 34) claims that "the management accountant must be willing to see his/her role change significantly as the needs of the business change and, in fact, initiate change as part of the continuous improvement concept".

From scorekeeper to coach

Clark & Baxter (1992) suggest that the accountant's new role be "coaching" rather than "scorekeeping". This implies that others in the organisation take on

more of what has traditionally been the accountant's role – measuring and reporting.

Finefoods' accountant considers his role to be giving *"the people who are doing the job"* the tools they need: training in understanding data processing, financial reports, statistical process control, etc.

> *We're in a position to see a lot of what's going on in the place and utilise that information to assist them to do what they do better. We're also in the position to make sure that they understand the information so that they can use it from their perspective to assist them to do better. I personally want to see the work centres in a position where they are designing and sourcing their own data and information.*

He has gradually introduced financial vocabulary to work centre managers, and helped them to understand what the financial figures mean. For example, every month he meets with each work centre manager and reviews expenditure on repairs and maintenance compared with the budget prepared by the work centre manager. Work centre managers explain why actual costs differ from their estimates, and the accountant helps them to revise their plans in order to keep within the budget. This "coaching" process was very necessary at the beginning, but now, the accountant says, they have the tools and they hardly need to have the monthly meetings.

The accountant at Whiteware thought that it was essential for team leaders to collect and report on operational measures, so that they "own" any problems and take responsibility for the control of costs.

There had not been time for much accounting change to take place at Doorways. However, the accountant had already made some changes within weeks of Peter starting. The accountant showed Peter the reports he usually prepared for the owner each month, which included tables of figures: sales, profit, margins, etc. Peter said he needed more production information, rather than sales figures. Also he wanted a summary only, not pages of financial information.

Peter showed the accountant a sample of the reports they had developed for the monthly meetings at Whiteware, and asked him to design his own, using

graphs to present what he (the accountant) thought would be important information.

For the first monthly management meeting the accountant prepared a one page report, with 9 graphs of data for the year to date (April to August). These covered:

- Monthly factory production ($s)
- Inventory level ($s)
- Days of inventory (based on monthly production)
- Direct labour recovery rate (%)
- Overtime premium ($s)
- Direct factory staff (number)
- Monthly production per employee ($s)
- Consumables ($s)
- Telephone expenditure ($s)

The accountant thought of these categories himself, with suggestions from Peter. The information was all available on the computer system; this was just a different way of reporting it. The next month there was a page from each team leader, including some written information in note or tabular form, but mostly consisting of graphs.

Part of a team

Turney & Anderson (1989) found that accountants are being required to work as part of multi-disciplinary teams.

All of Finefoods is divided into work centres, including management and administrative functions. Administration is considered to be a service centre:

> *the reason that we're here is for the provision of reliable management, financial and administrative services. The other work centres are our customers. We must satisfy our customers and provide them with a valuable service.*

The financial controller at Whiteware is one of the five managers in the top management team. However, he describes how responsibility for decisions has been moved down to team leader level:

Previously there was a lot of dictatorship down here. Management ... had to solve all the problems. ... Team Leaders get a lot more pressure now, a different type of pressure ... Now it's solving their own problems, so the pressure is coming from a different direction. I think the team leaders do an excellent job, they do take a lot of the responsibility that management were handling previously and making a better job of it. Simply because they're on the shop floor, they see what's happening.

The accountant at Doorways, recognising that he was part of a team, made his programme for graphing performance measurement information available to the other managers, so that they could prepare similar reports for the next month's meeting. All but one of the management team prepared graphs for the next meeting, even if the graphs had only one or two data points in them because they had only just started collecting that particular information.

According to the accountant, Peter focussed on the factory, reasoning that if the factory is running efficiently it will be reflected in sales. He obtained production and order information daily, from the people most closely concerned with it. This information was input into the computer by one of the administrative staff and used at the monthly meeting. The accountant eventually converted the information into dollars and cents using standard costs, but by that time the information had already been used for daily operating decisions.

As has been shown in this section, many of the accounting changes found in other TQM firms are also evident at Finefoods and Whiteware, and were beginning to appear at Doorways.

DISCUSSION

Unitary culture

Using the integration perspective in interpreting the evidence collected, the new cultures that have developed at Finefoods and Whiteware appear to be unitary. Each of the members of the organisation at the time of cultural change faced the likelihood of the business failing and their being out of a job; that is, they faced "the same problems" (Van Maanen & Barley, 1985, p. 37). As has been shown above, there is a lot of communication within both organisations,

not just from the top down, but also from the bottom up and sideways – another characteristic of unitary cultures noted by Van Maanen & Barley (1985, p. 37).

The third characteristic of a unitary culture is "a common set of understandings for enacting proper and consensually approved behavior" (Van Maanen & Barley, 1985, p. 37). It could be argued that the continuous improvement programmes and the reporting systems that have developed at both sites reinforce "proper" and "approved" behaviour. For example, at Whiteware the key performance indicators that have been developed in each department focus employee attention on behaviours that will improve those indicators. The fact that absenteeism results in redeployment of workers and that it is reported by department every month is a disincentive to employees to be absent without cause, as their absence inconveniences others and reflects on their own team. Also, regular improvement reporting meetings at both sites signal to employees that the accepted behaviour is to think of improvement opportunities.

Artifacts also indicate "approved behaviour". For example, at Whiteware there are boards on the walls of each department which indicate which skills the employees in that department have mastered. These boards visually reinforce an approved behaviour of the culture: multiskilling. Other symbols of the unitary culture include one cafeteria for all staff, and the new language of the changed culture (e.g. the language associated with kanban at Whiteware, and "work centre management" at Finefoods).

Successful change

The cultural changes in evidence at both sites indicate that successful cultural change has taken place. Using Bartunek & Moch's (1987) classification of cultural change, the change is second order, as at both sites it was effected by a change agent who changed the shared language, symbols, meanings and other artifacts of the existing culture. Using Gagliardi's (1986) model, the changes in culture are in the nature of a revolution: old staff have left, new staff who subscribe to the new way of doing things have been taken on, and old ways of doing things have been replaced by new ways that are symbolic of the change in culture.

Consistency

Action consistency

All three firms display action consistency; that is, their practices are consistent with their content themes (Martin & Meyerson, 1988). For example, one of the content themes of TQM is a focus on the customer. The practices in evidence at both Finefoods and Whiteware are consistent with this theme: they emphasise quality, make changes in order to decrease customer complaints and are aware of internal as well as external customers. Similarly, a content theme of management accounting in a TQM environment is changes in costing methods. Practices consistent with this theme include a reduced reliance on standard costing and variances for control purposes, reduction of non-value-adding costs, and different bases for allocation of overhead, all of which were in evidence at at least one firm.

Symbolic consistency

There is also symbolic consistency: "the symbolic meanings of artifacts, such as stories and jargon, are congruent with [the firms'] formal and informal practices" (Martin & Meyerson, 1988, p. 102). For example, the ritual of daily, weekly and monthly meetings at which people from all levels of the organisation contribute is consistent with the practice of communication between and within all levels. Similarly, saying that operators should be responsible for their own scrap, and letting operators solve their own problems is consistent with the practice of operator involvement.

Content consistency

Content themes are also consistent with each other (Martin & Meyerson, 1988, p. 103). The TQM practices of focussing on the customer, continuous improvement, employee involvement and commitment of senior management are consistent with each other. They also depend on each other, in that some cannot succeed without the others; for example, continuous improvement initiatives and employee involvement cannot take place unless senior management is committed to TQM. Similarly, changes to management accounting such as simplification of paperwork tracking and reporting, and a

changing role of the management accountant are all consistent with each other and with a change to TQM.

Consensus

The information about content themes, practices and artifacts presented in this chapter has been deliberately chosen to imply that they are "perceived and interpreted in the same ways by all, or at least most, members of a culture" (Martin & Meyerson, 1988, p. 103), as is expected when viewing the findings from an integration paradigm perspective. Whether this consensus was in fact present is questioned in the next two chapters, in which the findings are viewed from perspectives that do not presume consensus.

The role of leaders

The new managers at both Finefoods and Whiteware are credited with being the agents who effected the change to TQM. Comments from interviewees implied that without these leaders the change would not have taken place.

CONCLUSION

Viewing the findings from an integration perspective, the researcher interprets the evidence as demonstrating that there is consistency and consensus, and that the leader has an important role to play in implementing change in the culture of the organisation. As will be shown in the next two chapters, it is possible to use the same research sites and interpret observed behaviours and relationships to show the opposite (chapter 6) or to highlight ambiguities (chapter 7).

REFERENCES

Bartunek, J. M., & Moch, M. K. (1987). First-order, second-order, and third-order change and organization development interventions: A cognitive approach. *Journal of Applied Behavioral Science, 23*(4), 483-500.

Blanchard, K. H., & Johnson, S. (1983). *The one minute manager.* London: Fontana.

Bower, J. L., & Weinberg, M. W. (1988). Statecraft, strategy and corporate leadership. *California Management Review, 30*, 39-56.

Brinkman, S. L., & Appelbaum, M. A. (1994). The quality cost report: It's alive and well at Gilroy Foods. *Management Accounting (NAA)*, September, 61-65.

Buehlmann, D. M., & Stover, D. (1993). How Xerox solves quality problems. *Management Accounting (NAA), 75*(3), 33-36.

Carlson, D. A., & Young, S. M. (1993). Activity-based Total Quality Management at American Express. *Journal of Cost Management, 7*(1), 48-58.

Clark, A., & Baxter, A. (1992). ABC + ABM = Action: Let's get down to business. *Management Accounting (CIMA)*, June, 54-55.

Dahlgaard, J. J., Kristensen, K., & Kanji, G. K. (1992). Quality costs and total quality management. *Total Quality Management, 3*(3), 211-221.

Emore, J. R., & Ness, J. A. (1991). The slow pace of meaningful change in cost systems. *Journal of Cost Management,* Winter, 36-45.

Gagliardi, P. (1986). The creation and change of organizational cultures: A conceptual framework. *Organization Studies, 7*(2), 117-134.

Gerner, J., & McIntire, R. (1993). Q is for quality. *Management Accounting (NAA), 75*(3), 37-38.

Goldratt, E. M., & Cox, J. (1986). *The goal: A process of ongoing improvement.* Croton-on-Hudson, NY: North River.

Hall, R. W. (1989). World-class manufacturing: Performance measurement. In P. B. B. Turney (Ed.), *Performance excellence in manufacturing and service organizations: Proceedings of the Third Annual Management Accounting Symposium* (pp. 103-110). San Diego, CA: National Association of Accountants Committee on Academic Relations and American Accounting Association Management Accounting Section.

Hanks, G. F., Freid, M. A., & Huber, J. (1994). Shifting gears at Borg-Warner Automotive. *Management Accounting (NAA)*, February, 25-29.

Idstein, , J. R. (1993). Small company TQM: Each person is critical to the process. *Management Accounting (NAA)*, 75(3), 39-40.

Laughlin, R. C., & Lowe, E. A. (1990). A critical analysis of accounting thought: Prognosis and prospects for understanding and changing accounting systems design. In D. J. Cooper & T. M. Hopper (Eds.), *Critical accounts* (pp. 15-43). Basingstoke: MacMillan.

Levine, C. (1993). How TQM worked for one firm. *Journal of Accountancy*, September, 73-79.

Martin, J., & Meyerson, D. (1988). Organizational cultures and the denial, channeling and acknowledgment of ambiguity. In L. R. Pondy, R. J. Boland & H. Thomas (Eds.), *Managing ambiguity and change* (pp. 93-125). Chichester: Wiley.

Maskell, B. (1986). Management accounting and Just-in-time. *Management Accounting (CIMA)*, 64, September, 32-34.

Meyerson, D., & Martin, J. (1987). Cultural change: An integration of three different views. *Journal of Management Studies, 24*, 623-647.

Morgan, M. (1990). Quality circles: Management accounting applications. *Management Accounting (CIMA)*, November, 68, 48-51.

Neumann, B. R., & Jaouen, P. R. (1986). Kanban, zips and cost accounting: A case study. *Journal of Accountancy*, August, 132-141.

Patell, J. M. (1987). Cost accounting, process control, and product design: A case study of the Hewlett-Packard personal office computer division. _The Accounting Review, 62_, 808-839.

Peters, T. J., & Waterman, R. H. (1982). _In Search of Excellence._ New York: Harper & Row.

Porter, L. J., & Parker, A. J. (1993). Total quality management - the critical success factors. _Total Quality Management, 4_(1), 13-22.

Ross, P. (1994). The impact of total quality management systems on existing management accounting reports. Paper presented at AAANZ Conference, Brisbane, July.

Schonberger, R. J. (1989). World-class performance management. In P. B. B. Turney (Ed.), _Performance excellence in manufacturing and service organizations._ Proceedings of the Third Annual Management Accounting Symposium (pp. 1-5). San Diego, CA: National Association of Accountants Committee on Academic Relations and American Accounting Association Management Accounting Section.

Sharman, P. (1993). The role of measurement in activity-based management. _CMA Magazine_, September, 25-29.

Shea, J. E., & Kleinsorge, I. K. (1994). TQM: Are cost accountants meeting the challenge? _Management Accounting (NAA)_, April, 65-67.

Sohal, A. S., Ramsay, L., & Samson, D. (1992). Quality management practices in Australian industry. _Total Quality Management, 3_(3), 283-299.

Stanleigh, M. (1993). Accounting for quality. _Australian Accountant_, October, 27-29.

Thorne, H., Gurd, B., & Southwick, A. (1994). Performance measures for manufacturing industry. Paper presented at AAANZ Conference, Brisbane, July.

Turk, W. T. (1990). Management accounting revitalized: The Harley-Davidson experience. _Journal of Cost Management_, Winter, 28-39.

Turney, P. B. B. (1993). Beyond TQM with workforce activity-based management. *Management Accounting (NAA), 75*(3), 28-31.

Turney, P. B. B., & Anderson, B. (1989). Accounting for continuous improvement. *Sloan Management Review, 30*(2), 37- 47.

Van Maanen, J., & Barley, S. R. (1985). Cultural organization: Fragments of a theory. In P. J. Frost, L. F. Moore, M. R. Louis, C. C. Lundberg, & J. Martin (Eds.), *Organizational culture* (pp. 31-53). Beverly Hills: Sage.

Vollmann, T. (1989). Changing manufacturing performance measurements. In P. B. B. Turney (Ed.), *Performance excellence in manufacturing and service organizations.* Proceedings of the Third Annual Management Accounting Symposium (pp. 53-62). San Diego, CA: National Association of Accountants Committee on Academic Relations and American Accounting Association Management Accounting Section.

Walker, R. (1992). Rank Xerox — management revolution. *Long Range Planning, 25*(1), 9-21.

Westbrook, Jerry D. (1993). Organizational culture and its relationship to TQM. *Industrial Management*, January/February, 1-3.

Woods, M. D. (1989a). How we changed our accounting. *Management Accounting (NAA)*, February, 42-45.

Woods, M. D. (1989b). New manufacturing practices — new accounting practices. *Production and Inventory Management, 30*(4), 7-12.

Chapter 6
Findings: Differentiation Paradigm

INTRODUCTION

The differentiation paradigm is characterised by inconsistency: "espoused values may be inconsistent with actual practices ... or rituals and stories may reflect contradictions between formal rules and informal norms" (Meyerson & Martin, 1987, p. 630). This chapter gives examples of content themes, practices and artifacts, some at Whiteware and many at Doorways, which display this inconsistency with the expected precursors to cultural change, the expected elements of TQM and the expected changes to management accounting in a TQM environment.

CULTURAL CHANGE?

Loose coupling

Meyerson & Martin (1987, p. 635) claim that loose-coupling can prevent cultural change from happening, by dampening the effect of a change in one area on other subunits in the organisation. Loose-coupling also makes it difficult to predict and control the effects of changes.

Loose coupling was evident in the process improvement teams at Doorways. For example, the team that quickly applied all the ideas suggested by Peter had little effect on other parts of the factory. All the workers in this team had re-trained so they could do each of the jobs of the other team members. They also had multi-skill, production, continuous improvement and worst defect boards in use. However, although these successes were published on the notice board and talked about at team leaders meetings, the application of this team had no effect on other teams.

There were also unexpected reactions to some changes implemented. For example, there was a vacant team leader position. A suggestion had come from the employees that they should be told when jobs came up in other areas of the factory or office, and given the opportunity to apply. Therefore the team leader position was advertised internally and several people in the factory applied. The plant manager said that he counselled the unsuccessful applicants and let them know gently that they did not have the job. However, when the appointment of the successful applicant was announced, "straight

away rumours started to go round that management had already decided who was to have the job, and one person who missed out promptly resigned."

Need for cultural change?

The reasons for introducing cultural change at Doorways were not the "internal incidences of turmoil" (Meyerson & Martin, 1987, p. 629) one would expect as a precursor to major change. The firm was successful and growing.

The objective of the change in management was to increase production. The owner-manager was more experienced in marketing than in manufacturing. Recognising his weakness in this area, he looked around for somebody with experience in manufacturing who would increase production without losing the quality. He found that person in Peter, who has had experience in implementing TQM in several industries.

However, there was a conflict in objectives right from the beginning. Peter focuses on quality, and immediately put into place processes to ensure a quality product. The owner, on the other hand, wanted to increase production. Someone said that the need for increased production was to legitimise and help pay for two very expensive computerised presses that had been purchased.

There was no change in ownership as a precursor to the desired cultural change. The fact that the owners did not have a total quality orientation was seen by Peter as a major cause of the subsequent failure to achieve the change in culture. (The influence of the owner is covered in more detail in the section below on commitment of senior management.)

Changes in artifacts to effect cultural change

As shown in chapter 5, Whiteware had symbols of a reduced distinction between top management and workers on the shop floor. After they had changed to TQM, there were supposedly only three levels of management: the management team (supply, personnel, engineering and design managers, and the financial controller) and team leaders who report to the plant manager, and team members below them (see Fig. 6.1).
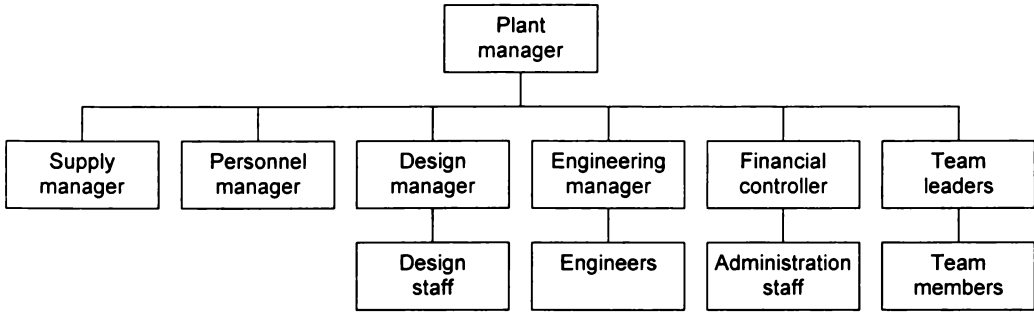
Figure 6.1: Whiteware's organisational chart (1)

However, amongst the management team there was an elite group, the business team (plant and design managers and financial controller), that made strategic decisions. Also, about the time that I commenced my research, a new level in the hierarchy had been created: a production manager with responsibility for ISO. Team leaders were answerable to the production manager. Some people thought that there was another level within management, too – that the engineering manager and production manager were a level below the other managers. That is, the number of levels of hierarchy was as depicted in Fig. 6.2.
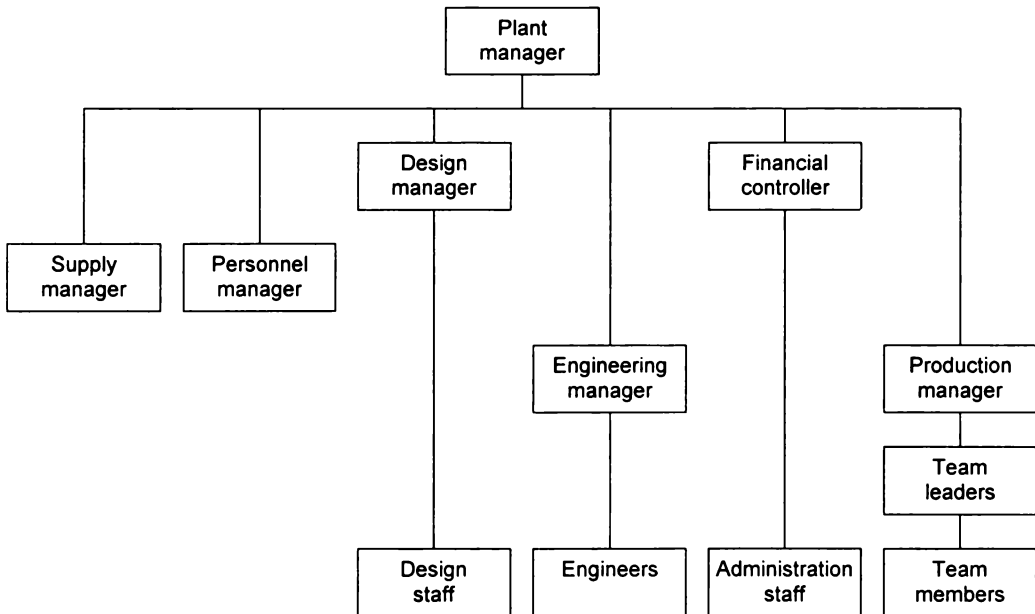
Figure 6.2: Whiteware's organisational chart (2)

There was a flat organisational structure at Doorways, too (see Fig. 6.3). However, one of the team members saw problems with the flattened structure:

> I don't think the management structure has enough levels in it. Any problems that they have anywhere in the factory seem to go to Chris [a team leader], so forty people are coming to him with their problems, instead of only sectional leaders reporting to Chris. Then it would not be too much for any one person.

```
                      ┌──────────┐
                      │  Plant   │
                      │ manager  │
                      └──────────┘
                            │
        ┌───────────────────┼───────────────────┐
   ┌─────────┐         ┌─────────┐         ┌─────────┐
   │  Team   │         │  Team   │         │         │
   │ leader  │         │ leader  │         │  etc.   │
   └─────────┘         └─────────┘         └─────────┘
        │                   │                   │
   ┌─────────┐         ┌─────────┐         ┌─────────┐
   │  Team   │         │  Team   │         │         │
   │ members │         │ members │         │  etc.   │
   └─────────┘         └─────────┘         └─────────┘
```
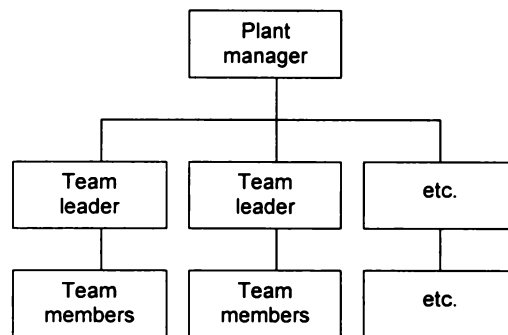
Figure 6.3: Doorways' organisational chart

Despite the symbol of no hierarchy in the flattened organisational structure, it was evident from the way that workers at Doorways talked about "management" that they still perceived a hierarchy of power:

> Sometimes management have tended to act as though the people at the coal face are dumb, and they're not.

> This machine isn't set quite right so some of the holes aren't coming in quite at the right angle. I've mentioned that already, about the time Peter arrived, and management said, "Yes, we'll do something about it" but they haven't got round to it yet and I'm having to make some more now to go into the container and they're going to be sent out not quite right.

Even the team leader who quickly implemented any suggested TQM initiatives still made a distinction between team leaders and "management":

> We asked a while ago for a ventilator extractor fan. "Management" has done nothing.

This quote from a team leaders' meeting at which Peter was present shows how the workers can de-personalise the relationship with management by not using their names and treating them as people. At this particular meeting, Peter quickly interjected: "That's me!"

Others at Doorways referred to management as "them". For example, on the afternoon of the Melbourne Cup horse race Peter held a "Hat Party" at his home to which he invited people that he had found particularly helpful and supportive from several firms in which he had worked. (All the guests had to wear a hat, as though they were going to the races.) At a later process improvement team meeting, one of the items on the agenda was that they were still unhappy about the "them and us" feeling with management because not everyone was invited to the Hat Party and another party organised by one of the office staff.

At Whiteware each team takes morning tea, lunch and afternoon tea breaks at the same time. Both management and workers use the same cafeteria. Although this could be seen as a sign of the breaking down of traditional hierarchies (an integration perspective), Boje & Winsor (1993, pp. 67, 68) criticise this symbol of TQM:

> [TQM creates] the illusion of management and labour as being 'on the same side'. This illusion of common purpose and thus trust is further perpetuated by having both workers and management wear the same uniform and share the same eating and parking facilities …This type of organizational change provides a narrative not of emancipation, but of conformity.

At Doorways Peter made a point of always being in the cafeteria at break times. He sat at the tables amongst the workers and talked to them. However, other office staff did not have "smoko" with the factory staff. The accountant came up after the factory people had gone back to work (and it is possible that he only used the cafeteria because one end of it is the only smoking zone within the building). The others got their drinks from a small tea room adjacent to the office.

Kanbans were gradually introduced at Doorways after Peter had been there for one month. However, no one knew how trigger and batch sizes for kanbans had been decided. After asking several of the workers who used kanbans, I finally discovered from Peter that a team leader had decided on them, based

on his experience of usual production volumes and processing times. However, he had not consulted with the workers who would be using them, and there were cases of running out and delayed production until higher levels had been determined. That is, the kanbans were a symbol of lack of communication and involvement.

Viewed through the integration paradigm, symbols of no hierarchy and the new symbols that come with a kanban system can be seen as aids to effecting cultural change. However, the above examples show that they can be read negatively by the people who see them, and thus can also work against cultural change.

Role of the leader

Negative myths

As shown in chapter 5, a myth had risen about the role of the change agents at Finefoods and Whiteware: they were seen as essential for the firms' survival. However, there were also negative stories about the change agent at Whiteware and Doorways (Peter). More than one person at Whiteware made comments about his inflexibility:

> Peter wouldn't let us do TQM unless we did it his way. Maybe he had seen our suggested ways tried and maybe he knew that they wouldn't work, but we perceived it as him imposing his way of doing TQM.

> Peter is hard to work for. Because the company was in such a bad way, change had to be immediate and accomplished within 12 months. Therefore Peter often had to say, "Do it my way! It will work — you wait and see". Although this is not the TQM way, I think Peter had to be "bossy" because of the time frame for change.

Another explanation could be that Peter was impatient. That is how he described himself:

> Sometimes I feel like I'm being a bit impatient and arrogant. I think that's how people might perceive me, because I can see where I want to go, and I can't see why no-one else can see it as well.

In the first few months at Doorways he was complaining that change was happening too slowly. For example, he said, "Well, we've given everybody lots of training already." However, he had carried out only one training session with the whole work force, as well as taking them all to Whiteware to see TQM in operation. He had taken the process improvement team leaders through two training sessions, and could not seem to understand why they had not caught on already to the idea of working on only one achievable improvement project at a time. This may have been because Peter had introduced TQM so many times before: he knew what he was trying to achieve, whereas the people in the firm had only seen a fleeting glimpse of what they were aiming for in the one visit to Whiteware.

Dermer (1990, p. 72) observes that

> Successful change entrepreneurs are aware that ... a sustained process of persuasion is needed to overcome resistance.... Various techniques are used, some direct, some indirect: suggestions may be made or articles circulated; visits arranged and seminars recommended; data marshalled and arguments put forward. The essential thing, however, appears to be perseverance.

Maybe the change to TQM could have been successfully effected if Peter had persevered for longer.

The "Guru effect"

Tuckman (1994) claims that guru-lead movements are akin to religious movements. A team leader at Doorways used the religious analogy about Peter: "I think Deming is Peter's god, what he writes is Peter's bible, continuous improvement is Peter's religion!" Although this was said jokingly, it shows that people realised that they were being asked to "convert".

Many symbols of the new "religion" which were present at Whiteware appeared straight away at Doorways: posters with slogans about TQM (such as a Dennis the Menace picture of a tug-of-war, with the words: "On a strong team everyone pulls ... TOGETHER!", and the chart listing the components of

TQM[1]); whiteboards headed "Continuous improvement", "Production targets", "Multiskill board"; bright colours and new paint; process improvement teams and team minutes on display; newsletters; etc.

Comments from two or three team leaders at Whiteware indicated that Whiteware employees had either "converted" or left the firm: "A lot of people were against TQM when it was first suggested. I think it was because people resist change. Some of them left, a lot of them still work there and think TQM is better than what they had before"; "most of the dissenters have left".

Several team leaders at Doorways were positive about Peter's attempts to "convert" them: "Peter's got to have a fair go at trying his ideas. I think the philosophy is dead right!"; "I like the posters – they're cute. And the bright coloured boards – I like it all – it's all positive"; "I worked in a very big factory in China. They had slogans and charts on the wall, like Peter is putting up here. So I'm used to it. I think it was successful in getting good quality."

However, others were sceptical or negative: "people ... are wondering if it's just the latest fad"; "there might be a bit of scepticism and dubiousness about whether TQM is going to actually take off this time, because they tried it two years ago and it never got part the words stage"; "It's too hard to gauge how well the changes will work yet"; "Feedback is negative at the moment. No-one likes change"; "I'm taking a wait-and-see attitude. They've talked about TQM before and it hasn't happened"; "I'm too old to change"; "Some people are set in their ways." Peter was unsuccessful in "proselytising" at Doorways and left them "unconverted".

Non-leader-centred cultures

The differentiation paradigm highlights "nonleader-centred sources of cultural content such as national, industrial, and occupational influences,

---

[1]   1.   **Satisfy your customers.** We try to give our customers what they want and the quality they want and when they want it.

2.   **Continually improve through small steps.** Many little steps and the occasional big step, that's the way to do things.

3.   **Involve everybody in improvement.** Problems are easier to fix when we sit down with our workmates and figure out how to solve them.

4.   **Control through measurement and statistics.** If we measure things we know exactly what it is we're dealing with. This makes problems easier to fix.

demographics, technology, and even the role of cognitive processes" (Martin & Meyerson, 1988, p. 110); that is, the change agent may not be the source of cultural changes that do occur. There were several subcultures in evidence at both Whiteware and Doorways, which had their own leaders and agendas. This issue is covered in more detail in the next section.

Non-unitary cultures

A key assumption of the integration paradigm is that most organisation members share the same culture, that is, they perceive and interpret content themes, practices, and artifacts in the same way (Martin & Meyerson, 1988, p. 103). The differentiation paradigm, on the other hand, emphasises subcultures.

There was evidence of internal opposition at both Whiteware, which on the surface appeared to have a unified TQM culture, and at Doorways, where cultural change was being attempted.

Martin & Meyerson (1988, p. 110) classify subcultures as having "positive (enhancing), negative (conflicting), or orthogonal (unvalenced difference) relationships to each other or to a dominant organizational culture". Each of these types of subculture were evident at the research sites.

Positive subcultures

Martin & Meyerson (1988, p. 110) give an example of a positive subculture: "a top management team [which] fanatically support[s] a CEO's perspective". There was an obvious example of a positive subculture at Doorways: the team that made circuit boards was the first to implement any changes suggested by Peter. Within ten days of Peter's arrival they were already training to be able to do any of the jobs in their area, and within three weeks they could each do each other's jobs. They were the first team to fill in their multi-skill board and to record scrap (five worst scrap items, cost of the five worst, and total scrap cost for the first full month of TQM) and they also used their planned production board. This team immediately grasped the idea of only making one improvement suggestion at a time. They made innovative suggestions that supported the cultural change that Peter was trying to introduce. For example,

they instituted a $1 fine for anyone who did not meet their daily production deadline. They used the fine money to decorate the walls of their work area.

Orthogonal subcultures

Orthogonal subcultures reflect "functional, national, occupational, ethnic, or project affiliations" (Meyerson & Martin, 1987, p. 630), but have neither a positive nor a negative relationship to other groups or the main organisational culture. At Doorways, for example, there were a significant number of Pacific Islanders. Even though they were linked by ethnicity, they did not appear to work together either for or against the administration.

Negative subcultures

Negative, conflicting subcultures are of particular interest to researchers using the differentiation paradigm, as this paradigm emphasises lack of consensus. These "subunits" (Meyerson & Martin, 1987, p. 630) may be groups or "individuals pursuing a diversity of goals" (Georgiou, 1973, p. 308). Power & Laughlin (1992, p. 122) claim that they "are governed principally by survival imperatives and react and adapt to their environments to this end".

There were a number of subcultures at Whiteware, with varying levels of influence on the major, TQM culture. One team leader said of his team, "There used to be dissension but most of the dissenters have left. There are still one or two, but they are left to themselves. [Their disposition for dissent is] just put down to their type of personality."

Other small groups had unobtrusive, non-verbal ways of revealing their opposition, such as not attending meetings, and being the last to change to a new method (such as the team leader who made black and white overhead slides when everyone else had changed to coloured, 3-dimensional graphs). There were stories of resistance to the kanban system when it was first introduced: some workers would take more boxes of parts than the kanban stated, or change the quantities stated on the kanban. Another person in the press shop would put kanbans in his pocket instead of hanging them up. Shortly before 4 p.m. (knock-off time) he would hang them all up. Then production would be so far behind that he could get some overtime to "catch up".

The resistance of other subcultures was more overt, such as the administration team under the leadership of the financial controller. This team made cosmetic changes to their environment, such as changing the appearance of the reception area, and updating the telephone system, the fax machine and the photocopier. However, they resisted changes to accounting systems. For example, the cash book and overseas orders were still recorded manually, and the standards had not been updated for ten years, even though there had been significant changes and improvements with the advent of TQM.

The financial controller thought that people perceived him as "regimental". In support of that image, he stated that the accountant should be the conscience of the organisation. Other people in the organisation, however, saw this stance as resistance to the TQM culture: "Most typical accountants have a particular mentality – they see everything as black or white. I have observed in other firms that if the accountant is like that, he eventually stifles all innovation and flexibility. The few accountants who aren't like that don't stay accountants – eventually they become managers. I don't like to be critical, but [the financial controller] is that inflexible type of accountant."

The financial controller introduced a non-value-adding activity, which conflicts with the aims of TQM. He claimed that there is less ability to track inventory with the kanban system. (This was a criticism levelled at Hewlett Packard, too – see Calvasina et al., 1989.) With raw materials being in the millions of dollars range, there could be large discrepancies between raw materials input and valuation of finished goods inventory. Therefore he instituted a physical count of inventory every six months in order to keep more control.

The financial controller and the plant manager were openly in conflict with each other. For example, when the plant manager claimed that inventory levels had dropped because of kanban, the financial controller was quick to provide figures that showed that the value of inventory had in fact risen. The plant manager pointed out that production had increased, and that inventory levels were smaller in proportion to production, even if larger in value. As another example, when the plant manager asked the financial controller to provide summary graphs instead of the long, written accounting reports prepared for management meetings, the financial controller did not discontinue the long, written report, but simply attached one page of graphs to the front of it.

However, the subcultures at Whiteware did not overwhelm the TQM culture. Those who supported the TQM culture found ways around the resistance from subcultures. For example, team leaders developed their own measures and changed their reporting methods, without relying on the accountant to lead the change, suggest measures or help with collation and interpretation of results.

There were also a number of negative subcultures at Doorways. One major group was a team that was without a team leader for several weeks. There was a lack of interest in being team leader amongst this team. For example, one person said he would not like the job of team leader:

> It's just an excuse for management to get the workers to do some of management's work. It would involve making sure that everyone else has parts they need, etc., so it would mean that I wouldn't be able to do my usual job. It would just give me something to worry about. Some things are more important than money.

That is, this worker saw the team system "as increasing pressure on employees by getting them to take on more responsibility" (Wilkinson, 1992, p. 326).

This team did not use any of the tools of TQM that had been introduced, such as the white boards for recording production, continuous improvement, defects, multi-skilling, etc. One worker said that it was because they had been so busy that they had not had time, although they did have quite a few defects with that machine. He said, "If we stopped work every half hour to put a tick on the board, we'd never get anything done!"

When this team finally acquired a team leader, the team members sabotaged the effectiveness of the process improvement team meetings: two team members arrived late, two looked through magazines throughout the meeting, and one listened to his Walkman.

The other major subculture was a temporary group that formed when the plant manager introduced a new employment contract with compensation for competency and skill levels. Because there is no union representative at the firm, a team of workers formed to act as negotiators on behalf of the workers. The plant manager considered that he was "going very slowly and carefully with them", recognising that they had no experience in negotiating. The

negotiating team, however, thought they were "being rushed into making a decision ... We were told about it yesterday and are expected to have it all settled by tomorrow, which I think is a bit rushed."

The plant manager presented some facts and figures comparing the existing contract with the proposed new one, showing that "everyone except three people who are part-timers or casuals will actually end up slightly better off". However, this was not the perception of one of the negotiators: "I don't think it is a new employment contract — I think we are still going to have the old contract and there will just be amendments to it". Even after the contract was signed his attitude was: "We should just let the dust settle and see what has really changed. I think it won't be much different for most people".

The plant manager claimed that

> the representatives elected by the work force were inexperienced in negotiation. They only had the confrontation style that Union representatives used to take and TV programmes as their models. They didn't have an understanding of bargaining. ... The employees came with a long 'wish list'. I got [the accountant] to cost it out, and if all the employee demands had been met it would have cost the firm $400 000. I was prepared to meet some of the demands and concede on some issues.

However, from the negotiators' point of view:

> People had a chance to air their views and express their concerns. But I think management took our list away, read it, and then basically went ahead and did what they said they were going to do before they met with the employees.

There were also several individuals who expressed scepticism about the proposed change to TQM. The following quotes were to be heard in nearly all areas of the factory:

> I'm too old to change. I think change will take a while. Some people are set in their ways.

> Feedback is negative at the moment. No-one likes change. After they see it up and running, and see that, for example, monitoring output is working, they may change their attitudes.

I'm taking a wait-and-see attitude. They've talked about TQM before and it hasn't happened.

The number and strength of resistance of the subcultures at Doorways may be a reason why change was not successful, which is suggested by Kilmann et al.'s (1986, pp. 90-91) claim that "the more cultures there are in the organization, the more difficult and time consuming the culture-change process".

CHARACTERISTICS OF TQM?

Continuous improvement?

As shown in chapter 3, a key element of TQM is continuous improvement. At both Whiteware and Doorways the forum for making improvement suggestions was the process improvement team meeting.

There were process improvement teams at Whiteware, meeting usually once a month. The team leaders met once a fortnight. However, one of the team leaders admitted that most of the suggestions for change and improvement arose out of the team leaders' meeting rather than from the shop floor.

Team leaders were also supposed to have a five minute quality meeting every day. However, the one that I was present for did not have full attendance. Those who were there complained that some team leaders were not bothering to attend, that other team leaders were not accepting the problems and suggestions that were brought up at the meeting, and that no change was occurring as a result of the meeting. There was no official meeting about quality that day, just a gripe session.

The short meetings before or after morning tea were instituted at Doorways. However, only one team had these meetings regularly every day. Many team leaders said they were having trouble getting into the habit.

I observed one meeting of each improvement team at Doorways. Although improvement teams were set up at Doorways even before Peter started work there, several of them were still forgetting about their scheduled meetings. One team leader could not find her minutes, and had not done what she was

assigned to do the previous week. Another team leader had forgotten the meeting until I said that I had come to observe it.

After more than five months, some teams had had few meetings, or in one case only one, saying that they were too busy: "Who wants to take half an hour out to have a meeting when you could be doing half an hour of work?"

Peter and other supervisors decided on the constituents of each team at Doorways. Most teams were based in one area of production, such as the press shop, or assembly. However there were a number of workers who did not fit obviously into any particular team, either because they moved around the factory as needed, or because they provided a service for several areas. These people were grouped together. This team lacked a common purpose. Therefore the team members felt that nothing was achieved, and used meeting times to complain. Later these people were split up and integrated into teams that were more related to the work they were doing.

One of the teams did not hold their meetings in an ideal venue. They all sat in the biggest office. However, this had a little wall jutting out in the middle of one side, which effectively cut the group into two: they could not all see each other, and also it was hard to hear what everyone was saying (see office plan in Fig. 6.4).

Several times comments were made at the other end of the room which I could not hear. Also, when a suggestion was made by a team member on the other side of the partition, the leader immediately dismissed it. Another suggestion by that member was only discussed down that end of the room. Because there was no eye contact between the leader and that member, the leader could put her down or disregard her contribution.

```
 _____
|                               |
|  Member                       |
|                               |
|              Member           |
|                               |
|              Member           |
|              _____|
|                               |
|              Leader           |
|                               |
|              Member           |
| Chairperson                   |
|                               |
|         Researcher            |
|_____|
```
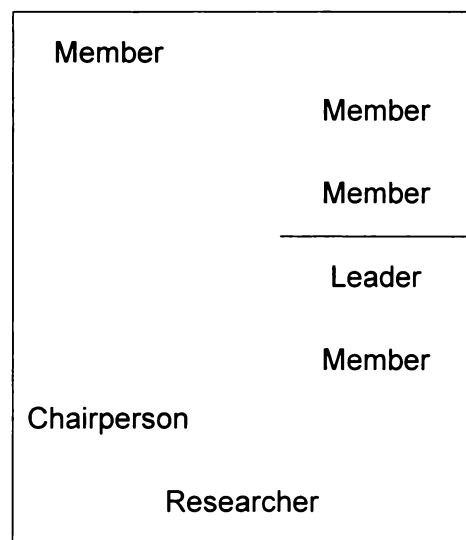
Figure 6.4: Office plan

In another team, team members displayed a lack of commitment to the team and the improvement process. One member, who arrived late, disrupted the

meeting by wandering around, then trying a couple of chairs. When he finally sat down, he kept one earplug of his Walkman in for the whole meeting, which meant that every time he spoke he spoke loudly. When the team leader pointed out that cleaning up at the end of the shift would help prevent scratches and poor quality, he reacted strongly to being told what to do: "We do so clean up!" he retorted. Another member was late too, and everyone said, "He's in the loo". Two other people were reading magazines or at least looking at the pictures during the meeting. Before this meeting, one of the team members told me: "This is an apathetic team. At the meetings everyone just drinks coffee and plays pool."

In other teams, members doubted the usefulness of the improvement team process. Some felt that they were being discouraged from making suggestions, that any suggestions they were making were being received as just "grumbles". Others felt that no changes resulted from their suggestions. For example, one employee said, "I've been offering suggestions for the four years that I've been here, and nothing ever gets done about them. They get tabled, everyone says 'Yeah! that's a good idea — we'll do something about that' and that's where it ends." Another person mentioned a potentially dangerous situation that they had brought up in previous meetings, but noted that management had not done anything about it. Members of that team did not seem to realise that they were expected to make improvement suggestions that they could carry out themselves.

Some teams had made suggestions but complained that they did not have the authority to spend any money: "There were lots of suggestions, but now we wonder if any will get done." Another team decided they needed lights above their work benches. On being told that there was not enough cash, they made their own out of available parts in their work area, but found that they were not bright enough. The idea had to be put on hold pending cash being available.

Some of the team leaders were dictatorial in the way they conducted the meetings. For example, one leader gave his team orders about how they were to improve things. When the team members made suggestions, he immediately made a value judgement on each suggestion, which effectively cut off any brainstorming or discussion. When someone made a suggestion that would have contributed to the aim of their team, the leader said, "There isn't

enough time to do it now, but just be careful ... and we'll look at it next year when we're not so busy."

Employee involvement?

Another core element of TQM is involvement of employees. Although employee involvement was officially espoused at Doorways, there were examples of employees being left out of decisions. For example, new rubbish tins were provided, painted in the firm's colours. However, they were much too small for many areas of the factory, where only a couple of pieces of scrap filled them. One employee thought that this showed a lack of communication: "I would have thought Peter would have talked to people on the shop floor about them before implementing them. The [much bigger] bins we've used in the past would have been better. They could have been painted up and made to look neat and tidy."

Employees also felt that management was taking no notice of the suggestions they made. For example, an employee in stores suggested that they have a cut-off date for packing containers for shipment to Australia. The containers have to be packed in a particular order in order to minimise movement, and extra items put in at the last minute can cause damage in transit, thus costing the company more. As there was no cut-off day, stores would leave the packing until the last possible moment so they could pack correctly, often entailing overtime in order to get the packing finished in time – another extra cost. The suggestion of setting a cut-off day had not been taken up.

Another employee, also complaining about lack of communication, said that he wanted to at least get feedback about suggestions, "even if it is only to say 'We can't do it', or 'It doesn't fit in with the long term strategic plan'".

Some employees might not be interested in involvement. The financial controller at Whiteware said that they had *"turned over quite a few team leaders in the time since [TQM was introduced]. They were overwhelmed. Of the original team leaders, some of them found the task too difficult. ... Some people didn't want [to have control]. They didn't want to make those responsible decisions."*

As mentioned above, members of one team at Doorways were reluctant to take on the job of team leader, which was vacant for several weeks.

As part of the ethos of reducing waste, TQM encourages training and multi-skilling in order to prevent idle time of workers. However, at Doorways nearly all areas of the factory were slow to add to their existing skills, saying that they were too busy: "At the moment we are under-staffed, so there is a problem with trying to get people to train in other areas when it's a problem keeping up with their own work." Some workers were worried that people would offer to train in jobs that they were not capable of carrying out properly.

In the organisation that Sewell & Wilkinson (1992, p. 281) studied, team members were used to discipline each other: "If a member of the team is absent through illness, then in only exceptional circumstances will they be replaced from a central labour resource". However, this form of peer discipline was not observed; for example, at Whiteware absentees are replaced by employees from another team if necessary.

Sewell & Wilkinson (1992) also observed various ways of disciplining and punishing non-compliance if teams did not meet their objectives. For example, computer systems recorded production figures, updated hourly, so that production rates could be calculated and used as objectives, and the individual who caused an error could be pinpointed and punished. At Whiteware and Doorways production and error figures were recorded on whiteboards, not in computers, and the team rather than individuals was responsible for explaining poor results.

Lack of commitment of senior management

Although one of the owners of Doorways recruited Peter to implement TQM, this owner himself was not committed to the principles of TQM. Several people described his strong, dominant personality: "Don's [The owner's] way of managing is to assign blame and punish those blamed, in some cases for things that he has caused." Others corroborated this assessment: "In the past you would get into hot water if you criticised anything"; and, *"Don didn't give his managers a large degree of autonomy to make their own decisions. Anything that was at all big — 'Oh, you'd better check with Don.'"* Another person said, "They've talked about TQM before [Peter came] and it hasn't happened. I think that management actually didn't want it to happen." Someone else said that since the introduction of TQM it was hard for employees to be perfectly honest about what was happening and mistakes that

had occurred, because the owner still had the blame-and-punish mentality. This attitude of the owner is diametrically opposed to the philosophy of TQM which demands that employees be empowered to make decisions, and can only be achieved if they can do so without fear of blame or punishment:

> The supervisory climate in which they work must be conducive to the solving of problems as they occur. This requires that the fear of failure be discouraged in favour of a search for failure ... Individuals and teams must have the power to improve their quality (Wilkinson, 1992, p. 327).

It was felt by several people that the owner did not give enough information about the condition of the firm, and that he hid the truth. For example, he "would understate profits and overstate losses when he was talking to the [employees]", for example, to justify why they could not have a pay increase. On the other hand, he would overestimate sales and underestimate timeframes for development of new products, so that the budgets would look good for the bank. Employees got used to revising down his forecasts and increasing leadtimes to prevent overstocking.

This secrecy about financial matters caused "a lot of people in the factory [to be] distrustful of management". An example was given: two computerised (and thus very expensive) machines had been purchased. When the time came to negotiate wage rises, management told the employees that they were not going to get a very big raise because the firm had so much money tied up in the purchase of the machines. Not having any other information, the employees thought that it was not fair that they (the employees) had to "pay" for a management decision. "It will take a while now before people begin to trust what the management say." Peter said that he detected this anti-management feeling even several months into the attempted TQM implementation.

As can be seen from the above examples, there were content themes, practices, stories, physical arrangements, etc. at both Whiteware and Doorways that were not congruent with the values of TQM. That is, viewing the organisations through the lens of the differentiation paradigm, the researcher can see lack of consistency and consensus.

CHANGES TO MANAGEMENT ACCOUNTING?

The management accounting system, particularly at Whiteware, was also inconsistent with the change to TQM.

Simplification and reduction of paperwork?

Accounting not simplified

As mentioned earlier, at Whiteware most of the administration team's suggestions for improvement involved the reception and office environment. They included redesigning the show room and reception area, and rearranging technical equipment (fax, photocopying and typing) to improve work flow. There is only one recorded change relating to accounting systems: new forms were designed for manually recording debtor information, ready for computer inputting, resulting in a *"more efficient and less time consuming"* system of handling debtor information. However, this improvement does not reduce paperwork.

Accounting for work-in-process

As also mentioned above, the accountant at Whiteware was not satisfied with the reduced paperwork as a result of the kanban system. He distrusted the accuracy of the bill of materials. Because of the perceived lack of information from the kanban system alone, he instituted a twice yearly physical count of inventory in order to compare actual inventory levels with those predicted by the MRP system. Therefore the simplification of accounting for work-in-process brought about by the kanban system was offset somewhat by the extra activity of counting inventory.

Maskell (1986, p. 33) suggests that, for firms using just-in-time inventory management, product costs should be "backflushed" at only one point in production – transfer to finished goods:

> Back flushing takes the quantity of finished products that have been manufactured, explodes through the bill of material and calculates how much of each component and sub-assembly must have been used. These quantities are then posted to the flow order and deducted from inventory.

Clearly, the accuracy and consistency of the bills of material must be very high.

The financial controller at Whiteware feels that there could be large discrepancies between raw materials input and valuation of finished goods inventory. He said that he had *"found numerous mistakes"* in the bill of materials, and therefore questioned the degree of accuracy of product costs:

> *I wasn't satisfied that I could control the stocks between raw material coming in and finished goods going out, simply because of the bill of material accuracy, so I wanted checks to go in here so that at least it gives me some form of control.*

Therefore, materials and labour costs are recorded at several points in the production process. (Overheads are only added at the end of the production process.)

Supplementation, not simplification, of reporting

Although traditional reports at Whiteware have been supplemented with visual reports and non-financial performance measures, traditional reports have not been simplified. The old traditional reports – pages and pages of variances – are still printed out, even though the plant manager said they are not discussed in detail in management meetings.

At Doorways, whiteboards for recording quality, production schedules, etc. were fitted in each department right at the beginning of the change to TQM. However their usage was fitful. In some areas the boards had not been used at all. Even when they did have something written on them, often they were not updated during the day, or even for weeks.

No costing changes

Although the accountant at Whiteware includes many variances in his monthly reports, he admitted that *"the accuracy of the standards is appalling"*. Standards have not been reviewed for over ten years, and even then the task was not completed after two years work on it.

Unchanged role for the management accountant

Vollmann (1989, p. 60) noted from his experience that accountants can block changes. Even though some changes and simplification of accounting have taken place at Whiteware, one gets the impression that they have taken place in spite of the accountant, rather than at his instigation. There may be a number of reasons for this reluctance to change the accounting systems.

Schonberger (1989, p. 4) claims that conventional systems resist quick extinction. His statement reifies accounting systems — in reality, an accounting system can only change if someone changes it. It seems that the personality of that individual may determine the extent of accounting change. The accountant at Whiteware is perceived as regimental and inflexible. He himself said, "The accountant should be the conscience of the organisation." His attitude of "policeman" has alienated him from many of the staff. One of the staff went as far as saying, "He is that inflexible type of accountant who sees everything as black or white. I have observed in other firms that accountants like that eventually stifle all innovation and flexibility." (Finefoods' accountant, on the other hand, is humorous, has a good rapport with other staff, and is animated about the changes they have made. He describes their new system with enthusiasm: *"When I started with this company I took to it like a duck to water. To me, all of a sudden, accounting made sense and was useful. Prior to that it was a whole lot of theory and we didn't put it into practice."*)

The Whiteware accountant seems to be uneasy at any sense of loss of control. This is shown by his reaction to the kanban system. Instead of backflushing costs at the end of the process, he instituted more points at which he could check on inventory amounts, yet he still expressed dissatisfaction with the accuracy of the reconciliation between the MRP system and physical inventory.

Whiteware's accountant also has a proprietary interest in the accounting system which is already in place. Both the accountant and the chief accounting clerk have worked at Whiteware for more than twenty years. Not only have they seen several changes of management, but they have also developed the accounting system between them.

Shea & Kleinsorge (1994) suggest that heavy workload may be a reason why accountants are slow to make changes. Clark & Baxter (1992, p. 54) caution

that financial controllers may be missing out on management opportunities because of a tendency to spend "excessive time on short-term 'financial engineering' and regulatory accounting." The time that would have to be invested in accounting system change may have been a factor in the Whiteware accountant's opposition to change. He implied that the reason standards had not been revised for so long was because the exercise was too time consuming and difficult.

Whiteware's accountant talked a lot at meetings that he chaired. For example, at a monthly team leaders' meeting that he chaired, he asked questions of every reporter – his question time took up just under a third of the total meeting. (In another team leaders' meeting which Peter was chairing the accountant only asked one question and made a couple of other comments.) In the weekly stand-up meeting for the office, the accountant appears to do most of the talking, too. In the meeting that I attended, he talked for 11 of the 15 minutes. He said he has trouble getting anyone else to say anything. One of the office employees jokingly said they should ask somebody what they did for their weekend, but the accountant said that they tried something like that and people did not like it – they thought they should be just talking about business. He said he thinks people do not contribute because they are waiting to go to morning tea as soon as the meeting is finished – they just want to get the business over and done with.

Contrary to what is predicted by Shea & Kleinsorge (1994) and Sillince & Sykes (1995), the accountant at Whiteware is not being called on to provide his analytical and reporting skills – these skills are being developed in team leaders. However, the way the financial controller described this transfer of roles also revealed his attitude to the team leaders:

> [The team leaders] are doing the reporting and the trends and the graphs, and they are having to explain their actions in a monthly meeting, which I think ... then allows them to take the responsibility for what they are doing ... it makes the team leaders "own" their mistakes.

The inference is that he considers that, before TQM, team leaders were hiding their mistakes and inefficiencies.

DISCUSSION

The differentiation perspective highlights lack of consensus in the organisations. There was a lack of integration, and the assumptions of TQM and subsequent accounting changes failed.

Lack of integration

The cultures present at Whiteware and Doorways display a lack of integration when viewed from the differentiation perspective. At Doorways there is evidence of loose coupling, with "successful" [2] process improvement teams having little influence on other "less successful" teams. The myths about the change agent are not ones about him "saving" the business but of his weaknesses and failings; e.g. getting in the wrong-sized rubbish bins, and taking a "bossy" role in the employment contract negotiations. The change agent's attempts to "proselytise" were resisted or ignored by many employees at Doorways. The owner was also seen as supporting the changes only in words, not in attitude. There were clearly a number of sub-cultures at Doorways, some of which were inhibiting change.

Failure of assumptions

The changes that would be expected in order to successfully implement TQM were not evident at Doorways. Continuous improvement efforts were not (yet) working, and there was a lack of commitment to the change by employees and the owner.

Many of the expected changes to accounting were not present at Whiteware even though many of the elements of TQM were present. The accountant's view of his role in the organisation may provide some explanations for the lack of change in accounting and in the accountant's role.

Summary

As indicated in chapter 3, when using the differentiation paradigm as an interpretive lens, there are a number of ways of explaining the conflict and lack

---

[2]   If success is defined as following the changes suggested by the change agent.

of consensus present in the differentiation paradigm. Martin & Meyerson (1988) refer briefly to the literature on loose-coupling and non-unitary cultures. Other theories that have been applied to TQM settings include Guru Theory (where the lack of consensus is between the "converted" and the "unconverted"); Foucauldian models such as the Panopticon (in which managers and owners exert their power through over-surveillance mechanisms); and Marxism (in which TQM is seen as "serv[ing] capital in the search for more efficient exploitation of labour" (Dawson & Webb, 1989, p. 236). Although Martin & Meyerson (1988) advocate using all three paradigms in looking at research evidence, I found this paradigm the hardest to apply. Because of my methodological stance, I find it hard to "see" power relationships, repression and exploitation and excess surveillance of the workers.

However, using the differentiation lens for viewing the organisations, I was able to see many examples of conflict and lack of consensus, which Martin & Meyerson (1988) claim are characteristic of this paradigm. Content themes were not always consistent with the TQM philosophy, such as the questionable need for and achievement of cultural change, the questionable achievements of continuous improvement teams and the criticisms about the level of employee involvement and the commitment of the owner. Similarly, the resistance to and lack of change to accounting systems was inconsistent with a change to TQM. The many examples given above also demonstrate a lack of consistency and, in many cases, conflicts between practices, rituals, stories, physical arrangements, etc. and the content themes which would be expected in a TQM environment.

REFERENCES

Boje, D. M., & Winsor, R. D. (1993). The resurrection of Taylorism: Total Quality Management's hidden agenda. *Journal of Organizational Change Management, 6*(4), 57-70.

Calvasina, R. V., Calvasina, E. J., & Calvasina, G. E. (1989). Beware the new accounting myths. *Management Accounting (NAA), 71*(6), 41-45.

Clark, A., & Baxter, A. (1992). ABC + ABM = Action: Let's get down to business. *Management Accounting (CIMA)*, June, 54-55.

Cohen, A. (1974). *Two-dimensional man: An essay on the anthropology of power and symbolism in complex society.* Berkeley: University of California.

Dermer, J. (1990). The strategic agenda: Accounting for issues and support. *Accounting, Organizations and Society, 15*, 67-76.

Georgiou, P. (1973). The goal paradigm and notes towards a counter paradigm. *Administrative Science Quarterly*, 291-310.

Kilmann, R. H., Saxton, M. J., & Serpa, R. (1986). Issues in understanding and changing culture. *California Management Review, 28*(2), 87-94.

Martin, J., & Meyerson, D. (1988). Organizational cultures and the denial, channeling and acknowledgment of ambiguity. In L. R. Pondy, R. J. Boland & H. Thomas (Eds.), *Managing ambiguity and change* (pp. 93-125). Chichester: Wiley.

Maskell, B. (1986). Management accounting and Just-in-time. *Management Accounting (CIMA), 64*, September, 32-34.

Meyerson, D., & Martin, J. (1987). Cultural change: An integration of three different views. *Journal of Management Studies, 24*, 623-647.

Power, M., & Laughlin, R. (1992). Critical theory and accounting. In M. Alvesson, & H. Willmott (Eds.), *Critical Management Studies* (pp. 113-135). London: Sage.

Schonberger, R. J. (1989). World-class performance management. In P. B. B. Turney (Ed.), *Performance excellence in manufacturing and service organizations.* Proceedings of the Third Annual Management Accounting Symposium (pp. 1-5). San Diego, CA: National Association of Accountants Committee on Academic Relations and American Accounting Association Management Accounting Section.

Sewell, G., & Wilkinson, B. (1992). 'Someone to watch over me': Surveillance, discipline and the Just-in-Time labour process. *Sociology, 26*(2), 271-289.

Shea, J. E., & Kleinsorge, I. K. (1994). TQM: Are cost accountants meeting the challenge? *Management Accounting (NAA)*, April, 65-67.

Sillince, J. A. A., & Sykes, G. M. H. (1995). The role of accountants in improving manufacturing technology. *Management Accounting Research, 6*, 103-124.

Vollmann, T. (1989). Changing manufacturing performance measurements. In P. B. B. Turney (Ed.), *Performance excellence in manufacturing and service organizations.* Proceedings of the Third Annual Management Accounting Symposium (pp. 53-62). San Diego, CA: National Association of Accountants Committee on Academic Relations and American Accounting Association Management Accounting Section.

Chapter 7
Findings: Ambiguity Paradigm

INTRODUCTION

The past two chapters have taken opposing viewpoints on the introduction of TQM. The integration perspective sees only consistency and consensus; the differentiation perspective sees only conflict and lack of consensus. This chapter presents the ambiguity perspective on culture, which

> cannot be characterized as harmonious or as conflictful. Instead, individuals share some viewpoints, disagree about some, and are ignorant of or indifferent to others. Consensus, dissensus, and confusion coexist, making it difficult to draw cultural and subcultural boundaries. ... From an ambiguity paradigm perspective, researchers and cultural members see (and perhaps even look for) complexity, confusion, and irreconcilable contradictions (Martin & Meyerson, 1988, p. 117).

Several authors recognise that ambiguity is most likely to be evident during periods of traumatic or rapid change, such as one would expect to see in an organisation attempting a culture change to TQM (see, for example, Martin & Meyerson, 1988, and March & Olsen, 1976). However, other authors claim that ambiguity is likely to be present in all organisations, whether they are going through change or not. For example, Weick (1985, p. 122) believes that ambiguity "is part of the normal context of [organizational] action" and Linstead & Grafton-Small (1992) warn researchers to expect culture to be paradoxical and ambiguous.

CHARACTERISTICS OF AMBIGUITY

March & Olsen (1976, p. 12) define ambiguity as "opaqueness in organizations". Several authors add to this definition by listing characteristics of ambiguity. These can be summarised under the three types of ambiguity identified by Martin & Meyerson (1988): uncertainty, contradiction and confusion.

"Uncertainty refers to a lack of predictability in, for example, the organization's environment or technology" (Martin & Meyerson, 1988, p. 112). Uncertainty can also arise because of "inconsistent and ill-defined objectives" (March & Olsen, 1976, p. 12); lack of clarity in "expectations, preferences and evaluation criteria" (Martin & Meyerson, 1988, p. 119); unclear, shifting or multiple goals

(McCaskey, 1982); vague roles and responsibilities, with changing decision-makers and influence holders (McCaskey, 1982; March & Olsen, 1976); poor understanding of cause-effect relationships and loosely coupled actions and outcomes (McCaskey, 1982; Martin & Meyerson, 1988), making it "hard to see the connections between organizational actions and their consequences" (March & Olsen, 1976, p. 12).

"Contradiction refers to cultural manifestations and interpretations that are capable of double meanings" (Martin & Meyerson, 1988). There may be a paradox because of "inconsistent features, relationships, or demands" (McCaskey, 1982,. p. 5). Ambiguity may arise because the past is "reconstructed or twisted" (March & Olsen, 1976, p. 12). There may be multiple, conflicting interpretations of cultural manifestations (McCaskey, 1982; Martin & Meyerson, 1988), with "differences in interpretation [being] seen as incommensurable, irreconcilable, and unavoidable" (Martin & Meyerson, 1988, p. 115). "Inherently irresolvable conflict" (Meyerson & Martin, 1987, p. 625) may result from political or emotional clashes of personal or professional values or from conflicting goals (McCaskey, 1982).

"Confusion is caused by ignorance or lack of information, rather than awareness of contradiction" (Martin & Meyerson, 1988). Participants in events may have difficulty in observing what has happened, or their interpretations may not be able to be transmitted efficiently (March & Olsen, 1976). Individuals may be "ignorant of or indifferent to" other people's viewpoints (Meyerson & Martin, 1987, p. 637). Information may be absent, deficient or unreliable (Meyerson & Martin, 1987; McCaskey, 1982); there may be a lack of time, money, attention and measures of success (McCaskey, 1982).

Uncertainty, contradiction and confusion were all present to some degree at Whiteware and Doorways. Examples of these sources of ambiguity are presented in the next three main sections.

UNCERTAINTY

Uncertainty was present because of lack of predictability, lack of clarity in expectations, unclear, multiple goals, vague roles and responsibilities, and loose coupling.

Lack of predictability

The reactions of employees at Doorways indicated uncertainty about the likelihood of success for TQM. The following comments were typical:

> Well, people are likely to be a wee bit dubious about these changes. It's been suggested before, and they will probably take a wait-and-see attitude.

> I think people in the factory have a 'wait and see' attitude — they're wondering if it's just the latest fad.

> A year and a half ago we started a kanban system, but it faded out. They probably think it might just be talk this time too.

(It was notable that the comments always implied that these uncertain feelings were other people's opinions.)

Lack of clarity in expectations

There was also uncertainty at Doorways over how long the planned change to TQM should take. Peter's expectations were that it should be happening much quicker than it was. For example, he held one overall training session with the whole work force and took them all to Whiteware to see TQM in practice. Then he held a training course for the process improvement team leaders. He expressed surprise at the slowness of reaction from the employees, saying, "I've done training courses with them. Why aren't they doing it now?" After the third process improvement team leaders' meeting, Peter expressed surprise that one of the team leaders had only just realised at that meeting that he was going about things the wrong way: instead of tackling one problem and being able to set targets and see them achieved, he had had a long list, none of which was getting done. Peter's impatience may be because of his experience with many TQM implementations: he knows already what he wants done and what to expect. However, it was surprising that, given his extensive experience, he did not realise that people need to be shown things more than once, need to be praised for what they have grasped, need to be guided in selecting manageable projects, etc., all of which take more than a few months to operationalise.

Unclear, multiple goals

Many of the process improvement teams at Doorways were unclear about their aims. Instead of choosing one project at a time, that the team would be able to achieve, they made a lot of suggestions for other people to carry out. For example, a member of one team said:

> We have trouble thinking of changes to make in [our area]. We can't think of anything of importance. We do have suggestions to make for outside [our area]. Most of [our team members] have considerable experience in other manufacturing firms, and can see things that would help in other areas of the factory. We must get around to suggesting them.

Because the changes were outside their control or too numerous, these teams ended up not achieving anything.

Vague roles and responsibilities

One of the people present at the team leaders' meeting at Doorways was uncertain about her role in the meeting:

> Sometimes I wonder if I should be there, because I just give them information that they can get anyway. For example, I give them [certain information each day], but I don't know why I am doing this! Other times I hear things that it's great that I know about.

At Whiteware there are daily, five minute team meetings where the team leader shares with the team the information gained at the early morning team leaders' meeting. Although these meetings had been held for several years, there was still a lack of two-way communication. They were supposed to be a forum for suggestions from the team members as well as the place for team leaders to convey information from their morning meeting. However, in practice, usually the leader did all the talking. When people *did* contribute, it was usually just to call out comments or to ask questions. One team leader said, "They're in a hurry to get to smoko!" Another said:

> To begin with the employees were embarrassed. Even now there is not much feedback during that time. They are more inclined to give me feedback as I go around, and I can identify possible pressure areas.

Thus there was ambiguity because team members did not know what was expected of them in these meetings.

All workers at Doorways were formed into process improvement teams before Peter even started working there.   However, there were a number of ambiguities about the teams.

There was uncertainty about which team some of the employees should join. For example, as mentioned in chapter 6, at the beginning there was one team which consisted of employees that did not fit easily into a team associated with a part of the factory, such as press shop, assembly or stores, as their jobs took them into several areas.   As these team members had nothing in common except their multi-disciplinary jobs, they found it difficult to think of improvement suggestions and there was no rapport between them.   Later this team was disbanded and the members joined other teams.

The teams were vague about their role in the improvement process. One team thought their aim was to find things to change, but not necessarily for them to change.   Another team thought that the team meetings were an opportunity to get in writing and up on the notice board the things that they were worried about.   Therefore they suggested improvements that needed to be done in other areas as well.

The employees were also uncertain about the authority of their teams to make and carry out suggestions. In one team, they had previously identified a safety problem.   The team discussed what they had done to solve it: they had mentioned it several times to one of the managers. Someone suggested that they go straight to Peter, giving the impression that they thought that if they mentioned it to someone like the manager of their area it would get put off, or that person would make some excuse why it could not be fixed, while if they went straight to Peter it would get done straight away.   Thus there was ambiguity because of uncertainty about roles and authority: who was responsible for making changes.

Some of the teams had trouble thinking of anything to change, and Peter ended up telling them what they should work on, instead of the suggestion and solution coming from the team. With another team, Peter changed their aim to one which he thought was better.   This created ambiguity over the roles and

responsibilities of the process improvement teams: were they really empowered, or were they just a means by which Peter could achieve his aims?

Although there had been more than 500 suggestions for improvement in the first three years of TQM at Whiteware, there was ambiguity over their source. The TQM literature promotes continuous improvement as part of employee empowerment. However, although there were regular process improvement team meetings, and the suggestions were supposed to have come from the shopfloor, one of the team leaders admitted that most suggestions actually came from the team leaders.

There was also ambiguity present in team meetings because of uncertainty over the role of each team member. In each meeting the team members took turns at being chairperson. However, that meant that the chairperson was inexperienced (as it was a different person each time). Also the role of the team leader was then uncertain: should they sit back and let the chairperson control the meeting, or should they make sure that the meeting kept on track and covered achievable goals? In one team meeting that I attended, I could not work out who the chairperson was: the team leader led all the discussion. The person who had been chairperson the previous week said that that was usual – the week before he had "only got about six words in".

One of the first changes at Doorways was the installation of "Continuous Improvement" (CI) whiteboards beside each machine. Every half hour the worker using that machine was supposed to check the last item worked on and tick the board if the quality was all right. "Ticking every half hour on the CI boards is ... visual — anyone can see as they are walking past that things are going okay." However, in the press shop there was uncertainty to begin with over roles. It was not the operators who checked the quality: every half hour the operators put one part in the green bin beside the machine, and the production manager came to check them.

Loose coupling

As shown in chapter 6, Meyerson & Martin (1987, p. 635) link the concept of loose-coupling to the differentiation paradigm. However, they also suggest that "loosely coupled actions and outcomes" are a source of ambiguity (Martin & Meyerson (1988, p. 119). Loose coupling was evident at Doorways, two

examples being given in chapter 6. There were more examples of the effects of loose-coupling:

One way to reduce waste of time and resources is to lay out machinery in the factory so there is a logical flow, and so that waiting time is eliminated. The presses at Doorways were illogically placed: two recently purchased computerised presses were at the opposite end of the building from the press shop. One of the press operators noted:

> There's quite a bit of time lost by having the CNC presses right down the other end of the factory. Some things have to be first done down this end, and then they have to wait for a fork-lift to be available, which could be up to 5-10 minutes, and then it's transported down the other end to have some more work done on it, and then it comes back down here to be riveted.

Cellular manufacturing had been introduced in another area of the factory as a result of a suggestion from one of the employees in that area. This employee had noted that a roller conveyor for assembly did not work well, as people worked at different speeds. Changing to everybody assembling from beginning to end in their own cells was working well. However, because of loose coupling, this improvement suggestion was not known of in and had no influence on other areas of the factory, such as the press shop.

At Doorways there were symbols of increased communication between management and workers. There were more meetings in which employees had a say, and the minutes of these were displayed on a notice board so everyone could read about what other teams were doing. However, no one seemed to have ever read the minutes of other teams, so the employees were not taking advantage of this means of inter-team communication. This was another symptom of the loose-coupling.

Because of the loose-coupling, knowledge of the effects of actions were isolated, so that only individual teams were learning from the consequences of their actions.

CONTRADICTION

The use of symbols and metaphors is a characteristic of ambiguous environments (McCaskey, 1982). Cohen (1974, p. 23) notes that symbols

themselves are ambiguous: "symbols are objects, acts, relationships or linguistic formations that stand *ambiguously* for a multiplicity of meanings, evoke emotions, and impel men to action".

Martin & Meyerson (1988, p. 103) discuss "Pettigrew's (1979) portrayal of the activities of public school headmasters. Whenever these headmasters tried to change formal or informal practices in their schools, they reinforced the desired changes with symbolic artifacts. For example, they created rituals or told organizational stories that expressed approval of the types of behaviors they were seeking to encourage". In implementing TQM Peter also used symbols and metaphors a lot, but often people's reactions to and comments about the symbols indicated that ambiguous messages were being given and received. Some examples of these paradoxes and conflicting messages are given below.

Paradox

There was a contradiction between some of the symbols of no hierarchy used by Peter. On the one hand, for example, Peter attended morning tea and lunch in the cafeteria with all the workers. On the other hand, he also organised more selective groups for social occasions, such as drinks on Fridays with team leaders, and the Hat Party with people that he had found particularly helpful and supportive in the firms in which he had worked.

There was also ambiguity because roles and opinions of people in the teams were constantly changing, and often paradoxical. For example, one team whose members showed noticeable disinterest in the improvement process (by missing or being late for meetings, listening to the radio and reading during meetings, etc.) at the same time displayed good relationships and camaraderie between group members. Conversely, another team that had grasped the idea of improving one thing at a time, and had made and implemented several suggestions, displayed some animosity between members. This paradoxical behaviour was seen in individuals as well. For example, the person who suggested cellular manufacturing (which supported management's aims) was also vociferously anti-management in the employment contract negotiations.

Even though the literature on TQM suggests that firms implementing TQM need to also change and improve their accounting systems, this was not found at Whiteware. Paradoxically, even though the firm had successfully changed

to TQM, with an impact on profits, there had been few changes to accounting systems.

Irreconcilable conflict

On arrival at Whiteware, Peter organised immediate changes in the appearance of the factory, to symbolise the complete changes that would come as a result of TQM. These changes in appearance included painting all the machines, both to brighten up the factory's appearance and also to make all the machines a uniform colour. However, in order to "get it looking good quickly at the beginning", the machines were not stripped down and painted carefully: the painters, using enamel paint, painted over bolts and labels. Bolts were not greased before painting, so could not be undone after painting. More importantly, safety instruction labels were also painted over. Thus, the message of positive change (symbolised by bright colours) conflicted with the disregard of operator safety.

Also, the use of symbols was two way. At Whiteware, where TQM was well established, some employees had their own symbols — of resistance to change. For example, some areas of the factory are still called by their old names (e.g., "B" shop for the press shop) even though no-one can remember why the names were given in the first place. These conflicting symbols existed alongside each other.

As detailed in chapter 6, there was conflict between accounting personnel and the plant manager at Whiteware. For example, the plant manager wanted simpler, visual reports, rather than the multi-paged financial report provided by the accountant. The accountant, on the other hand, seemed proud of his "extensive report each month", showing me what was included in it and letting me see a copy. He satisfied the request of the plant manager by simply adding a page of graphs to the written report. However, the plant manager claimed that they seldom looked at the pages of financial reporting in the business team meetings. Thus their conflicting interpretations of what was most important existed alongside each other.

The accountant at Whiteware believed that his job was "be the conscience of the organisation", and he claimed to provide true accounting figures without "smoothing" of expenses. The plant manager, on the other hand, showed by

his emphasis on non-financial performance measures that he considered the accounting figures not to be that useful. That this difference of opinion was irreconcilable was evident. Statistical measures and other performance measures were not recorded and used by the accountant, but existed alongside the traditional management accounting system and were used by the plant manager and the team leaders.

The senior accounting clerk, who has been employed at Whiteware for more than 30 years, spent a quarter of her time recording overseas transactions manually in a multi-columned cash book. She was resisting suggestions that the cash book be computerised, citing the regular need to be able "to look back and find any particular information". Of course, searching would be quicker with a computerised system. However, the resistance showed her inner conflict between the old system which she was comfortable with and had invested her own effort in developing and a new system, no matter whether it was better or not.

The accountant and the senior accounts clerk, both of whom had worked at Whiteware for more than 20 years, had developed an historical display of all the types of products the firm had produced since its inception in the 19th century. This could be read as a symbol of their attachment to the past, along with the above examples of resistance to change.

There was ambiguity in the reasons for Peter making the move from Whiteware to Doorways. The owner of Doorways wanted Peter to increase production. Someone said that the need for increased production was to legitimise and help pay for two very expensive computerised presses that had been purchased. Peter, however, focused on quality, and immediately put into place processes to ensure a quality product. Thus there was ambiguity because of conflicting goals.

There were contradictions in the way that Peter projected himself and was perceived at both firms. Although he used symbols of equality (such as dressing in jeans and working alongside employees, not sitting at the head of the table at team leaders' meeting and eating in the cafeteria), his manner of making sure work was done was autocratic ("Peter wouldn't let us do TQM unless we did it his way") and "bossy".

One team at Doorways immediately took up the idea of multi-skilling – everyone trained so they could operate everything in the room, and they continually rotated jobs. However, all the other teams had all sorts of excuses why they could not multi-skill. These groups had goals which conflicted with Peter's goals: their goals were to make sure that they kept up with their own work, whereas Peter's goal was to have several workers who could do the same job, so that if the person who usually performed a particular task was away or very busy, other people could step in and help.

The owner of Doorways (Don) and the manager he employed (Peter) had conflicting goals. Don did not give even his managers much autonomy to make their own decisions. Decisions had to be "checked" with him. One of the elements of TQM which Peter was trying to introduce is employee empowerment: employees making and carrying out suggestions for improvement and employees being able to decide whether or not to stop production so that faults can be corrected and avoided. Peter said, "The aim of TQM is: don't tell them everything they should do — let them see the sort of thing and let them learn by making mistakes and then learning ways of continuous improvement." Don, on the other hand, tried to find someone to blame and punish if anything went wrong. There was ambiguity because of these conflicting goals: employees were uncertain whether to take Peter at his word and try out new things because they were afraid that Don would find out that they had done something wrong and "punish" them for it.

There were, however, conflicting opinions about Don. Some managers said that he was often not on the site or too busy to meet with managers. He was criticised for over-estimating demand and under-estimating lead-times for design and development of new products. There was also a story in the factory about lax safety procedures leading to two employees losing fingers. On the other hand, one manager said that Don was a really good man to work for. "He knows what he's doing. He's really good at marketing. The company is where it is today because of him."

Ambiguity of history

March & Olsen (1976, p. 12) refer to "ambiguity of history", in which the past is "reconstructed or twisted". This ambiguity was present at Whiteware. At Whiteware there was an earlier change agent before Peter arrived. One

manager stated that this consultant "did more damage than good in the implementation of TQM – he represented that he knew more about TQM than he really did". However, another manager remembers him as

> *quite an exceptional person. He probably did what was required to be done to make the major drastic changes.... So a lot of dirty work was done by this person - he really dug deep and pointed fingers and threatened and all that type of thing. He was quite an exceptional person, but you could either love or hate him, and a lot of people hated him, and a lot of companies won't even have him back in their companies.*

Multiple, conflicting interpretations

Peter communicated his ideas about TQM and how the change was going through the newsletter on the cafeteria tables. However, this symbol of improved communication was contradicted by another supposed symbol of change: new rubbish bins in the company colours. As shown in chapter 6, this symbol was read negatively: as a symbol of lack of communication. However, within three weeks some large plastic bins (in the firm's colours) appeared — a symbol of improved communication.

One of the employees at Doorways made the suggestion that vacancies be advertised internally. This employee said that people were disgruntled that when jobs came up within the factory, particular individuals were asked if they would like to move into that area, without anyone else knowing about it. He asked if they could advertise internally when a job came up, so that people could express their interest. Otherwise management might not have noticed someone who would be able to do the job, and might not know that others wanted to be considered. This suggestion was taken up by Peter: the next vacancy was advertised and several people applied. However, when the successful applicant was named and appointed, there were conflicting interpretations of the decision. The rumour went around that management had advertised the job to appear as if they were making it available to anyone qualified, but that they had already decided who was to have it.

Similarly, with the employment contract there were conflicting interpretations of the negotiations and their results. Peter presented the change to competency and skill-based compensation as more pay for multi-skilling — a symbol of the

benefits of the changing structure and emphasis.   However, it was not accepted as a positive offer by some of the staff, who felt, "there must be some ulterior motive." Peter interpreted the representations of the employees as "a long wish list". From the employees' perspective, some felt that their list was ignored, and that management had only paid lip-service to consultation.

CONFUSION

There were also examples of confusion at Doorways because of lack of information, time and money.

Lack of information

From his first week at Doorways, Peter started a meeting every morning with the team leaders. Team leaders commented that they were enjoying finding out about each other's departments and how delays and events in other departments were affecting production. However, this information did not go further. Unlike at Whiteware, where the information from the early morning meeting was shared with all the workers at five-minute meetings before morning tea, the team leaders at Doorways were not passing on the information. One team leader even said he wondered whether it was the sort of information they should be giving their workers. The team leaders were not certain about their responsibilities regarding the information they obtained in that meeting, which could also have lead to confusion among the workers because they lacked information about delays and the effects of other departments on their own work.

When the press shop operators at Doorways eventually changed to operator assessment, the operators had problems determining what was good quality. As the team leader in the press shop said: "A lot of them are stopping every half hour, but they don't know yet what they are checking for. There are so many variables in the making of one part. We need to define the critical areas, and get them to check those." Thus, there was ambiguity because of lack of information. (After three months a new board appeared in the press shop. On it were samples of some of the parts made in that area, some labelled "good", others "poor". Those labelled "poor" had comments underneath them saying what was wrong with them and what points to note when making them. Other

areas of the factory had samples or drawings to indicate what was and what was not good quality.)

Lack of time and money

There appeared to be some confusion between Peter and the team leaders at Doorways over the speed of the TQM introduction, with Peter considering that there was a lack of time and a need for fast change, whereas team leaders wanted to let the process take as long as it needed to. One of the team leaders who enthusiastically embraced and implemented the changes suggested still said: "Peter will need to go slow. It will take time to implement changes." Another team leader complained about lack of time, saying that the improvement meetings were too frequent, as problems could not be solved in one week, and then in the next week's meeting more problems were suggested so that the list kept growing.

Some of the teams had made suggestions but were unable to carry them out because of lack of money, such as the team that needed lights above their work benches. At the time that I was carrying out the research, they were still waiting for cash to be available.

AMBIGUITIES FOR THE RESEARCHER

There were also ambiguities in my role as researcher, both in my methodological stance and in my relationships with people at the research sites.

Methodological

My stance on methodology was ambiguous at the beginning. Although I wanted to carry out a qualitative study, I wrote the proposal from a positivist standpoint. It took several months of reading and discussion to make the transition from positivism to interpretivism. The ambiguity about methodology arose in the first instance from ignorance of methodologies other than positivism.

Later I experienced uncertainty about how to relate my findings in the field to theory. This ambiguity is related to my struggle with methodology. There is an

accepted way of carrying out and writing up positivist research, which I was exposed to in earlier studies at undergraduate and masters level. However, how to write up interpretive research is still being explored and written about. This uncertainty about relating findings to theory was partially resolved when I found the article by Martin & Meyerson (1988). Their suggestion of looking at findings from varying perspectives fit well with my methodological journey from positivism through critical theory to interpretivism, and allowed me to present the findings from all three perspectives.

My thoughts about the "virtues and vices" of TQM were also ambiguous. At the beginning of the research I took a very managerialist (and positivist) viewpoint, and could see only the good things about TQM and the "dysfunctional" behaviour of some workers. However, as the research progressed and as I did more reading on different perspectives on TQM (such as the Marxist and Foucauldian viewpoints reviewed in the literature chapter), I began to see and understand resistance and ambiguity in the organisations (especially at Doorways).

Relational

My relationship with those I was researching was also ambiguous. To begin with I naively expected to be able to observe what was going on "like a fly on the wall". However, I soon noticed that employees associated me with management. I suppose that was natural, as they first saw me being shown around by members of management: the accountant at Finefoods and the plant manager at Whiteware and Doorways. Although I was given the freedom to wander around the factory and talk to whoever I wished at Whiteware and Doorways, I was often seen talking to the plant manager on the factory floor and in the cafeteria. Also it was known that I had come to Doorways because I knew Peter, so employees would expect that I knew him better than they did.

This association with management came up in conversation several times at Doorways. For example, two employees separately talked at length about the suggestions that they had made which had not been acted on, one of them asking me not to mention what he said to anyone. The next time I talked to the first man, he asked me what Peter thought of his ideas, as though I had gone straight to Peter and told him everything he had said. He obviously expected me to be a channel of communication. Even though the second man had

asked me to keep his comments to myself, the next time I talked to him he said: "Thanks for the little word you had with me last time. I've noticed that communication has already improved." I had to tell him that I had not repeated what he had said.

Even though I did not want to be involved in causing change, I found that I could not avoid it. For example, one employee who worked in a very untidy area all by herself complained to me every week about how untidy her area was, and that everyone used it as a junk room. She said she would just love to at least have some paint on the wall. I then told her that the workers in another area had got paint brushes and paint and done it themselves. Thus I communicated an idea from another area that was not getting through because of the loose coupling.

I found, of course, that I could not be present in the factory without people noticing me. On a site visit after I had had my hair permed, two people commented on my change of hairdo. I was also included in their ribbing of each other. In one process improvement team meeting, two late-comers were teased and there was a fair amount of banter between the team members during the whole meeting. One of the girls had a banana and at one stage someone hid it. When she came to look for it, one of the guys said, "Bev took it." Thus they were comfortable with my being there, but were not ignoring my presence.

There were also changes in their behaviour because I was there. For example, while I was in one room a manager came in asking the team leader to prepare a graph of something, comparing September with August. The team leader said, "We don't have that information for August — we've only started collecting it in September." The manager covered his mouth (to pretend that I couldn't hear) and said, "Just make something up!" On another occasion as I approached one of the workers he hurriedly rubbed yesterday's data from the white board beside his machine, and wrote up today's date. He said, "I saw you coming, and I thought I'd better quickly get this up because you were going to be checking on me!"

DISCUSSION

This chapter has contributed to the literature on TQM implementation and its effect on accounting by providing an alternative viewpoint to that presented in literature to date, which has been exclusively integrative or differentiating. The three paradigms differ in their treatment of ambiguity. The integration paradigm pretends that ambiguity does not exist, by denying it and taking no action. The differentiation paradigm recognises the existence of ambiguity but channels it so that only a small part of the organisation has to deal with it.

The ambiguity paradigm, on the other hand, does not view ambiguity as "some sort of personal failure of understanding or skill" but as "a rich, if frustrating, and inevitable part of life" (McCaskey, 1982, p. 6). Although authors such as March & Olsen (1976) and Weick (1982, 1985) have embraced the idea that there is inevitably ambiguity present in organisations, especially during times of change, these authors imply that ambiguity can be resolved: "people who can resolve it gain power" (Weick, 1985, p. 125)

Other authors, on the other hand, claim that ambiguity may be accepted (perhaps with reluctance) (Martin & Meyerson, 1988) but is not necessarily resolved: "patterns tend to develop, but this is by no means a unitary top-down view of control. ... Action moves frequently from integrated to differentiated control, sometimes without directional intentionality, and sometimes with it. ... Tensions are thus sustained in interminable ambiguity" (Golding, 1991, p. 582).

Meyerson & Martin (1987, p. 638) use a metaphor of a web when applying the ambiguity paradigm:

> Individuals are nodes in the web, temporarily connected by shared concerns to some but not all the surrounding nodes. When a particular issue becomes salient, one pattern of connections becomes relevant. That pattern would include a unique array of agreements, disagreements, pockets of ignorance, and hypocrisy. A different issue would draw attention to a different pattern of connections.

This could be seen in the different web of relationships in, for example, the employment negotiations compared with the improvement team meetings at Doorways. It was also evident on an individual level: the person who

suggested cellular manufacturing, which was aligned with management's aims, being anti-management in employment contract negotiations.

The presence of ambiguity in Doorways helps to explain why Peter was unsuccessful in implementing TQM there. The loose coupling prevented teams from learning from each other. Uncertainty, contradictions and confusion prevented a dominant, management aligned culture from developing. Many symbols were read differently than they were intended. Multiple and vague goals and roles meant that organisational members were pulling in different directions and motivated by different values. The unexpected result of the ambiguity was a rejection of TQM and what it stood for in people's minds.

Ambiguity also provides an explanation for the lack of accounting change at Whiteware. There was ambiguity between the "reality" shaped by the accounting system and that of the TQM culture. On the one hand accounting shapes organisational reality by:

> celebrating economic rationality, confirming privileges of rank, reflecting structures of authority and embodying our dreams of efficiency and purposeful coherence. It makes available a common legitimized vocabulary of economic calculations, it sequences moments of management planning and review and it provides a common version of organizational history (Boland, 1989, p. 598).

On the other hand TQM may focus on other ways of signifying events and themes, and provide different structures of authority. This may be a reason why accountants would resist change, because they might find that their place in the authority system is being threatened. As has been mentioned before, both the accountant and the senior accounts clerk at Whiteware resisted substantive changes to accounting and the systems that they had developed.

Emore & Ness (1991, p. 44) suggest that "one potential explanation for the lukewarm interest in adopting new cost accounting practices is the fear of upsetting the systems on which companies depend for financial accounting information. ... managers are reluctant to implement broad cost accounting changes unless reconciliation with the general ledger can be assured." This conflict between management accounting and financial accounting goals was present at Whiteware. The accountant spent a large proportion of his time on

financial accounting and taxation accounting, and his concern with accurate inventory valuation was also financial accounting related.

One of the reported changes to accounting in JIT environments is reduced tracking of inventory. Foster & Horngren (1988) suggest amalgamating Raw Materials and Work in Process accounts, and only recording ("backflushing") costs at one or two points in production. However, Calvasina et al. (1989, p. 45) warn that only backflushing costs when goods are finished may result in the necessity for physical counting of inventory, which "contradicts one of the basic objectives of the JIT philosophy – the elimination of wasteful nonvalue-adding functions." This conflict was present at Whiteware: because of the reduction in trigger points for backflushing, the non-value-adding activity of physical counting had been instituted.

Although changes to new accounting methods, such as activity based costing, non-value-added costs and quality costing, have been documented in firms implementing TQM, it is disputable whether they need to be introduced. For example, non-financial performance measures and tracking of trends can enable the identification and reduction in non-value-adding costs without further classification and tracing of costs. Thus there is ambiguity about the necessity for changes to accounting.

Notwithstanding little evidence of many of the accounting changes predicted by researchers in the integration paradigm, there *were* signs of the changes suggested for ambiguous settings by Cooper et al. (1981). At Whiteware large volumes of data were being processed in the production of the trend graphs for each team. As the accountant seemed to be reluctant to get involved in different systems of "accounting", more informal systems had arisen which were being used alongside and often instead of the formal accounting systems. For example, many trends in performance discussed at monthly team leaders' meetings were based on non-financial results rather than accounting performance measures such as variances. Also, different types of reports were being produced (with a high visual component) and they were being used in different settings than accounting reports, such as in team leaders' meetings, and informally by being displayed on notice boards.

Watson (1994, p. 896) describes the ambiguous situation faced by managers trying to implement new management techniques such as TQM: they "are

trying to exert control simultaneously on behalf of the employing organization and over their own lives by using these ideas and actions to *make sense of their own lives and their place in the scheme of things*". Managers such as Peter need to be successful in implementing TQM, as their success defines their role of manager. For example, Peter was employed by both Whiteware and Doorways because of his reputation for successfully implementing TQM in other organisations. Therefore, he had personal reasons for wanting TQM to be successful in these firms as well as the stated aims of allowing employee empowerment, providing better work conditions for employees, and other claims of TQM gurus. Thus there was ambiguity over his goals as the change agent.

CONCLUSION

Researchers taking the integrative view of organisations are looking for regularities and support for theoretical positions. Those using the differentiation view, as well as looking for conflict and lack of consensus, are "interested in changing organizational practices either to improve efficiency or out of an interest in emancipation" (Lawrence & Phillips, 1998, p. 158).

Researchers from the ambiguity paradigm, on the other hand, do "not seek to change the social world, but rather to reveal the mechanisms that support the system of social relations in place at a particular point in time" (Lawrence & Phillips, 1998, p. 156). This paradigm and this chapter seek to uncover "the unintended, self-defeating consequences of striving to impose purpose and design upon inescapably indeterminate processes of organization" (Willmott, 1992, p. 58). The chapter has described and tried to provide understanding, but does not attempt "to say why one particular social arrangement is better than any other.... we are left to analyze the play of texts that constitute and reconstitute social relations with our only goal being the sheer pleasure of the text" (Lawrence & Phillips, 1998, p. 157).

REFERENCES

Boland, R. J. (1989). Beyond the objectivist and the subjectivist: Learning to read accounting as text. *Accounting, Organizations and Society, 14*, 591-604.

Calvasina, R. V., Calvasina, E. J., & Calvasina, G. E. (1989). Beware the new accounting myths. *Management Accounting (NAA), 71*(6), 41-45.

Cohen, A. (1974). *Two-dimensional man: An essay on the anthropology of power and symbolism in complex society.* Berkeley: University of California.

De Cock, C. (1998). 'It seems to fill my head with ideas': A few thoughts on postmodernism, TQM and BPR. *Journal of Management Inquiry, 7*(2), 144-153.

Emore, J. R., & Ness, J. A. (1991). The slow pace of meaningful change in cost systems. *Journal of Cost Management,* Winter, 36-45.

Golding, D. (1991). Some everyday rituals in management control. *Journal of Management Studies, 28*(6), 569-583.

Lawrence, T. B., & Phillips, N. (1998). Commentary: Separating play and critique: Postmodern and critical perspectives on TQM/BPR. *Journal of Management Inquiry, 7*(2), 154-160.

Linstead, S., & Grafton-Small, R. (1992). On reading organizational culture. *Organization Studies, 13*(3), 331-355.

March, J. G., & Olsen, J. P. (1976). Organizational choice under ambiguity. In J. G. March & J. P. Olsen (Eds.), *Ambiguity and Choice in Organizations* (pp. 10-23). Bergen: Universitetsforlaget.

Martin, J., & Meyerson, D. (1988). Organizational cultures and the denial, channeling and acknowledgment of ambiguity. In L. R. Pondy, R. J. Boland & H. Thomas (Eds.), *Managing ambiguity and change* (pp. 93-125). Chichester: Wiley.

McCaskey, M. B. (1982). *The executive challenge: Managing change and ambiguity.* Boston: Pitman.

Meyerson, D., & Martin, J. (1987). Cultural change: An integration of three different views. *Journal of Management Studies, 24*, 623-647.

Pettigrew, A. M. (1979). On studying organizational cultures, *Administrative Science Quarterly, 24*, 570-580.

Steingard, D., S., & Fitzgibbons, D., E. (1993). A postmodern deconstruction of total quality management. *Journal of Organizational Change Management, 6*(5), 27-42.

Watson, T. J. (1994). Management "flavours of the month": Their role in managers' lives. *The International Journal of Human Resource Management, 5*(4), 893-909 (cited in Jackson, 1996).

Weick, K. (1985). Sources of order in underorganized systems: Themes in recent organizational theory. In Y. S. Lincoln (Ed.), *Organizational theory and inquiry: The paradigm revolution* (pp. 1106-136). Beverly Hills: Sage.

Willmott, H. (1992). Postmodernism and excellence: The de-differentiation of economy and culture. *Journal of Organizational Change Management, 5*(1), 58-68.

Chapter 8
Conclusion

INTRODUCTION

Martin & Meyerson's (1988) model has been useful in the analysis of the evidence collected at the three sites in this research. However, there were some problems and limitations in applying the model, which are explored in the next section. There were also some limitations on the analysis because of the limited time spent at Finefoods, and because the research at Whiteware and Doorways terminated on Peter's leaving each firm. The effect of these limitations is covered in the following section. However some conclusions can still be drawn from the research carried out, which are summarised at the end of this chapter.

LIMITATIONS OF MARTIN AND MEYERSON'S MODEL

There are a number of limitations to applying Martin & Meyerson's (1988) framework. Martin & Meyerson outline several uses of their three-paradigm model. Of these, the suggestion that a researcher use all three perspectives simultaneously is the most problematic. The prescriptions and problems are explored in the next subsection.

There are also problems in discriminating between the differentiation and the ambiguity paradigms. These problems and answers to them are detailed below.

Finally, Martin & Meyerson's (1988) suggestion of depicting research findings on a matrix was found to be too difficult to operationalise and too confusing for the reader.

Using three paradigms with the same data

It could be said that Martin & Meyerson's (1988) integration, differentiation and ambiguity paradigms are equivalent to, for example, Chua's (1986a) mainstream, critical and interpretive paradigms respectively. Although Martin & Meyerson (1988, p. 94) do not refer in detail to methodology or method, they do acknowledge that traditionally researchers from different paradigms are unable to "appreciate the insights of those who view culture through other paradigms. ... One culture researcher's assumptions are, to a researcher from another paradigm, evidence of epistemological naivete, methodological

sloppiness, or inexcusable political bias." However, they challenge researchers to use each of the three paradigms, "each ... in turn, again and again, in order to ... captur[e] a full view of all three aspects of any one cultural context" (p. 122). While they acknowledge that "it is not easy to adopt a multiple-paradigm viewpoint" (p. 122), they give several ways in which their three paradigms could be used by researchers.

A different paradigm could be chosen, depending on the organisational context that is being researched. For example, the integration paradigm may be most suited to "entrepreneurial organizations" or "worker democracies" (p. 121), where common vision, purpose or ideology can be expected. The differentiation paradigm may be more applicable in "a multinational firm, a conglomerate, or a corporation with a multidivisional structure" or in "steeply hierarchical organizations ... with a clear, and perhaps embittered, split between labor and management" (p. 121). The ambiguity paradigm "may be particularly salient in a rapidly growing company in the innovative 'high-technology' industry" or "during traumatic changes such as a merger or an unexpected financial crisis" (p. 120).

Alternatively, different researchers may have paradigmatic preferences. For example, "top executives and some organizational behavior teachers and consultants" might prefer the integration paradigm, because it emphasises "harmony, unity, and leader-centeredness" (p. 121). "Middle managers and research scientists might be more drawn to the ambiguity paradigm" (p. 121), as they experience ambiguity themselves in their work, whereas "labor activists and researchers with Marxist leanings" (p. 121) would prefer the differentiation paradigm, as it acknowledges conflict between subcultures.

These two suggestions for using the model do not require one researcher to use all three paradigms.

Another usage of the three paradigms is for the analysis of previous research in a field. (This was carried out in chapter 3, with the literature on TQM and accounting being separated according to the perspective of the authors.) Martin & Meyerson (1988) propose depicting the findings of research in a matrix with three major columns: practices, artifacts and content themes. By looking down the content themes column, and across the rows, comparing content themes with each other and comparing practices and artifacts with

content themes, one can see whether a particular piece of research emphasises consensus (integration), conflict (differentiation), or lack of clarity (ambiguity). Thus one can see whether the extant research on a particular issue is biased towards one point of view, and design a new piece of research that redresses any imbalance.

Finally, one researcher can attempt to view the same research evidence through the lens of each paradigm in turn. This is what I have attempted to do in this research. This approach was useful to me as a researcher, because I was travelling away from an integration perspective methodologically. The integration chapter was substantially written near the beginning of my research, when my perspective on research was essentially positivist. The ambiguity chapter was written very recently, when I had "arrived" at my present methodological position, as an interpretivist. I therefore had no trouble in seeing symbols of ambiguity.

Seeing things from the differentiation perspective, however, was difficult for me. At the beginning of my research, I read a number of articles that were critical of TQM. At that time I dismissed them as "extreme". Since then, I have re-read them and many more articles from a Marxist or Foucauldian perspective (see, for example, those referred to in the literature chapter). Although I have some sympathy for the viewpoint they present, I found it nearly impossible to see TQM as a power-struggle, exploitation of labour, a system of surveillance, a means of repression, and other critical stances taken in that literature. Therefore, in writing the chapter on differentiation, I could "see" sub-cultures, conflict and lack of consensus, but found it very difficult to "see" the organisations from the more extreme viewpoints, such as Marxism.

Martin & Meyerson (1988, p. 93) define a cultural paradigm as "a subjective point of view that determines what a person perceives, conceives, and enacts as culture." When I was near the beginning of my research (for example, while I was researching at Finefoods), I was only "seeing" regularities and consensus, so the evidence collected could only be used for the integration perspective. It was only because I was changing methodologically that I began to "see" conflict and lack of consensus, and ambiguity.

Therefore I conclude that, for a researcher who is not on a journey from one paradigmatic position to another, carrying out Martin & Meyerson's (1988)

suggestion of using all three paradigms to look at the same evidence is very difficult if not impossible to do.

Demarcation between paradigms

There appear to be overlaps between the differentiation and ambiguity paradigms – both see conflict, lack of consensus, subcultural interest, loose-coupling, etc. Munro (1995, p. 456) states that "ambiguity is not necessarily negative", yet he shows how in one organisation ambiguity was used by management "to ensure *domination*", which is a differentiation perspective. That is, there seems to be some ambiguity about what constitutes ambiguity!

There is also some overlap between the integration and the ambiguity perspective, as ambiguity arises because "individuals share some viewpoints, disagree about some, and are ignorant of or indifferent to others" (Martin & Meyerson, 1988, p. 117).

However, the paradigms differ in the way in which they deal with the ambiguity and confusion that results from this lack of clarity: the integration paradigm ignores ambiguity; the differentiation paradigm wants to *do* something with ambiguity – channel it, or effect change; whereas the ambiguity paradigm proposes *living with* the ambiguity. Reactions to ambiguity range from "action paralysis" (Martin & Meyerson, 1988, p. 118), unintended action, meaningless action and reluctant action through to acceptance of ambiguity resulting in experimentation and innovation.

The overlap between the paradigms is an essential cause of the ambiguity in the ambiguity paradigm. One of the weaknesses of methodological classifications, such as those of Burrell & Morgan (1979), Chua (1986a) and Laughlin (1995) (see chapter 2), is the mutual exclusivity of each paradigm. Therefore the overlap between the paradigms can also be seen as not a limitation or weakness in Martin & Meyerson's (1988) definitions of the three paradigms, but a recognition that the study of human society cannot be boxed so neatly into exclusive categories.

Matrix representation

As mentioned above, Martin & Meyerson (1988) propose depicting research findings in a matrix. Content themes are listed in the first column. Practices

and artifacts that illustrate the content themes are recorded in the rows of the matrices.

The integration paradigm matrix will show consistency. Action and symbolic consistency will be evident on examination of the rows of the matrix; that is, practices and artifacts will be consistent with each other and with the content themes. For content consistency, the content themes, in the left hand column, must be consistent with each other. "Consensus implies that a single matrix can represent what is known about a culture" (Martin & Meyerson, 1988, p. 104).

The matrix will represent the differentiation paradigm if there are inconsistencies. "Action and symbolic inconsistencies appear across rows, and content inconsistencies appear vertically within the left-hand column of the matrix. Lack of consensus can be represented in one matrix or, in more detail, by constructing multiple matrices where each matrix represents a separate subculture" (Martin & Meyerson, 1988, p. 110).

It is difficult to use the matrix representation for the ambiguity paradigm, however, as "distinguishing consistency and inconsistency is not possible within this paradigm" (Martin & Meyerson, 1988, p. 115). Therefore it is problematic to carry out Martin & Meyerson's (1988) suggestion of using the matrix representation as a way of identifying the perspective that a researcher has used; the matrices only identify integration or differentiation paradigms.

I attempted to use the matrix representation to summarise the findings of the integration and differentiation paradigms in this research. The content themes were the attributes of TQM and the expected changes to management accounting systems. However, it was hard to differentiate between practices and artifacts. The matrices produced (see the appendix to this chapter) were hard to read because of the amount of detail in them. It was felt that the written explanations of the consensus or lack of consensus in the body of each chapter was sufficient without the reader having to try to read the detail in the matrices and decide why each item was classified as a content theme, a practice or an artifact. Also the usage of matrices for "data" representation is a restrictive and positivist approach to research, whereas this research intended to provide a narrative, interpretive view of the findings.

LIMITATIONS OF THIS RESEARCH

Any research in organisations is of necessity constrained by the amount of time and level of access that the firm allows to the researcher. Buchanan et al. (1988, p. 54) list some problems that typically arise: "the members of organizations block access to information, constrain the time allowed for interviews, lose your questionnaires, go on holiday, and join other organizations in the middle of your unfinished study". Similar problems limited this research: Finefoods' accountant felt that the organisation was being over-researched, which made me decide to discontinue research there; and the change agent at Whiteware and Doorways, Peter, left both organisations.

Limited time at Finefoods

I am grateful to the accountant at Finefoods for allowing me to interview him at length and for arranging access to meetings, even though he stated before I began that he felt that researchers were keeping them from their work. Although the limited time I spent at Finefoods meant I did not have enough contact with the workers to gather evidence from any but the integration perspective, what I did find was still of benefit theoretically. Whiteware was the first firm in which I commenced research. Although it was, in the words of my colleague, "a textbook case of TQM", I observed lack of change to the accounting systems and resistance to change from the accountant. Finefoods, on the other hand, provided a contrasting example, in that they had a completely new accounting system which worked together with the TQM application.

Losing the "gatekeeper" at Whiteware and Doorways

Peter was the "gatekeeper" (Buchanan et al., 1988) who gave me permission to start research at Whiteware and who invited me to come to Doorways. I am grateful to Peter for his friendliness and openness, and for making it possible for me to have access to nearly all meetings and to talk with and observe anywhere in both sites. He was also interested in what I was finding, looking on my research as a way for himself to learn, too, and to improve his own applications of TQM. Because he was the gatekeeper, once he had left each organisation I had to discontinue research there. However, I had finished my research at Whiteware by the time he left there, and, because his leaving

signalled the failure of the TQM implementation, there was no reason for me to continue research at Doorways.

CONCLUSIONS

This thesis has contributed to the literature on TQM and accounting in a TQM environment by viewing the evidence collected at the three research sites from three different perspectives: integration, differentiation and ambiguity. The relationships between these perspectives are depicted in Fig. 8.1.
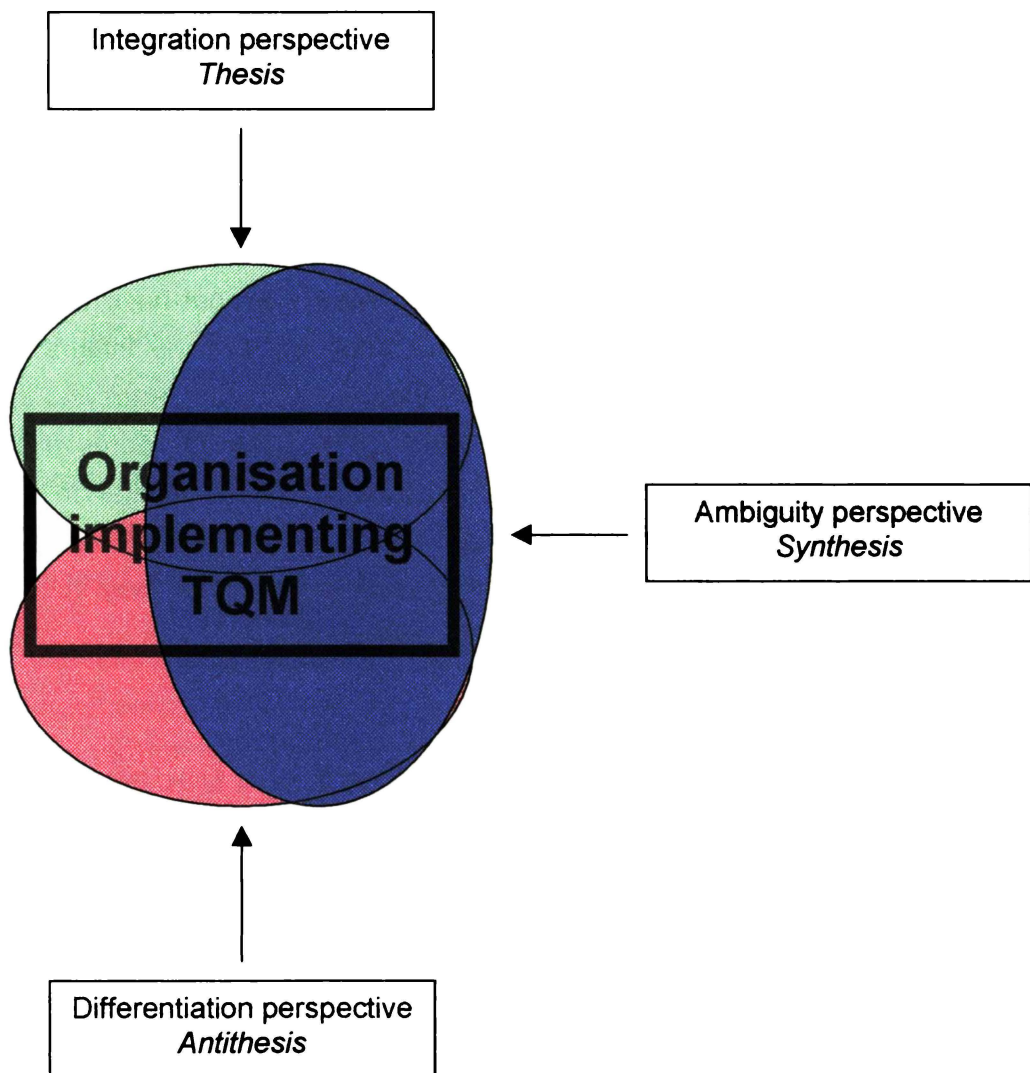

Figure 8.1: Three perspectives on research

The integration paradigm is a "top down" perspective: looking from a managerial point of view, it seeks support for the thesis that TQM involves a focus on customers, continuous improvement of products and processes, employee involvement and management commitment. This paradigm has underlying assumptions of harmony of interests, consensus as to goals, and a unitary culture.

A TQM endeavour would be judged "successful" if managerial aims have been met, that is, if quality has been improved through incorporating the above elements of TQM. Because a unitary culture is assumed, any signs of conflict would be interpreted as "dysfunctional" and contrary to TQM. Thus attempts would be made to eliminate conflict. The inevitable existence of ambiguity is ignored or denied.

The expected changes to accounting in an organisation that has changed to TQM include: non-financial performance measures, simplification and reduction of paperwork and inventory tracking, improvement and simplification of reporting, and alternative methods of allocating and classifying costs. Most of the literature about accounting change in TQM environments has used this perspective.

The differentiation paradigm is the antithesis of the integration paradigm, looking at organisations from labour's point of view. Using this perspective, conflict with and lack of consensus about the above expected characteristics of TQM and accounting are seen. This paradigm assumes conflict of interest between labour and management, and between sub-cultures and the main culture. From a critical viewpoint, TQM is seen as exploiting the work force.

Because TQM characteristics are seen as ways of increasing profit at the expense of labour, from the differentiation point of view no TQM initiative would be called "successful", unless it were truly emancipatory, including, for example, some form of profit sharing. From the differentiation perspective, conflict is highlighted in an attempt to effect change, and changes that do occur are not always the changes that management expect when they introduce a change initiative such as TQM.

There are a few accounting studies using labour's perspective on accounting in TQM settings. If labour perceives accounting as a means of management surveillance and subordination, they may resist and undermine accounting

changes (Ezzamel et al., 1998). Alternatively, as found in this research and also in Jazayeri & Hopper (1999), accountants themselves may decide against making changes and getting involved themselves in the TQM philosophy.

The ambiguity paradigm is a synthesis of the other two paradigms: it looks at organisations from both management's and labour's perspectives. The simultaneous existence of both consensus and lack of consensus, of regulation and conflict, of clarity and lack of clarity result in ambiguity.

This paradigm accepts that ambiguity is always present. As different people react differently to the presence of ambiguity, the ambiguity perspective explains why some organisations successfully implement TQM (that is, develop the characteristics of TQM), while others do not. The presence of ambiguity explains why sometimes management achieve their objectives, while in other cases outcomes are not always as intended. The ambiguity perspective also explains why accounting systems change in some TQM environments but not in others, and why some people support organisational change while others resist it.

Research from the ambiguity perspective does not attempt to eliminate conflict, nor is it trying to effect change. Rather it highlights the inevitable and continual presence of ambiguity as interesting in its own right. By showing the unpredictability of reactions to ambiguity, this paradigm provides a good explanation for unexpected results.

The analysis of the research findings from the ambiguity perspective is the principal contribution of this thesis, as this approach has not been used in TQM settings before.

REFERENCES

Buchanan, D., Boddy, D., & McCalman, J. (1988). Getting in, getting on, getting out, and getting back. In Bryman, A. (Ed.) *Doing research in organizations* (pp. 53-67). London: Routledge.

Burrell, G., & Morgan, G. (1979). *Sociological paradigms and organisational analysis: Elements of the sociology of corporate life.* London: Heinemann.

Chua, W. F. (1986a). Radical developments in accounting thought. *The Accounting Review, 61*, 601-632.

Ezzamel, M., Willmott, H., & Worthington, F. (1998). Accounting, power and resistance in the "plant with a problem". Proceedings of *Second Asian Pacific Interdisciplinary Research in Accounting Conference*, Osaka, Japan, 4-6 August, 1998, CD-ROM.

Jazayeri, M., & Hopper, T. (1999). Management accounting within world class manufacturing: A case study. *Management Accounting Research, 10*, 263-301.

Laughlin, R. (1995). Empirical research in accounting: alternative approaches and a case for "middle-range" thinking. *Accounting, Auditing and Accountability Journal, 8*(1), 63-87.

Martin, J., & Meyerson, D. (1988). Organizational cultures and the denial, channeling and acknowledgment of ambiguity. In L. R. Pondy, R. J. Boland & H. Thomas (Eds.), *Managing ambiguity and change* (pp. 93-125). Chichester: Wiley.

Munro, R. (1995). Managing by ambiguity: An archaeology of the social in the absence of management accounting. *Critical Perspectives on Accounting, 6*, 433-482.

APPENDIX

Content themes	Practices	Artifacts
Need for change Loss making	New owners	"Make changes or face closure"
Change artifacts to effect cultural change No hierarchy	Education	Courses on new management philosophy "work centre management" Meetings in board room
Leader essential to change		"[he] was going to make it happen"
Customer focus Quality Customer complaints Internal customer awareness	Quality processes Tightening of specifications Rejection or charge for substandard product from previous work centre	
Continuous improvement Improvement projects Positive variances Labour cost reduction	Monthly improvement suggestions Budget allowance for improvements Continuous updating of standards Less engineering staff	Paddle elevator "once you ... look at why it's positive, you can ... make that step down improvement"
Employee involvement	Measure processes Work centre members and managers make suggestions Communication between and within all levels Training Rewards	Collecting and acting on measures Daily, weekly and monthly meetings Noticeboards Literacy & numeracy training Personalised pens Improvement award ceremony
Commitment of senior management	Authority devolved to work centre managers	Work centre managers treat work centre as their own business Management provide resources, motivation and support

Table 8.1: Integration paradigm:
TQM implementation – Finefoods Ltd

Content themes	Practices	Artifacts
Need for change		
Loss making	New owners	"TQM the only way to survive"
Change artifacts to effect cultural change	Education	Courses on new management philosophy
	No hierarchy	Plant manager "walking around" in factory Factory workers in board room
	Kanban	Colours for each department Jargon: "supermarket", " kanban tree" etc.
Role of the leader	Essential to survival	"The firm wouldn't be here now if it weren't for [him]"
Customer focus		
Quality	Quality audit ISO 9001	Fast ISO 9001 registration
Customer complaints	Monitoring of reduction in warranty claims	
Internal customer awareness	Operator inspection at regular intervals	
Continuous improvement		
Improvement projects	Process improvement teams Reduction of non-value-adding activities	
Waste reduction	Multiskilling	Reduced idle time
	Kanban	Reduced set-up times, inventory levels and waste of materials
Employee involvement	Select, modify, delete, measure and report key performance indicators	Collecting and acting on measures
	Team members and leaders make improvement suggestions	
	Communication between and within all levels	Daily, weekly and monthly meetings Roving reporter Noticeboards
	Training	Multiskilling Conferences & site visits Reading management books
	Rewards	Breakfasts, BBQs, picnics, rugby games Higher wages
Commitment of senior management	Decision-making devolved to team leaders	

Table 8.2: Integration paradigm:
TQM implementation – Whiteware Ltd

Content themes	Practices	Artifacts
Change artifacts to effect cultural change	Education	Site visit to Whiteware Courses on new management philosophy
	No hierarchy	Plant manager in cafeteria
	Kanban	Coloured pegs
<u>Continuous improvement</u> Improvement projects Waste reduction	 Process improvement teams Multi-skilling	
Employee involvement	Communication between levels	Daily, weekly and monthly meetings Notices Staff newsletter
	Training	Reading management books Business periodicals available Humour and analogies
	Rewards	BBQ

Table 8.3: Integration paradigm:
TQM implementation – Doorways Ltd

Content themes	Practices	Artifacts
Operational, non-financial information Operational performance measurement Operator involvement	Work centres choose measures and measure operational performance Statistical sampling Problem solving by operators	"they have got quite sophisticated in their use of SPC techniques ... They utilise that information for making improvements on the line "
Simplification of paperwork and tracking Simplified accounting for work-in-process Automation of accounting	Computerised transfer costing New custom-designed management accounting system	"costing and inventory information is more reliable" "the management change *demanded* that the accounting system change to suit it"
Improved and simplified reporting	Visual display	Drawings, graphs Physical measures as well as financial
Costing changes Reduced reliance on variance analysis for control Changed bases for allocation of overhead Non-value-adding costs	Focus on trends Continual updating of standards as make improvements Activity based costing Financial and non-financial measures	"a positive variance or a negative variance.... It's not that one's good and one's bad"
Changed role for management accountant Scorekeeper to coach Part of team	Training work centre managers in financial terms and budgeting Administration is a service department	"give the people who are doing the job the tools they need" "The other work centres are our customers"

Table 8.4: Integration paradigm:
Management accounting changes – Finefoods Ltd

Content themes	Practices	Artifacts
Operational, non-financial information		
Operational performance measurement	Team leaders choose and record key performance indicators	"KPI's" "heaps more work but my job"
Operator involvement	Operators responsible for own scrap	"previously 'piles of scrap' "
Simplification of paperwork and tracking		
Reduced paperwork	Kanbans instead of paper-based ordering and production planning	"kanban is 'a lot better and easier' "
Simplified accounting for work-in-process	Less points at which inventory recorded	
Alternative labour recording	Absenteeism recorded	
Improved accuracy of necessary paperwork	New forms	
Improved and simplified reporting	Visual display	Definitions, drawings, production-related data, improvements, multiskilling, performance graphs, etc.
Costing changes	Reduced reliance on standard costing and variances for control	Focus on trends
	Non-value-adding costs	Non-value-adding activities recorded non-financially
Changed role for management accountant		
Scorekeeper to coach	Operators recording and reporting measures	"so team leaders 'own' problems"
Part of a team	Team leaders make decisions	now team leaders "take a lot of the responsibility"

Table 8.5: Integration paradigm:
Management accounting changes – Whiteware Ltd

Content themes	Practices	Artifacts
Changed role for management accountant		
Scorekeeper to coach	Training team leaders to prepare non-financial reports	

Table 8.6: Integration paradigm:
Management accounting changes – Doorways Ltd

Content themes	Practices	Artifacts
Changes in artifacts to effect cultural change	No hierarchy	Increasing levels of management (actual and perceived)
Role of the leader		Leader dictatorial and impatient
Non-unitary culture	Negative subcultures	Non-attendance at meetings Slowness or refusal to change Misuse of kanban system
Continuous improvement Improvement projects	Improvement teams	Suggestions from leaders rather than members Forget meetings
Employee involvement	Multiskilling	Lack of interest in involvement

Table 8.7: Differentiation paradigm:
TQM implementation – Whiteware Ltd

Content themes	Practices	Artifacts
Lack of cultural change Loose coupling No need for change	No effect of teams that change on other teams Same owners	 Aim: increase production
Changes in artifacts to effect cultural change	Perceived hierarchy Kanban	"Management", "them" and "us" No consultation over trigger and batch amounts
Role of the leader		Leader impatient Non-leader-centred subcultures exist
Non-unitary culture	Positive subcultures Orthogonal subcultures Negative subcultures	Carrying out of suggestions immediately Ethnic groups not influencing change Apathy Refusal to change recording methods Sabotage of PIT meetings Acrimonious employment contract negotiations
Continuous improvement	Improvement teams set up	Forget meetings Arbitrary assignment to teams Inappropriate meeting venues Lack of commitment Scepticism about effectiveness Dictatorial leaders
Employee involvement	Communication Multiskilling	Employees' suggestions not sought/ignored Too busy to train
Lack of commitment of senior management	Only partial devolution of decision-making to plant manager and team leaders	Blame and control Secretiveness Anti-management feeling

Table 8.8: Differentiation paradigm:
TQM implementation – Doorways Ltd

Content themes	Practices	Artifacts
Simplification of paperwork and tracking	Accounting not simplified Accounting for work-in-process	Additional paperwork Physical counting of inventory Multiple back-flushes
Supplementation, not simplification, of reporting	Visual display	Still printing traditional reports
No costing changes	Standard costing used	Standards not revised for 10 years
Unchanged role for management accountants	Accountant resistant to change	Perceived as inflexible Retained control Proprietary interest in status quo Reluctance to tackle long-term projects Busyness with financial accounting and routines

Table 8.9: Differentiation paradigm:
Management accounting changes – Whiteware Ltd

Content themes	Practices	Artifacts
Improved and simplified reporting	Visual display	Many whiteboards not being used

Table 8.10: Differentiation paradigm:
Management accounting changes – Doorways Ltd [1]

---

[1] There is only one entry in this table for two reasons. Firstly, the change to TQM was so recent at Doorways that there had not been much chance for accounting systems to change. Secondly, the accountant at Doorways was willing to change, and made some changes that were congruent with the change to TQM (see Table 8.6).

Bibliography

Abbott, A. D. (1988). *The system of professions: An essay on the division of expert labor.* Chicago: University of Chicago.

Abdel-khalik, A. R., & Ajinkya, B. B. (1979). *Empirical research in accounting: A methodological viewpoint.* Sarasota, Florida: American Accounting Association.

Abdel-khalik, A. R., & Ajinkya, B. B. (1983). An evaluation of the everyday accountant and researching his reality. *Accounting, Organizations and Society, 8,* 375-384.

Abernethy, M. A., & Lillis, A. M. (1995). The impact of manufacturing flexibility on management control system design. *Accounting, Organizations and Society, 20,* 241-258.

Ainikkal, J. (1993). Exploring the New Zealand manufacturing environment. *Accountants' Journal,* July, 28-31.

Aitken, M. J., & Gaffikin, M. J. R. (1987). *Problems with the application of "scientific" research methodology in accounting.* Working paper No. 1/87. Christchurch: University of Canterbury, Department of Accountancy.

Allaire, Y., & Firsirotu, M. E. (1984). Theories of organizational culture. *Organization Studies, 5*(3), 193-226.

Alvesson, M., & Willmott, H. (1992). Critical theory and management studies: An introduction. In M. Alvesson, & H. Willmott (Eds.), *Critical Management Studies* (pp. 1-20). London: Sage.

Amat, J., Carmona, S., & Roberts, H. (1994). Context and change in management accounting systems: A Spanish case study. *Management Accounting Research, 5,* 107-122.

Ansari, S. L. (1991). *Field research in management accounting: The ethnographic tradition.* Paper presented at Conference On Field Research Skills in Management Accounting, Boulder, CO, March.

Ansari, S. L., & Bell, J. (1991). Symbolism, collectivism and rationality in organisational control. *Accounting, Auditing and Accountability Journal, 4*(2), 4-27.

Ansari, S. L., & Euske, K. L. (1987). Rational, rationalizing, and reifying uses of accounting data in organisations. *Accounting, Organizations and Society, 12,* 549-570.

Argyris, C. (1988). Producing knowledge that is generalizable and usable for practice: A review. *Accounting, Organizations and Society, 13,* 101-106.

Armstrong, P. (1989). Variance reporting and the delegation of blame: A case study. *Accounting, Auditing and Accountability Journal, 2*(2), 29-46.

Armstrong, P. (1994). The influence of Michel Foucault on accounting research. *Critical Perspectives on Accounting, 5,* 25-55.

Arrington, C. E., & Francis, J. R. (1989). Letting the chat out of the bag: Deconstruction, privilege and accounting research. *Accounting, Organizations and Society, 14,* 1-28.

Arrington, C. E., & Schweiker, W. (1992). The rhetoric and rationality of accounting research. *Accounting, Organizations and Society, 17,* 511-533.

Arthur, A. (1993). Critical accounting theory and practical philosophy: Applying the tools. *Critical Perspectives on Accounting, 4,* 209-224.

Bartunek, J. M., & Moch, M. K. (1987). First-order, second-order, and third-order change and organization development interventions: A cognitive approach. *Journal of Applied Behavioral Science, 23*(4), 483-500.

Bauman, Z. (1978). *Hermeneutics and social science: Approaches to understanding.* London: Hutchinson.

Baxter, J. A., & Chua, W. F. (1998). Doing field research: Practice and meta-theory in counterpoint. *Journal of Management Accounting Research, 10,* 69-87.

Baxter, W. T. (1988). *Accounting research — academic trends versus practical needs.* Institute of Chartered Accountants of Scotland.

Becker, H. S. (1970). Problems of inference and proof in participant observations. In N. K. Denzin, *Sociological methods: A sourcebook* (pp. 398-412). Chicago: Aldine.

Becker, H. S. (1986). *Writing for social scientists: How to start and finish your thesis, book, or article.* Chicago: University of Chicago.

Bellis-Jones, R., & Hand, M. (1989). Are total quality management programmes a fact or a management fad?. *Management Accounting (CIMA), 67*(5), 36-37.

Benbasat, I., Goldstein, D. K., & Mead, M. (1987). The case research strategy in studies of information systems. *MIS Quarterly*, 369-386.

Berger, P. L., & Luckmann, T. (1967). *The social construction of reality: A treatise in the sociology of knowledge.* Garden City, New York: Doubleday. Referenced in Willmott (1990).

Berry, A. J., Capps, T., Cooper, D., Ferguson, P., Hopper, T., & Lowe, E. A. (1985). Management control in a area of the NCB: Rationales of accounting practices in a public enterprise. *Accounting, Organizations and Society, 10*(1), 3-28.

Birkett, W. P., & Chua W. F. (1986). Management accounting as situated practice. Sydney: University of New South Wales, Working Paper Series No. 64.

Blanchard, K. H., & Johnson, S. (1983). *The one minute manager.* London: Fontana.

Blumer, H. (1969). *Symbolic interactionism: Perspective and method.* Englewood Cliffs, NJ: Prentice-Hall.

Boje, D. M., & Winsor, R. D. (1993). The resurrection of Taylorism: Total Quality Management's hidden agenda. *Journal of Organizational Change Management, 6*(4), 57-70.

Boland, R. J. (1979). Control, causality and information system requirements. *Accounting, Organizations and Society, 4*, 259-272.

Boland, R. J. (1989). Beyond the objectivist and the subjectivist: Learning to read accounting as text. *Accounting, Organizations and Society, 14*, 591-604.

Boland, R. J. (1993). Accounting and the interpretive act. *Accounting, Organizations and Society, 18*, 125-146.

Bonoma, T. V. (1985). Case research in marketing: Opportunities, problems and a process. *Journal of Marketing Research*, May, 22, 199-208.

Bossink, B. A. G., Gieskes, J. F. B., & Pas, T. N. M. (1992). Diagnosing total quality management — part 1. *Total Quality Management, 3*(3), 223-231.

Bossink, B. A. G., Gieskes, J. F. B., & Pas, T. N. M. (1993). Diagnosing total quality management — part 2. *Total Quality Management, 4*(1), 5-12.

Bourn, M., & Ezzamel, M. (1986). Organisational culture in hospitals in the National Health Service. *Financial Accountability and Management, 2*(3), 203-225.

Bower, J. L., & Weinberg, M. W. (1988). Statecraft, strategy and corporate leadership. *California Management Review, 30*, 39-56.

Briloff, A. J. (1990). Accountancy and society: A covenant desecrated. *Critical Perspectives on Accounting, 1*, 5-30.

Brinkman, S. L., & Appelbaum, M. A. (1994). The quality cost report: It's alive and well at Gilroy Foods. *Management Accounting (NAA)*, September, 61-65.

Broadbent, J. (1992). Change in organisations: A case study of the use of accounting information in the NHS. *British Accounting Review, 24*, 343-367.

Brooks, I. (1995). *The yellow brick road: The path to building a quality business in New Zealand.* Auckland: Nahanni.

Bruns, W. J., & Kaplan, R. S. (1987). Field studies in management accounting. In W. J. Bruns & R. S. Kaplan (Eds.), *Accounting and management: Field study perspectives* (pp. 1-14). Boston: Harvard Business School.

Buchanan, D., Boddy, D., & McCalman, J. (1988). Getting in, getting on, getting out, and getting back. In Bryman, A. (Ed.) *Doing research in organizations* (pp. 53-67). London: Routledge.

Buehlmann, D. M., & Stover, D. (1993). How Xerox solves quality problems. *Management Accounting (NAA)*, *75*(3), 33-36.

Burchell, S., Clubb, C., Hopwood, A., Hughes, J., & Nahapiet, J. (1980). The roles of accounting in organizations and society. *Accounting, Organizations and Society, 5*(1), 5-27.

Burrell, G., & Morgan, G. (1979). *Sociological paradigms and organisational analysis: Elements of the sociology of corporate life.* London: Heinemann.

Calvasina, R. V., Calvasina, E. J., & Calvasina, G. E. (1989). Beware the new accounting myths. *Management Accounting (NAA)*, *71*(6), 41-45.

Capps, T., Hopper, T., Mouritsen, J., Cooper, D., & Lowe, T. (1989). Accounting in the production and reproduction of culture. In W. F. Chua, T. Lowe, & T. Puxty (Eds.), *Critical perspectives in management control,* (pp. 217-243). Basingstoke: Macmillan.

Carlson, D. A., & Young, S. M. (1993). Activity-based Total Quality Management at American Express. *Journal of Cost Management,* *7*(1), 48-58.

Carr, S., Mak, Y., T., and Needham, J. (1997). Differences in strategy, quality management practices and performance reporting systems between ISO accredited and non-ISO accredited companies. *Management Accounting Research, 8,* 383-403.

Castellano, J. F., Roehm, H. A., & Hughes, D. T. (1995). The Deming philosophy: A new paradigm for management accounting systems. *CMA Magazine,* February, 25-28.

Caudron, S. (1993). Keys to starting a TQM program. *Personnel Journal, 72*(2), 28-35.

Chalmers, A. F. (1976). *What is this thing called science? An assessment of the nature and status of science and its methods.* St. Lucia, Queensland: University of Queensland Press.

Cheatham, C. (1990). Updating standard cost systems. *Journal of Accountancy,* December, 57-60.

Chenhall, R. H. (1997). Reliance on manufacturing performance measures, total quality management, and organizational performance. *Management Accounting Research, 8,* 187-206.

Christenson, C. (1983). The methodology of positive accounting. *The Accounting Review, 58*(1), 1-22.

Chua, W. F. (1986a). Radical developments in accounting thought. *The Accounting Review, 61,* 601-632.

Chua, W. F. (1986b). Theoretical constructions of and by the Real. *Accounting, Organizations and Society, 11,* 583-598.

Chua, W. F. (1988). Interpretive sociology and management accounting research — A critical review. *Accounting, Auditing and Accountability Journal, 1*(2), 59-79.

Chua, W. F. (1995). Experts, networks and inscriptions in the fabrication of accounting images: A story of the representation of three public hospitals. *Accounting, Organizations and Society, 20,* 111-145.

Chua, W. F., Lowe, E. A., & Puxty, A. G. (Eds.) (1989). *Critical perspectives in management control.* Basingstoke: Macmillan.

Claret, J. (1993). In pursuit of excellence? *Management Accounting (CIMA), 71*(1), 12.

Clark, A., & Baxter, A. (1992). ABC + ABM = Action: Let's get down to business. *Management Accounting (CIMA),* June, 54-55.

Clark, T., & Salaman, G. (1998). Telling tales: Management gurus' narratives and the construction of managerial identity. *Journal of Management Studies, 35*(2), 137-161.

Clegg, S. R. (1992). Postmodern management? *Journal of Organizational Change Management, 5*(2), 31-49.

Cobb, I. (1991). Understanding and working with JIT. *Management Accounting (CIMA), 69*(2), 44-46.

Cobb, I. (1992). JIT and the management accountant. *Management Accounting (CIMA), 70*(2), 42-44.

Cocheu, T. (1989). Training for quality improvement. *Training & Development Journal, 43*(1), 56-62.

Cocker, M. (1989). Financial management and just-in-time. *Management Accounting (CIMA), 67*(3), 46-47.

Cohen, A. (1974). *Two-dimensional man: An essay on the anthropology of power and symbolism in complex society.* Berkeley: University of California.

Cohen, M. D., March, J. C., & Olsen, J. P. (1972). A garbage can model of organization choice. *Administrative Science Quarterly, 17*, 1-25.

Colignon, R., & Covaleski, M. (1988). An examination of managerial accounting practices as a process of mutual adjustment. *Accounting, Organizations and Society, 13*(6), 559-579.

Colville, I. (1981). Reconstructing "behavioural accounting". *Accounting, Organizations and Society, 6*, 119-132.

Connerton, P. (Ed.). (1976). *Critical sociology: Selected readings.* Harmondsworth: Penguin..

Conti, R. (1992). Work practice barriers to flexible manufacturing in the US and the UK. *New Technology, Work and Employment, 7*(1), 3-14.

Cooper, D. (1983). Tidiness, muddle and things: Commonalities and divergencies in two approaches to management accounting research. *Accounting, Organizations and Society, 8*, 269-286.

Cooper, D. J., Hayes, D., & Wolf, F. (1981). Accounting in organized anarchies: Understanding and designing accounting systems in ambiguous situations. *Accounting, Organizations and Society, 6*, 175-191.

Cooper, D. J., & Hopper, T. (1987). Critical studies in accounting. *Accounting, Organizations and Society, 12,* 407-414.

Coulthurst, N. (1989a). The new factory. *Management Accounting (CIMA), 67*(3), 30-34.

Coulthurst, N. (1989b). Justifying the new factory. *Management Accounting (CIMA), 67*(4), 26-28.

Coulthurst, N. (1989c). Organising and accounting for the new factory. *Management Accounting (CIMA), 67*(5), 38-41.

Covaleski, M. A., & Dirsmith, M. W. (1983). Budgeting as a means for control and loose coupling. *Accounting, Organizations and Society, 8*, 323-340.

Covaleski, M. A., & Dirsmith, M. W. (1986). The budgetary process of power and politics. *Accounting, Organizations and Society, 11*(3), 193-214.

Covaleski, M. A., & Dirsmith, M. W. (1988). The use of budgetary symbols in the political arena: An historically informed field study. *Accounting, Organizations and Society, 13*, 1-24.

Covaleski, M. A., & Dirsmith, M. W. (1990). Dialectic tension, double reflexivity and the everyday accounting researcher: On using qualitative methods. *Accounting, Organizations and Society, 15*, 543-573.

Czarniawska-Joerges, B. (1988). Dynamics of organizational control: The case of Berol Kemi AB. *Accounting, Organizations and Society, 13,* 415-430.

Czarniawska-Joerges, B. (1995). Narration or science? Collapsing the division in organization studies. *Organization, 2*(1), 11-33.

Czarniawska-Joerges, B., & Jacobsson, B. (1989). Budget in a cold climate. *Accounting, Organizations and Society, 14,* 29-39.

Dahlgaard, J. J., Kristensen, K., & Kanji, G. K. (1992). Quality costs and total quality management. *Total Quality Management, 3*(3), 211-221.

Dale, D. (1991). Time for change. *Australian Accountant*, February, 31-35.

Dandridge, T. C. (1986). Ceremony as an integration of work and play. *Organization Studies, 7*, 159-170.

Daniel, S. J., and Reitsperger, W. D. (1991). Linking quality strategy with management control systems: Empirical evidence from Japanese industry. *Accounting, Organizations and Society, 16*, 601-618.

Daniel, S. J., and Reitsperger, W. D. (1992). Management control systems for quality: An empirical comparison of the U. S. and Japanese electronics industries. *Journal of Management Accounting Research, 4*, 64-78.

Dawson, P., & Palmer, G. (1995). *Quality management: The theory and practice of implementing change.* Melbourne: Longman.

Dawson, P., & Webb, J. (1989). New production arrangements: The totally flexible cage? *Work, Employment and Society, 3*(2), 221-238.

De Cock, C. (1998). 'It seems to fill my head with ideas': A few thoughts on postmodernism, TQM and BPR. *Journal of Management Inquiry, 7*(2), 144-153.

de Lima-Turner, K. (1996). Quality *culture* is king. Proceedings of *New Zealand Organisation for Quality Conference*, 10.1-10.8.

Dean, J., & Bowen, D. (1994). Management theory and total quality: Improving research and practice through theory development. *Academy of Management Review, 19*, 392-418

Delbridge, R., Turnbull, P., & Wilkinson, B. (1992). Pushing back the frontiers: Management control and work intensification under JIT/TQM factory regimes. *New Technology, Work and Employment, 7*(2), 97-106.

DeLuzio, M. C. (1993). The tools of just-in-time. *Journal of Cost Management*, Summer, 13-20.

Dent, J. F. (1991). Accounting and organisational cultures: A field study of the emergence of a new organisational reality. *Accounting, Organizations and Society, 16*, 705-732.

Denzin, N. K. (1970). *Sociological methods: A sourcebook.* Chicago: Aldine.

Denzin, N. K. (1971). Symbolic interactionism and ethnomethodology. In J. D. Douglas (Ed.), *Understanding everyday life: Toward the reconstruction of sociological knowledge* (pp. 259-284). London: Routledge & Kegan Paul.

Denzin, N. K. (1983). Interpretive interactionism. In G. Morgan (Ed.),*Beyond method: Strategies for social research* (pp. 129-146). Beverly Hills: Sage.

Denzin, N. K. (1989). *Interpretive interactionism.* Newbury Park: Sage.

Denzin, N. K. (1994). The art and politics of interpretation. In N. K. Denzin, & Y. S. Lincoln (Eds.), *Handbook of qualitative research* (pp. 500-515). Thousand Oaks: Sage.

Denzin, N. K., & Lincoln, Y. S. (Eds.). (1994). *Handbook of qualitative research.* Thousand Oaks: Sage.

Dermer, J. (1988). Control and organizational order. *Accounting, Organizations and Society, 13*, 25-36.

Dermer, J. (1990). The strategic agenda: Accounting for issues and support. *Accounting, Organizations and Society, 15*, 67-76.

Dermer, J. D., & Lucas, R. G. (1986). The illusion of managerial control. *Accounting, Organizations and Society, 11*, 471-482.

Drury, C. (1990). Cost control and performance measurement in an AMT environment. *Management Accounting* (CIMA), November, 40-46.

Duffin, M. (1992). Viewpoint: Role of the change agent. *Managing Service Quality, 2*(3), 129-130.

Dugdale, D., & Shrimpton, S. (1990). Product costing in a JIT environment. *Management Accounting (CIMA), 68*(3), 40-42.

Easterby-Smith, M., Thorpe, R., & Lowe, A. (1991). *Management research: An introduction.* London: Sage.

Eden, C., Jones, S., & Sims, D. (1983). *Messing about in problems: An informal structured approach to their identification and management.* Oxford: Pergamon.

Emery, F. E., & Trist, E. J. (1965). The causal texture of organizational environments. *Human Relations, 18*(1), 21-32.

Emore, J. R., & Ness, J. A. (1991). The slow pace of meaningful change in cost systems. *Journal of Cost Management,* Winter, 36-45.

Enderwick, P. (1992). Workplace reform and international competitiveness: The case of New Zealand. *New Zealand Journal of Industrial Relations, 17*(2), 185-206.

Ezzamel, M. (1994). From problem solving to problematization: Relevance revisited. *Critical Perspectives on Accounting, 5,* 269-280.

Ezzamel, M., & Willmott, H. (1998). Accounting for teamwork: A critical study of group-based systems of organizational control. *Administrative Science Quarterly, 43,* 358-396.

Ezzamel, M., Willmott, H., & Worthington, F. (1998). Accounting, power and resistance in the "plant with a problem". Proceedings of *Second Asian Pacific Interdisciplinary Research in Accounting Conference,* Osaka, Japan, 4-6 August, 1998, CD-ROM.

Feigenbaum, A. V. (1956). Total quality control. *Harvard Business Review, 34*(6), 93-101.

Feigenbaum, A. V. (1991). *Total quality control* (3rd Ed., rev.). New York: McGraw-Hill.

Ferguson, P. (1988). Accounting for just in time: Sorting out the conflicting advice. *Management Accounting (CIMA), 66*(11), 48-50.

Ferguson, P. (1989). General managers in the JIT cross fire. *Journal of General Management, 14*(4), 5-17.

Ferreira, L., & Merchant, K. (1992). Field research in management accounting and control: A review and evaluation. *Accounting, Auditing & Accountability Journal, 5*(4), 3-34.

Fielding, N. (1993). Ethnography. In N. Gilbert, *Researching social life* (pp. 154-171). London: Sage.

Fischer, M. J., & Dirsmith, M. W. (1995). Strategy, technology, and social processes within professional cultures: A negotiated order, ethnographic perspective. *Symbolic Interaction, 18*(4), 381-412.

Fisher, J. (1992) Use of nonfinancial performance measures. *Journal of Cost Management, 6*(1), 31-38

Fisher, T. J., & Davis, D. (1992). An application of the Deming philosophy in an Australian company. *Total Quality Management, 3*(1), 107-114.

Flint, D. (1988). Academic research and accounting practice. *The Accountant's Magazine*, May, 29-30.

Foster, G., & Horngren, C. T. (1988). Cost accounting and cost management in a JIT environment. *Journal of Cost Management*, Winter, 4-14.

Fowler, C. J. (1994). The management accountant's role in the implementation and operation of a total quality management programme. Unpublished masters thesis, University of Canterbury, New Zealand.

Fowler, C. J., & Lord, B. R. (1995). ISO and TQM. *Chartered Accountants Journal of New Zealand, 74*(10), 33-38.

Freire, P. (1972). *Pedagogy of the oppressed.* Harmondsworth: Penguin. Referenced in Willmott (1990).

Frost, P. J., Moore, L. F., Louis, M. R., Lundberg, C. C., & Martin, J. (Eds.). (1985). *Organizational culture.* Beverly Hills: Sage.

Gaffikin, M. J. R. (1983). Scientific theory construction in accounting. In M. J. R. Gaffikin (Ed.), *Contemporary accounting thought: Essays in honour of Raymond J. Chambers* (pp. 7-27). Sydney: Prentice-Hall of Australia.

Gagliardi, P. (1986). The creation and change of organizational cultures: A conceptual framework. *Organization Studies, 7(2)*, 117-134.

Geertz, C. (1973). *The interpretation of cultures: Selected essays.* New York: Basic Books.

Geertz, C. (1983). *Local knowledge: Further essays in interpretive anthropology.* New York: Basic Books.

Geertz, C. (1988). *Works and lives: The anthropologist as author.* Stanford, CA: Stanford University.

Georgiou, P. (1973). The goal paradigm and notes towards a counter paradigm. *Administrative Science Quarterly,* 291-310.

Gerner, J., & McIntire, R. (1993). Q is for quality. *Management Accounting (NAA), 75(3)*, 37-38.

Giddens, A. (1976). *New rules of sociological method.* London: Hutchinson. Referenced in Willmott (1990).

Giddens, A. (1979). *Central problems in social theory.* London: Cambridge. Referenced in Willmott (1990).

Giddens, A. (1984). *The constitution of society.* Cambridge: Polity. Referenced in Willmott (1990).

Glaser, B. G., & Strauss, A. L. (1968). *The discovery of grounded theory: Strategies for qualitative research.* London: Weidenfeld and Nicolson.

Golden-Biddle, K., & Locke, K. (1993) Appealing work: An investigation of how ethnographic texts convince. *Organization Science, 4(4)*, 595-616.

Golding, D. (1991). Some everyday rituals in management control. *Journal of Management Studies, 28(6)*, 569-583.

Goldratt, E. M., & Cox, J. (1986). *The goal: A process of ongoing improvement.* Croton-on-Hudson, NY: North River.

Green, F. B., Amenkhienan, F., & Johnson, G. (1991). Performance measures and JIT. *Management Accounting (NAA), 72(8)*, 50-53.

Greenwood, R., & Hinings, C. R. (1988). Organizational design types, tracks and the dynamics of strategic change. *Organizational Studies, 9*(3), 293-316.

Gregory, K. L. (1983). Native-view paradigms: Multiple cultures and culture conflicts in organizations. *Administrative Science Quarterly, 28*, 359-376.

Grey, C. (1994). Debating Foucault: A critical reply to Neimark. *Critical Perspectives on Accounting, 5*, 5-24.

Guba, E. G., & Lincoln, Y. S. (1994). Competing paradigms in qualitative research. In N. K. Denzin, & Y. S. Lincoln (Eds.), *Handbook of Qualitative Research* (pp. 105-117). Thousand Oaks: Sage.

Hägg, I., & Hedlund, G. (1979). Case studies in accounting research. *Accounting, Organizations and Society, 4*, 135-143.

Hakim, C. (1987). *Research design: Strategies and choices in the design of social research.* London: Allen & Unwin.

Halfpenny, P. (1979). The analysis of qualitative data. *Sociological Review, 27*, 799-825.

Hall, D., & Jackson, J. (1992). Speeding up new product development. *Management Accounting (NAA)* , October, 32-36.

Hall, R. W. (1989). World-class manufacturing: Performance measurement. In P. B. B. Turney (Ed.), *Performance excellence in manufacturing and service organizations: Proceedings of the Third Annual Management Accounting Symposium* (pp. 103-110). San Diego, CA: National Association of Accountants Committee on Academic Relations and American Accounting Association Management Accounting Section.

Hames, R. D. (1991). Managing the process of cultural change. *International Journal of Quality & Reliability Management, 8*(5), 14-23.

Hammersley, M. (1992). *What's wrong with ethnography? Methodological explorations.* London: Routledge.

Hammersley, M. (Ed.). (1993). *Social research: Philosophy, politics and practice.* Beverly Hills: Sage.

Hankes, J. (1993). Great expectations. *Management Accounting (CIMA)*, *71*(8), 28-33.

Hanks, G. F., Freid, M. A., & Huber, J. (1994). Shifting gears at Borg-Warner Automotive. *Management Accounting (NAA)*, February, 25-29.

Hansen, D. R., & Mowen, M. M. (1992). *Management accounting* (2nd ed.). Cincinnati, Ohio: South-Western.

Harrington, H. J. (1987). *The improvement process: How America's leading companies improve quality.* New York: McGraw-Hill.

Harris, E. (1990). The Impact of JIT Production on Product Costing Information Systems. *Production & Inventory Management, 31*(1), 44-48.

Hassan, N., Brown, H. E., Saunders, P. M., & Koumoutzis, N. (1993). Stolle puts world class into memory. *Management Accounting (NAA), 74*(7), 22-25.

Hassard, J., & Pym, D. (Eds.) (1990). *The theory and philosophy of organizations: Critical issues and new perspectives.* London: Routledge.

Hay, E. J. (1988). *The just-in-time breakthrough: Implementing the new manufacturing basics.* New York: John Wiley and Sons.

Hedberg, B., & Jönsson, S. (1978). Designing semi-confusing information systems for organizations in changing environments. *Accounting, Organizations and Society, 3*(1), 47-64.

Hedberg, B. L. T., Nystrom, P. C., & Starbuck, W. H. (1976). Camping on seesaws: Prescriptions for a self-designing organization. *Administrative Science Quarterly, 21*, 41-65.

Henderson, S., Peirson, G., & Brown, R. (1992). *Financial accounting theory: Its nature and development* (2nd Ed.). Melbourne: Longman Cheshire.

Hill, S. (1991). How do you manage a flexible firm? The total quality model. *Work, Employment and Society, 5*(3), 397-415.

Hines, R. D. (1988). Financial accounting: In communicating reality, we construct reality. *Accounting, Organizations and Society, 13*, 251-261.

Hines, R. D. (1989). The sociopolitical paradigm in financial accounting research. *Accounting, Auditing and Accountability Journal*, 2(1), 52-76.

Hitchcock, D. (1992). Overcoming the top ten self-directed team stoppers. *Journal for Quality and Participation*, December, pp. 42-47.

Hodgson, A., Holmes, S., & Kam, V. (1992). *Accounting theory*. Brisbane, Jacaranda Wiley.

Hogan, W. M. (1994). How to apply TQM to the Internal Audit Function. *Internal Auditing*, Winter, 3-14.

Hogg, R. V. (1993). A quality journey: Observations and suggestions regarding continuous process improvement. *Total Quality Management*, 4(2), 195-214.

Hollingworth, P. (1992). Challenge those recession blues. *Managing Service Quality*, 3(1), 403-405.

Hopper, T., & Joseph, N. (1995). The dissection of a dinosaur: Experiments in control at Toyota. *Management Accounting (CIMA)*, May, 34-38.

Hopper, T., & Powell, A. (1985). Making sense of research into the organizational and social aspects of management accounting: A review of its underlying assumptions. *Journal of Management Studies*, 22(5), 429-465.

Hopper, T., Storey, J., & Willmott, H. (1987). Accounting for accounting: Towards the development of a dialectical view. *Accounting, Organizations and Society, 12,* 437-456.

Hopwood, A. G. (1978). Towards an organizational perspective for the study of accounting and information systems. *Accounting, Organizations and Society, 3,* 3-13.

Hopwood, A. G. (1983). On trying to study accounting in the contexts in which it operates. *Accounting, Organizations and Society, 8,* 287-305.

Hoskin, K. (1994). Boxing clever: For, against and beyond Foucault in the battle for accounting theory. *Critical Perspectives on Accounting, 5,* pp. 57-85.

Howard, A. (1995). High-involvement leadership. *Executive Excellence, 12*(9), 11-12.

Howell, R. A., Shank, J. K., Soucy, S. R., & Fisher, J. (1992). *Cost management for tomorrow: Seeking the competitive edge.* Morristown, NJ: Financial Executives Research Foundation.

Idstein, , J. R. (1993). Small company TQM: Each person is critical to the process. *Management Accounting (NAA), 75*(3), 39-40.

Ittner, C. D., & Larcker, D. F. (1995). Total Quality Management and the choice of information and reward systems. *Journal of Accounting Research, 33* Supplement, 1-40.

Ittner, C. D., & Larcker, D. F. (1997). Quality strategy, strategic control systems, and organizational performance. *Accounting, Organizations and Society, 22*, 293-314.

Jackson, B. G. (1996). Re-engineering the sense of self: the manager and the management guru. *Journal of Management Studies, 33*(5), 571-590.

Japan Management Association (Ed.). (1986). *Kanban: Just-in-time at Toyota: Management begins at the workplace.* Stanford, Connecticut: Productivity Press.

Jayson, S. (1987). Goldratt & Fox: Revolutionizing the factory floor. *Management Accounting (NAA)*, May, 18-22.

Jazayeri, M., & Hopper, T. (1999). Management accounting within world class manufacturing: A case study. *Management Accounting Research, 10*, 263-301.

Jeffords, R., & Graybeal, S., & Davey, F. (1994). Applying TQM to the internal audit department. *Internal Auditing*, Winter, 15-22.

Jensen, M. C., & Meckling, W. H. (1976). Theory of the firm: Managerial behavior, agency costs and ownership structure. *Journal of Financial Economics*, October, 305-360.

Johansson, H. J. (1990). Preparing for accounting system changes. *Management Accounting (NAA), 72*(10), 37-41.

Johnson, G. (1990). Managing strategic change: The role of symbolic action. *British Journal of Management, 1,* 183-200.

Johnson, R. S. (1993). TQM: Leadership for the quality transformation. *Quality Progress*, April, 47-49.

Joiner, B. L., & Scholtes, P. R. (1985). *Total quality leadership vs. management by results.* Joiner Associates.

Jones, G. R. (1983). Life history methodology. In G. Morgan (Ed.),*Beyond method: Strategies for social research* (pp. 147-159). Beverly Hills: Sage.

Jönsson, S., & Grönlund, A. (1988). Life with a sub-contractor: New technology and management accounting. *Accounting, Organizations and Society, 13,* 513-532.

Juran, J. M. (1989). *Juran on leadership for quality: An executive handbook.* New York: Free Press.

Kaplan, R. S. (1984). Yesterday's accounting undermines production. *Harvard Business Review*, July-August, 95-101.

Kaplan, R. S. (1986). The role of empirical research in management accounting. *Accounting, Organizations and Society, 11,* 429-452.

Kaplan, R. S. (1988). One cost system isn't enough. *Harvard Business Review*, January-February, 61-66.

Kaplan, R. S., and Norton, D. P. (1992). The balanced scorecard — measures that drive performance. *Harvard Business Review*, January-February, 71-79.

Kaplan, R. S., and Norton, D. P. (1993). Putting the balanced scorecard to work. *Harvard Business Review*, September-October, 134-147.

Karmarkar, U. (1989). Getting control of just-in-time. *Harvard Business Review*, Sept/Oct, 122-131

Kawada, M. & Johnson, D. F. (1993). Strategic management accounting - why and how. *Management Accounting, 75*(2), 32-38

Keys, D. E., & Reding, K. F. (1992). Statistical process control: What management accountants need to know. *Management Accounting (NAA)*, 73(7), January, 26- 30.

Kilmann, R. H., Saxton, M. J., & Serpa, R. (1986). Issues in understanding and changing culture. *California Management Review, 28*(2), 87-94.

Klein, J. A. (1989). The human costs of manufacturing reform. *Harvard Business Review*, March-April, 60-61, 64-66.

Klein, J. A. (1991). A reexamination of autonomy in light of new manufacturing practices. *Human Relations, 44*(1), 21-38.

Lammert, T. B., & Ehrsam, R. (1987). The human element: The real challenge in modernizing cost systems. *Management Accounting (NAA)*, 69(1), 32-37.

Latona, J. C. & LaVan, H. (1993). Implementation of an employee involvement programme in a small, emerging high-technology firm. *Journal of Organizational Change Management, 6*(4), 17-29.

Laughlin, R. C. (1987). Accounting systems in organisational contexts: A case for critical theory. *Accounting, Organizations and Society, 12,* 479-502.

Laughlin, R. C. (1991). Environmental disturbances and organizational transitions and transformations: Some alternative models. *Organization Studies, 12*(2), 209-232.

Laughlin, R. (1995). Empirical research in accounting: alternative approaches and a case for "middle-range" thinking. *Accounting, Auditing and Accountability Journal, 8*(1), 63-87.

Laughlin, R. C., & Lowe, E. A. (1990). A critical analysis of accounting thought: Prognosis and prospects for understanding and changing accounting systems design. In D. J. Cooper & T. M. Hopper (Eds.),*Critical accounts* (pp. 15-43). Basingstoke: MacMillan.

Lavoie, D. (1987). The accounting of interpretations and the interpretation of accounts: The communicative function of "The language of business". *Accounting, Organizations and Society, 12*(6), 579-604.

Lawrence, T. B., & Phillips, N. (1998). Commentary: Separating play and critique: Postmodern and critical perspectives on TQM/BPR. *Journal of Management Inquiry, 7*(2), 154-160.

Lea, R., & Parker, B. (1989). The JIT spiral of continuous improvement. *Industrial Management & Data Systems*, (4), 10-13.

Lee, A. S. (1989). A scientific methodology for MIS case studies. *MIS Quarterly*, March, 32-50.

Lehman, C., & Tinker, T. (1987). The "real" cultural significance of accounts. *Accounting, Organizations and Society, 12*(5), 503-522.

Levine, C. (1993). How TQM worked for one firm. *Journal of Accountancy*, September, 73-79.

Linstead, S., & Grafton-Small, R. (1992). On reading organizational culture. *Organization Studies, 13*(3), 331-355.

Llewellyn, S. (1992). The role of case study methods in management accounting research: A comment. *British Accounting Review, 24*(1), 17-31.

Llewellyn, S. (1993). Working in hermeneutic circles in management accounting research: Some implications and applications. *Management Accounting Research, 4*, p. 231-249.

Lofland, J., & Lofland, L. H. (1984). *Analyzing social settings: A guide to qualitative observation and analysis* (2nd ed.). Belmont, California: Wadsworth.

Louis, M. R. (1985). An investigator's guide to workplace culture. In P. J. Frost, L. F. Moore, M. R. Louis, C. C. Lundberg, & J. Martin (Eds.), *Organizational culture* (pp. 73-93). Beverly Hills: Sage.

Lowe, A., de Wild, A., & Shewan, C. (1992). Total Quality Management and the management accountant. *Accountants' Journal, 71*(6), 25-29.

Lowe, A., & Yoong, L. (1993). Accounting for JIT systems - From scorekeeper to coach. *Accountants' Journal*, July, 32-36.

Lowe, E. A., & Tinker, A. M. (1977). Sighting the accounting problematic: Toward an intellectual emancipation of accounting. *Journal of Business Finance and Accounting, 4*, 263-276.

Lowe, E. A., Puxty, A. G., & Laughlin, R. C. (1983). Simple theories for complex processes: Accounting policy and the market for myopia. *Journal of Accounting and Public Policy, 2*, 19-42.

Lu, E., & Sohal, A. (1993). Success factors, weaknesses and myths concerning TQM implementation in Australia. *Total Quality Management, 4*(3), 245-255.

Lukka, K., & Kasanen, E. (1995). The problem of generalizability: Anecdotes and evidence in accounting research. *Accounting, Auditing and Accountability Journal, 8*(5), 71-90.

Macintosh, N. B., & Scapens, R. W. (1990). Structuration theory in management accounting. *Accounting, Organizations and Society, 15*, 455-477.

Maisel, L. S. (1992). Performance measurement: The balanced scorecard approach. *Journal of Cost Management, 6*(2), 47-52.

Mallinger, M. (1993). Ambush along the TQM trail. *Journal of Organizational Change Management, 6*(4), 30-42.

March, J. G., & Olsen, J. P. (1976). Organizational choice under ambiguity. In J. G. March & J. P. Olsen (Eds.), *Ambiguity and choice in organizations* (pp. 10-23). Bergen: Universitetsforlaget.

March, J. G., & Simon, H. A. (1958). *Organizations.* New York: Wiley (cited in Meyerson & Martin, 1987).

Marshall, C. (1985). Appropriate criteria of trustworthiness and goodness for qualitative research on education organizations. *Quality & Quantity, 19*, 353-373.

Martin, J., & Meyerson, D. (1988). Organizational cultures and the denial, channeling and acknowledgment of ambiguity. In L. R. Pondy, R. J. Boland & H. Thomas (Eds.), *Managing ambiguity and change* (pp. 93-125). Chichester: Wiley.

Maskell, B. (1986). Management accounting and Just-in-time. *Management Accounting (CIMA)*, *64*, September, 32-34.

Maskell, B. (1989). MRPII or Just-in-time: Which way to productivity. *Management Accounting (CIMA)*, January, 34-35.

Mason, R. O., & Mitroff, I. I. (1973). A program for research on management information systems. *Management Science, 19*(5), 475-487.

Masser, W. J. (1957). The quality manager and quality costs. *Industrial Quality Control*, October, 5-8.

Mathews, M. R., & Pereia, M. H. B. (1993). *Accounting theory and development*. Melbourne: Nelson.

McCaskey, M. B. (1982). *The executive challenge: Managing change and ambiguity*. Boston: Pitman.

McCracken, G. D. (1988). *The long interview*. Newbury Park, CA: Sage.

McGill, M. E. (1992). Neely D. Gardner: OD Orienteer. *Public Administration Quarterly, 16*(2), 189-196.

McIlhattan, R. D. (1987). How cost management systems can support the JIT philosophy. *Management Accounting (NAA)*, September, 20-26.

McKinnon, J. (1988). Reliability and validity in field research: Some strategies and tactics. *Accounting, Auditing and Accountability Journal, 1*(1), 34-54.

McLeod, W. T. (Ed.). (1991). *New Collins dictionary and thesaurus in one volume*. Glasgow: HarperCollins.

McNair, C. J., Lynch, R. L., & Cross, K. F. (1990). Do financial and nonfinancial performance measures have to agree? *Management Accounting* (NAA), November, 28-36.

McNair, C. J., Mosconi, W., & Norris, T. (1988). *Meeting the technology challenge: Cost accounting in a JIT environment.* Montvale, NJ: National Association of Accountants.

Meek, V. L. (1988). Organizational culture: Origins and weaknesses. *Organization Studies, 9*(4), 453-473.

Mendzela, J. (1995). Down under on top when it comes to management practice. *Management*, December, 44-45.

Metcalfe, M. (1996). *Business research through argument.* Boston: Kluwer Academic.

Meyer, A. D. (1982). How ideologies supplement formal structures and shape responses to environments. *Journal of Management Studies, 19*(1), 45-61.

Meyer, J. W., & Rowan, B. (1977). Institutional organisations: Formal structures as myth and ceremony. *American Journal of Sociology, 83*, 340-363.

Meyerson, D., & Martin, J. (1987). Cultural change: An integration of three different views. *Journal of Management Studies, 24*, 623-647.

Mia, L., & Chenhall, R. H. (1994). The usefulness of management accounting systems, functional differentiation and managerial effectiveness. *Accounting, Organizations and Society, 19*, 1-13.

Miles, M. B., & Huberman, A. M. (1984). *Qualitative data analysis: A sourcebook of new methods.* Beverly Hills: Sage.

Miller, P., & O'Leary, T. (1990). Making accounting practical. *Accounting, Organizations and Society, 15*, 479-498.

Miller, P., & O'Leary, T. (1993). Accounting expertise and the politics of the product: Economic citizenship and modes of corporate governance. *Accounting, Organizations and Society, 18*(2/3), 187-206.

Miller, P., & O'Leary, T. (1994). Accounting, "economic citizenship" and the spatial reordering of manufacture. *Accounting, Organizations and Society, 19*, 15-43.

Mills, C. W. (1959). *The sociological imagination*. London: Oxford University Press.

Milne, R. (1981). Budget slack. Ph.D. dissertation, University of Illinois at Urbana-Champaign. Quoted in R. J. Boland (1993).

Mintzberg, H. (1979). An emerging strategy of "direct" research. *Administrative Science Quarterly, 24*, 582-589.

Mintzberg, H. (1990). The design school: Reconsidering the basic premises of strategic management. *Strategic Management Journal, 11*(3), 171-195.

Mitchell, J. C. (1983). Case and situation analysis. *The Sociological Review, 31(2)*, 187-211.

Moreno-Luzon, M. D. (1993). Can total quality management make small firms competitive? *Total Quality Management, 4*(2), 165-181.

Morgan, G. (1983). Social science and accounting research: A commentary on Tomkins and Groves. *Accounting, Organizations and Society, 8*(4), 385-388.

Morgan, G. (1990). Paradigm diversity in organizational research. In J. Hassard & D. Pym (Eds.), *The theory and philosophy of organizations: Critical issues and new perspectives* (pp. 13-29). London: Routledge.

Morgan, G. (Ed.). (1983). *Beyond method: Strategies for social research.* Beverly Hills: Sage.

Morgan, G., & Smircich, L. (1980). The case for qualitative research. *Academy of Management Review, 5*, 491-500.

Morgan, M. (1990). Quality circles: Management accounting applications. *Management Accounting (CIMA)*, November, *68*, 48-51.

Morris, J., & Wilkinson, B. (1995). The transfer of Japanese management to alien institutional environments. *Journal of Management Studies, 32*(6), 719-730.

Munro, R. (1995). Managing by ambiguity: An archaeology of the social in the absence of management accounting. *Critical Perspectives on Accounting, 6*, 433-482.

Munro, R.,& Mouritsen, J. (Eds.) (1996). *Accountability: Power, ethos & the technologies of managing.* London: International Thomson Business.

Myers, M. D. (1993). An information systems disaster: An interpretive analysis of a New Zealand case. *New Zealand Journal of Business, 15*, 19-34.

Nahapiet, J. (1988). The rhetoric and reality of an accounting change: A study of resource allocation. *Accounting, Organizations and Society, 13*, 333-358.

Nanni, A. J., Dixon, J. R., & Vollmann, T. E. (1992). Integrated performance measurement: Management accounting to support the new manufacturing realities. *Journal of Management Accounting Research, 4*(Fall), 1-19.

Nanni, A. J., Miller, J. G., & Vollmann, T. E. (1988). What shall we account for? *Management Accounting (NAA)*, January, 42-48.

Navaratnam, K. K. (1993). Identifying quality cost elements in the public service: Using AS2561 - 1982 as a guide. *Total Quality Management, 4*(3), 305-311.

Neimark, M. (1990). The king is dead. Long live the king! *Critical Perspectives on Accounting, 1,* 103-114.

Neimark, M. K. (1994). Regicide revisited: Marx, Foucault and accounting. *Critical Perspectives on Accounting, 5*, 87-108.

Neu, D. (1992). The social construction of positive choices. *Accounting, Organizations and Society, 17*, 223-237.

Neumann, B. R., & Jaouen, P. R. (1986). Kanban, zips and cost accounting: A case study. *Journal of Accountancy*, August, 132-141.

Northcott, D., Kelly, M., & Schafer, E. L. (1991). Management accounting practices in some large New Zealand manufacturing organisations: An empirical study. In *Proceedings of Accounting Association of Australia and New Zealand Conference* (pp. 238-245). Brisbane.

Orlikowski, W. J., and Baroudi, J. J. (1991). Studying information technology in organizations: Research approaches and assumptions. *Information Systems Research*, 2(1), 1-28.

Otley, D. (1994). Management control in contemporary organizations: Towards a wider framework. *Management Accounting Research, 5*, 289-299.

Otley, D. T., and Berry, A. J. (1994). Case study research in management accounting and control. *Management Accounting Research, 5*, 45-65.

Parker, L. D., & Roffey, B. H. (1993). Back to the drawing board: Revisiting grounded theory and the every day accountant's reality. Flinders University of South Australia: Accounting, Finance and Management Research Paper 5/93.

Pascale, R. (1985). The paradox of "corporate culture": Reconciling ourselves to socialization. *California Management Review, 27*(2), 26-41.

Patell, J. M. (1987). Cost accounting, process control, and product design: A case study of the Hewlett-Packard personal office computer division. *The Accounting Review, 62*, 808-839.

Perry, M., Davidson, C., & Hill, R. (1993). Business environments and the viability of workplace reform. *New Zealand Journal of Business, 15*, 35-52.

Peters, T. J. (1978). Symbols, patterns and settings: An optimistic case for getting things done. *Organizational Dynamics, 7*, 3-23.

Peters, T. J. (1994). Interviewing technique crucial to consultants and managers. *The National Business Review*, October 14, p. 33.

Peters, T. J., & Waterman, R. H. (1982). *In Search of Excellence.* New York: Harper & Row.

Pettigrew, A. M. (1979). On studying organizational cultures. *Administrative Science Quarterly, 24*, 570-580.

Pfeffer, J. (1981). Management as symbolic action: The creation and maintenance of organizational paradigms. In L. L. Cummings & B. M. Staw (Eds.), _Research in organizational behaviour: An Annual Series of Analytical Essays and Critical Reviews_, Vol. 3 (pp. 1-52). Greenwich, Connecticut: JAI.

Phillips, A., & Collins, D. E. (1990). How Borg-Warner made the transition from pile accounting to JIT. _Management Accounting (NAA)_, 72(4), 32-35.

Phillips, D. C. (1987). _Philosophy, science, and social inquiry: Contemporary methodological controversies in social science and related applied fields of research._ Oxford: Pergamon.

Porter, L. J., & Parker, A. J. (1993). Total quality management - the critical success factors. _Total Quality Management, 4_(1), 13-22.

Power, M. (1991). Educating accountants: Towards a critical ethnography. _Accounting, Organizations and Society, 16,_ 333-353.

Power, M., & Laughlin, R. (1992). Critical theory and accounting. In M. Alvesson, & H. Willmott (Eds.), _Critical Management Studies_ (pp. 113-135). London: Sage.

Preston, A.M. (1992). The birth of clinical accounting: A study of the emergence and transformations of discourses on costs and practices of accounting in U.S. hospitals. _Accounting, Organizations and Society, 17_(1), 63-100.

Preston, A.M., Cooper, D. J., & Coombs, R. W. (1992). Fabricating budgets: A study of the production of management budgeting in the national health service. _Accounting, Organizations and Society, 17_(6), 561-593.

Puxty, A. G. (1993). _The social and organizational context of management accounting._ London: Academic.

Ragin, C. C., & Becker, H. S. (Eds.). (1992). _What is a case? Exploring the foundations of social enquiry._ Cambridge: Cambridge University.

Rao, A. (1989). Manufacturing systems - Changing to support JIT. _Production & Inventory Management, 30_(2), 18-21.

Reitsperger, W. D. (1986). Japanese management: Coping with British industrial relations. *Journal of Management Studies, 23*(1), 72-87.

Relevance regained: An interview with Professor Robert S. Kaplan. (1988). *Management Accounting* (CIMA), September, pp. 38-42.

Ricoeur, P. (1981). *Hermeneutics and the human sciences: Essays on language, action and interpretation.* (J. B. Thompson, Trans.). Cambridge: Cambridge University.

Rigg, M. (1992). Changes to organizational infrastructures drive empowerment. *Industrial Engineering (INE), 24*(12), 12-13.

Ripley, R. E., & Ripley, M. J. (1992). Empowerment, the cornerstone of quality: Empowering management in innovative organizations in the 1990s. *Management Decision, 30*(4), 20-43.

Roberts, J., & Scapens, R. W. (1985). Accounting systems and systems of accountability - understanding accounting practices in their organizational contexts. *Accounting, Organizations and Society, 10*(4), 443-456.

Roslender, R. (1990). Sociology and management accounting research. *British Accounting Review, 22,* 351-372.

Ross, P. (1994). The impact of total quality management systems on existing management accounting reports. Paper presented at AAANZ Conference, Brisbane, July.

Ross, T. L., & Hatcher, L. (1992). Gainsharing drives quality improvement. *Personnel Journal, 71*(11), 81-89.

Rubenowitz, S. (1992). The Role of Management in Production Units with Autonomous Work Groups. *International Journal of Operations & Production Management, 12*(7,8), 103-116.

Rudestam, K. E., & Newton, R. R. (1992). *Surviving your dissertation: A comprehensive guide to content and process.* Newbury Park: Sage.

Russell, T. R. (1993). How do human characteristics fit into total quality management. *Total Quality Management, 4*(3), 313-323.

Ryan, R. J. (1980). Scientific method. In J. Arnold, B. Carsberg, & R. Scapens (Eds.), *Topics in management accounting* (pp. 17-32). Oxford: Philip Allan.

Sanday, P. R. (1983). The ethnographic paradigm(s). In J. Van Maanen (Ed.), *Qualitative Methodology* (pp. 19-36). Beverly Hills, CA: Sage.

Sandwell, R., & Molyneux, N. (1989). Will accountants be just in time? *Accountancy, 104*(1153), 68-71.

Saravanamuthu, K. (1998). Political use of management accounting information: "When I use a word it will mean just what I choose it to mean neither more nor less ..." (Humpty Dumpty). Proceedings of *Second Asian Pacific Interdisciplinary Research in Accounting Conference*, Osaka, Japan, 4-6 August, 1998, CD-ROM.

Scapens, R. W. (1990). Researching management accounting practice: The role of case study methods. *British Accounting Review, 22,* 259-281.

Scapens, R. W. (1992). The role of case study methods in management accounting research: A personal reflection and reply. *British Accounting Review, 24,* 369-383.

Scapens, R. W., & Roberts, J. (1993). Accounting and control: a case study of resistance to accounting change. *Management Accounting Research, 4,* 1-32.

Schein, E. H. (1984). Coming to a new awareness of organizational culture. *Sloan Management Review, 25,* 3-16.

Schonberger, R. J. (1986). *World class manufacturing.* New York: Free Press.

Schonberger, R. J. (1989). World-class performance management. In P. B. B. Turney (Ed.), *Performance excellence in manufacturing and service organizations.* Proceedings of the Third Annual Management Accounting Symposium (pp. 1-5). San Diego, CA: National Association of Accountants Committee on Academic Relations and American Accounting Association Management Accounting Section.

Schwandt, T. A. (1994). Constructivist, interpretivist approaches to human inquiry. In N. K. Denzin, & Y. S. Lincoln (Eds.), *Handbook of Qualitative Research* (pp. 118-137). Thousand Oaks: Sage.

Seglund, R., & Ibarreche, S. (1984). Just in time: The accounting implications. *Management Accounting (NAA)*, August, 43-45.

Selto, F. H., Renner, C. J., & Young, S. M. (1995). Assessing the organizational fit of a just-in-time manufacturing system: Testing selection, interaction and systems models of contingency theory. *Accounting, Organizations and Society, 20*(7/8), 665-684.

Sewell, G., & Wilkinson, B. (1992). 'Someone to watch over me': Surveillance, discipline and the Just-in-Time labour process. *Sociology, 26*(2), 271-289.

Sharman, P. (1993). The role of measurement in activity-based management. *CMA Magazine*, September, 25-29.

Shea, J. E., & Kleinsorge, I. K. (1994). TQM: Are cost accountants meeting the challenge? *Management Accounting (NAA)*, April, 65-67.

Sheard, A. (1992). Learning to improve performance. *Personnel Management*, November, 40-45.

Sheridan, T. (1989). Don't count your costs - manage them. *Management Accounting (CIMA), 67*(2), 20-24.

Shimizu, N., Iwabuchi, Y., & Kokubu, K. (1995). Knowledge creation in Japanese management accounting practice. Paper prepared for First Asian Pacific Interdisciplinary Research in Accounting Conference, July.

Sillince, J. A. A., & Sykes, G. M. H. (1995). The role of accountants in improving manufacturing technology. *Management Accounting Research, 6*, 103-124.

Silverman, D. (1970). *The theory of organisations: A sociological framework.* London: Heinemann. Referenced in Willmott (1990).

Slagmulder, R., & Bruggeman, W. (1995). A dynamic theory of the use of management control systems in achieving alignment between strategic capital investment decisions and strategy. Paper presented at the European Institute for Advanced Studies in Management Second International Seminar on Manufacturing Accounting Research, Bruges, Belgium.

Smircich, L. (1983a). Concepts of culture and organizational analysis. *Administrative Science Quarterly, 28*, 339-358.

Smircich, L. (1983b). Studying organizations as cultures. In G. Morgan (Ed.), *Beyond method: Strategies for social research* (pp. 160-172). Beverly Hills: Sage.

Smircich, L. (1985). Is the concept of culture a paradigm for understanding organizations and ourselves? In P. J. Frost, L. F. Moore, M. R. Louis, C. C. Lundberg, & J. Martin (Eds.), *Organizational culture* (pp. 55-72). Beverly Hills: Sage.

Smith, A. (1994). Working smarter. *Management,* August, 52-59.

Smith, M. (1994a). Improving management accounting reporting practices: A "Total Quality Management" approach (Part 1). *Journal of Cost Management*, Winter, 50-57.

Smith, M. (1994b). Improving management accounting reporting practices: A "Total Quality Management" approach (Part 2). *Journal of Cost Management*, Spring, 49-56.

Smith, M. (1994c). *New tools for management accountants.* Melbourne: Longman Professional.

Smith, M. (1989). Towards decision-useful management accounting. *Management Accounting (CIMA), 67*(8), 70-71, 73.

Sohal, A. S., Ramsay, L., & Samson, D. (1992). Quality management practices in Australian industry. *Total Quality Management, 3*(3), 283-299.

Spicer, B. H. (1992). The resurgence of cost and management accounting: A review of some recent developments in practice, theories and case research methods. *Management Accounting Research, 3*, 1-37.

Stanleigh, M. (1993). Accounting for quality. *Australian Accountant*, October, 27-29.

Steimer, T. E. (1990). Activity-based accounting for total quality. *Management Accounting (NAA), 72*(4), 39-42.

Steingard, D., S., & Fitzgibbons, D., E. (1993). A postmodern deconstruction of total quality management. *Journal of Organizational Change Management, 6*(5), 27-42.

Swenson, D. W., & Cassidy, J. (1993). The effect of JIT on management accounting. *Journal of Cost Management, 7*(1), 39-47.

Tayles, M., & Woods, M. (1995). The developing role of the accountant for TQM: Innovations in management accounting? Paper presented at 18th Annual Congress of the European Accounting Association, Manchester, May.

Taylor, C. (1987). Interpretation and the sciences of man. In P. Rabinow & W. M. Sullivan, *Interpretive social science: A second look.* Berkeley: University of California.

Thackray, P. (1990a). The issue is quality: Part 1. *Management Accounting (CIMA), 68*(8), 43.

Thackray, P. (1990b). The issue is quality: Part 2. *Management Accounting (CIMA), 68*(9), 22.

Thackray, P. (1990c). The issue is quality: Part 3. *Management Accounting (CIMA), 68*(10), 50-51.

Thomas, K. W., & Tymon, W. G. (1982). Necessary properties of relevant research: Lessons from recent criticism of the organizational sciences. *Academy of Management Review, 7*, 345-352.

Thorne, H., Gurd, B., & Southwick, A. (1994). Performance measures for manufacturing industry. Paper presented at AAANZ Conference, Brisbane, July.

Tinker, A. M., & Lowe, E. A. (1980). A rationale for corporate social reporting: Theory and evidence from organizational research. *Journal of Business Finance and Accounting, 7*(1), 1-16.

Tinker, A. M., Lehman, C., & Neimark, M. D. (1991). Falling down the hole in the middle of the road: Political quietism in corporate social reporting. *Accounting, Auditing & Accountability Journal, 4*(2), 28-54.

Tinker, A. M., Merino, B. D., & Neimark, M. D. (1982). The normative origins of positive theories: Ideology and accounting thought. *Accounting, Organizations and Society, 7*, 167-200.

Tomkins, C., & Groves, R. (1983a). The everyday accountant and researching his reality. *Accounting, Organizations and Society, 8*, 361-374.

Tomkins, C., & Groves, R. (1983b). The everyday accountant and researching his reality: Further thoughts. *Accounting, Organizations and Society, 11*, 407-415.

Tosh, J. (1984). *The pursuit of history: Aims, methods, and new directions in the study of modern history*. London: Longman.

Tower, G., & Kelly, M. (1989). *The financial accounting standard setting process: An agency theory perspective*. Discussion paper No. 94, Department of Accountancy, Massey University, Palmerston North.

Trice, H., Belasco, J., & Alutto, J. A. (1969). The role of ceremonials in organizational behavior. *Industrial and Labor Relations Review, 23*(1), 40-51, cited in Dandridge (1986).

Trice, H. M., & Beyer, J. M. (1984). Studying organizational cultures through rites and ceremonials. *Academy of Management Review, 9*, 653-669.

Tricker, R. I. (1979). Research in accounting: Purpose, process and potential. *Accounting and Business Research*, 3-15.

Tuckman, A. (1994). The yellow brick road: Total Quality Management and the restructuring of organizational culture. *Organization Studies, 15*, 727-751.

Turk, W. T. (1990). Management accounting revitalized: The Harley-Davidson experience. *Journal of Cost Management*, Winter, 28-39.

Turney, P. B. B. (Ed.) (1989). *Performance excellence in manufacturing and service organizations.* Proceedings of the Third Annual Management Accounting Symposium, National Association of Accountants Committee on Academic Relations and American Accounting Association Management Accounting Section, San Diego, CA, March 1989.

Turney, P. B. B. (1993). Beyond TQM with workforce activity-based management. *Management Accounting (NAA), 75*(3), 28-31.

Turney, P. B. B., & Anderson, B. (1989). Accounting for continuous improvement. *Sloan Management Review, 30*(2), 37- 47.

Turney, P. B. B., & Reeve, J. M. (1990). The impact of continuous improvement on the design of activity-based cost systems. *Journal of Cost Management*, June, 43-50.

Van Maanen, J. (1982). Fieldwork on the beat: This being an account of the manners and customs of an ethnographer in an American Police Department. In J. Van Maanen, J. M. Dabbs, & R. R. Faulkner, *Varieties of Qualitative Research* (pp. 103-151). Beverly Hills, CA: Sage.

Van Maanen, J. (Ed.) (1983a). *Qualitative methodology.* Beverly Hills, CA: Sage.

Van Maanen, J. (1983b). Reclaiming qualitative methods for organizational research: A preface. In J. Van Maanen (Ed.), *Qualitative methodology* (pp. 9-18). Beverly Hills, CA: Sage.

Van Maanen, J. (1983c). The fact of fiction in organizational ethnography. In J. Van Maanen (Ed.), *Qualitative methodology* (pp. 37-55). Beverly Hills, CA: Sage.

Van Maanen, J. (Ed.) (1995). An end to innocence: The ethnography of ethnography. In J. Van Maanen (Ed.), *Representation in ethnography* (pp. 1-35). Thousand Oaks: Sage.

Van Maanen, J., & Barley, S. R. (1985). Cultural organization: Fragments of a theory. In P. J. Frost, L. F. Moore, M. R. Louis, C. C. Lundberg, & J. Martin (Eds.), *Organizational culture* (pp. 31-53). Beverly Hills: Sage.

Vollmann, T. (1989). Changing manufacturing performance measurements. In P. B. B. Turney (Ed.), *Performance excellence in manufacturing and service organizations.* Proceedings of the Third Annual Management Accounting Symposium (pp. 53-62). San Diego, CA: National Association of Accountants Committee on Academic Relations and American Accounting Association Management Accounting Section.

Walker, M. (1989). Agency theory: A falsificationist perspective. *Accounting, Organizations and Society, 14*, 433-453.

Walker, R. (1992). Rank Xerox — management revolution. *Long Range Planning, 25*(1), 9-21.

Walton, M. (1986). *The Deming management method.* New York: Putnam.

Watson, T. J. (1994). Management "flavours of the month": Their role in managers' lives. *The International Journal of Human Resource Management, 5*(4), 893-909 (cited in Jackson, 1996).

Watts, R. L., & Zimmerman, J. L. (1979). The demand for and supply of accounting theories: The market for excuses. *The Accounting Review, 54*, 273-305.

Webb, P. B., & Bryant, H. L. (1993). The challenge of Kaizen technology for American business competition. *Journal of Organizational Change Management, 6*(4), 9-16.

Weick, K. (1976). Educational organizations as loosely coupled systems. *Administrative Science Quarterly, 21*, 1-19.

Weick, K. E. (1979). Cognitive processes in organizations. In B. M. Staw (Ed.), *Research in organizational behavior*, Vol. 1 (pp. 41-74). Greenwich, Conn.: JAI.

Weick, K. E. (1982). Management of organizational change among loosely coupled elements. In P. S. Goodman and Associates (Eds.), *Change in organization: New perspectives on theory, research, and practice* (pp. 375-408), San Francisco: Jossey-Bass.

Weick, K. (1983). Letters to the editor. *Fortune*, October 17: 27.

Weick, K. (1985). Sources of order in underorganized systems: Themes in recent organizational theory. In Y. S. Lincoln (Ed.), *Organizational theory and inquiry: The paradigm revolution* (pp. 1106-136). Beverly Hills: Sage.

Westbrook, J. D. (1993). Organizational culture and its relationship to TQM. *Industrial Management*, January/February, 1-3.

Westley, F. R. (1990). The eye of the needle: Cultural and personal transformation in a traditional organization. *Human Relations, 43*(3), 273-293.

Whittington, R. (1990). Social structures and resistance to strategic change: British manufacturers in the 1980s. *British Journal of Management, 1*, 201-213.

Wilden, A. (1972). *System and structure: Essays in communication and exchange.* London: Tavistock.

Wilkinson, A. (1992). The other side of quality: 'soft' issues and the human resource dimension. *Total Quality Management, 3*, 323-328.

Wilkinson, A., Allen, P., & Snape, E. (1992). TQM and the management of labour. *Management Decision, 30*(6), 116-123.

Wilkinson, A., Godfrey, G., and Marchington, M. (1997). Bouquets, brickbats and blinkers: Total Quality Management and employee involvement in practice. *Organization Studies, 18*, 799-819.

Wilkinson, A., & Willmott, H. (Eds.) (1995). *Making quality critical: New perspectives on organizational change.* London: Routledge.

Wilkinson, A., & Witcher, B. (1993). Holistic total quality management must take account of political processes. *Total Quality Management, 4*(1), 47-56.

Williams, P. F. (1989). The logic of positive accounting research. *Accounting, Organizations and Society, 14*, 455-468.

Willis, G. (1991). The 'Q' word and management accounting. *CMA Magazine, 65*(6), 28.

Willmott, H. C. (1983). Paradigms for accounting research: Critical reflection on Tomkins and Groves' 'Everyday accountant and researching his reality'. *Accounting, Organizations and Society, 8*, 389-405.

Willmott, H. (1990). Beyond paradigmatic closure in organizational enquiry. In J. Hassard & D. Pym (Eds.), *The theory and philosophy of organizations: Critical issues and new perspectives* (pp. 44-60). London: Routledge.

Willmott, H. (1992). Postmodernism and excellence: The de-differentiation of economy and culture. *Journal of Organizational Change Management, 5*(1), 58-68.

Winch, P. (1958). *The idea of a social science and its relations to philosophy.* London: Routledge & Kegan Paul.

Winsor, R. D. (1992). Talking the post-Fordist talk, but walking the post-industrial walk. *Journal of Organizational Change Management, 5*(2), 61-69.

Wolcott, H. F. (1990). *Writing up qualitative research.* Newbury Park: Sage.

Wood, G. R., & Munshi, K. F. (1991). Hoshin kanri: a systematic approach to breakthrough improvement. *Total Quality Management, 2*(3), 213-226.

Woods, M. D. (1989a). How we changed our accounting. *Management Accounting (NAA)*, February, 42-45.

Woods, M. D. (1989b). New manufacturing practices — new accounting practices. *Production and Inventory Management, 30*(4), 7-12.

Wruck, K. H., and Jensen, M. C. (1994). Science, specific knowledge, and total quality management. *Journal of Accounting and Economics, 18*, 247-287.

Yin, R. K. (1994). *Case study research: Design and methods* (Second Edition). Thousand Oaks, CA: Sage Publications.

Zipkin, P. H. (1991). Does manufacturing need a JIT revolution? *Harvard Business Review*, January, 40-50.