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Quality management and accounting in a New Zealand service organization: Towards an institutional perspective on management accounting

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QUALITY MANAGEMENT AND ACCOUNTING IN A NEW ZEALAND SERVICE ORGANIZATION: TOWARDS AN INSTITUTIONAL PERSPECTIVE ON MANAGEMENT ACCOUNTING

Zahirul Hoque* **and Manzurul Alam****

ABSTRACT

Recently, the concept of quality and its management have received considerable attention from business organizations in countries around the world seeking to remain competitive in both local and international markets. Accounting researchers have become interested in understanding how accounting systems are implicated within a quality management system. This paper, which reports on the quality management systems in a New Zealand service organization, provides empirical evidence of how an organization adopts quality principles and subsequently evaluates organizational approaches to espouse quality as a strategic option and the role of accounting therein. The paper argues that once an organization introduces quality management, it may influence other aspects of an organization, such as accounting and reporting processes, to serve the managers' need on quality issues. This paper suggests that quality management in the organization was "institutionally induced" as well as affected by the organizational climate and individuals' quality-related behaviour.

Key words: ISO 9000; Total Quality Management; Management Accounting; Institutional Theory; Culture; Service Organization; New Zealand.

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INTRODUCTION

In recent years, the concept of quality and its management have received considerable attention as business leaders in countries around the world have sought to remain competitive in both local and international markets. In a recent article, Johnson (1994)[1] showed how total quality management (TQM)[2], as part of the overall control package, can assist a business organization to be "profitable and competitive". As he (1994, p. 265) remarks:

> "To be competitive and profitable, businesses always must understand how to lead people and satisfy customers. TQM focuses attention on the competitive power that resides in building relationships and empowering people to solve problems - specifically, problems that impede profitable satisfaction of customer wants. In a business that manages processes - not results - customers, employees and suppliers all are linked and dedicated to compress time and satisfy customer wants continuously."

Many organizational theorists (Crosby, 1980; Hayes and Wheelwright, 1984; Miller and Vollmann, 1985; Berliner and Brimson, 1988) view TQM as having an important role in today's firms operating in competitive and high-tech environments. So far there have been virtually no articles on quality management and accounting published in leading accounting academic journals[3] with the notable exception of recent articles by Johnson (1994) and Ezzamel (1994) in *Critical Perspectives on Accounting* (Vol. 5, 1994). Most articles on quality issues so far have been written by management and organizational scholars and published in quality-dedicated journals (Box and Bisgaard, 1987; Maani, 1989; Aquino, 1987; Garvin, 1987; Saha, 1989). Yet quality costing (Juran, 1951; Feigenbaum, 1961; Morse et al., 1987) has now been introduced in several leading accounting textbooks (Kaplan and Atkinson, 1989; Horngren et al., 1993; Zimmerman, 1995), and in one chapter in *Relevance Lost* (Johnson and Kaplan, 1987) as a tool for highlighting the cost implications of quality or a lack of quality.

While scholars have treated quality management as an obvious organizational process (Johnson, 1994), there has been little systematic study of the linkage between quality

[1] Johnson (1994) developed "a much deeper appreciation of the TQM" and called for the replacement of management accounting systems by TQM (for an excellent critical review of Johnson's thesis concerning TQM see Ezzamel, 1994).
[2] Used interchangeably with "quality management system" throughout this paper.
[3] There are a number of articles on TQM published in professional accounting journals.

management and accounting within an organization. This study is an attempt to redress this neglect by in-depth investigation of quality management systems in practice in a New Zealand Service organization. The study aimed to understand how the major tools and techniques employed in quality management systems were implemented throughout the company and the role of accounting therein. Contrary to Johnson (1994), the study contributes to the management accounting literature by showing how TQM and accounting systems fit together, without replacing one another. The major research questions to address are:

(a) Why and how did the organization initiate quality management programmes?

(b) What are the major characteristics of quality management in the organization?

(c) How did quality ideas and procedures become institutionalized over time?

(d) How was the accounting system implicated in the processes of quality management?

(e) How did staff perceptions and attitudes of the quality management shape the implementation and operation of the quality system in the organization?

Reduction of quality costs, such as cost of prevention and cost of conformance, is often used in organizations to measure progress in the implementation of TQM (Clark, 1985; Roth and Wayne, 1985; Juran, 1988). The prevention cost includes all costs of quality assurance, such as inspection, statistical process control and any cost incurred to ensure acceptability and effectiveness of a service or a product. The cost of failure, on the other hand, includes the costs of making a bad product that does not meet customer requirements (for a review see Shank and Govindarajan, 1994). While the determination of cost of quality is useful, it remains unclear how the accounting system adjusts to include quality principles.

The traditional accounting function is more concerned with the measurement of efficiency in terms of budget attainment and largely ignores other aspects, such as employee productivity and product quality that can contribute to profitability. Unless the traditional accounting focus is changed in line with the quality principles to accommodate quality issues, such measurement may not be possible. As Johnson (1994, p. 265) has noted,

"accounting products need to be developed based on quality management and should serve the managers' need on quality issues." There is some evidence suggesting that TQM will require new types of management accounting reports that will enable opportunities for quality improvement to be identified and for monitoring the effectiveness of TQM endeavours (Suver et al., 1992). Very few studies have concentrated on the nature of accounting change as a result of quality implementation. This paper focuses on the nature of the changes in accounting function as part of the TQM.

Quality is a term used in this paper to denote the provision of goods and services that meet customer expectations (Deming, 1986; Juran, 1988; Crosby, 1988). TQM can be defined as "a philosophy (and actions) of an organization that is dedicated to continuous quality improvement throughout the organization" (Suver et al., 1992, p. 29). TQM is therefore the combination of culture, systems, and customer satisfaction (Evans and Lindsay, 1989). An in-depth field research of one small New Zealand service organization was used as the basis for analysis. The data uncovered insights into the effect of the institutional and cultural factors on TQM. This paper argues that once a firm introduces quality principles, it may have an impact on other organizational processes, such as accounting and reporting systems.

QUALITY ENVIRONMENT IN NEW ZEALAND

The journey to quality has a long history going back to early craftsmanship. With the development of large industrial organizations, the search for quality continued through 'scientific management' and 'statistical approaches to quality control' during the first quarter of this century. Today the term 'quality' is widely used in business firms to describe a much broader focus on quality. The present focus on quality is influenced by factors like competition, deregulation of trade practices, and technological sophistication (Crosby, 1980, 1988; Deming, 1986; Juran, 1988).

Quality efforts in New Zealand (NZ) firms can be identified with the deregulation policies of the government during the mid-1980s and the institutional focus on self-regulation. Before the present regime of deregulation from 1984 onwards, NZ firms were protected from foreign competition while export trade was supported by generous tax policies, export loans and allowances (Wooding, 1987).

In such a protective environment, the firms had little incentive to focus on quality as a strategic option. However, in the mid-1980s the NZ government embarked on creating an open market economy. The internal market was opened and trade incentive bonuses to local firms were withdrawn. The NZ firms realized that they required to compete on an equal footing with international firms. The global market by then was influenced by Japanese firms with their high quality of goods and services. Among the NZ firms, Nissan's attempt to introduce a quality system was highly documented (Owen and Emerson, 1991). In 1989 NZ Breweries developed a quality management system by adopting International Standard Organization (ISO) 9000 standards.[4] In 1994 there were over 600 firms in NZ certified by the ISO standards.[5] While evidently the quality issues are obvious, the question remains how to ensure the provision of quality within an organization.

Conformance to quality standards can be achieved by introducing quality legislation and enforcing it through administrative means. Such an approach can be expensive and inefficient[6] (Morse, 1983; Juran, 1988; Berliner and Brimson, 1988; Maani, 1989). Those who do not believe in market mechanisms argue that market forces do not always maximize or guarantee collective well-being and that when bureaucratic means are withdrawn in favour of deregulation we cannot necessarily rely on market forces alone to achieve quality issues. They also argue that quality issues should not be left to the market discipline and favour some form of standard setting and enforcement. This is because consumers cannot always define what is quality and compare between different quality levels. Advocates of market mechanisms argue that quality issues should be settled through the interactions between the providers and consumers and can be controlled through market signals. The European free trade agreement 1992 moved towards setting some standards on quality systems (Flister and Jozaitis, 1992; Borthick and Roth, 1992). Such standards would be applicable to those wishing to do business with the community. The ISO 9000 standards provide basic requirements for the quality assurance system (Flister and Jozaitis, 1992).

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[4] ISO 9000 is a series of five international quality standards developed by the International Organization for Standardization (ISO) in Geneva, Switzerland. The ISO 9000 standard provides some basic definitions and is a road map to using the other standards in the series. The ISO 9001, 9002, and 9003 standards are for external quality assurance purposes for use in contractual situations. ISO 9004 contains guidance on technical, administrative, and human factors affecting the quality of products and services (for details, see Flister and Jozaitis, 1992).

[5] Source: Telarc New Zealand and Standards New Zealand lists of certified firms.

[6] Quality regulation is inefficient because it needs constant monitoring and also that regulation can restrict continuous development to reflect customers' preferences. Regulation is expensive because it has huge legislation and administrative costs as opposed to market controls.

With the proliferation of standards and certification on quality, there is an expectation from the customer that companies get certification on quality. Quality assurance is seen to be present if the company is certified according to ISO standards (Flister and Jozaitis, 1992). Public perceptions have been changed by the certification culture and it is usually thought that a certified company would provide a quality service (Robson, 1982). By obtaining a seal of approval through the ISO certification, an organization may demonstrate to the customer that the stated products or services meet the required standard.

Such practices are not only confined to commercial firms. Public sector organizations are also embracing these certification processes. Many public sector organizations in New Zealand have adopted TQM (Grieve, 1990; Lowe et al., 1992; McClintock, 1993). For example, local government now contracts out a significant amount of traditional services, such as refuse collection and roading, to private sector firms which deliver such services on behalf of local city councils. Any company (private or state-owned) can now bid to provide such services. To ensure quality some city councils now require the tenderers to be certified by the standard authorities.[7]

The certification culture is promoted at national level in New Zealand through organizations such as the New Zealand National Quality Awards Foundation (NZNQAF), the New Zealand Organization for Quality (NZOQ), and through regular quality conferences. Certifying organizations, such as Standards New Zealand, Telarc New Zealand, KPMG Peat Marwick, Lloyd, and others, play an important role in disseminating the ISO 9000 standards and advising organizations about TQM (McClintock, 1993).

THEORETICAL FRAMEWORK

Quality is seen by scholars as being an essential attribute in society and has influenced organizations to undertake certification (Robson, 1982; Peters and Waterman, 1982; Crosby, 1988; Juran, 1988). By adopting the certification, organizations can publicly demonstrate their commitment to quality. An organization may adopt management systems that are viewed as efficient by society (Meyer and Rowan, 1977). By adopting institutional theory (Meyer and Rowan, 1977; Covaleski and Dirsmith, 1988; Covaleski et al., 1993), this study attempts to understand why organizations quickly espouse institutional norms.

[7] Telephone interview with an official of a local city council.

Institutional imperatives may come in different forms ranging from coercion to normative pressures (Dimmagio and Powell, 1983). Sometimes, organizations adopt certain systems, policies, and procedures by imitation and copy one another to demonstrate a conformity with institutionalized rules, thereby legitimizing it, to assist in gaining society's continued support (Meyer and Rowan, 1977; Scott, 1987; Covaleski and Dirsmith, 1988).

"Institutional legitimacy" is the pattern which defines what are felt to be proper, legitimate or expected modes of action in a given group or society (Parsons, 1940, p. 190; for details see Scapens, 1994). If the acceptance of a certain system or organization structure helps the organization to be seen as legitimate in the eye of those who have power to decide its fate, then it is seen by firm as worthwhile (Meyer and Rowan, 1977).

The idea that a set of rules and constraints influence the shaping and legitimating of organizational activities and the behavioural relations among individuals or groups is fundamental to institutional theory. State, markets, institutionalized rules and regulations, cultural rules and customs, and professional associations are "institutions" in this study because these may regulate or dictate organizational activities, such as quality management system and individual behaviour (Lindblom, 1977; Meyer and Rowan, 1977). Institutional theory helps us to see the adoption of certification culture in organizations and society from a different angle. It is possible some organizations may use certification to improve their quality, while other organizations may use certification for institutional purposes, such as signalling to the state, society, outside interested groups, competitors and professional associations.

Like institutional economists, Scapens[8] holds the view that an "institution" within institutional theory is just not someone (or any one) outside the firm; surely it must be more. He believes that it is possible to encompass meanings and values within institutional research in accounting. In his review of the institutional theory, Scapens (1994, p. 309) argues that individuals may be able to give reasons for following rules, and furthermore, the rules themselves may be the result of earlier actions. It is institutions which shape the value structure underlying economic activity and processes. According to Scapens (p. 301) accounting as institutionalized routine creates understandings of activities according to

[8] A recent personal correspondence with the first-named author (for details see also Scapens, 1994).

particular sets of accounting rules and procedures which enable decisions to be made and activities undertaken in a complex and uncertain world. Following Scapens (1994), this paper views quality management systems as being institutionalized routines which enable organizations to reproduce and legitimate behaviour, and to achieve organizational cohesion.

Institutional economists also place emphasis on economic activities of an organization responding to external constituencies (Grucy, 1973, 1984; Stanfield, 1983; Hodgson, 1988). Seen from such a perspective, they view economic activity as a social phenomenon and are interested in its relationships with social, economic and political institutions (for details see Ahmed, 1992). Scapens (1994, p. 308) remarks that institutionalists regard the economic system as a sub-system of the larger societal or cultural system. Thus, institutionalists have argued that economic relations and activities within an organization tend to display a social character, and in addition they view actions and practices of an organization as structured and moulded in social processes (Hodgson, 1988, p. 225). Consequently, understanding economic actions and practices requires an understanding of the economic, social and cultural processes within the organization itself and its relations to other organizations and the society at large. This paper looks at economic activities of an organization responding to competitive pressures as a sub-system of the larger social or cultural system (Scapens, 1994).

The economic pattern of behaviour, the social construction and use of knowledge (ceremonial vs instrumental[9] acquisition of knowledge) and the structure of power and conflict inherent in the social contexts of economic systems are aspects of culture and human values (and meanings). Unlike neo-classical economists who conceive values in terms of utility or profit maximization, institutional economists argue that values (and meanings) are not just a reflection of individualistic desires; they are an output of the larger cultural milieu in which economic agents live and act (for details, see Ahmed, 1992; Scapens, 1994). Thus institutional economists are also concerned to recognize culture explicitly within institutional theory and in their analyses of an empirical phenomenon.

[9] Institutional economists clearly distinguish between ceremonial and instrumental values in a society. Ceremonial values (e.g., using deceit, coercion and historical status or power to manipulate the behaviour of others) correlate behaviour within the institutions by providing the standard of judgement for invidious distinctions. These prescribe status, differential privileges and master-servant relationships and warrant the exercise of power by one class over another. In contrast, instrumental values (e.g., using scientific knowledge) correlate behaviour by providing the standards of judgement. These employ tools and skills in the application of evidently warranted knowledge to the problem-solving process (Bush, 1987; for details, see Ahmed, 1992).

Influence of "culture" on organizational practices has been recognized in the organizational and accounting literature (Ouchi, 1981; Peters and Waterman, 1982; Hofstede, 1980; Ansari and Bell, 1991). Prior research has shown that the values and norms embedded in the culture of an organization influence its accounting and control practices (Ansari and Bell, 1991; Geertz, 1978; Hofstede, 1980; Deal and Kennedy, 1982; Peters and Waterman, 1982). For purposes of this research, culture is defined as "the pattern of shared beliefs and values that give the members of an institution meanings and provides them with the rules of behaviour in their organization" (Davis, 1984). Viewed from such a perspective, this article focuses on "certification culture" and "quality culture" for two reasons. First, a firm's certification culture explains why certain forms of organizational practices, such as TQM, existed in the organization studied. Second, quality culture explains individuals' behaviour and attitudes towards TQM and states the way people do things around the organization (Deal and Kennedy, 1982).

Certification culture refers here a company's demonstration of conformance with the appropriate ISO 9000 standard by passing an audit and then registering with an accredited registering body. Certification can be achieved by preparing documentation according to the requirements of standard authorities. Such documentation may affect the quality of products or services of the organization. It will be argued in this article that certification culture may have some positive effects on an organization's TQM. Rigorous documentation may help companies to uncover their problems and improve their processes. Through such documentation, problems may surface and organizational members can share their experiences to solve the problem. Such a documentation may also lead to a change in organizational culture. The certification process is subject to regular audit to determine whether quality incentives and the related results comply with planned arrangements. Even though the organizations may be influenced by institutional factors to commit to quality, the general thrust of this paper is that once the companies adopt such quality certification, other processes in the organization, such as accounting and information systems, may also change to facilitate quality management.

Quality culture, in this paper, refers to the attitudes and beliefs of organizational staff and has meant ensuring that all staff acknowledge the importance of quality and accept responsibility for its achievement (Peters and Waterman, 1982). The importance of developing a 'quality culture' has been recognized in the organizational literature (Crosby,

1980, 1988, 1990; Peters and Waterman, 1982; Deming, 1986; Juran, 1988). Staff perceptions of the role of quality management in the organization will be informative for understanding how the changes in the behavioural focus impact on the design and operation of quality management in the organization. There is some evidence suggesting that staff are more likely to produce products or services of high quality if they believe in it and are committed to it, rather than because they are told to (Peters and Waterman, 1982; Crosby, 1980; Goddard et al., 1995).

From the discussion in this section, it can be argued that institutional theory can provide useful insights for understanding how quality management systems are shaped by the interrelationships between economic and external institutional forces (such as the local city councils, customers' expectations, public opinion, professional associations, and competitors) in organizations and society and how the meanings (and values) and culture affect quality management systems design and associated behaviour. Institutional theory relating to external "institutions" helps creates understandings how quality management system is designed and disseminated predominantly to serve the needs and expectations of external constituencies. Furthermore, issues of actors' meanings (and values) and culture within institutional theory are useful for understanding organization's quality culture and the attitudes and shared beliefs of staff towards their quality management systems. Thus institutional and cultural perspectives combined can help researchers build a more holistic analysis of empirical data (Scapens, 1994).

DTL TRANSPORT COMPANY: THE RESEARCH SITE

This study focuses on understanding quality management systems in practice and the role of accounting therein within a single service organization. DTL Transport[10] company is used as the basis for analysis. DTL Transport is a privately owned construction company established in Hamilton, New Zealand in 1968. DTL offers a variety of services: contracting work-site work; earthmoving; roading; carport development; drainage; and general cartage - specialisation in bulk cartage and cartage of earthmoving machinery. In 1994 the DTL reported turnover of $5.5 million and net income of $0.36 million. Total assets at 31 March 1994, were $2.7 million. In March 1994 the company employed 60 people.

[10] The original name of the organization is not used in order to preserve anonymity.

The chief executive of DTL is called the 'Managing Director'. He is also the chairman of the company. DTL's management board has three members: member (accounts, administration, and quality management); member (engineering); and member (contracts and yard sales). DTL transport is organized into four functional departments: accounts and administration; engineering; contracts and yard sales; and quality management. The organization chart of the company as on December 1994 is shown in Figure 1.

The company always maintained a good reputation for quality work and mostly operated in the private sector. Apart from regular work from fixed customers, the company had a constant supply of work through competitive biddings in the local government market (e.g., city councils). The company also contracted out part of its work on a regular basis to other small transport companies. Since the late 1980's, there have been significant developments in the local government market. With the introduction of Local Government Act and Transit New Zealand Act, roading and other related works were deregulated. Most works previously carried out by the city council and Transit New Zealand are now contracted out to private companies like DTL. To ensure the quality of work performance, the principals such as the council and Transit NZ, favoured those companies with ISO 9000 certification.[11] When a provider of a service is ISO certified, the principal may not feel the need for constant surveillance of the activities of service providers. With the opening up of the market through deregulation, a number of new firms started to operate in the local market and became certified through ISO. The management of DTL decided to adopt ISO principles to show their commitment to quality issues and improve their performance.[12]

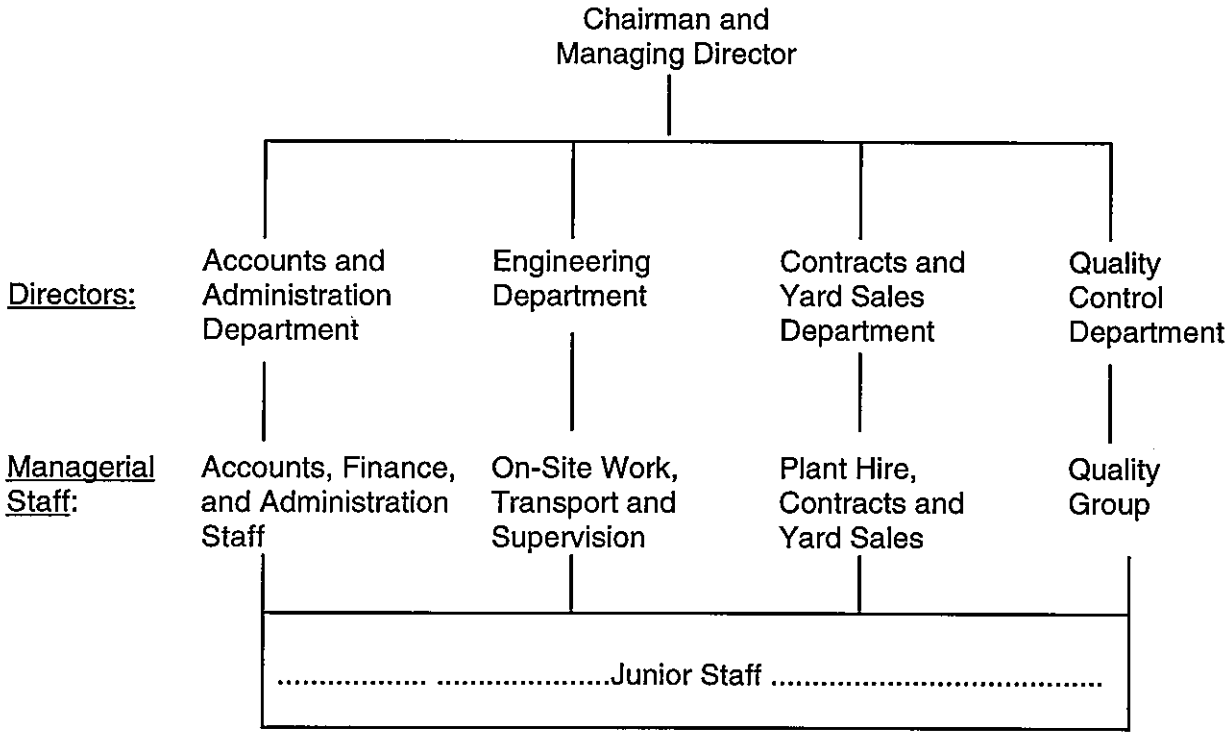
The quality activities of DTL are the responsibility of the Quality Management Group, which reports to the managing director of the company. The head of the Quality Management Group is called the Quality Co-ordinator, who is also the secretary and director of the accounts and administration department. The Quality Management Group is responsible for all quality matters, including implementation and authorization of the quality system, contract documents, reliability engineering, equipment operation, measuring and testing, health and safety of workers, quality reporting, quality cost reporting, and internal quality audit.

[11] Telephone interviews with staff at Transit New Zealand and a local city council.
[12] Interview with the secretary of DTL Transport Company.

Numerous steps were taken to make the quality system effective within the organization, including educating and training of staff, restructuring the management group, recognition and rewarding, communication and goal setting.[13]

Figure 1

Organization Chart.



Quality awareness workshops were organized for the staff. These workshops were formal and started with an introduction by the Managing Director about the intended purpose of the quality management. The project sought to be pragmatic and to build on existing good practices. Staff were encouraged to give comments on the applicability of the programme in their area of activity. Awareness workshops were useful in carrying the message to each level of management. The head of the engineering department of DTL comments:

> "After a series of five awareness meetings, everyone in the organization seemed to have an implicit idea of why the formal quality programme was needed. Even though they could not define quality, they seemed to have a clear idea what constituted a lack of quality."

[13] DTL Transport Business Systems Manual.

After the awareness meetings, management decided to develop all the procedures and records for the management and delivery of services. Such procedures were developed from existing good practices. ISO requirements were compared with the existing system and that led to the development of a quality manual, called "The DTL Transport Business Systems Manual". The Manual contained the following major topics:

> *Contract Documents:* work procedures, specifications, and contract conditions, plans and drawings;
>
> *Procedures Manual:* equipment operation, and measuring and testing. The procedures manuals are (1) yard procedures manual, (2) office procedures manual, (3) contracting procedures manual, (4) transport procedures manual;
>
> *Reference Procedures:* include documents, such as working on the road - transit NZ, road works safety guide, and safety in construction - guide 25;
>
> *Health and Safety Programmes:* include provisions for training on health and safety of the staff and drivers in the on-site operations.

RESEARCH DATA AND METHOD

This study looks at the processes of quality management and the role of accounting therein in the organization from both the institutional and cultural contexts. The principal style of investigation adopted was open-ended, intensive field research in the 'interpretive' tradition (Garfinkel, 1967; Yin, 1981; Morgan, 1983; Hopper and Powell, 1985) as this helped the researchers build up interpretations from the experience, perceptions and beliefs of those involved in the situations studied.

This study used 'data-triangulation' to collect empirical data (Denzin, 1978; Jick, 1979; see also Hoque and Hopper, 1994; Hoque, 1995). This mixes qualitative and quantitative methods, including interviews, documentary evidence, and questionnaires. The aim was to generate a rich source of field data with internal checks on its validity.

The twenty interviewees were selected from different hierarchical levels of the organization: members of the board of directors; operational staff; quality staff; and accountants. The topics for discussion in the interview included: the organization structure; management

responsibility; quality policy and strategic mission; quality management processes; measurement and reporting of quality costs, and managerial attitudes towards their quality process and work environment.[14] The interviews varied in length between two and three hours and normally took place in informal surroundings. Most questions were asked in an open-ended fashion to allow the interviewees to respond in their terms (Miles and Huberman, 1984).

Documentation, manuals and operating statements relating to quality management systems and accounting were collected which supplemented the interview evidence. In addition, contextual information was collected from reports on the service industry from the government, management consultants associated with certification processes of quality standards, professional associations, and local city councils.

A questionnaire was developed based on Goddard et al.'s (1992) study followed by a series of interviews with key staff members of DTL. The questionnaire aimed to validate more generally the attitudes and behaviour of organizational staff towards their quality management system as revealed by the interviews. The relevance and reliability of each question developed were tested through interviews with two key quality staff members and one accountant at DTL. The topics of the questionnaire included: quality mission and objectives; quality management philosophy; employee participation in the quality process; implementation strategy; staff satisfaction concerning quality activities and the role of accounting in quality management. The questionnaire so developed was distributed to all employees. This yielded 24 responses, a response rate of 80%. Respondents were asked, on a five-point Likert-type scale ranging from one ("strongly disagree") to five ("strongly agree") to indicate their perceptions of the quality activities. The Cronbach alpha statistic of 0.75 (Cronbach, 1951) indicates satisfactory internal reliability of the scale.

Descriptive statistics were calculated for each variable. The non-parametric test, the Kendall's coefficient of concordance (Siegel and Castellen, 1988) was computed to examine the consensus among staff regarding the systems of quality in the organization. It is assumed that respondents' ranking of quality activities are independent or unrelated.

[14] A copy of the interview schedule is available from the first-named author on request.

REASONS FOR IMPLEMENTING A QUALITY SYSTEM IN THE COMPANY

World-wide trends during the last few decades have seen quality systems develop from a focus on quality control through quality assurance and more recently to encompass the principles of TQM (Johnson, 1994). The arrival of the ISO 9000 series of standards in the latter part of the 1980's meant that a world-wide standard was available that specified the minimum requirements which quality management systems had to meet. Many organizations within New Zealand were moving towards the implementation of quality management systems meeting the requirements of the ISO 9000 series of standards to gain certification (McClintock, 1993; Taylor, 1994). As DTL Transport is involved in construction and contracting engineering work, its quality system needed to comply with the requirements of ISO 9002.[15] DTL management reported that they used consultants to help them with the process of certification.

The concern with quality at DTL started with the inception of the company. At an early stage, management wanted to be known for quality in the area of Hamilton. When the company was small, assurance of quality was possible through personal inspection. Such a system became ineffective when the business began to grow, especially after the deregulation of the transportation and construction market. DTL management was looking for a formal quality system with well-defined procedures, including recording procedures. The head of the engineering department of DTL commented:

> "As the business began to grow, we were facing problems in keeping track of different operations. Maintenance of quality became difficult at on-site operations situated in different locations. Moreover, we were using different sub-contractors to work for us. We started to lose control on operational matters unless we had a formal control system that could guarantee quality issues."

Management decided to introduce a formal quality system in the organization and to get ISO 9000 certification both for internal control and strategic purposes. This quality system started with a process of self-questioning about the organization and themselves: who are the customers?, what are their requirements?, what is the purpose (vision and mission) of the organization?, how can the organization satisfy customers need?, and what processes need to be coordinated and integrated?

[15] DTL Transport Business Systems Manual, P. 2.1

An analysis of the company's operations was carried out by a committee at DTL, looking specifically at the factors which had a direct impact on the quality of service. Such an analysis led to the development of the following quality principles outlined in the DTL Transport Business Systems Manual (p. 2):

> "We will be innovative, take advantage of new opportunities presented by new technology.
>
> We will continue to develop the expertise of our team.
>
> We will continue to maintain an up-to-date fleet of vehicles necessary to achieve our stated objectives.
>
> We will provide competent drivers, operators, and staff always.
>
> We will achieve our objectives through the implementation of our ISO 9002 programme managing and controlling the processes that support our growth."

DTL staff saw "quality" in terms of "meeting customer requirements". This was reflected in the words of the head of the quality department:

> "We believe in customer satisfaction. We have a formal system of dealing with our customers. For example, any matters requiring clarification and/or negotiation are discussed with the customer until resolved through direct agreement or otherwise by acceptance of conditions tagged on the contract; the customer is, however, advised by the contract manager in the event that contract requirements could not be met and/ or in the event of deviations from the terms of the contract."

Table 1 presents the results of the questionnaire concerning the quality policy and strategic mission of the company. The majority of the respondents (89.4%) believed that their organization has a clear quality policy and has an action plan that describes its quality aims (mean score 4.13). A high proportion of respondents (82.3%) perceived that over the past year the organization has introduced several new ideas to improve the quality of service for the clients (mean score 4.09). The Kendall's coefficient of concordance (*W*) was computed to examine the degree of consensus among staff concerning quality issues. Here, it was assumed that staff perceptions and beliefs of the quality design were unrelated (or independent). The results in Table 1 show an observed significance level of 0.0001, which indicates a high level of consensus among the 24 staff concerning the quality policy and mission of the company (Siegel and Castellen, 1988). This supports the views of interviewees that quality aims in the organization investigated are known by almost all staff.

The managing director of DTL stated the reasons for seeking certification under ISO 9002 thus:

> "We understood that much of the construction industry of our kind was seeking registration to the ISO 9002 requirements. We also decided to seek certification in the belief that ISO certification would differentiate our business from our competitors."

And the secretary of the company:

> "As a small economy, the New Zealand market is very competitive. So, to be profitable and to remain competitive in the local market, we had to think about how to lead people and satisfy customers. We believe that service quality is vitally important to retaining existing customers and gaining new ones. The implementation of a company wide quality system focused on quality of service was therefore considered to be a vital step in the future success of DTL Transport."

Table 1
Staff perceptions of the quality policy and mission of the organization

Description of variables	Observed range Minimum	Maximum	Mean	Standard Deviation
I believe in the importance of providing a top-quality service	2.00	4.00	3.50	0.72
We maintain an up-to-date fleet of vehicles and machinery to continue improvement in quality	2.00	5.00	3.83	0.64
This organization has a clear quality policy and has an action plan that describes its quality aims	3.00	5.00	4.13	0.61
Over the past year this organization has introduced several new ideas to improve the quality of service for the clients	4.00	5.00	4.09	0.28
Kendall Coefficient of Concordance, n= 24; W= 0.2236; X^2 = 16.0976; df = 3; p = 0.0001				

Theoretical range, 1 - 5; 1, strongly disagree; 5, strongly agree.

The above evidence indicates that external "institutional" factors, such as competitors and customers' expectations, have largely induced the company to seek registration to certification ISO 9002. These findings lend support to the institutionalists' view that organizational control system change and managerial choice of a particular organizational design are a direct response to the external pressures (both formal and informal) and cultural expectations from the society within which organizations function (Meyer and Rowan, 1977; Dimaggio and Powell, 1983; Scott, 1987; Scapens, 1994). This is also consistent with prior institutional research in accounting concluded that external "institutions" induce the development of accounting and control practices (Ansari and Euske, 1987; Covaleski and Dirsmith, 1988; Hoque and Hopper, 1994; Mezias, 1994).

While top management view formal quality management system within the organization as having an important role in enabling problem areas to be more readily identified, thereby reducing rework and streamlining internal processes, some middle level staff expressed concerns that top management placed too much emphasis on documentation and quality reporting processes.[16] The following extracts on quality records from the DTL Transport Business Systems Manual (p. 6.1) provide further confirmation:

> "All records relating to the operation of the quality system shall be adequately maintained and stored by each department and those records must be legible, clearly traceable by date, client, and description (as appropriate), and suitably indexed and filed for easy review and retrieval. Handwritten changes to documents must be signed and dated and twinkling, erasing, or over-writing is not permitted. Where contractually specified, records shall be made available to the client for an agreed period. However, no records, in whole or in part, shall be released to any persons outside of the company without prior consent of the company secretary."

Says a quality staff member:

> "Everything we do here in the organization is almost formalised and structured. Let me give you an example: we have management instructions that all complaints and quality problems shall be noted by the originator, who shall describe the incident and report the problem via the appropriate manager or directly to the quality manager. The quality manager then shall determine the seriousness of the problem. Observations and notes shall be recorded in the diary. Problems requiring follow-up shall be recorded and formally reviewed using specified form (e. g. a Fix -It Form)."

[16] The head of the quality department held the view that these were required by ISO and must be kept up to date.

Investigations revealed that DTL management placed emphasis on the formal monitoring and reporting process for each functional area. The managing director of the organization said, "Everything we do for the organization, we do it in line with our quality policy and legislation." Thus, from the evidence in this paper, the formal structure of quality management appeared to be transformed into ceremonial or legitimatory systems in the organization and is similar to results in other accounting and control studies (Berry et al., 1985; Covaleski and Dirsmith, 1988; Ansari and Euske, 1987; Ansari and Bell, 1991; Hoque and Hopper, 1994).

Interviews with quality staff of DTL revealed that the local city councils, one of the major groups of clients of the organization, sometimes require the tenderers to be certified by the standard authorities. DTL Transport competes with other construction firms for contracts from the city councils. As mentioned earlier in this paper, the certification culture is also promoted at national level in New Zealand with the existence of organizations, such as the New Zealand National Quality Awards Foundation and the New Zealand Organizations for Quality. Almost all the staff interviewed shared the view that these national forums, to some extent, influenced the organization to introduce the formal quality system throughout the company. A senior executive of DTL provided further confirmation, "Increased demand for ISO certification also came from professional associations, such as the Institute of Professional Engineers New Zealand (IPENZ)."

The majority of DTL staff believed that they could demonstrate their commitment to quality to clients and the public through ISO certification. According to the head of the quality department, "the formal quality system would lead to an increase in the confidence of clients that DTL's service quality would consistently meet their needs." Another of the quality staff stated that DTL could not afford to be the major construction and engineering firm in the local market without certification while its competitors were certified. These results are consistent with the view of scholars suggesting that sometimes organizations may adopt a certain management system or structure by imitation and copy one another to increase their external legitimacy (Meyer and Rowan, 1977; Dimaggio and Powell, 1983; Covaleski and Dirsmith, 1988; Covaleski et al., 1993). The majority of respondents believed that ISO certification has, to some extent, led the organization to improve quality of services and increase the efficiency of staff. At the same time they also believe that the formal quality systems primarily provided legitimation that the organization fulfilled clients'

expectations and the external demands from local city councils, professional associations, and quality standard authorities.

MANAGERIAL AUTONOMY, PARTICIPATION AND QUALITY MANAGEMENT SYSTEM

The processes of quality assurance in the company combined its effort to ensure high quality customer services with its effort to provide operational freedom and full autonomy to staff over the affairs and business of the company. The majority of the staff interviewed expressed a high degree of satisfaction with the structure and processes of quality in the organization, in the belief that the formal quality system helped them ensure that customer requirements are met. The quality managers also expressed a high satisfaction regarding their quality management systems including high managerial autonomy. The head of the quality department of DTL comments:

> "I have sole authority to approve all policies and procedures associated with the maintenance of the quality system. I do not have to wait for the approval of the top management for any matters relating to quality management."

Interviews with contract staff provided evidence to support this view by revealing that contract staff enjoyed full autonomy to make day-to-day decisions. For example, the contract manager and supervisor have authority to stop any work where there are concerns regarding quality and services. A senior contract manager in the organization reports:

> "Operational freedom and full autonomy were provided in the formal quality system. I have sole responsibility and authority for negotiating with customers regarding price and delivery requirements, and has authority to enter into formal contract agreements."

The questionnaire survey corroborated these views. Table 2 shows employees perceived significant involvement in the quality activities. The Kendall's coefficient of concordance was highly significant, which indicates little disagreement among the staff concerning the degree of staff autonomy and participation in the design of quality management in the organization. A contract manager of DTL remarks:

> "We face many problems during on-site work, sometimes we need to resolve them on an urgent basis. We are allowed and encouraged to take proper action to solve the problems on the spot. The management, however, only demand from us a proper explanation and report on the issues immediately."

Investigations revealed that almost all staff acknowledged the importance of quality and accepted responsibility for its achievement. These results are consistent with behavioural studies on accounting and control systems which concluded that adequate staff autonomy and participation may positively affect organizational staff attitudes, behaviour, satisfaction, and performance (Bruns and Waterhouse, 1975; Merchant, 1981; Brownell and McInnes, 1986). According to the managing director of the company, "The formal design of quality management cannot act as a motivational device without staff participation in the quality activities of the company."

Table 2

Staff perceptions of the degree of autonomy and participation in the total quality management

Description of variables	Observed range		Mean	Standard Deviation
	Minimum	Maximum		
I express my opinions on quality matters within my department	3.00	5.00	4.08	0.41
The quality system is changed in accordance with my suggestions	3.00	5.00	3.84	0.48
Employee participation in problem identification and solving is practised and encouraged	2.00	5.00	4.21	0.66
I offer suggestions for quality improvement	2.00	4.00	3.46	0.72
Kendall Coefficient of Concordance, n= 24; W = 0.3032; X^2 = 21.8308; df = 3; p = 0.0001				

Theoretical range, 1 - 5; 1, strongly disagree; 5, strongly agree.

QUALITY CIRCLES AND STAFF MEETINGS

A well-proven method of implementing quality management (Robson, 1982) is by way of 'quality circles' that include a regular meeting by a group of staff to review and improve quality (Goddard et al., 1995). DTL Transport has well-developed "quality circles". These are staff meetings held regularly to review and improve quality of their services. The quality

manager stated that staff meetings are held at least every three months to discuss issues concerning quality improvement programmes of the company. Monthly management meetings are held to review matters concerning quality, safety, financial performance and general company business. Site meetings are held largely on an informal basis; the contracts manager, or supervisor in his/her absence, is responsible at present for organizing such a meeting on the site. Along with these meetings, the quality manager is responsible for convening a formal management review meeting at least twice a year, or more frequently as required, to perform a review of the effectiveness and implementation of the system. The DTL Transport Business Systems Manual (p. 5.1) states:

> "Formal management review meetings shall be convened at least twice a year (or more frequently as required). The review shall normally be held during March/April and September/October each year to coincide with a review of internal audit findings and to coincide with the completion and review of the company's financial accounts."

Responsibility for ensuring that timely corrective action is taken as a result of discussions at the review meetings is assigned to a member of the quality management group, who is responsible for reporting back within the time-span as agreed upon. The managing director of DTL comments:

> "Regular staff meetings help us to review quality processes and to take corrective actions, where necessary. Moreover, these meetings increase employee motivation through interactions among staff."

A senior quality staff member reflected:

> "The formal structure of quality assurance in DTL Transport helps the company to remain competitive in the market. We have a system of monitoring and recording problems that come across during our work. The manager who receives a quality related complaint from the customer is responsible for ensuring that the incident is recorded and passed on to the quality manager. The quality manager is responsible for initiating and assigning responsibility for the investigation, determining the action required, recording action taken, and monitoring the effectiveness of the corrective action taken."

Another quality staff member stated that:

> "The quality system within the organization is highly formalized and institutionalized to ensure that the quality system remains effective and practical. I believe that the formal quality system assists the company to meet its objectives in terms of quality and profits."

What emerged from the above findings of this study is that many aspects of DTL's formal structure, policies, quality procedures and regulations resulting through the ISO 9002 certification were shaped to accord with the institutionalized rules and expectations demanded by external constituents (Meyer and Rowan, 1977; Dimaggio and Powell, 1983; Covaleski and Dirsmith, 1988). The quality culture it creates within the organization, and the transformation of quality management into ceremonial or legitimatory systems is similar to findings in other case study researches in accounting (Berry et al., 1985; Ansari and Euske, 1987; Ansari and Bell, 1991; Covaleski and Dirsmith, 1988; Covaleski et al., 1993; Hoque and Hopper, 1994).

THE ACCOUNTING SYSTEMS IN THE COMPANY

Before the introduction of a formal system of quality management at DTL, the accounting system was designed to provide information on different jobs and facilitated the preparation of final accounts. The financial accounting system in the organization is governed by the external requirements (eg., stewardship and tax matters). As a construction and service organization, the company also developed a project or job oriented cost accounting system. This job based cost accounting starts when the company wants to compete for projects in the local market. Initially, the project leader in consultation with accounting staff prepares proposals with all the cost figures and technical details for the tender offer. The head of the accounting department of DTL elaborated thus:

> "In a tender situation our main concern is to get the offer. We study our competitors and try to predict their prices and set a competitive price for our tender. Accounting figures are calculated separately for each project along with a profit margin but we adjust this according to the principle of 'what will go'."

Once an offer to provide services from clients is received, work begins on-site. Separate accounts are kept for each job or project and the job ledger accumulates payments made for workers, materials, tools and utilities. This job ledger is reconciled periodically with the accounts payable and general ledger to monitor expenditure to-date. Each job is performed in different phases and, when a particular phase is completed, a separate statement is prepared up to that phase. Field reports are also prepared and such reports should correspond with the progress indicated in the accounts. Such phase accounts on a job, along with technical details, are submitted to the client for phase wise payments.

The accumulation of job or project costs for periodic reports was not suitable for control purposes. Such a system only gathered costs on an aggregate level and could not identify the costs for individual processes. Even though there were project meetings with accounting staff at regular intervals to review the projects, the company began to experience cost overrun in recent years. A senior accountant at DTL reports:

> "We are experiencing cost over-runs quite often. We try to manage different projects strictly with budget but some projects run-over 2% to 5% on the budgeted cost. The reasons for such cost over-runs are inefficiencies like waste, abuse of resources and delays. It is true that at the end we deliver quality services but our profitability has plummeted."

The aggregate accounting data was not elaborate enough to identify costs with different processes. While each job is carried out in different production or service processes, accounting records are only maintained for the overall project. Different process operators could not be held responsible for efficiency and productivity.

With the introduction of ISO 9002, there is a requirement to keep records for each process separately. Such a requirement may lead to the assessment of efficiency for each process and accounting systems need to be designed to represent products and processes and to tie them to responsible project workers. DTL has adopted some new policies in redesigning its accounting systems: collecting costs by individual processes so that project workers can see the nature of costs (controllable and uncontrollable); improving production processes by eliminating waste and inefficiency; recording each product or process separately so that responsibilities can be established; and regular feedback and consultation with the project team. While the change in accounting systems is under way, top management is trying to make operating staff (e.g. contract, construction, and engineering staff) more aware about cost implications of the projects and how better services can be delivered within the budgeted amount. Presently, it is evident from interviews with operating staff that they (operating staff) receive little accounting information and do not find such information relevant to their day-to-day jobs. One project leader at DTL reflects:

> "We are predominantly concerned with different attributes of a project such as completion date, quality. As team leader I have definitely used budgets to check my progress but most of the time such information was not useful for guiding the activities of my staff for reducing waste and abuse of resources."

Almost all operating staff were dissatisfied with the existing state of accounting systems and the results of the questionnaire to all staff provided further confirmation. Table 3 shows low employee perceptions of the adequacy of present accounting and operational data for quality matters. Presently accounting systems in practice was widely perceived as playing little role in quality management and in providing relevant information for monitoring and controlling quality issues. The Kendall's coefficient of concordance with the low probability suggests that there was a good consensus among the managers concerning the role of the existing accounting system in the processes of TQM. This confirmed the findings revealed by the interviews suggesting that accounting played a limited role in quality management within the organization.

Table 3

Staff perceptions of the role of accounting in total quality management

Description of variables	Observed Range		Mean	Standard Deviation
	Minimum	Maximum		
The provision of information on cost and operation data is satisfactory	1.00	4.00	2.17	0.96
Generally decisions are made based on sound data and good input from my level	1.00	3.00	1.96	0.69
Management uses accounting information to monitor and control quality issues	1.00	4.00	2.17	0.87
Data processing is timely here	1.00	3.00	2.21	0.78
Kendall Coefficient of Concordance, n= 24; W = 0.4013; X^2 = 67.3048; df = 3; p = 0.0001				

Theoretical range, 1 - 5; 1, strongly disagree; 5, strongly agree.

Most interviewees at DTL, however, expressed a strong desire to expand the current limited role of the accounting systems in quality management of the company. They placed high emphasis on a system of accounts where the specific costs in each quality cost category could be recorded. The head of the accounting department of DTL reports:

> "We realize that the current accounting system is not largely linked to quality management. Consequently, the process of redesigning and restructuring of our present accounting system is under way in order that it can play a greater part in

identifying, collecting, summarizing, and reporting the quality cost data to executive-level and operational management."

EFFECTIVENESS: COMMERCIAL VS. STAFF SATISFACTION

DTL Transport is an effective organization in terms of commercial profitability, efficiency, and staff satisfaction with the systems of quality. Internal accounting reports of DTL showed that since the implementation of ISO 9002, the organization has been consistently making profits. Top management considered that the formal quality system demonstrates their quality commitment to customers and helps increase the market share of the company. If the criterion of effectiveness is commercial profitability, then DTL can be deemed a major success.

Table 4
Descriptive statistics on staff satisfaction variables

Description of variables	Observed Range		Mean	Standard Deviation
	Minimum	Maximum		
I have a clear idea of what quality is	2.00	5.00	3.63	0.71
Management deal promptly with issues for improvement according to resources available	2.00	5.00	3.58	0.83
Employees feel confident that management will act upon employee initiatives	1.00	4.00	3.50	0.83
I enjoy working at this organization	2.00	5.00	4.33	0.56
The training programmes helped me to improve quality	3.00	5.00	3.79	0.59
Management objectives and expectations are clearly stated	2.00	5.00	3.76	0.74
Progress is monitored regularly and adjustments are made	2.00	5.00	3.75	0.85
This organization rewards staff members for their quality improvement efforts	2.00	4.00	3.87	0.98

Kendall Coefficient of Concordance,
n= 24; W = 0.1914; X^2 = 32.1584; df = 7; p = 0.0000

Theoretical range, 1 - 5; 1, strongly disagree; 5, strongly agree.

Interviews with staff at all hierarchy levels revealed a high staff satisfaction with current quality practices in the organization. As indicated in previous accounting studies (Bruns and Waterhouse, 1975; Merchant, 1981; Brownell and McInness, 1986; Hoque and Hopper, 1994), if staff satisfaction with quality management and practices is an important criterion for evaluating quality management within DTL, then it may also be described as an effective organization. The questionnaire validated more generally the attitudes and behaviour of DTL staff towards quality management revealed by the interview evidence. Individuals were asked eight questions, on a scale from one ("very dissatisfied") to five ("very satisfied") to indicate their degree of satisfaction with quality activities. The results, presented in Table 4, reveal high employee satisfaction with quality systems and management. Staff seemed to be highly satisfied with their jobs in the present quality environment, training plans, compensation schemes and management's actions on quality matters. The Kendall's coefficient of concordance suggests a high degree of consensus amongst the staff concerning their satisfaction with quality policies and practices of the organization.

CONCLUSIONS AND IMPLICATIONS

The findings in this paper revealed several "institutional" and "cultural" issues that affected both TQM and accounting systems in the organization studied. Many aspects of the organization's TQM conformed with the institutional rules and expectations by external constituents. Institutional theory relating to external institutional factors in this study helped explain how the formal system of TQM served the organization to gain external legitimacy (e.g., complying with the requirements of city councils, and expectations of clients, professional associations, and the public). As discussed earlier in this paper, apart from external institutions, institutional theory must be more. Because, the focus of only external institutions within an institutional theory would tend to fail greatly in capturing the way in which organizational staff actually behave, and perceive their TQM and accounting systems. In this study, the meanings and values and organizational and societal cultural were encompassed within the institutional theory in order to understand how these factors affected the implementation processes of TQM in the organization studied.

The evidence in this study revealed some behavioural aspects of TQM and accounting systems which correspond to the assumptions which underlying the cultural perspective on

accounting and control systems described earlier in this article. The institutional theory in this paper was useful in combining an analysis of the impact of external institutions, social, cultural and behavioural factors on quality management systems and accounting's role in the organization studied. This paper thus provided evidence of how quality management system became a taken-for-granted part of organizational activity (Scapens, 1994) and how the design of the quality management is influenced by external institutional arrangements.

The major conclusions of this study are as follows. First, the quality management in the organization was a response to wider institutional and cultural factors. Several external "institutions", including local city councils, competitors, professional associations, customers, and the public have shaped the management's choice of the quality system in the organization through the ISO 9002 standard. This suggests that the formal quality management in the organization was an institutional phenomenon. It also seems to have had an "internal" control role. Internal control covered: the plan of the use of internal quality audit; training and educating staff; and reinforcing a company culture focused on quality of service to its clients. Second, organizational staff perceived the accounting system as an integral part of the TQM even though it was not a dominant mode of monitoring quality matters. Most staff, however, sought an increased role of accounting in quality management in the organization. The management's strong beliefs and positive attitudes towards the role of accounting in quality management, and subsequent decisions to redesign their accounting systems in line with the quality principles, suggest that there can be support for accounting systems playing a greater part in the TQM in an organization.

This paper concludes by looking at the implications of the results. First, the findings of this study reinforce the conclusions of other institutional research in accounting claiming that the wider institutional arrangements affect the managerial choice of accounting and control practices. Second, the results of this study are consistent with behavioural and cultural studies on management control systems which concluded that staff attitudes, perceptions and beliefs concerning a formal management system, such as TQM, affect its operation and effectiveness as a whole. Third, the study lends support to the results of previous studies suggesting that once an organization adopts a system of quality management it may influence other aspects of organizational design, such as accounting and reporting processes. Thus, quality management may create pressure for new types of management accounting that will facilitate the monitoring of the effectiveness of quality management endeavours.

Prior institutional research in accounting has largely explored the extent to which external institutional factors have influenced the development of accounting practices (for details see Scapens, 1994). To date, how the meanings, values, and habitual and routine nature of organizational behaviour can affect organizational design practices has been largely ignored within institutional analyses of the previous empirical work. Following institutional economists in general, and particularly Scapens (1994), this article has brought together both organizational culture, meanings (and values), and wider institutional arrangements within institutional theory in the analyses of the empirical phenomena studied.

Instead of making TQM merely an institutional phenomenon in the organizational culture, this formal quality management needs to be seen and used by business organizations as part of the economic activities of the organization as well as an integral component of the overall control package to "be competitive and profitable" (Johnson, 1994). Consequently, contrary to Johnson (1994), this paper further argues that the management accounting system also needs to be redesigned in line with the principles of quality to broaden its role in the TQM, without replacing it by the TQM.

The general weakness of this study is partly related to field research of a small service organization. The results may provide little basis for generalization although it was not the principal aim of this study. The study sought to understand fully the systems of quality management within an organization and the role of accounting therein. Future research can extend this study by investigating quality management and accounting systems in different organizations; for example, a large international organization. This could help illustrate how organizational, institutional, behavioural, and cultural factors may have a major impact on managerial choice and operation of quality management and accounting in a large, complex, public or private sector manufacturing or service organization. There is evidence in the accounting literature suggesting that formal systems of control may be less effective despite their worthy intentions if they fail to reflect the tradition, culture, economic, institutional, and political factors confronting managers in a large, complex organization. Such an endeavour could add to the limited knowledge of quality management and accounting problems in organizations around the world - an unjustifiably neglected area of accounting research.

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