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CASE STUDY OF A KNOWLEDGE-BASED ORGANIZATION

BY

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A thesis submitted to the Athabasca University Governing Council in partial fulfillment of the requirements for the degree of

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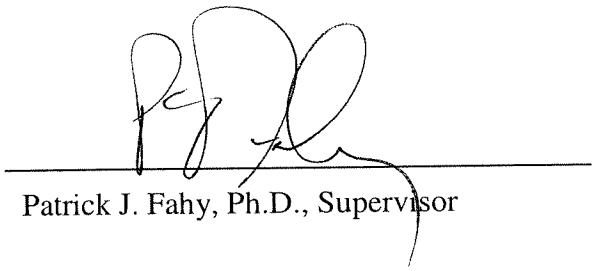
The undersigned certify that they have read and recommend to the Athabasca University Governing Council for acceptance a thesis CASE STUDY OF A KNOWLEDGE-BASED ORGANIZATION by PHILIP LILLIES in partial fulfillment of the requirements for the degree of MASTER OF DISTANCE EDUCATION.



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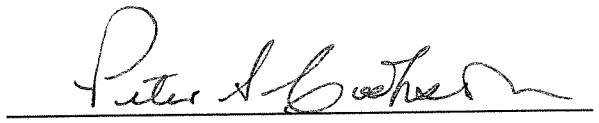

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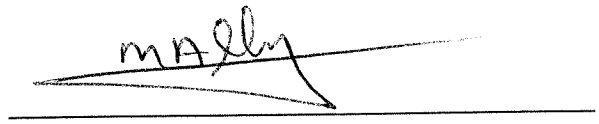

Mohamed Ally, Ph.D.

Date May 2001

DEDICATION

To my wife and family who have supported me through many hours of hard work.

And to my mother and father who are always proud of my accomplishments.

ABSTRACT

This interpretive case study is an attempt to gain insight into the operation of a successful organization working within the new knowledge-based society, with a view to increasing the efficacy of educational interventions targeted at ordinary knowledge workers. Much of the relevant research, including such topics as transorganizational development, learning organization theory, STS theory, and lean production, comes from management and organizational theory.

Many organizational theorists would agree that a product of companies is people. While not denying the truth of this statement, this study attempts to reverse it and say that when workers share in the development of the organizational vision, companies are potentially also a product of the workers that they comprise.

Q, the organization that is the subject of the study, has a culture that is well-matched to the turbulence of the knowledge industry. The three characteristics of its culture that stand out are experimentalism, individualism, and informality. It is certainly an organization that learns, but it appears to lack the pervasive double-loop learning that characterizes a learning organization. Much of the double-loop learning and knowledge-acquisition that goes on within it depends on individual initiative and the coordinating capabilities of certain key "operators." Hence, it might be more fruitfully compared to a lean production system.

However, transorganizational development theory suggests that an educational intervention that permitted shared visioning to be founded on the personal mastery of many participants, could catalyze the transformation of Q into a learning transorganization that

would not only produce superior goods and services, but also lead to new opportunities for the development of an even more intangible product—people

ACKNOWLEDGEMENT

To the people at Q and all who have been touched or inspired by them and chose to participate in my study. Thank you so much for your time, your openness, and the rich insights you have offered.

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CHAPTER 1

PROBLEM STATEMENT

1.1 Introduction

This study is an attempt to gain insight into the operation of a successful organization working within the new knowledge-based society, with a view to increasing the efficacy of educational interventions targeted at ordinary knowledge workers as opposed to the organizational leaders. The enterprise that is the subject of this investigation is a privately held business that I shall call Q.

The researcher first encountered Q when Q was a supplier to a large multinational company with which I was associated for many years. Q presents itself as an integrated communications company that specializes in marketing development, advertising, and technical writing. Staffed by knowledge workers that have a passion for technology and a flair for creativity, Q is a participant in the emerging knowledge society so succinctly described by Peter Drucker (1994).

Q has experienced phenomenal 20% per annum growth for the past five years and ascribes this success to the progress it has made in becoming a team-based learning organization, an organizational model that distinguishes it from many of its competitors, which in the opinion of Q's principals are for the most part role-based, hierarchical organizations.

Q is currently undertaking a major new learning initiative known as "U of Q." "U of Q" stands for "University of Q" and it is the name of Q's organizational learning system. The

system is largely based on self-study, though upper managers contribute some face-to-face modules and there are occasional quest speakers.

Q certainly has many of the superficial elements of a learning organization, including vision, values, and teams (which in Q are called loops). Indeed, it was investigative discussions with the Q management that led the researcher to believe that Q was attempting to become a learning organization. The justification for this orientation was simple: They had to learn to adapt faster than their competitors to meet the ever-changing needs of their clients.

At the same time, however, it would seem that Q is an example of what Clarke and Clegg (1998, p. 49) call "disorganized capitalism," which is characterized by network structures, collaborative individualism, entrepreneurship, and action learning. Hence, from the beginning the meaning that Q was attaching to the "learning organization" concept was not clear. For this reason, it made sense to organize my research as an interpretive study with a view to drawing specific implications and rich insight.

1.2 Research problem

At the beginning of this study, the researcher set out to answer the following questions:

Question 1: To what extent is the dynamic driving Q toward becoming a learning organization self-sustaining, and to what extent does it require constant management intervention to overcome multiple sources of resistance and inertia? (The "dynamic" or "dance" of change is a concept illustrated by Senge in his recent book [1999, p. 28].)

Question 2: Does Q manifest an adequately balanced sociotechnical orientation toward learning and change? Sociotechnical balance, a concept from STS theory, captures

the idea that organizations, in going about their activities, must make use of both technical infrastructure (which stems from technology and organizational structure) and social interaction (which stems from communication and human relationships). If Q does not manifest adequate balance in this area—if, for example, the technical system is overemphasized—STS theory would lead us to believe that opportunities will be lost for creating an optimized learning organization that is self-sustaining.

Question 3: To what extent is Q's theoretical understanding of the complexities of a learning organization adequate to its needs? How is this adequacy manifested? Where are the gaps and problems?

Question 4: How does interaction with the wider environment—for example, with customers, consultants, competitors, and new-hires—affect Q's evolution toward a team-based, learning organization? Has this interaction helped generate resistance or has it encouraged the necessary changes?

Following the principles laid out by Klein and Myers (1999), these questions were used as lenses and underwent transformation throughout the course of the study, as discussed in chapter 3:

- Question 1 is a learning organization lens and was intended to provide a view on Q in terms of the work of Senge (1994) and other authors working in the field of organizational learning.
- Question 2 is an STS theory lens and was intended to provide a view on Q in terms of the work of such STS theorists as Trist (1981), and Taylor and Felten (1993).

?? Question 3 is a lens created by qualifying the learning organization lens by STS theory. This qualification was intended to allow assessment of whether or not the organizational learning that is going on is valuable from an STS perspective.

?? Question 4 is an economic and business environment lens that allows assessment of Q from the point of view of the external environment.

1.3 Purpose and Rationale for the Study

Recent technological developments, for example in online learning, have opened up new possibilities for timely, cost-effective educational interventions that could assist organizations in their development. However, concurrent with these technological developments has been a shift from an industrial society to a knowledge society (cf. Drucker, 1994) that complicates our view of the organization. The newness of the knowledge society opens up a need for studies such as this one, that examine the dynamic of successful knowledge-based organizations, and in so doing suggest possibilities for effective educational interventions.

Results of this study are potentially of interest not only to managers but also to educational program planners who are seeking to structure their thinking about the organizations they are working within.

Researchers, too, will be interested in some of the innovative methods used in this study. Studies such as this one, that examine the culture of an organization, are not easy to perform. Schein (1999, p. 86), for example, claims that culture, because it is a group phenomenon, cannot be analyzed through individual interviews. However, studies of large-scale group interactions are difficult and costly to organize, especially in the knowledge

industry where time pressures are often critical. This study circumvents this problem by combining highly focused interviews with cross tabulations and statistical analysis that capture aspects of culture that would normally be missed.

To complement learning organization theory, sociotechnical systems (STS) theory has been chosen as one of the lenses for this study because it focuses, not only on the economic success of organizations, but also on the development of workers within them, and provides fertile ground for considerations relating to educational interventions. For according to STS expert Eric Trist (1981, p. 43), "as...Phil Herbst (1975) has aptly observed, 'the product of work is people,' as well as goods or services. A society is no better than the quality of the people it produces."

Although there is a long history of the application of STS research in industrial settings, its application to knowledge workers is relatively recent. When applied in the context of the knowledge society, STS encounters many new difficulties, which are discussed in more detail in chapter 2, along with possible resolutions:

?? Because an intervention aimed at improving the efficiency of a knowledge-based organization requires changing not only overt behaviour, but also the way people think, there is the possibility for more profound resistance than when organizational change is instigated in an industrial setting (Pasmore & Purser, 1993).

?? According to Agyris (1998, p. 101), the advice that currently represents best practice for structuring an organization is to begin with a vision and to work this down through strategy, process, and finally to individual roles. However, as Argyris (2000, p. 83) points out, this process, by imposing roles on individuals,

can defeat the internal commitment that is so crucial to the success of an STS intervention.

?? A key concept in STS theory is quality of working life or QWL, which is fostered by committed workers learning to work together to share their joint expertise (cf. Taylor & Felten, 1993, p. 132). However, QWL does imply a certain amount of social and technological stability. Hence, one is forced to ask whether QWL can be accommodated in the knowledge industry.

?? Because a goal of STS engineering is to reduce the complexity of the organization so that a unique team can do a complete task (cf. Hummels & de Leede, 2000), STS theory also conflicts with the organizational complexity that a typical knowledge worker faces.

?? Classically STS theory recommends creating a buffered environment that is focused on worker development, leaving management to deal with the external environment. But this is incompatible with the customer focus required of many knowledge workers. (Cf. Niclas & Docherty, 1998.)

1.4 Methodology

This study uses two methods of research, namely observation of the Q staff and extensive in-depth interviews:

1. **Observation.** Observation was informal and occurred during frequent visits to the site to participate in various staff activities (such as the monthly state-of-the-business meeting).

2. **Interviews.** Interview data were collected in the form of notes written by hand by the researcher and transcribed within the day into an electronic format. No use was made of any voice recording device; however, I believe that I was able to create an accurate record of key points. In addition, as respondents to face-to-face interviews were given the questions beforehand, they often prepared extensive written notes that they sometimes passed on to me.

To guide the collection and interpretation of data I have followed the principles recommended by Klein and Myers (1999) for interpretive field studies in information systems:

1. **Analysis.** Find the parts within the whole and understand the meanings behind their interaction. Parts might be spatial, temporal, organizational, etc.
2. **Contextualization.** Understand the social and historical context of the research setting.
3. **Interaction.** Critically reflect upon how the researcher is influencing the research setting. In the present case, it is noteworthy that the researcher's original relationship with Q was a business relationship. Hence, a new relationship needed to be developed over time, which opened up access to new and more privileged information.
4. **Abstraction and Generalization.** In developing questions and hypotheses, apply relevant theory. Sociotechnical systems theory and learning organization theory were initially considered most relevant.

5. **Dialogical Transformation.** Look for explanations other than those suggested by the applied theory. Consider alternative theories and modification to the lenses. At a certain point lean production theory was also considered. This led to considerable changes in the interpretation of data.
6. **Multiple interpretation.** As explained in chapter 3, the viewpoints of employees, managers, suppliers, and competitors were considered.
7. **Suspicion.** No fact should be taken at face value. Contradictions should be pursued.

1.5 Glossary

Note: Throughout the study, when it might be helpful to refer to this glossary, the first appearance in a section of a term appears in italics.

Accommodation. See *Resistance*.

Coaching vs. Supervising. Coaching is a sports *metaphor* that does not always work in business organizations (for an explanation, see *Leader*); however, coaching in its most positive light is best understood as the contrary of supervising. In supervising a manager defines a task and then monitors progress toward completion of the task; in coaching, a manager negotiates an objective with a worker or workgroup and then acts as a resource to help ensure that the objective is achieved, the theory being that when workers have influence over their work assignments, they will be more committed to them and hence, more self-controlling.

Core Competency. According to Prahalad and Hamel (as quoted in Clarke & Clegg [1998, p. 235]), "core competencies are the collective learning in the organization, especially how to co-ordinate diverse production skills and integrate multiple streams of technologies."

Core Capability. Core capabilities are coordination and communication abilities that extend beyond the organization. Stalk, Evans, and Shulman (1992, p. 65) establish a contrast between *core competencies* and core capabilities:

> ...Competencies and capabilities represent two different but complementary dimensions of an emerging paradigm….Whereas core competence emphasizes technological and production expertise at specific points along the value chain, capabilities are more broadly based, encompassing the entire value chain. In this respect, capabilities are visible to the customer in a way that core competencies rarely are.

Commitment. According to Argyris (1998, pp. 99-100; 2000, p. 42), there are two kinds of commitment, external and internal. External commitment is contractual compliance. By contrast, in the case of internal commitment:

> Individuals are committed to a particular project, person, or program based on their own reasons or motivations. By definition, internal commitment is participatory and very closely allied with empowerment.

Deliberation Forum. The analysis of deliberation forums is a key component of STS methodology when *STS theory* is applied to a *knowledge-based organization*. Stebbins and Shanie (1998) define a deliberation forum as an unstructured to structured discussion or

meeting and go on to explain that the STS analysis identifies what variables determine what knowledge is adopted or discarded and pinpoints the barriers to learning.

Demand Builder. The process Q uses to complete a project for a typical customer (since Q specializes in advertising, most projects entail increasing demand for the customer's product, hence the Demand Builder's name). The Demand Builder defines a four-step process for satisfying a customer's needs. The first two steps—survey and architecture—result in a strategic vision for the customer's product. These steps are quite well-defined and are accomplished by specialized individuals. The last two steps—engineering and craftsmanship—concern the development and implementation of a customized process that fulfills the demands of the strategic vision. These steps are accomplished by what Q terms a *loop* involving both workers and customers.

Dialogical Reasoning. According to Klein and Myers (1999), dialogical reasoning "requires the researcher to confront his or her preconceptions (prejudices) which guided the original research design (i.e. the original lenses) with the data which emerge through the research process....The intellectual basis of the research design provides the lenses through which field data are construed, documented, and organized. It could be that research findings do not support these preconceptions. Therefore they may have to be modified or abandoned altogether."

Dialoguing. According to Senge et al. (1994, pp. 357-364), dialoguing is a key skill in the discipline of team learning. It is a very intense process in which the members of a team suspend prejudices that inhibit collective learning and reconstruct new meaning based on a sense of trust. "People become sensitive to the ways in which the conversation is affecting all the participants of the group. New insights emerge....This 'crisis of collective pain' is deep

and challenging." Dialoguing has some similarity to the sharing of information that occurs in the *deliberation forums* that are a focus of in STS analysis. However, STS analysis aims at improving decision-making and communication and is not immediately concerned with constructing new meaning.

Double- vs. Single-Loop Learning. Double-loop learning (a.k.a., "generative learning") and single-loop learning (a.k.a., "adaptive learning") are best understood by contrasting them with one another. According to Morgan (1997, pp. 87-88), who attributes the double-looping concept to Argyris and Schon, whereas "single-loop learning rests in an ability to detect and correct error in relation to a given set of operating norms, double-loop learning depends on being able to take a 'double look' at the situation by questioning the relevance of the operating norms." A single-loop system has all the complex processes and operating norms that allow the job to get done day-to-day. A double-loop system, however, complements a single-loop system with processes for consistently generating new norms in the face of environmental changes or opportunities. Whereas single-loop learning focuses on what is, double-loop learning focuses on expanding the limits of what is. To be successful, an organization needs both double-loop and single-loop learning systems.

Empowerment. Borrowing on other sources, Adler and Docherty (1998) offer two definitions for empowerment:

- "Wellins et al. (1991) define 'empowerment' as the devolution of power to employees who feel a sense of ownership and control in their jobs."
- "Taylor and Felten (1993) define it as the exercise of joint responsibility by both management and nonmanagement people."

Exploitative vs. Exploratory Learning. According to Clarke and Clegg (1998, pp. 265ff.), *double-loop learning* approaches can be characterized by the methods used for disseminating the learning throughout the organization. In exploitative learning, double-loop learning is a concern for the upper echelons who disseminate it by incorporating it into organizational strategy (lower echelons simply exploit this strategy, hence the name). In exploratory learning, double-loop learning is pervasive throughout the organization and dissemination depends on the dynamic interaction of organizational members. Exploitative learning is characteristic of *lean production* organizations that mass-produce consumer goods; exploratory learning is characteristic of *learning organizations.*

Firefighting. A method of project management usually associated with a lack of controlled processes and of upfront planning. Firefighting is probably an indication that *single-loop learning* is not effective. The result is that errors and uncompleted tasks continue to accumulate at an accelerating pace right up to the putative project end date.

Fordism. See *Taylorism*.

Human Relations Movement. The human relations movement began with the Hawthorne Studies performed by Elton Mayo (1933) on a group of women workers at a Western Electric assembly plant. During the studies, the productivity of women doing highly specialized piecework was seen to increase dramatically when these women were given special attention and privileges. According to Moldaschl and Weber (1998), though the studies were hopelessly flawed, they had a lasting impact because they suggested that there was a simple "one-best way" for management to overcome the de-humanizing effects of the division of labour inherent in *Taylorism*. Essentially, the conclusion was that the best managerial approach involved empathy with workers, social concern, and a less authoritarian

management style.

Industrial Democracy. Although Trist (1981, p. 23) recognizes that industrial democracy can take many forms, including collective bargaining and employee ownership, *STS engineering* is concerned with industrial democracy that entails the direct involvement of workers in how work is to be done at their level.

Interpretive Research/Studies. According to Klein and Myers (1999), who summarize the principles of interpretive research for studies in the IS field, interpretive research aims at understanding:

- the context of the system under study and
- the process whereby the system influences and is influenced by the context.

The current study can be viewed as an interpretive case study that regards Q as a system and uses certain lenses, notably *STS theory* and *transorganizational development*, to understand the context and the process.

Just-In-Time (JIT) System/Logisitcs. JIT systems were originally developed for use in manufacturing but have since been adapted for use in the knowledge industry. Traditionally, manufacturers grouped workers and machinery by skillset in functional areas, but in a JIT system the grouping is not by skillset but by task. Within each workgroup (commonly referred to as a "cell") there are enough different skillsets to complete one major task. In addition, there is frequent, even daily, contact between the cell and its suppliers and customers, who may even sit in the cell from time to time.

JIT gets its name because workflow from one worker to the next as each activity is accomplished is immediate and does not need to pass through an inventory, or holding phase,

where parts or other completed work is buffered. In traditional manufacturing systems, this buffering created huge inventory costs, led to time delays, and engendered quality control problems because of the lack of feedback across steps in the process.

Knowledge-Based. A system or organization is said to be knowledge-based if a significant portion of its internal processes are focused on the exchange of information, the creation and exploration of new solutions, and coordination with other systems and organizations. Generally, the end products or outputs of a knowledge-based system will have a significant intangible component that is based on innovation, creativity, discovery, and inventiveness.

Knowledge Worker. The knowledge worker is a specialist who contributes to an organization primarily through the use of that most intangible of business assets: the human mind. Hence, an intervention aimed at improving the efficiency of a *knowledge-based* organization will almost always have an educational component. In addition, according to Pasmore and Purser (1993), just because this intervention has to do with the workings of human mind, it is likely to encounter *resistance* and be notoriously difficult to assess.

Leader and leadership. In modern managerial parlance, the terms "facilitator," or "*coach*" have replaced the terms "supervisor" or "boss," implying that the top-down approach to leadership, commonly associated with *Taylorism* has fallen somewhat out of favour.

To Tichy and Cohen in "The teaching organization" (1998), this means that the new leader has taken on additional responsibility:

Because decision making is an important leadership skill, leaders in teaching

> organizations teach others by opening up the decision making process so that everyone can see how and why they reached a particular decision.

Now not only must the new leader make decisions, but also these decisions must be open to doubt and scrutiny so that the process used to arrive at them can become generalized throughout the organization.

However, as Sennett (1998, p. 114) points out the new definition of the leader's role can be viewed in negative light, especially if the sports metaphor is pressed too closely. A coach, after all, selects the players and ensures their competence, but is not involved in structuring the playing field or establishing the rules of the game. (For more on Sennett's viewpoint, see *Manipulation*.)

Lean production (LP). Lean production is a system for optimizing work groups in industries that manufacture consumer goods (such as the automobile industry). According to Womack et al. (1991, p. 13), lean production is so-named because, in comparison with mass production, lean production uses less of everything:

> ...half the human effort in the factory, half the manufacturing space, half the investment in tools, half the engineering hours to develop a new product in half the time. Also, it requires keeping far less than half the needed inventory on site, results in many fewer defects, and produces a greater and ever growing variety of products.

Lean production depends on a highly refined organizational learning system that continuously optimizes and standardizes work processes. Indeed, according to Hummels and de Leede (2000), standardization of work processes is the main coordination mechanism. Quality is an individual responsibility, at the production level, and workers use statistical

process control and perform time and motion studies to discover inefficiencies and verify anomalies. Process changes and improvements are the prerogative of an elite group that documents them, turns them into new standards, and then promotes them throughout the organization. As Clarke and Clegg (1998, pp. 269-270) point out, lean production organizations are especially good at *exploitative learning*.

Learning Organization (LO). As it is used in the literature, "learning organization" is more of a philosophy than a concept. Generally, there is some emphasis on learning and on human values, but little else is certain. Morgan (1997), tracing the concept of a learning organization back to the work of Argyris and Schon (1978), suggests that the *metaphor* of cybernetics provides the best insight into the concept of a learning organization. Using this metaphor Morgan suggests that a learning organization must exhibit the following four capacities:

1. Scanning and anticipation of environmental change
2. Questioning and challenging of operating norms and assumptions
3. Appropriately organizing and developing strategy
4. "…Double-loop learning, to avoid getting trapped in single-loop processes, especially those created by traditional management control systems and the defensive routines of organizational members."

In this study, these four capacities will be taken to be the necessary and sufficient criteria for a learning organization. The fourth criterion is in many respects the most interesting because it could be argued that it entails the other three; and moreover, it is relatively easy to detect reliably. Hence, a reasonable distinctive necessary feature of a

learning organization is that it have a pervasive *double-loop learning* cycle. (The learning cycle is pervasive because ideally everyone in the organization practises it.)

Learning Transorganization. A learning transorganization is a *transorganization* that respects and attempts to appropriately accommodate reality-based *resistance*. If we accept that the resistance of reality produces both run-time process errors and longer-term risks, then we can say that the accommodation of reality-based resistance has both:

?? A *single-loop learning* component that aims to detect and correct errors in current modes of operation.

?? A *double-loop learning* component that acquires, disseminates, and utilizes new knowledge to adjust current modes of operation to minimize long-term risks.

In addition, respect for resistance requires that resistance be carefully weighed to determine the proportion in which it is reality-based or has a merely psychological foundation.

Lens. A lens is a theoretical construct that provides guidelines for what constitutes worthwhile data, suggests linkages between data, and explains the etiology of results. By extension any question or methodology that evokes the theoretical construct may also be called a lens. A lens is a *metaphor* in that it focuses a researcher's attention onto certain aspects of the situation and throws others into the background (unlike a real lens, however, it usually has many focal points, not just one). According to Klein and Myers (1999) *interpretive studies* involve the application of lenses to rich data coming from a single instance in order to find the lens that makes the most sense of the data in its context. Once

the context of the instance is completely understood, the interpretative lens can then be recommended for use in examining other instances that apparently fit into a similar context.

Loops and looping. In the Q organization, loops are roughly equivalent to cross-functional teams and looping is the communication protocol (consisting of email and face-to-face meetings) that allows information transfer throughout the team. Though workers in a loop do not sit together, loops at Q include customers and suppliers and are similar to the work cells in a *JIT system*.

Minimally, a loop includes all Q workers billing time to a customer. Since loops can include clients as well, loops can get rather large; one has the impression that they sometimes involve 30 to 40 participants, a dozen or so of whom may be active and the rest of whom may simply be on CC of emails.

Whenever key decisions are taken or other events occur, everyone in the loop receives an email explaining its significance. The loop has a loop leader, typically a senior advisor, even a VP, who orchestrates the flow of communication and, at a high level, tries to keep abreast of all the client's requirements and concerns. At a more detailed level, client service specialists within Q discuss projects with corresponding specialists within the client organization. The client services specialists within Q then coordinate with the needed work areas within Q (such as interactive engineering or technical writing) to get the job done. If the project is particularly complicated, a project manager (another specialist) within Q will be called in to assist the client services specialist.

At Q it is also vernacular to refer to teams in general as loops, even though many do not have a client at the center. For example, functional areas are often referred to as work area loops. There is also a partners loop, consisting of the owners; a strategic loop, consisting

of the owners and senior advisors; an operations loop or (O-loop) consisting of technical experts and work area representatives; and a culture club loop that plans the many social activities.

Manipulation. Manipulation is any action performed by a group or individual that is designed to reduce the psychological *resistance* of another group or individual without any regard for reality-based resistance. Human resource management can be considered to be manipulative in so far as it considers the legitimate concern of workers to have an influence over factors that have a major impact on the work environment to be a mere expression of psychological resistance. According to Beer et al. (1984), these factors are: human resource flow (which includes selection, termination, and promotion), rewards, and work systems (which involves the arrangement of people, information, activities, and technology). Because having an influence over one's environment tends to be an intrinsic *motivator* and leads to internal *commitment*, and although external commitment and extrinsic motivators are not necessarily signs of manipulation, a work environment where these latter predominate may be indicative of a manipulative style of human resource management.

Argyris (2000, pp. 22ff., 75, 77) has also identified a system of manipulative techniques that are common in groupwork, and indeed, advocated by the popular self-help literature. These techniques allow managers to control meetings and individual encounters while always appearing to be concerned, civil, and rational. Key to this system is putting the importance of saving face above the value of dealing with *resistance* using rational argument and other reality-based methodologies.

See *Coaching* and *Leader*.

Metaphor. I quote Morgan (1997, p. 4):

> Metaphor is often regarded just as a device for embellishing discourse, but its significance is much greater than this. The use of metaphor implies a way of thinking and a way of seeing that pervade how we understand our world generally. For example, research in a wide variety of fields has demonstrated that metaphor exerts a formative influence on science, on our language, and on how we think, as well as on how we express ourselves on a day-to-day basis.

Methodology. According to Checkland (1981, pp. 161-162) a methodology is a set of "principles of method" that have to be adapted for use in any particular situation.

Motivator. A motivator is a situational factor or eventuality that has the potential for fulfilling a need. People have many different needs in varying degrees, for example, the need for power, the need for affiliation, or the need for achievement. Money can be a motivator because of the potential it has for fulfilling other needs. Some motivators are intrinsic to task completion in that they contribute directly to completion of the task. This would be the case, for example, with a motivator like doing one's personal best. Other motivators are extrinsic to task completion in that they are not directly linked to the task and have to be added from the outside, as it were. This might be the case, for example, with working in a group when, in fact, it is not the most efficient way to achieve the task. A motivator that is intrinsic to one task might be extrinsic to another. For example, a monetary reward, such as a commission, would quite naturally be intrinsic to a selling task but would usually be extrinsic to an engineering task.

Organizational Development (OD). Organizational development is the field of study and practice that regards an organization as an open system and aims to increase its

effectiveness through planned interventions in the organization's culture, processes, or operations. Compare *Transorganizational Development (TD)*.

Personal Mastery. Personal mastery is about discovering personal values. According to Senge et al. (1994, p. 346), it is a "simultaneous pursuit" with the development of *shared vision*. When viewed from the perspective of STS theory, personal mastery would appear to impinge on the concept of a worker's *role*, and the unfolding of personal mastery would determine whether the *transorganizational development* was TD1 or TD2.

Project Management. According to the PMI Standards Committee (1996, p. vii), a project is a temporary endeavour undertaken to create a product or service. And project management is the control and execution of a certain number of processes relating to project integration, scope definition, time management, cost management, and quality management, among others (PMI Standards Committee, 1996, p. 7). These processes are conceived of as having their own timelines and interact in various ways so that a project can be divided into a number of phases (PMI Standards Committee, 1996, p. 29). Generally, it is considered good practice to separate the planning and execution processes, and the cyclical interaction between these two processes defines the project phases (for example, a design phase would include planning and execution processes, as would a development phase).

In some organizations project management is a specialized function performed by experts, and in other organizations it is a generalized function shared by many who also perform other activities (PMI Standards Committee, 1996, p. 17ff.). The PMI Standards Committee refers to the former as "strong" organizations and the latter as "weak" organizations. In weak organizations *leaders* in general and project managers in particular would appear to have more the role of "facilitator" than that of "supervisor" or "boss."

Quality of Working Life (QWL). QWL is an important concern for *STS theorists.* According to Niepec and Molleman (1998), "QWL comes from four different aspects: work content, labor relations, conditions of employment (such as reward systems), and working environment." STS theorists also believe that QWL will generally be enhanced simply by increasing worker influence over these crucial aspects of their working lives.

Re-engineering (a.k.a. Business Process Re-engineering or BPR). According to Hammer and Champy (1993, p. 32),

> Re-engineering is the fundamental rethinking and radical redesign of business processes to achieve dramatic improvements in critical, contemporary measures of performance....

Re-engineering has come to be associated with the imposition of a technical solution to a business problem. Usually management acts unilaterally with the advice of an outside consultant. Often the solution involves the introduction of technology and downsizing of the workforce.

Re-engineering is interesting because it provides a good contrast to the *STS approach*, which aims to optimize both the social and technical aspects of the working environment through worker participation.

Resistance. As Ian Hacking (1999, p. 71) explains, in any change process, even in pure science, "the world resists." Any attempt to impose a new way of viewing reality will face both a psychological resistance from the people involved, who must change their way of thinking, and a resistance from reality itself because measurements will be in error, new technologies won't work, and mistakes will be made.

Schein (1996) analyzes psychological resistance as a tension between "survival anxiety" (the threat of losing one's job, competence, sense of identity, or all three) and "learning anxiety" (the fear that change will nonetheless result in loss, at least of competence and sense of identity). Survival anxiety provides the force needed to overcome psychological resistance due to learning anxiety, but if survival anxiety becomes too strong, it will be eliminated through denial, which will in turn cause rejection of the change effort.

Although psychological resistance is the subject of much discussion in the business literature, it is perhaps worth keeping in mind that it is the resistance of reality that presents the greatest danger to any human endeavour. As Hacking (1999, p. 71) explains, reality cannot be ignored, only "accommodated." So perhaps overcoming psychological resistance is less of a challenge than focusing a team so that resistance from reality is appropriately accommodated, with a view to both the short and long term.

Role. In STS theory, roles are created by the reciprocal expectations of workers as they strive to achieve their workgroup's goals. According to Moldaschl and Weber (1998), roles represent the connection between the technical subsystem (of equipment, techniques, and structure) and the social subsystem (of workers and their needs). It is important to keep in mind that roles are defined neither by the worker's social role within the organization nor by the worker's job definition (which may be viewed as a contract between the worker and the technical part of the organization), but rather by the intersection of social role and job definition (cf. Taylor & Felten, 1993, 110ff.). A worker's role relates to how he or she meets the demands of other stakeholders in the organization, which Blanchard and O'Connor (1997, pp. 23-24) have cleverly defined as Customers, Employees, Owners, and Significant Others (CEOS). To extend STS engineering to *transorganizational development*, the

worker's role must be considered to be defined not just by the immediate organization but also by the many systems that impinge on the worker. As a result of the differing worldviews and values inherent in these systems, workers will often experience a sense of conflict and ambiguity, and indeed of ethical dilemma, as they endeavour to meet the demands of their roles.

Self-Managed Team. Yeatts and Hyten (1998, p. 16) define a self-managed work team (SMWT) as follows:

> ...An SMWT consists of employees who are responsible for managing and performing the technical tasks that result in a product or service being delivered. Team members are typically responsible for managing all or most aspects of the work and performing all the technical tasks involved. Technical tasks are typically rotated among team members, as are management responsibilities, such as monitoring the team's productivity and quality.

Shared Vision. Shared vision is the term used in *learning organization* theory to refer to the expression of the common values, approaches, and worldviews that link a group together. As such, shared vision is central to *transorganizational development.*

In STS theory, shared vision is referred to as "purpose" (cf. Taylor & Felten, 1993, p. 39 ff.), but in this study, the term from learning organization theory will be used.

Single-Loop Learning. See *Double- vs. Single-loop learning*.

STS Theory (Analysis/Engineering/Approach). According to Pasmore and Purser (1993), STS theory considers every organization to be made up of a social subsystem (the people), a technical subsystem (of tools, techniques, and knowledge), and an environmental

subsystem (of which customers form a part). The success of the organization depends on the fit between these three subsystems. Unlike many other *organizational* and *transorganizational development* theories, STS theory does not justify itself on purely economic grounds, but rather claims to both improve the *quality of working life* and further the cause of *industrial democracy*.

Taylorism. Taylorism is named after Frederick Taylor, founder of the scientific management movement. In Tayloristic organizations all responsibility for the organization of work is shifted from the worker to the manager whose situation within an acutely hierarchical structure rigidly defines his or her roles and responsibilities. Workers have low-skilled, short-cycle jobs (that may repeat several times per minute). The focus is on technology and workflow. Quality is ensured through bureaucratic control of worker activities and post-manufacturing inspection of the end product.

Transorganization. An organization that has undergone *transorganizational development (TD)*.

Transorganizational Development (TD). In transorganizational development the organization fades into the background. It doesn't disappear, it just becomes much less important than in classic *organizational development* or OD. What moves into the foreground is a network of groups, internally linked and linked to each other by common values, approaches, and worldviews, a.k.a., a *shared vision*.

1.6 Assumptions

In the course of this study certain assumptions were made:

1. The study of a single enterprise can yield worthwhile results. As Klein and Myers (1999) explain, unlike positivist research, *interpretive studies* do not depend on correlation of data across multiple instances. Rather they depend on the application of *lenses* to rich data coming from a single instance in order to find the lens that makes the most sense of the data in its context. For this reason, the data gathering process must follow appropriate interpretive principles, such as those outlined in section 1.4, in order to capture as many aspects of the context as possible. Once the context of the instance is completely understood, the interpretative lens and methodology can then be recommended for use in examining other instances that apparently fit into a similar context.

2. Organizational culture can be studied by interviewing individuals within the organization. This assumption is with due respect to Schein (1999, p. 86) who claims culture can only be assessed by group processes and that:

   > Culture cannot be assessed by means of surveys or questionnaires because one does not know what to ask and cannot judge the reliability and validity of the responses….

   My reply is that perhaps the entire culture cannot be assessed by surveys or questionnaires, but that certain key aspects such as the learning culture can, provided that the questions are based on sound theory and that the validity of responses is verified through personal interviews (refer to section 3.2.3 for a more detailed explanation). Also, a phased data gathering process with modification of instruments at each phase can help ensure that the right questions get asked.

1.7 Limitations of the study

Although I had the full cooperation of the entire Q team, this study was an ambitious one for a single researcher to undertake in the time frame available. There simply was no time for corroboration of workers' opinions except in so far as they appeared to build into a coherent view of the organization. Even such a rudimentary check as follow-up interviews asking workers to corroborate what was attributed to them in the interview notes could not be accommodated in the time available.

1.8 Outline of the study

This study is divided into five chapters with the following contents:

Chapter 1. Introduction to the study, where the scope of the research is outlined.

Chapter 2. Literature review, where relevant literature is reviewed and the theoretical basis of the study is presented.

Chapter 3. Methodology, where the data-gathering process is explained.

Chapter 4. Findings, where the data are summarized and categorized.

Chapter 5. Conclusions, where theory is applied to the data in order to draw conclusions.

1.9 Conclusions

This chapter laid the foundations for the study. First the research problem was introduced; then the research was justified. Definitions to be used throughout the study were presented. The methodology was justified, the assumptions and limitations were discussed, and the study was outlined.

CHAPTER 2

LITERATURE REVIEW

2.1 Introduction

As discussed in chapter 1, this study is an attempt to gain insight into the operation of a successful organization working within the new *knowledge-based* society, with a view to increasing the efficacy of educational interventions targeted at ordinary knowledge workers as opposed to the organizational leaders. Much of the relevant research, including such topics as transorganizational development, learning organization theory, STS theory, and lean production, comes from management and organizational theory.

In this chapter I argue the case for the applicability of the lenses that were chosen to guide the research. A lens is a theoretical construct that provides guidelines for what constitutes worthwhile data, suggests linkages between data, and explains the etiology of results. By extension any question or methodology that evokes the theoretical construct may also be called a lens. A lens is a *metaphor* in that it focuses a researcher's attention onto certain aspects of the situation and throws others into the background (unlike a real lens, however, it usually has many focal points, not just one). According to Klein and Myers (1999) *interpretive studies* involve the application of lenses to rich data coming from a single instance in order to find the lens that makes the most sense of the data in its context. Once the context of the instance is completely understood, the interpretative lens can then be recommended for use in examining other instances that apparently fit into a similar context.

A recurring theme in this chapter is the need for internal *commitment* on the part of knowledge workers, an internal commitment that cannot be fostered by excessive emphasis

on extrinsic *motivators* and is hampered by the classic organizational structures. This need for internal commitment ultimately links the successful knowledge-based organization back to values other than economic ones, such as the development of human potential, stability of the ecosphere, or more equitable distribution of wealth.

Unfortunately, as Moldaschl and Weber (1998) point out, the assumption that social science can be value-free is a common error embedded in many of the waves of discourse on group work and business practice that have captured the imaginations of managers over the past fifty years. According to Moldaschl and Weber, researchers whose theories have the greatest impact in the business community often hold primary values of organizational efficiency and economic success that are never explicitly stated. Perhaps in the new knowledge society, this will soon change.

2.2 Characteristics of the Successful Knowledge-Based Organization

If we are to come up with recommendations for educational intervention in knowledge-based organizations, it is wise first to review the literature concerning the characteristics of successful organizations within the knowledge industry and, indeed, within industry in general in so far as these characteristics might also apply to knowledge-based organizations.

A system or organization can be said to be knowledge-based if a significant portion of its internal processes are focused on the exchange of information, the creation and exploration of new solutions, and coordination with other systems and organizations. In contrast to industrial systems that produce tangible outputs, the outputs of a knowledge-based system generally have significant intangible components such as innovation, creativity, discovery, or inventiveness.

2.2.1 Implications of intangibility. Because of the intangibility of its outputs, the knowledge industry has a great deal of ambiguity and uncertainty in its problem space. Projects undertaken often contain "wicked" problems, in which, according to DeGrace and Stahl (1990, p. 82):

- "intermediate results must be obtained before the solution can be reached" and
- "the problem is defined and solved at the same time."

In a problem space characterized by wickedness, it is difficult to establish a well-defined process for managing projects. Perhaps the best that can be achieved is a methodology, which according to Checkland (1981, pp. 161-162) is a set of "principles of method" that have to be adapted to any particular situation. Contrast an industrial project, such as building a house, with a knowledge-based project, such as building a web page. Although the general process required to complete each project can be defined, the industrial project is more likely to involve a repeatable sequence of steps with the same equipment, the same workers, and even the same plan or blueprint. Hence, to a large extent an industrial project can be regarded as a linearized, gated process with minimal feedback across the gates. Teams of workers with common skills (such as carpenters) can perform all the tasks inside each gate. Each repetition of the knowledge-based project, on the other hand, may involve new workers, new equipment (including software), and certainly new plans. The workers on the project team will all be specialists with differing skillsets. Hence, a knowledge-based project is best regarded as a cyclical process with continuous exploration and adaptation of project initiation phases to the unfolding uncertainties of the project completion phases. In knowledge-based organizations, project leadership involves the coordination of a team of specialists and can be more readily described as "facilitation" than as "management."

To deal with an environment where wicked problems are common and projects can be facilitated but not managed, creating a culture conducive to organizational learning, feedback, and error correction has high importance. Evidently, creating such a culture is a complex undertaking, as indicated by the following survey of recent business literature:

- According to Schein (1999, p. 40), to ensure that feedback is freely given without fear of blame, competitive individualism must be minimized. Otherwise workers will simply dissociate themselves from failure for fear of providing negative information about themselves or each other. Unfortunately, the reward system, which is focused on paying individuals for performance, as well as a "deep assumption that the individual really counts" (Schein, 1999, p. 49) often strongly reinforce a climate of competitive individualism. Hence, special efforts may need to be made to reward and encourage teamwork and overcome the bias toward individualism.

- In their book, "The Power of Alignment," Labovitz and Rosansky (1997) indicate that the most important mechanism for ensuring effective feedback and error correction is to have measurements in place that match the "theory of the business" and provide an accurate window on the current state of the business. They make the following claim:

  > If we aim to build a self-aligning organization, we must ensure that there is synchronicity between how we measure our business and the essence of the business.... (p. 150)

  to which they have added the following prologue:

Unfortunately, most traditional measures don't help people feel the true pulse of the business or see where it is heading with respect to the things that matter most.

?? Senge (1990, pp. 9-11) believes that the role of the *leader* is key. Particularly in organizations where *personal mastery* is weak, the leader must design the governing ideas of purpose, vision, and core values that will inspire workers. Simply communicating fully and honestly about the current state of the business generates no creative tension and without creative tension, *commitment* remains external, stultifying the dynamic of organizational learning. (Compare Pasternack and Viscio [1998, pp. 248-249] who claim that "leaders must...show persistence in vision, flexibility in tactics, fight complacency, stay focused, engage in symbolic acts, and communicate [over and over] vision and values.")

However, Argyris (2000, p. 83) warns about too zealously linking the chain that runs from vision=>strategy=>process=>individual roles. For this process can easily create an environment where there is no freedom of choice so that only external *commitment* is possible. Some degree of feedback up the chain is necessary.

?? Argyris (1999a & 1999b) argues that a "humanistic/democratic" value system (as opposed to a bureaucratic/pyramidal/*Tayloristic* one) is crucial to interpersonal competence, intergroup cooperation, and flexibility, which will lead to increased organizational success in problem solving. Such a value system implies giving organizational members the opportunity to develop to the fullest potential, treating each person as an individual with a unique set of needs, and above all, the

avoidance of *manipulation*. Concerning the dangers of manipulation, Argyris (2000, p. 21) is particularly critical of Covey, claiming that Covey, while espousing humanistic values, presents a theory of personal leadership based on "a combination of trust and mistrust, accompanied by cover-ups."

?? Regis McKenna (1999, pp. 42-43) emphasizes how important it is to integrate feedback from the "never satisfied customer" into the business:

> Enlightened companies invite customers to sit on advisory boards, work as partners in the refinement of specifications and testing, share benchmark data, and fine-tune the balance of supply and demand….Customers...are treated like partners.

2.2.2 Implications of the need for coordination across organizations. Because a significant portion of a firm's internal processes are focused on the exchange of information and coordination with other systems and organizations, for successful firms in the new knowledge-based society transorganizational development becomes more important than organizational development.

Organizational development (OD) is the field of study and practice that focuses on the organization, regarding it as an open system whose effectiveness can be increased through planned interventions in its culture, processes, or operations that increase its adaptedness (a.k.a., its fit) to its environment (cf. Morgan, 1996, pp. 56-64).

By contrast, in transorganizational development (TD) the organization fades into the background. It doesn't disappear, it just becomes much less important than in classic organizational development. Instead there is a focus on processes that transcend the

organization, such as exchange of information and coordination with other systems and organizations. The organization is viewed as the locus of a network of groups, internally linked and linked to each other by common values, approaches, and worldviews. As Boje (2000) explains, "with the death of single organizations, people became aware that they were embedded in transpersonal and transorganizational relationships, and no longer embedded in or wedded to an organization for life. And TNCs (transnational corporations) began to worry that temporary employees would not feel any commitment or loyalty."

Boje (2000) distinguishes between two types of transorganizational development (TD1 and TD2):

- The logic of TD1 consultation is the ontology of utility maximization, neo-classical (neo-liberal) economics where the maximizing of human pleasure and wants without taking any responsibility for social and ecological limits is the legitimating narrative....Through corporate 'good will' social and ecological problems will solve themselves....
- TD2 is defined as seeking and actively organizing networks to change/resist or be beyond the status quo relations of a dominating and sometimes predatory free-market, individualistic and utilitarian TD1 system....TD2 networks seek to attain greater democratic control and local community accountability....

Readily aligned with transorganizational development is the concept of core capabilities that allow an organization to extend its value chain beyond organizational boundaries. Core capabilities are the natural extension of core competencies. According to Prahalad and Hamel, as quoted in Clarke and Clegg (1998, p. 235), "core competencies are the collective learning in the organization, especially how to co-ordinate diverse production

skills and integrate multiple streams of technologies." Clarke and Clegg go on to suggest that core competencies are an expression of the resource-based view of the firm, the same view that spawned *re-engineering*. (The resource-based view contrasts with the market-based view of the firm developed extensively by Porter [1986] who identified three marketing strategies open to successful firms, namely, cost, differentiation, and focus.) Stalk, Evans, and Shulman (1992, p. 65) elaborate the extension of core competencies to core capabilities:

> ...Competencies and capabilities represent two different but complementary dimensions of an emerging paradigm….Whereas core competence emphasizes technological and production expertise at specific points along the value chain, capabilities are more broadly based, encompassing the entire value chain. In this respect, capabilities are visible to the customer in a way that core competencies rarely are.

Because they are so visible to the customer, core capabilities highlight the importance of developing a relationship with workers that models the desired relationship with the customer. In short, they require the development of fundamental coordination and communication capabilities that transcend the organization. Sam Walton of Wal-Mart explains:

> ...The way management treats the associates is exactly how the associates will treat the customers. And if the associates treat the customers well, the customer will return again and again.... (quoted in Pfeffer, 1998, p. 293).

2.2.3 Motivational aspects of knowledge-based work. According to Argyris (1998, pp. 99-100; 2000, p. 42), there are two kinds of commitment, external and internal.

Traditionally in business organizations, commitment is external and involves a contractual agreement between the organization and the individual. By contrast, in the case of internal commitment:

> Individuals are committed to a particular project, person, or program based on their own reasons or motivations. By definition, internal commitment is participatory and very closely allied with empowerment.

Internal commitment is essential to the dynamic of organizational learning. It is also congruent with transorganizational commitment, which depends on identification with the common values, approaches, and worldviews of one or more of the groups in a network, rather than on a long-term contractual arrangement between the organization and the individual. Hence, the need to cultivate internal commitment is essential to the success of the knowledge-based organization.

For Argyris, lack of internal commitment is not the fault of workers. Management has the responsibility of creating the kind of empowered organization where internal commitment is possible.

What then is empowerment? Borrowing on other sources, Adler and Docherty (1998) offer two definitions for empowerment:

- Wellins et al. (1991) define 'empowerment' as the devolution of power to employees who feel a sense of ownership and control in their jobs.
- Taylor and Felten (1993) define it as the exercise of joint responsibility by both management and nonmanagement people.

Krantz (1995) prefers the term “enrollment” to “empowerment.” According to Krantz, the difficulty with empowerment is that the individual is often regarded as its locus, without regard for the web of relationships that makes empowerment possible. Clearly, enrollment requires people to “see themselves in role and understand their roles” and to “link their authority to that of others.”

Empowerment is clearly the contrary of manipulation. I define manipulation as any action that aims to reduce the psychological *resistance* of another group or individual without any regard for reality-based resistance.

As Ian Hacking (1999, p. 71) explains, in any change process, even in pure science, “the world resists.” Any attempt to impose a new way of viewing reality will face both a psychological resistance from the people involved, who must change their way of thinking, and a resistance from reality itself because measurements will be in error, new technologies won’t work, and mistakes will be made.

Unfortunately, as Argyris (1998) points out, management often, even while advocating empowerment, imposes a rigid structure on workers that aims to eliminate psychological resistance while leaving no room for reality-based resistance, thus turning empowerment into a tool for manipulation rather than a means of encouraging internal commitment:

> Start with a clear framework—a vision—and progressively make it operational so that it will come alive. So that no one will have any doubts….Given that all the steps have been so precisely described through a set of instructions, the advice actually encourages more external than internal commitment. (Argyris, 1998, p. 101; cf. Senge, 1994, p. 313)

Human resource management can be considered to be manipulative in so far as it equates with psychological resistance the legitimate concern of workers to have an influence over factors that have a major impact on the work environment. According to Beer et al. (1984), these factors are: human resource flow (which includes selection, termination, and promotion), rewards, and work systems (which involves the arrangement of people, information, activities, and technology). Because having an influence over one's environment tends to be an intrinsic *motivator* and leads to internal commitment, and although external commitment and extrinsic motivators are not necessarily signs of manipulation, a work environment where these latter predominate may be indicative of a manipulative, nonempowering style of human resource management.

2.2.4 Characteristics of successful firms in general. Concerning the characteristics that might lead firms to success in industry in general, several studies indicate the importance of high worker satisfaction. These studies include an impressive work by Pfeffer (1998) that sets out to prove that the most important factor influencing a firm's success is how it manages its workers, and an extensive Gallup poll involving the survey of over a million workers (Coffman & Harter, 1997; cf. www.gallup.com) that concludes that worker satisfaction is a leading indicator of organizational success. (This latter study downplays the usefulness of financial metrics, referring to them as a "trailing" indicator of organizational success.)

Pfeffer (1998b) makes seven recommendations (quoted below), most of them based on increasing the potential for worker satisfaction:

1. Emphasize employment security.

2. Hire selectively.
3. Make *self-managed teams* and decentralized decision making basic design elements.
4. Offer comparatively high compensation, contingent on performance.
5. Provide extensive training.
6. Reduce status differences, including dress, language, offices, and wages.
7. Share financial and performance information.

With regard to Pfeffer's point 6 above, in the knowledge industry it is not unusual for all workers to be referred to as "associates" (a practice that Senge [1990, p. 16] traces back to W.L. Gore, founder of the company that invented GoreTex), making it impossible to chart the structure of the organization on the basis of title.

The stakeholder theory of the firm (Kotter [1992], Clarke and Clegg [1998, pp. 332ff.]) is a natural complement to the need to satisfy workers. Essentially, stakeholder theory argues that to be successful an organization must develop a culture where it is the norm to satisfy all stakeholders including owners, employees, customers, and in a transorganization, the wider community. In less effective cultures, internal stakeholders (i.e. workers and their managers) behave cautiously and politically to protect or advance themselves, the project they are working on, or their immediate work group. Blanchard and O'Connor in "Managing by values" (1997) develop stakeholder theory into a plausible system for ethical decision-making. However, Korten (1995, p. 212) suggests caution in defining the success of an organization, especially if the firm is publicly traded. The difficulty is that the owners (i.e., the stockholders) tend to be too focused on short-term gain

to allow the organization to perform optimally with respect to the interest of other stakeholders. As Korten explains: "With financial markets demanding maximum short-term gains and corporate raiders standing by to trash any company that isn't externalizing every possible cost [e.g., by polluting the environment]...[managers] must either compromise their vision or run a great risk of being expelled by the system."

2.3 Does STS Theory Offer a Solution?

According to Pasmore and Purser (1993), STS theory considers every organization to be made up of a social subsystem (the people), a technical subsystem (of tools, techniques, and knowledge), and an environmental subsystem (of which customers form a part). The success of the organization depends on the fit between these three subsystems.

According to Moldaschl and Weber (1998), STS theory is partly a reaction to the human relations movement, whose adherents believed that the de-humanizing division of labour inherent in Taylorism, could be compensated by social concern and friendliness on the part of management. The human relations movement began with the Hawthorne Studies performed by Elton Mayo (1933) on a group of women workers at a Western Electric assembly plant. During the studies, the productivity of women doing highly specialized piecework was seen to increase dramatically when these women were given special attention and privileges. According to Moldaschl and Weber (1998), though the studies were hopelessly flawed, they had a lasting impact because they suggested that there was a simple "one-best way" for management to overcome the de-humanizing effects of the division of labour inherent in Taylorism. Essentially, the conclusion was that the best managerial approach involved empathy with workers, social concern, and a less authoritarian management style:

> ...To this day, the axiom that 'empathetic' and 'participatory' management behaviour can resolve or marginalize the conflict between management and workforce interests is a constitutive part of those management concepts which regard the organized representation of interests, not to mention demands for industrial democracy, as economically painful and ultimately self-destructive options of a long outmoded form of class consciousness. (Moldaschl & Weber, 1998)

Hence, in contrast to the human relations movement, STS theory advocates much more than a simple change in management style. Indeed, social concerns are met by re-defining the jobs of workers so that these jobs are mutually supportive and identifiable as a key part of a greater whole. At the same time processes are minimally specified to leave room for worker innovativeness and initiative.

Quality of working life (QWL) is an important concern for STS theorists. According to Niepec and Molleman (1998), "QWL comes from four different aspects: work content, labor relations, conditions of employment (such as reward systems), and working environment." STS theorists also believe that QWL will generally be enhanced simply by increasing worker influence over these crucial aspects of their working lives. In short, QWL concerns would appear to be in line with the motivational aspects of knowledge-based work discussed in section 2.2.3.

Like other *transorganizational development* theories, STS theory is concerned about enhancing the identity, cohesiveness, and effectiveness of the networks in which groups and individuals are embedded. Indeed, a sense of joint commitment is held by STS theorists to be an important indicator of quality of working life (Taylor & Felten, 1993, p. 132).

Unlike many other *organizational* and *transorganizational development* theories, STS theory does not justify itself on purely economic grounds, but rather has strong TD2 affinities, for it claims not only to improve the quality of working life and but also to further the cause of industrial democracy. Although Trist (1981, p. 23) recognizes that industrial democracy can take many forms, including collective bargaining and employee ownership, STS theory is concerned with industrial democracy that entails the direct involvement of workers in how work is to be done at their level. Moldaschl and Weber (1998) cite studies done by Elden (1980) that show that this form of industrial democracy furthers worker interest in the democracy of society, which ties back to the STS conviction that a product of work is people. Hence, for STS theorists, improving QWL will have more than an economic benefit—it will improve society as a whole.

STS theory is one of the oldest and most highly developed transorganizational development system. For, as Trist (1981, p.33) explains, once analysis of the work group is completed, "attention then shifts to neighboring systems, beginning with the support of maintenance system.…Attention continues to the boundary-crossing systems on the input and output side—that is, supplier and user systems." However, STS engineering was originally intended for use in industrial setting; hence, its application to the knowledge industry is not straightforward.

2.3.1 Compatibility of knowledge work with STS theory. Many authors consider that the building block of a sociotechnically designed organization is the *self-managed team* (for example, Hummels & de Leede [2000]; Yeatts & Hyten [1997, p. 17]). For it is within the self-managed team that a sense of joint *commitment* to a common task can arise, an important precondition for improving the *quality of working life.* Dankbaar (1997) points out

that, in the tradition of *STS theory*, team boundaries are sometimes accentuated by the presence of buffers "that separate the group from problems and interruptions in preceding or following production units." According to Hummels and de Leede (2000), co-ordination and control within the team boundaries depend on "standardization of skills" (by which is meant a definable skillset that is fairly complex, such as that required to build an automobile, but not so complex that it cannot be learned by everyone on the work team).

But is the self-managed team even possible in the knowledge industry where teams change frequently? Shonk (1992, pp. 164ff.), for example, suggests a two-tiered alternative to the self-managed team, which he terms the "adapting organization." In an adapting organization, teams are not defined simply by the projects they are working on but also by the need to maintain what Shonk calls a "Home Base" and its processes (including *methodologies* and linkage to *core capabilities*) for each group of specialists (the Home Base corresponding roughly to a functional area or department). At the project level, it is primarily technical skills that are required, but at the Home Base, where workers are assigned to projects, personnel management, process maintenance, and long-term *organizational development* skills are required. Kearney (1995) suggests that such skills can best be provided by specialized leaders, who would most naturally be traditional managers who have undergone suitable training in process and organizational development. This is also the position of Jaques (1992) who argues that

> the overriding emphasis that has been placed in America upon company quality councils, quality circles, the self-directed work force, self-managing teams, managers as facilitators, group decision making, industrial democracy, while being well

> intentioned, is nevertheless misguided. It leads to an inherently unstable and non-accountable system....

However, in taking this position Kearney and Jaques are ignoring the benefit of creating within Home Bases, long-term common spaces, roughly corresponding to the STS team, where quality of working life and *double-loop learning* can be cultivated.

Other problems arise from the complexity of the work environment for *knowledge workers*. As we have seen, this environment, containing as it does wicked problems and incorporating feedback directly from stakeholders, such as customers and even suppliers, is both brutal and complex. Buffers that might protect a team from this complexity are considered undesirable. Specialized skills are necessary and processes are difficult to define. Without making a concerted effort to create methodologies that co-ordinate across disciplines, *firefighting* becomes a natural method for seeing projects to fruition. Finally, there is limited possibility for using standardization of skills as a mechanism for co-ordination and control within teams as in a standard STS-designed environment.

It is also important not to ignore how difficult it can be to intervene successfully in the workings of a *knowledge-based* organization with a view to undertaking an STS development program. This difficulty arises because any such intervention in a knowledge organization requires changing not only overt behaviour, but also the way people think. Hence, there is the possibility for more profound *resistance* than when organizational change is instigated in an industrial setting (Pasmore & Purser, 1993).

Taylor and Felten (1993) elaborate a four-phase STS process that looks at the whole organization and its purpose with a view to finding optimal solutions other than the self-managed team. Taylor and Felten (1993, pp. 201-210) go on to suggest that “deliberation

forums," where individuals have a variety of complementary skill sets, could provide an alternative that is better suited to knowledge-based organizations.

Deliberation forums, which Stebbins and Shanie (1998) define as an unstructured to structured discussion or meeting, are like teams in that they work best when composed of people with relevant expertise who also have a clear interest in advancement of a topic (in contrast to a large group with multiple interests). However, they differ from the usual STS teams in that they are not necessarily composed of a constant set of individuals, depending on standardization of skills for co-ordination. Hence, a more complex structure, such as Shonk's adapting organization, becomes possible. While operating teams consisting of temporary configurations of specialists from a variety of backgrounds execute projects, at the same time the Home Bases of these specialists should provide the needed long-term, common spaces where quality of working life and double-loop learning can be cultivated. For STS engineering distinguishes itself from other organizational development theories in that workers are not only committed to a project but also to a common purpose and to the other workers in the organization. As Taylor and Felten (1993, p. 202) explain in distinguishing STS theory from matrix management:

> Matrix "organization" is a formula, or solution, in which members are committed to a project, but not necessarily to the product, to the purpose, or to the other people in the system.

The collaborative analysis of deliberation forums (as recommended by Stebbins and Shani [1998]), mentioned above, should also reduce the problem of resistance. For as Pasmore and Purser (1993) explain, knowledge workers are particularly sensitive to top-down *manipulation*.

Hence, by adopting a more flexible organizational structure, such as an adapting organization, it would appear that STS theory can be made compatible with knowledge work provided that due emphasis is placed on the amelioration of deliberation forums, which in some respects become a replacement for work teams.

2.4 Knowledge Work and the Learning Organization

As we saw in section 2.2.1, because of the ambiguity and uncertainty in its problem space, the knowledge industry requires an organizational culture that is conducive to organizational learning, feedback, and error correction. Hence, learning organization theory provides a natural complement to *STS theory* for understanding and providing a solution to the organizational development of firms operating in the knowledge industry.

2.4.1. The definition of a learning organization. In applying learning organization theory to an organization, one of the first problems that must be faced is to determine where an organization is in the learning organizational space. What is it already doing well? What needs to be improved? Can it or can it not be considered to be a "learning organization."

Unfortunately, as it is used in the literature, "learning organization" is more of a philosophy than a concept. Generally, there is some emphasis on learning and on human values, but little else is certain. Senge (1994, p. 51), for example, in a section titled "Defining Your Learning Organization," lists nine characteristics of learning organizations without indicating which, if any, are necessary and/or sufficient, and then goes on to suggest that the reader might wish to remove some characteristics from the list or add new ones. For Senge it is almost as if a learning organization is a process of becoming, not a state of being, and the five disciplines (cf. Senge et al., 1999, p. 32) are just different aspects of the process. Yet, the

connection between learning—which Garvin (1993) suggests entails the activities of creating, acquiring, and transferring knowledge, and modifying behaviour—and the five disciplines, though suggestive, is not clear. For most organizations would exhibit some or all of these learning behaviours in varying degrees without practicing the five disciplines. Nor is the necessary connection between human values and learning so obvious, for surely a great deal of learning can go on in organizations where many human values are ignored. In short, "learning organization" is a soft concept with unreliable criteria for its existence.

Morgan (1997), tracing the concept of a learning organization back to the work of Argyris and Schon (1978), suggests that the *metaphor* of cybernetics provides the best insight into the concept of a learning organization. Using this metaphor Morgan suggests that a learning organization must exhibit the following four capacities:

1. Scanning and anticipation of environmental change
2. Questioning and challenging of operating norms and assumptions
3. Appropriately organizing and developing strategy
4. "…Double-loop learning, to avoid getting trapped in single-loop processes, especially those created by traditional management control systems and the defensive routines of organizational members."

In this study, these four capacities will be taken to be the necessary and sufficient criteria for a learning organization. The fourth criterion is in many respects the most interesting because it could be argued that it entails the other three; and moreover, it is relatively easy to detect reliably. Human values can be added into the concept of a learning organization simply by stating that *double-loop learning* must be pervasive throughout the

organization without regard for organizational role or position. Pervasive double-loop learning is, after all, unlikely to occur unless considerable development of human potential occurs. Hence, a reasonable distinctive necessary feature of a learning organization is that it have a pervasive double-loop learning cycle. (The learning cycle is pervasive because ideally everyone in the organization practises it.)

2.4.2 The attributes of organizational learning. In the literature there are two contrasting views on organizational learning. One view, which I will refer to as "LO," elaborated by Society for Organizational Learning at MIT (cf. Senge et al., 1994, 1999), is that a *learning organization* can be identified by its internal practices, such as double-loop learning, or Senge's five disciplines (described briefly in section 2.4.4). A second, more *organizational-development* oriented view, which I will refer to as "OL," is that it is more fruitful to consider learning a necessary characteristic of all organizations and then to try to understand which attributes make some better at it than others (cf. Nevis, DiBella, & Gould, 1998; Kuchinke, K.P., 1995). There is a concern among these authors that unless the concept of a learning organization is linked to what happens in the real world, the concept will just be another short-lived management fad. Nevis, DiBella, and Gould, for example, have grouped the elements of any learning system into three distinct phases—acquire, disseminate, and utilize—and then developed a system of learning orientations and facilitating factors that can be used to determine the learning climate of an organization.

For a researcher trying to understand an organization, OL is of more interest than LO because though, after settling on a reasonable criterion, it is fairly easy to determine whether or not an organization is moving toward becoming a learning organization (LO), it is much

more difficult and therefore more interesting to understand how organizational learning (OL) is currently being accomplished within the organization.

2.4.3 The essence of a learning organization. In section 2.4.1, I presented what I consider to be an empirically adequate indicator of a learning organization. To have an adequate indicator of a *learning organization*, though very valuable, is not to have captured its essence, its *metaphor*, which would allow the concept to be mined philosophically. To this end, I propose the following succinct definition: A learning organization is an organization that respects and attempts to appropriately accommodate reality-based *resistance*. This definition is very much in tune with postmodernism, the denial that there are absolute principles coupled with the belief that the world is constructed as each mind grapples with its own personal reality. If we accept that the resistance of reality produces both run-time process errors and longer-term risks, then we can say that the accommodation of reality-based resistance has both:

- A *single-loop learning* component that aims to detect and correct errors in current modes of operation.
- A *double-loop learning* component that acquires, disseminates, and utilizes new knowledge to adjust current modes of operation to minimize long-term risks.

In addition, respect for resistance requires that it be carefully weighed to determine the proportion in which it is reality-based or has a merely psychological foundation.

This more succinct definition not only appears to capture the same aspects of reality as Morgan's definition of a learning organization, but also is richer and philosophically more interesting because it links learning organizational theory to the accommodation and

resistance of reality. Moreover, with this more subtle definition I link learning organizational theory to *transorganizational development* and thence to human values, because it is through transorganizational development that an organization's reality is discovered.

2.4.4 Senge's five disciplines. Senge's five disciplines are the primary contribution of LO theory. If we take it as a given that any organizational change effort will have at least two phases, an initiating phase and a sustaining phase, then the following two disciplines would appear to be more fundamental because associated with the initiating phase:

- *Personal mastery* is about discovering personal values; indeed, it is here that values enter into LO theory.
- *Shared vision*, a concept elaborated more fully in section 2.5, is really about creating the sense of *commitment*, which, when held jointly, is considered by STS theorists (cf. Taylor and Felten, 1993, p. 132) to be an indicator of *quality of working life.*

The following three disciplines are likely to be more important during the sustaining phase of the organizational change effort, when its full implications are being worked out:

- Mental models, conceived of as techniques for avoiding prejudices and false inferences, particularly during personal encounters, will help avoid the development of a politically charged environment where advocacy is more important than facts (cf. Argyris, 2000, pp. 75-80).
- Team learning might be of some interest, but, as we have seen in our discussion of the compatibility of STS theory with knowledge work, it might be

presumptuous to suppose that teams are the building blocks of an organization in the knowledge industry.

?? Systems thinking counters the tendency of organizational members to react to events rather than to the systems in which they are occurring. Systems thinking also enhances trust, and hence commitment, by eliminating the surprises that occur when systems go awry.

2.5 The Importance of Shared Vision

Shared vision is the term used in *transorganizational development* to refer to the expression of the common values, approaches, and worldviews that link a group together.

As Dixon (2000, p. 9) points out, the English word "share" has two meanings. In one sense (1) it is an act of generosity, as when a CEO or select group presents the vision for the organization to those whose lives it will profoundly affect. In another sense (2) it means "to hold in common," in which case it merely describes a statement of fact. A vision in this latter sense is shared in the same way that workers might share an office or a group of like-minded people, a worldview. A shared vision (1) is static, delivered once and for all, and corresponds roughly to the kind of shared vision that you get using Senge's method of "telling" (Senge et al., 1994, pp. 315-317); a shared vision (2) is an ongoing process, which a vision statement can only begin to capture, and corresponds roughly to the kind of shared vision that you get using Senge's method of "co-creating" (Senge et al., 1994, pp. 322-326).

Shared vision (2), by allowing workers to show their competence and leadership in its creation, is more likely to create a sense of *commitment*, which, when held jointly, is considered by *STS theorists* (cf. Taylor and Felten, 1993, p. 132) to be an indicator of *quality of working life* and by Argyris (1998) to be crucial to *empowerment*. Shared vision (2), by

opening up the widest possible window on reality, makes it more likely that values other than economic ones will be appropriately *accommodated*, but the introduction of resilient values into a co-created shared vision is clearly dependent on widespread *personal mastery*, or as Senge so bluntly puts it, "leadership among the troops" (cf. Senge et al., 1994, p. 314). To increase openness and flexibility, shared vision (2) is also much more likely to be focused on principles rather than achievement.

Important in creating a shared vision (2) is what is termed "storytelling," for it is through creating a history that a group discovers its reality, determines its values, and gains an identity. Senge (1994, p. 105) explains that:

> At the heart of the art of storytelling is one question: How did we (through our internal thinking, our processes, our practices, and our procedures) contribute to or create the circumstances (good or bad) we face now?

In STS theory, shared vision is referred to as "purpose" (cf. Taylor & Felten, 1993, p. 39 ff.), but in this study, the term from learning organization theory will be used.

2.6 Compatibility of Knowledge Work with Taylorism

Classic organizational theory is often called "Taylorism," named after Frederick Taylor, founder of the scientific management movement. In Tayloristic organizations all responsibility for the organization of work is shifted from the worker to the manager whose situation within an acutely hierarchical structure rigidly defines his or her roles and responsibilities. Workers have low-skilled, short-cycle jobs (that may repeat several times per minute). An organization is considered to be a mechanical entity through which work flows aided by technology. Quality is ensured through bureaucratic control of worker activities and post-manufacturing inspection of the end product. Because the organization is

hierarchical, information flow is blocked by bureaucracy, which limits the system's capacity for learning. Hence, Taylorism works best in the mass production of a standardized product.

In recent years, Taylorism has been replaced by lean production as a model for industrial organization. Lean production, first elaborated by Womack et al. (1991), is a system for optimizing work groups in industries that manufacture consumer goods (such as the automobile industry). In some of the business literature lean production has been considered to be a viable alternative to STS theory (cf. Hummels & de Leede, 2000—especially their conclusion).

Lean production is so-named because, in comparison with mass production, lean production uses less of all resources and returns comparable or greater quality. Lean production, unlike *STS theory*, makes no pretense about being transorganizational: its focus is the efficiency of workflow through a single organization that has very definite boundaries.

Dankbaar (1997) sees lean production as a form of Taylorism and, indeed, claims that "lean production is not an alternative to *fordism*, but its most perfect form." Essentially, a lean production system is what you get after the injection of *JIT*, individual responsibility for quality, and organizational learning into a traditional hierarchical system:

- JIT logistics introduces work cells and tightens communication links with suppliers and customers.
- Individual responsibility for quality reduces the need for bureaucratic control of worker activities and post-inspection of the end product.

?? Organizational learning is sufficient to ensure adaptability and continuous improvement without introducing the pervasive *double-loop learning* and intragroup development that is characteristic of a *learning organization*.

If lean production were to be adapted for use in the wicked environment of the knowledge industry, we might expect some difficulties in developing and controlling work cell processes, but the difficulties are not necessarily overwhelming for, as we have seen, the *knowledge-based* environment creates problems for STS teams and the solution might be the same kind of two-tiered structure that was suggested in section 2.3.1.

Because lean production is essentially a derivative of Taylorism, what is unlikely to appear is a sense of joint commitment among workers, which is held by STS theorists to be an indicator of *quality of working life.* As Moldaschl and Weber (1998) explain:

> ...Co-option is frequently technical in character in that the groups consist of employees who happen to work on the same section of assembly line, meaning that the decisive work psychology criterion of a joint group assignment does not apply....

Instead of joint commitment we could expect the same kind of external *commitment* that is so common in traditional hierarchical organizations.

2.7 Conclusions

In section 2.2.2 we noted that because a significant portion of a *knowledge-based* organization's internal processes are focused on the exchange of information and coordination with other systems and organizations, *transorganizational development* becomes more important than *organizational development*.

We have also considered the applicability of two transorganizational development theories—*STS theory* and *learning organization* theory—to knowledge work. (The transorganizational nature of STS theory and learning organization theory were noted in sections 2.3 and 2.4.3, respectively). In section 2.3.1, I argued that by adopting a more flexible organizational structure, such as an adapting organization, it would appear that STS theory could be made compatible with knowledge work. In addition, I argued in section 2.4 that because of the ambiguity and uncertainty in its problem space, learning organization theory provides a natural complement to STS theory for understanding and providing a solution to challenges surrounding the organizational development of firms operating in the knowledge industry.

Although neither classic STS theory nor learning organization theory appear adequate in themselves to provide a complete picture of what workers in a *learning transorganization* need to learn, it would appear these approaches can legitimately be used as *lenses* to help the researcher discover learning needs.

At the same time, *lean production*, because of its focus on individualism and economic efficiency, can also be used as a lens that starkly contrasts what might be revealed by STS theory, with its concerns for joint commitment and quality of working life.

CHAPTER 3

METHODOLOGY

3.1 Introduction

According to Klein and Myers (1999), research can be classified as *interpretive* if "…it is assumed that our knowledge of reality is gained through social constructions such as language, consciousness, shared meanings, documents, tools, and other artifacts." Citing Walsham (1993), they go on to explain that interpretive methods are aimed at understanding not only the system but also the context of the system and the process whereby the system influences or is influenced by the context. In our case, Q's primary context is the knowledge industry and we will see in section 5.2 how this context has influenced Q even more than any aspiration toward being or becoming a learning organization.

In an interpretive study the research questions can be regarded as a series of *lenses* that by recalling certain theories or methodologies, focus the researcher on various aspects of a system. It is not unusual for a lens to be discarded or downgraded in importance as new data comes in and as the relationship of the researcher with the subjects changes. With regard to the relationship of the researcher, it is noteworthy that the researcher's original relationship with Q was a business relationship. Hence, a new relationship needed to be developed over time, which opened up access to new and more privileged information.

Preliminary research based on what I knew from working with Q in a business relationship, on visits to the premises, and on a lengthy discussion with the CEO led me to believe that Q was a *learning organization*. The original research questions (see section 1.2) were set up to extract information about how Q was operating as a learning organization, to

determine its stage of development, and to understand how and if the principles of *STS engineering* were being manifested in the context of a learning organization. At this early time, I did not yet have a clear definition of what a learning organization was or what might be used as an index of its existence. I believed I would discover this as I came to better understand how learning organizational dynamics were manifesting themselves at Q.

The research instruments I developed were meant to gather data to answer the original research questions. However, the data I got back suggested that the original questions were wrong: the lenses were inappropriate. Though Q was by all appearances a successful organization undergoing fabulous growth, this growth was not because of pervasive *double-loop learning*, the *quality of working life* or the internal *commitment* of its workers. Then I began a quest to re-interpret the data so that it made sense through a new lens, the lens of lean production. As Klein and Myers explain, this is the process of *dialogical reasoning*, which is quite legitimate in interpretive studies. Eventually, I came to realize that Q was not a learning organization, but rather, a more traditional organization onto which certain structures that facilitated communication and encouraged learning had been imposed. In the latter stages of my study I used this insight to re-interpret the original data and to provide a schema for new data being gathered.

3.2 Data Gathering Process

The data gathering process was divided into three phases with different purposes and subjects at each phase. Purposes by phase were as follows:

Phase 1: Pilot study and start of observations. This initial study provided baseline data on the efficiency of an interview protocol and survey that was used to gather

information from non-managerial personnel concerning the culture and climate of the organization.

Phase 2: Further observation and collection of interview data from non-managerial employees using the interview protocol and survey refined during Phase 1.

Phase 3: Continued observation and open-ended interviews with managers, competitors, and suppliers with a view to verifying and interpreting the data collected in Phase 1 and 2. The purpose in Phase 3 was not to draw valid conclusions about the beliefs or behaviours of Phase 3 subjects, but rather to verify and interpret the data collected in Phase 1 and 2. The number of subjects in the Phase 3 groups was small, largely out of convenience. Originally it had been hoped to include clients as part of Phase 3, but this proved too difficult to arrange. However, one of my former employers had been a client of Q's, so this provided some insight into the client viewpoint.

Subjects by phase are summarized in Table 3-1 on the next page.

Table 3-1

Subjects by Phase

Subject	Date	Instrument
	Phase 1	
Worker 1	March 29, 2000	Face-to-face interview
Worker 2	April 3 & 4, 2000	Face-to-face interview
Worker 3	April 6, 2000	Face-to-face interview
Worker 4	April 19, 2000	Face-to-face interview
Worker 5	April 20, 2000	Face-to-face interview
	Phase 2	
Worker 6	June 12, 2000	Face-to-face interview
Worker 7	June 12, 2000	Face-to-face interview
Worker 8	June 12, 2000	Face-to-face interview
Worker 9	June 12, 2000	Face-to-face interview
Worker 10	June 23, 2000	Face-to-face interview
Worker 11	June 23, 2000	Face-to-face interview
Worker 12	June 23, 2000	Face-to-face interview
Worker 13	June 23, 2000	Face-to-face interview
Worker 14	June 23, 2000	Face-to-face interview
	Phase 3	
Competitor 1	July 27, 2000	Telephone interview
Competitor 2	August 3, 2000	Telephone interview
Competitor 3	August 9, 2000	Telephone interview
Manager 1	August 17, 2000	Face-to-face interview
Manager 2	August 24, 2000	Face-to-face interview
Manager 3	September 6, 2000	Face-to-face interview
Manager 4	September 12, 2000	Face-to-face interview
Supplier 1	November 10, 2000	Telephone interview
Supplier 2	November 13, 2000	Telephone interview
Supplier 3	November 14, 2000	Telephone interview

3.2.1 Administration of instruments. All face-to-face interviews took place in a private room at the Q workplace. Interview data was collected in the form of notes written by hand by the researcher and transcribed within the day into a password-protected electronic format. No use was made of any voice recording device; however, as a former technical writer I have considerable expertise in taking notes during interviews. The trick is to listen for key words and concepts, asking the subject to repeat and explain as necessary when they come up, until you have crafted an accurate representation of what he or she is saying. In addition, as respondents to face-to-face interviews were given the questions beforehand, they often prepared extensive written notes that they sometimes passed on to me, which allowed me to make further corrections as I transcribed my notes into electronic format. The advantage of proceeding in this way rather than using a recording device is that less post-interview rework is required (time was a critical factor throughout this study).

The interview questions and self-administered survey used in Phase 2 are shown in Appendixes A and B, respectively. Phase 1 interview instruments were similar, except that there were fewer survey questions and these were mixed in with interview questions. In Phase 2, unfruitful questions were dropped. This protocol re-design cut the interview time from nearly two hours to around one hour.

Phase 3 manager, competitor, and supplier questions are shown in Appendixes D, E, and F, respectively. In all cases, subjects were provided with the questions before the interview; however, during Phase 3, the questions were used as guidelines only and subjects were encouraged to deviate from them depending on what information they could offer.

3.2.2 Selection of Subjects. How subjects were selected depended on whether they were workers, managers, competitors, or suppliers.

For worker interviews, subjects were chosen arbitrarily based on the following criteria:

- Representation of a variety of work areas
- Sampling of various viewpoints within work areas.

Targeted work areas were chosen arbitrarily, and then sometimes another subject was chosen from the same work area, particularly if the responses were interesting or surprising. In the end, out of a total of some 13 work areas (the exact number of work areas is difficult to determine because Q does not have an organization chart) workers were interviewed who primarily identified with 8 of these areas.

Because the workers and I were both engaged in full time jobs, there was considerable self-selection among workers simply based on availability. In some cases they could not co-ordinate with me; in other cases, they were just too busy. Doubtless the degree of enthusiasm for the study contributed to self-selection. In the end I was unable to meet with approximately half the subjects that I sent invitations to.

Managers (vice-presidents and partners) were selected on the basis of interest. If their name had come up frequently during worker interviews, I wanted to get their point of view. However, it was very difficult to coordinate meeting times with them as they were extremely busy. Also, as I was meeting with them only during Phase 3 at the end of the study, there was a window of only about six weeks when meetings with them were possible.

Competitors were selected on the basis of the CEO's recommendation. In all cases, the CEO of Q had a personal acquaintance with the CEO's of these competitors. The CEOs of three out of four recommended competitors agreed to participate.

Suppliers were also selected on the basis of the CEO's recommendation. All three recommended suppliers agreed to participate.

3.2.3 Innovativeness of the self-administered survey. The self-administered survey shown in Appendix B, which was an important instrument for collecting data on Q's learning culture, was introduced in Phase 2 to shorten the required interview time. This instrument was innovative in a way that may be of interest to other researchers doing *interpretive studies*:

- To help ensure validity, questions were broadly based on the work of other researchers. For example, questions A to G borrow heavily from what Nevis, DiBella, and Gould (1998) call the "Seven Learning Orientations;" questions H to K borrow from the four unnatural acts of knowledge acquisition outlined by Pasternack and Viscio (1998, p. 118); question L is based on a key feature of what Argyris (2000, p. 75) calls "Model I, Theory-in-use;" many of questions M to T are based on the 12 key indicators of economic success described by Coffman and Harter (1997; cf. www.gallup.com). For more details, refer to Appendix C.
- Based on a combination of what I thought was reasonable for a *learning organization* and on data I obtained from the pilot study (Phase 1), I assigned an expected value to each of the questions. The expected value was the value that I expected assuming that Q was a learning organization. When a response was 2 or

more points above or below the expected value, interview questions were asked in order to understand this difference. This approach meant that interesting responses could be evaluated with regard to whether variance was due to question ambiguity or to a real deviation from expectations. At the same time interview time was greatly reduced because expected responses didn't need to be discussed.

3.2.4 Computer programs used to analyze data. Culture is not just about beliefs and behaviours, but also about how these beliefs and behaviours interact. My intuition, then, was that some interesting data lay hidden in the cross tabulations between the responses to the self-administered survey questions. Although these cross tabulations, because they come from a nonrandom sample, cannot be extended without qualification to the wider Q organization, they nonetheless provide the *interpretive researcher* with an additional means of getting an impression of the organization under study.

Responses were recorded in an Excel spreadsheet and then copied two lines at a time into the cross tabulation calculation spreadsheet shown in Appendix G. Cross-tabulated counts on either side of the average were displayed in a 2x2 grid in the spreadsheet. In an effort to obtain counts across true differences in responses rather than across errors, only responses with high variance (SD > 1.75) were considered (which eliminated the lowest quartile of SDs) and only when respondents by their comments indicated that the survey question was relatively unambiguous. A glance at the cells in the grid suggested possible relationships or other salient findings. Where correlations were suggested, a Spearman rank correlation was done using the Pearson *r* statistic (available in Excel) to test their significance. Results are summarized in section 4.4.

3.3 Ethical Considerations

To meet ethical requirements the following measures were taken before and during data collection:

?? **With regard to interviews**—Subjects were sent the employee consent form shown in Appendix I by email and were required to sign it before the interview began. When the subject was not a CEO, the subject's CEO was also requested to sign a form similar to the employer consent form also shown in Appendix H. Subjects were informed of the purposes of the study and were advised that the information collected would remain confidential and would be destroyed at the end of the study. Subjects were advised that should excerpts of the interview be used in the study, every effort would be made to ensure anonymity of the comments. Subjects were informed that they could refuse to answer any question or withdraw from the study at any point.

?? **With regard to observations**—Observations were not made secretly or anonymously. Behaviour is kept anonymous as much as possible (though other Q members reading the report may occasionally be able to identify who was speaking or acting when the behaviour was recorded). In addition, every effort has been made to record only behaviours that would normally be expected under the circumstances (all observations of unusual or potentially embarrassing behaviour have been deleted).

3.4 Conclusions

This chapter presented an explanation of how the *interpretive* methodology was applied. An explanation of why the research questions changed throughout the study was given. In addition, the data gathering process was summarized with a discussion on how instruments were administered, on how subjects were selected, and on the innovativeness of the self-administered survey. Finally, ethical considerations were also described.

The phasing of the study worked well, as it allowed me not only to adjust my instruments based on incoming data, but also to make them more efficient. For example, the first few face-to-face interviews I did were several hours long, but during Phase 2 of the study, by asking for explanations only when survey responses differed from what might be expected in a learning organization, I was able to gather the same amount of useful data in about an hour. In addition, I had revised the interview protocol and survey questions considerably in order to pursue incongruities between the learning organization hypothesis and the data that I was collecting.

The nonrandom process of subject selection would appear to be difficult to avoid in interpretive research. To obtain valid results, then, it is important to pursue inconsistencies and weave the whole into a pattern. Patterns can be coaxed from the data not only by straightforward interpretation, but also by cross tabulation and nonparametric statistical analysis.

Following ethical procedures is also important not only in itself, but also in building the trust between researcher and subjects that helps ensure the validity of results.

CHAPTER 4

FINDINGS

4.1 Introduction

As discussed in chapter 3, there were four primary data collection instruments:

?? Self-administered survey questions answered by workers

?? Structured face-to-face interviews with workers, which were used to gain an understanding of the organizational culture and to verify the validity of the self-administered survey questions

?? Unstructured face-to-face interviews with principals and VPs. These interviews were primarily used to build a picture of the dynamics of the organization and fill in any gaps from the worker interviews.

?? Unstructured telephone interviews with competitors and suppliers.

In addition, there was a certain amount of observational data gathered during visits to the site and attendance at meetings. Really much of what is so special about Q can best be captured by visiting them, so in section 4.9 after a few introductory notes that explain the significance of the decor, I take the reader to one of Q's company-wide, monthly meetings.

Important throughout this chapter will be not only reporting and making sense of the data I gathered, but also explaining how the data led me to conclude that Q was not a *learning organization* and, hence, that the original *lenses* I had chosen to guide my study were inappropriate. The reader may find it useful to recall at this point that pervasive *double-loop learning* was chosen as the best indicator of a learning organization.

4.2 Summary of Responses to Self-Administered Survey Questions

Data from the self-administered survey questions are presented below in Table 4-1. Both normal and descriptive labels are used for the data. The normal label corresponds to the question number that appears on the survey in Appendix B.

Respondents were presented with scales of from 1 to 10. The columns of primary interest are the column labeled **SD** (Standard Deviation), which gives an indication of the spread or consensus, and the column labeled **Difference**, which gives the difference between the **Mean** response and the response that I have would have **Expected** in a learning organization. (Granted, my expectations are subjective; however, as the reader will discover in section 4.3, the conclusions I draw are embedded in a web of comments from the respondents and correlations between the ratings. The point in setting these expectations up front was to speed up the information gathering process, as discussed in section 3.2.3.)

Table 4-1

Data from Survey Questions Ranked in order of Absolute Difference from Expected

Question	SD	Mean	Expected	Difference
z. Development Frequency	1.768	7.63	4	3.63[Rank-1]
i. Re-use/Invent	2.082	6.17	3	3.17[Rank-2]
aa. Coaching/Supervising	2.475[Rank-6]	6.13	3	3.13[Rank-3]
u. Planning/Firefighting	2.100	5.88	3	2.88[Rank-4]
d. Formal/Informal Learning	1.782	6.92	5	1.92[Rank-5]
bb. Pay Link to Performance	2.026	6.44	5	1.44[Rank-6]
c. Personal/Public Documents	2.179	5.75	7	-1.25[Rank-7]
g. Skill Focus: Individual/Group	2.290	5.83	7	-1.17
x. Use of ARI Values	3.563[Rank-1]	3.88	5	-1.13
e. Increment/Transform	1.815	5.75	5	0.75
j. Collaboration/Individualism	2.261	3.75	3	0.75
l. Informed Choice/Advocacy	2.589[Rank-4]	4.54	4	0.54
v. PM Specialized/Widespread	2.619[Rank-3]	5.50	6	-0.50
k. Experimental/Conventional	1.784	3.50	3	0.50
q. Openness/Avoid Conflict	2.431[Rank-7]	4.50	4	0.50
r. Closure/Consensus	1.761	6.54	7	-0.46
o. Coordination	0.982	7.38	8	-0.62
n. Quality, commitment to	1.405	8.35	8	0.35
b. Product/Process	2.741[Rank-2]	6.67	7	-0.33
p. Importance of Knowledge	1.923	7.67	8	-0.33
h. Share/Hoard Information	1.603	4.25	4	0.25
s. Team Spirit	0.866	8.25	8	0.25
t. Recognition	1.815	6.75	8	-0.25
a. Internal/External Knowledge	1.642	4.83	5	-0.17
f. Design/Market	2.250	5.17	5	0.17
m. Performance Adequacy	1.625	7.85	8	-0.15
w. High-Level Knowledge	1.441	8.08	8	0.08
y. Acceptance of Mission	2.563[Rank-5]	7.00	7	0.00

Note. Superscripts beside some of the SD and Difference data indicate their rankings. I will remind the reader of these rankings during analysis of the data.

4.3 Conclusions about Q Culture Based on Survey Responses

The first thing that may strike the reader is that based on the statistical data alone, Q is not so far from being a learning organization. However, recall that these surveys were used as part of the basis for a face-to-face interview. As discussed in section 3.2.3, when a response was 2 or more points above or below the expected value, the respondents were asked to comment on their answer in order to help me understand this difference. Occasionally, respondents spontaneously offered comments and these were useful as well, especially for questions that showed consensus around the expected value. These comments are a rich source of data every bit as important as the responses to the survey questions themselves and I have included samples of these comments in the discussion below.

The analysis below is structured in accordance with the schema developed by Nevis, DiBella, and Gould (1998) who place the elements of an organizational learning system into four major categories: Acquire, Disseminate, Utilize, and an underlying category, which I shall call "Support."

Category 1: Acquire. In general, acquisition modalities do not appear to strongly contradict the hypothesis that Q is a learning organization.

- **Knowledge Acquisition.** How is knowledge acquired? Based on responses to question **a. Internal/External Knowledge** (SD: 1.642; Mean: 4.83; Difference from Expected: -0.17) concerning knowledge sources, there is consensus around a good balance between internal and external knowledge sources. A typical comment was: "There is good balance: outside courses, U of Q internal, meetings with the support team at noon."

Based on responses to question **k. Experimental/Conventional** (SD: 1.784; Mean: 3.50; Difference from Expected: 0.50), the experimental mindset predominates over the conventional mindset. This is as would be expected in a learning organization in the knowledge industry. However, there was some variation in responses. For example, whereas, one worker opined, “Everyone does new things. You need to show failures to prove you are trying. For example, MS-Exchange is not used just because it is an industry standard,” another worker stated, “They want you to experiment, but I’m inhibited by my team. They just say no.”

?? **Product vs. process.** In developing knowledge, is the first concern product or process? A learning organization should have a good emphasis on process. Comments indicating some ambiguity in question **b. Product/Process** (SD: 2.741; Mean: 6.67; Difference from Expected: -0.33) make it impossible to draw a conclusion here. Question ambiguity arises because for Q process is part of the product. As one worker explained, “Our approach is not that we are good at products (like brochures) so aim to do the customer one. What we try to do is use the integration wheel to make our process fit the customer’s needs.” Based on responses it is clear that process has captured the attention of workers, but process tends to be important in only a few key areas and there are many peripheral jobs that are not caught up in process, as captured in comments such as: “There is no process, just tight deadlines and long hours.”

Category 2: Disseminate. In some respects dissemination modes are in line with what one would expect in a learning organization. However, the extreme lack of formality does cause concern. For how is *double-loop learning* possible without some formality?

?? **Documentation and other dissemination modes.** Based on responses to question **c. Personal/Public Documents** (SD: 2.179; Mean: 5.75; Difference from Expected: -1.25 $^{\text{Rank-7}}$), public documentation is rather less than would be ideal in a learning organization. For example, one worker lamented, "Nothing is written down. Every *loop* has a different way. This is even true of the *Demand Builder*." However, less documentation is in line with the informality of sharing learning at Q, which is evident from responses to question **d. Formal/Informal Learning** (SD: 1.782; Mean: 6.92; Difference from Expected: 1.92$^{\text{Rank-5}}$). Worker comments link this informality to certain positive aspects of the Q culture, such as open discussion and high team spirit.

Lack of formality does appear to lead to some problems nonetheless. For it would seem that a learning organization requires some formality in its learning system. For example, in comments on question **h. Share/Hoard Information** (SD: 1.603; Mean: 4.25; Difference from Expected: 0.25), several respondents explained that though there was no hoarding of information, there was no time available to share it effectively. In addition, the general lack of a formal information system may account for the strong bias toward invention rather than re-use of processes that is evident in question **i. Re-use/Invent** (SD: 2.082; Mean: 6.17; Difference from Expected: 3.17$^{\text{Rank-2}}$). Sharing and synthesizing across workgroups (as opposed to informally, within workgroups) is simply not part of the Q culture. As one

worker explained, “What one loop learns is not passed on. Nothing is documented. Projects are just dropped with no *post mortem*.”

Category 3: Utilize. With the exception of *firefighting*, utilization modalities do not appear to strongly contradict the hypothesis that Q is a learning organization.

- **Organizational improvement mode.** Based on responses to question **e. Increment/Transform** (SD: 1.815; Mean: 5.75; Difference from Expected: 0.75), there is a good balance between transformational and incremental development of best practices. Comments ranged from: “There are no fundamental changes. We offer new time reporting, not a radically new concept; the Demand Builder is a refocusing of what we had before” to: “Changes occur at crisis points: somebody new joins the company, or we adopt new software.”
- **Design vs. marketing.** Based on follow-on comments concerning question **f. Design/Market** (SD: 2.250; Mean: 5.17; Difference from Expected: 0.17), a distinction between design and marketing does not make sense in the Q context. Q is a marketing agency that doesn’t market itself; or rather design, marketing, and delivery are part of an indistinguishable process. There are no sales staff and sales are generated by making relationship-building part of the delivery. As one worker explained, “We don’t have sales people. We have no one whose job is to get sales, no one on commission, no rainmakers (as most agencies do). We have no promotion brochures.” Marketing, then, is about working with the customer to design products and processes that meet the customer’s needs or, in the words of another worker, “Marketing is relationship building, expanding our services within existing clients.” This is a unique Q approach to marketing.

?? **Project Planning.** Based on responses to question **u. Planning vs. Firefighting** (SD: 2.100; Mean: 5.88; Difference from Expected: $2.88^{\text{Rank-4}}$), *single-loop learning* is not being used effectively during project planning, necessitating a great deal of *firefighting*. As we will see in section 4.4.1 as well, the tendency to firefighting may be one of Q's greatest barriers to becoming a learning organization. It is rather difficult to imagine how double-loop learning could work without effective single-loop learning to build on. From comments, there are probably two main reasons for lack of planning. The first reason, which leads to a moderate lack of planning and would simply need to be accommodated in the design of the learning organization, is the nature of the business. As one worker explained: "Unfortunately when the client phones, we need to move. We are at the mercy of clients but this is par for the industry." The second reason, which leads to extreme lack of planning in some groups and could not be allowed to continue in a learning organization, is a shortage of staff, as indicated by comments such as, "We have no time for planning. We are so busy. We really need another person."

Category 4: Support. This is a rather large category, which I have somewhat arbitrarily limited to the four elements below. Q is truly weak in the area of support. Individuals and workgroups do not appear to have the support needed to allow a learning organization to develop and function.

?? **Skill development focus.** Based on responses to question **g. Skill Focus: Individual/Group** (SD: 2.290; Mean: 5.83; Difference from Expected: -1.17), there is an overall balance between focus on skills for the group and skills for the

individual. However, follow-on comments indicate that some workers perceive the organization to be highly oriented toward development of the individual and insufficiently oriented toward development of the group. One worker had this to say, “Everyone rows his/her own boat. We are too busy to do otherwise. The philosophy is that the best I can do is also the best for the organization. Collaboration is mostly over information. There is not enough delegation and not enough structure for group work.” Another worker opined that the skill development focus depends a lot on which VP you report to.

?? **Understanding of Q’s Performance.** This is a question of workers’ general awareness of how well Q is performing as an organization against measurable criteria, such as profitability. Based on responses to question **w. High-Level Knowledge** (SD: 1.441; Mean: 8.08; Difference from Expected: 0.08), one would be led to believe that this awareness is generally sufficient. However, certain follow-on comments give reason for concern. One worker explained, “We get the good but not the bad. The information supplied at the monthly meetings contradicts the openness of the general Q culture.” Question **w. High-Level Knowledge** simply asked workers if they were satisfied with the information they were getting. If Q is not a learning organization, then they probably don’t need more information, but this would change dramatically once ordinary workers get more involved.

?? **Frequency of Opportunities for Personal Development.** This is an indication of how frequently workers get an opportunity to meet with someone about their personal development. In question **z. Development Frequency** (SD: 1.768;

Mean: 7.63; Difference from Expected: 3.63[Rank-1]), the scale is in months from 1 to 10 and beyond. In the dynamic knowledge-based environment, 8 months between personal development opportunities (which would not necessarily be anything as formal or involved as a personal evaluation) seems a very long time.

?? **Coaching vs. Supervising Leadership Style.** Because of the motivational consequences, *coaching* is the only style of leadership that is compatible with pervasive double-loop learning; supervising is highly detrimental to the development of a learning organization. Unfortunately, responses to **question aa. Coaching/Supervising** (SD: 2.475 [Rank-6]; Mean: 6.13; Difference from Expected: 3.13[Rank-3]) indicate that supervising behaviour is common at Q. A typical complaint from workers was that their manager was "acutely supervising" and "made it difficult for them to get involved." SD is apparently high because of a real range across supervisory personnel. The tendency toward acute supervision is balanced by outstanding coaching on the part of others. As one worker enthused, "We have some really good coaches. It depends on the manager. My team is coached."

4.3.1 Worker perception of Q's performance. Several survey questions were meant to test worker perception of Q's performance:

m. Performance Adequacy (SD: 1.625; Mean: 7.85; Difference from Expected: -0.15). This question concerned the overall performance of workgroups.

n. Quality, commitment to (SD: 1.405; Mean: 8.35; Difference from Expected: 0.35). This question concerned the worker commitment to quality.

o. Coordination (SD: 0.982; Mean: 7.38; Difference from Expected: -0.63). This question concerned the general level of coordination.

p. Importance of Knowledge (SD: 1.923; Mean: 7.67; Difference from Expected: -0.33). This question related to how important knowledge and data were in decision-making.

Evidently, despite any inadequacies it may have as a learning organization, the consensus among workers is that Q is a high-performance organization with a focus on delivering a quality product in a coordinated way while using knowledge and competency as a basis for decision-making.

4.4 Interesting Tabulations Across Survey Responses

As explained in chapter 3, responses were recorded in an Excel spreadsheet and then copied two lines at a time into the cross tabulation calculation spreadsheet shown in Appendix G. Cross-tabulated counts on either side of the average were displayed in a 2x2 grid in the spreadsheet. In an effort to obtain counts across true differences in responses rather than across errors, only responses with high variance (SD > 1.75) were considered (which eliminated the lowest quartile of SDs) and only when respondents by their comments indicated that the survey question was relatively unambiguous. A glance at the cells in the grid suggested possible relationships or other salient findings. Where correlations were suggested, a Spearman rank correlation was done using the Pearson *r* statistic (available in Excel) to test their significance.

Interesting results have been grouped below in two sections in order of their impact on the study. Those in section 4.4.1 had the most impact and further suggested that Q was not a learning organization; while those in section 4.4.2 are merely interesting aspects of the Q culture that might be worthy of pursuing in a separate study.

4.4.1 High impact cross tabulations.

V vs. X: Distribution of Project Management Skills vs. ARI Core Values

	x. ARI Core Values	
v. Distribution of PM Skills	Unknown	Frequently Used
Specialized Individuals	1	3
Widespread	4	0

Note. ARI Core Values are Q's core values (Achievement, Reliability, Integrity) as displayed on their website. The rating scale for ARI core values ranged from unknown (that is, no awareness) to frequently used in day-to-day activities.

The cross tabulation suggests that use of Q's core values in day-to-day activities is associated with the perception that specialized individuals perform *project management*; or conversely that widespread project management skills are associated with little use of core values. Interestingly, the Spearman rank correlation analysis showed that ratings concerning the use of core values in day-to-day activities were correlated with ratings concerning the perception that project management was the function of specialized individuals ($r_s = 0.680$, $p < 0.05$).

Comments (on V vs. X):

For a learning organization to function both project management skills and the use of core values must be widespread and put into practice in day-to-day activities. The dissociation between the two suggests that workers do not have commitment to the organization's shared vision.

G vs. BB: Skill Development Focus vs. Pay/Performance Link

	bb. Pay/Performance Link	
g. Skill Development Focus	10% or Less	100% Link
Individual	0	3
Group	4	1

The cross tabulation suggests that emphasis on group skill development is associated with a weaker link between pay and performance. Interestingly, the Spearman rank correlation

analysis showed that ratings concerning the emphasis on group skill development were inversely correlated with ratings concerning the strength of the link between pay and performance (r_s = -0.869, $p < 0.01$).

T vs. BB: Abundance of Praise vs. Pay/Performance Link

	bb. Pay/Performance Link	
t. Abundance of Praise	10% or Less	100% Link
Rare	0	3
Frequent	4	1

There are some hints that abundance of praise is associated with a breakdown in the link between pay and performance.

Comments (on G vs. BB and T vs. BB):

While the coupling of individual skills and more satisfaction with the pay for performance system suggests that this system may not be encouraging the development of group skills so important in a learning organization, the apparent decoupling of praise and recognition from pay for performance suggests a breakdown of the organization's performance support system.

L vs. U: Decision-Making Process vs. Planning Mode

	u. Planning Mode	
l. Decision-Making Process	Pre-Planning	Firefighting
Informed Choice	3	1
Advocacy	0	4

The cross tabulation suggests that planning is associated with informed choice and advocacy with *firefighting*. Interestingly, the Spearman rank correlation analysis showed that ratings concerning the prevalence of firefighting were correlated with ratings concerning the tendency to use advocacy (as opposed to informed choice) in decision making (r_s = 0.832, $p < 0.025$).

T vs. U: Abundance of Praise vs. Planning Mode

	u. Planning Mode	
t. Abundance of Praise	Pre-Planning	Firefighting
Rare	0	3
Frequent	3	2

There are some hints that abundance of praise is associated with planning.

U vs. V: Planning Mode vs. Distribution of Project Management Skills

	v. Distribution of Project Management Skills	
u. Planning Mode	Specialized Individuals	Widespread
Pre-Planning	0	3
Firefighting	4	1

There are some hints that firefighting is associated with individual *project management* skills, and planning associated with widespread project management skills.

U vs. X: Planning Mode vs. ARI Core Values

	x. ARI Core Values	
u. Planning Mode	Unknown	Frequently Used
Pre-Planning	3	0
Firefighting	2	3

Note. ARI Core Values are Q's core values (Achievement, Reliability, Integrity) as displayed on their website. The rating scale for ARI core values ranged from unknown (that is, no awareness) to frequently used in day-to-day activities.

The cross tabulation suggests that planning is associated with little use of core values in day-to-day activities; firefighting, with more frequent use of core values. Interestingly, the Spearman rank correlation analysis showed that ratings concerning the prevalence of firefighting were correlated with ratings concerning the frequency of use of core values in day-to-day activities ($r_s = 0.665$, $p < 0.05$).

Comments (on L vs. U, T vs. U, U vs. V, and U vs. X):

Because most respondents perceived the prevalence of firefighting to be a real problem, it is interesting to note that firefighting is associated with so many other perceptions that would be detrimental to the functioning of a learning organization, including lack of project management skills among many workers, the use of advocacy rather than informed choice in decision making, insufficient recognition for a job well-done, and inefficient use of values in day-to-day activities.

C vs. U: Documentation Mode vs. Planning Mode

	u. Planning Mode	
c. Documentation Mode	Pre-Planning	Firefighting
Personal	3	2
Public	0	3

There are some hints that a personal documentation mode is associated with pre-planning and a public documentation mode with firefighting.

Comments (on C vs. U):

A personal mode of documentation associated with planning and a public mode with firefighting suggests that public documentation primarily happens during firefighting and makes up a significant component of the communication that occurs during *looping*. Evidently, this type of public documentation is not the type that would support the *double-* and *single-loop learning* that would go on in a learning organization.

G vs. L: Skill Development Focus vs. Decision-Making Process

	l. Decision-Making Process	
g. Skill Development Focus	Informed Choice	Advocacy
Individual	5	1
Group	2	4

There are some hints that highly developed individual skills are associated with the ability to make informed choices and that dissemination of skills throughout the working group is associated with decision-making by advocacy.

Comments (on G vs. L):

The association between a perceived emphasis on the development of highly skilled specialists and the ability to make informed choices (whereas teamwork skills are associated with advocacy) suggests that there is insufficient awareness of the skills required for making informed choices in a group context.

4.4.2 Low impact cross tabulations.

D vs. Q: Dissemination Mode vs. Action Strategy

	q. Action Strategy	
d. Dissemination Mode	Open Discussion	Conflict Avoidance
Formal	2	3
Informal	6	1

The action strategy refers to the way individuals interact in group and one-on-one meetings. The 6 responses cross tabulated in one cell suggest that an open discussion action strategy may be associated with informality of sharing learning.

E vs. J: Learning Focus vs. Problem Solving Approach

	j. Problem Solving Approach	
e. Learning Focus	Collaboration	Individualism
Incremental	4	0
Transformational	4	4

With no responses cross-tabulated in one cell, it would seem that those perceiving a tendency toward individualistic problem solving are not perceiving an incremental improvement process.

K vs. Q: Learning Mindset vs. Action Strategy

	Action Strategy	
Learning Mindset	Open Discussion	Conflict Avoidance
Experimental	6	1
Conventional	2	3

The 6 responses cross tabulated in one cell suggest that an experimental mindset may be associated with open discussion. Interestingly, the Spearman rank correlation analysis showed that ratings concerning the prevalence of the experimental mindset were correlated with ratings concerning the prevalence of open discussion ($r_s = 0.615$, $p < 0.025$).*K vs. X: Learning Mindset vs. ARI Core Values*

	x. ARI Core Values	
k. Learning Mindset	Unknown	Frequently Used
Experimental	2	3
Conventional	3	0

Note. ARI Core Values are Q's core values (Achievement, Reliability, Integrity) as displayed on their website. The rating scale for ARI core values ranged from unknown (that is, no awareness) to frequently used in day-to-day activities.

With no responses cross-tabulated in one cell, it would seem that those perceiving a more conventional mindset are not finding Q's core values very useful.

X vs. Z: ARI Core Values vs. Personal Development Frequency

	z. Personal Development Frequency	
x. ARI Core Values	Monthly	Annually or Less
Unknown	4	1
Frequently Used	0	3

Note. ARI Core Values are Q's core values (Achievement, Reliability, Integrity) as displayed on their website. The rating scale for ARI core values ranged from unknown (that is, no awareness) to frequently used in day-to-day activities.

The cross tabulation suggests that there may be an association between more developmental contact and more understanding of Q's core values. Perhaps this is something to keep in mind for organizations developing a shared vision. Interestingly, the Spearman rank correlation analysis showed that ratings concerning the frequency of developmental contact were correlated with more understanding of Q's core values ($r_s = 0.906$, $p < 0.005$).

G vs. Y: Skill Development Focus vs. Appreciation of Mission Statement

	y. Appreciation of Mission Statement	
g. Skill Development Focus	Indifference	Inspiration
Individual	2	1
Group	0	5

The 5 responses cross tabulated in one cell suggest that the mission statement becomes more valued when group skills are observed.

4.5 Conclusions about Q Culture Based on Structured Face-to-Face Interviews

As we saw in section 4.3.1 in the view of its workers, Q is a high-performance organization with a focus on competently delivering a quality product. High-performance is coordinated through a communication scheme known as *looping*. Workers generally believe that coordination within loops is adequate, but surprisingly, the looping scheme, despite being a key component of Q culture, is not used to the same degree in all work areas.

4.5.1 How quality and customer satisfaction are achieved. Quality is apparently achieved by using multiple levels of approval and end-product verification (for this reason, a small change in a printed piece may represent a considerable time investment) and customer satisfaction is achieved by following a sophisticated marketing design process developed by Q management and called "the Demand Builder."

The *Demand Builder* is strong on analysis of customer needs but weak on project planning and development, which define the product in becoming. For Q, the picture of the product in becoming is provided by a trademarked concept known as the integration wheel. The integration wheel is a pie containing eight functional areas—interactive media, technical documentation, direct marketing, sales promotion, special events, sales, advertising, and public relations—with the customer at the center. By means of some clever labeling the integration wheel attempts to show how all these functional areas work together. However, though the functions of certain pieces of the integration wheel may be well-documented and understood by all, other pieces are not so generally understood and the objectives and the relationship to other pieces are not so clear. It would appear that the system is not minimally specified sufficiently to allow workers in any part of the system to understand what other factors in the system are relevant to their area and what factors in their area are relevant to which other areas. One consequence of this underspecification of the product in becoming is that workers sometimes lose the big picture and focus on "quality" or their own area of expertise rather than the product in becoming. Another consequence is that management needs to "keep the hand in." Indeed, project-related meetings with supervisors occur frequently and apparently allow supervisors to monitor the status and functional inter-

relatedness of projects, the same role that supervisors would have in a hierarchical organization.

The failure to specify the product in becoming is symptomatic of an anti-process bias within Q. Quality, customer satisfaction, and efficiency were ranked about equal, but process was ranked last or second to last by all but one respondent. As one worker explained, "When something goes wrong, the group simply works out how to fix it." There is no particular effort made to transfer this learning between projects or across workgroups. The model for a team meeting, for example, is a series of status reports and an effort to resolve blocking difficulties for a particular project (*single-loop learning*) with no time dedicated to resolution of group problems and group initiatives for improvement of processes (*double-loop learning*). Indeed, much knowledge acquisition, so important to any knowledge-based organization, is not part of any defined process. Knowledge acquisition tends to be left up to individuals: They read relevant trade publications, for example, or visit relevant websites, often on their own time, at home and after work.

4.5.2 Worker motivation and development. Q ostensibly has a pay for performance policy (a.k.a., a PRP system). As is usual with such policies, however, it generates a certain amount of worker cynicism and because it is focused on the individual, provides little incentive for the workgroup-oriented behaviour so important to a knowledge-based organization. (As an aside, pay for performance does not at all apply to the many on-site freelancers, whose pay scale is simply negotiated upfront.)

In fact, one of the more skeptical workers believed that performance determines as little as 20% of pay and that for the most part pay is determined by arbitrary factors like personality and who you know, combined with a good dose of the impression you cultivate

with the managers. As one worker quipped, “The annual raise is based on performance, but it is warm and fuzzy.” Overall, ability to negotiate ranked third—after your performance and your competence—among some 16 factors that respondents were asked to rank for influence on their pay increments.

In a PRP system, personal performance evaluation has great importance for workers. Indeed, at Q the annual raise can be awarded only after the performance evaluation (which, because timings of evaluations are under the control of the manager who might have other priorities, is another source of dissatisfaction). At Q the performance evaluation has two paper-based components: a Role Definition Questionnaire (RDQ), which is akin to a job description except that it is developed by the employee with input from the manager (rather than the other way around), and a standard performance review form where behaviour manifested in performing the defined role is evaluated. (There is also supposed to be a 360-degree survey component, but in practice this is seldom done.) Interestingly, the RDQ was used by some workers to depict themselves at the intersection of social role and job definition, much as would be required by *STS theory* (see *Role*).

Overall, workers felt that in the personal evaluation system too much is left to chance. Policies are inconsistent and they are unsure what actions might lead to an improved review. There is a general consensus that getting along with others is important and that the key to getting a good review is self-promotion. Unfortunately, neither of these behaviours is necessarily optimal for a knowledge-based organization, the former because it can encourage conformity, and the latter because it gets in the way of the open-mindedness that leads to learning.

Though there are few management positions for them to move up into, most workers at Q seem to believe that they have a career path, or could find one if they tried, perhaps in a position with slightly more challenge or responsibility. They also believe that they are valued employees and that their jobs are secure. It is, however, obvious that career-planning is not given very high priority. Most workers had never, or only infrequently, talked their manager about the steps they needed to take to find a position either inside or outside of Q that took full advantage of their competencies and aspirations. Despite the myriad learning opportunities offered by U of Q, Q-View, and other programs, there is some confusion as to where taking advantage of these opportunities might lead. This is not only a personnel problem, but also a training problem.

In fairness, a new "People Person" was hired just about the time this study ended and hence, many of the motivation and development problems listed above may already be in the process of being corrected.

4.5.3 The role of U of Q. Respondents were generally positive about U of Q, the small-scale corporate university that was just getting started. Even those who were not participating for various reasons believed that it had led to or was contributing to the following improvements:

- more consistent use of language during professional discussions
- a stronger background in marketing and advertising for workers who may not have had formal training in these fields (Q, in fact, recruits from a wide variety of backgrounds even though marketing and advertising are its main fields of endeavour).

Respondents did highlight some of the shortcomings of U of Q:

- Freelance subcontractors are not eligible for legal reasons.
- Because it is focused on marketing and advertising, U of Q is not as useful as it could be to all workers. For example, it does not currently emphasize more organizationally generalized topics, such as working in teams, that would be of use to all.

4.5.4 The one big issue. When asked about the one big issue, the one problem that had to be fixed, all workers who responded focused on the technical side—more organizational structure, better tools, clearer definition of roles and responsibilities. This focus on the technical side suggests that they were not sensitized to the social side of organizational design. Rather than looking to workgroup *double-loop learning* to resolve process problems as would be appropriate for a learning organization, they had in mind a Tayloristic metaphor according to which any difficulties they were having were attributable to the failure of the organizational bureaucracy to shield them from the vagaries of a process beyond their control.

4.5.5 Skepticism about the organizational vision. Many modern organizational theorists, certainly including *STS theorists* and *learning organization* theorists (cf. Argyris, 2000, pp. 82 ff.; Taylor & Felten, 1993, pp. 200 ff.; Senge et al., 1994, pp. 297 ff.), are agreed on this one point: Only with a deep understanding and acceptance of a common goals, values, and vision, are individuals able to transcend original personal goals and find meaning for their actions in the context of the organization. The corollary to this is that providing information to workers about progress toward organizational goals is also crucial.

Q does make an effort to ensure workers are aware of Q's achievements and overall goals. There is a yearly State Of the Business meeting (SOB) where the vision and values are reviewed and plans for the next year are laid out. In addition, there are monthly and informal meetings (such as pizza days) where workers present their latest pieces and other accomplishments. However, details on progress toward visionary goals would seem to be lacking. Q is not a public company, so perhaps this is why there is no regular statement of profit and loss at these meetings, but Q might be advised to find some other lingua franca for discussing progress (some graphs, some hard data). From their responses, it is clear that workers do have a sense that all is going well, but are left turning to the rumour mill for details.

Some of the workers expressed skepticism at the Q values as presented annually at the SOB. They had tried applying these values to the evaluation and compensation system described in more detail in section 4.5.2. One had decided that the principles were a bit of a ruse, to get people to believe that if they work hard they will be compensated. Another noted that despite all the fine talk about teamwork, it is, in fact, discouraged by the individually oriented reward system. Yet another thought that the newly improved bonus system was a bit of a trick because some effort had been made to connect it to profit sharing when, in fact, the profits were unknown.

4.5.6 Quality of working life at Q. According to Taylor and Felten (1993, p. 132) *quality of working life* depends on and is indicated by the four Cs:

1. Recognized COMPETENCE at the workplace

2. Acknowledged CENTRALITY, or real relevance in applying that competence

3. Shared COMMITMENT to the purposes of the enterprise

4. Joint CONTROL over the product and the process."

Taylor and Felten also claim that the four Cs "nearly always appear together—if one is important to a system member, they all are important.

The relatedness of the four Cs does come out in quite an unexpected way when what workers liked best is compared with what workers would have liked to see improved (Question 6 in Appendix A). On the one hand, by and large, except for some expression of commitment, what workers liked best had nothing to do with the four Cs and fell into the following categories:

- the opportunities for personal growth, as exemplified by statements such as, "You can design your own career path."
- the people, as exemplified by statements such as, "There are a lot of dedicated, smart people."
- working hours and benefits, as exemplified by statements such as, "Flexible time. It allows you to work at home."
- the social life, as exemplified by statements such as, "There is the golf tournament and the Christmas party."

Concerning commitment, a few workers in the sample spontaneously did express enthusiasm about commitment to the core values of the enterprise and some of these also appreciated that competence was recognized. However, more common than a shared commitment to the purposes of the enterprise was an expression of commitment to working for the owners. Typical of the comments showing this kind of commitment were statements

like: “I love what the owner says and he creates a lot of energy and inspiration” or “I love the owner and his family. They are truly the kindest, most caring, and highly talented people you can find.”

On the other hand, recalling that answers were spontaneous and that the question was open, it was indeed interesting that almost all of what workers would like to see improved could be categorized as in some way relating to the four Cs:

- Concerning recognized competence, workers made comments like: “There is not enough evaluation of projects and employees.”
- Concerning the centrality of competence, workers made comments like: “Politics is getting in the way of competence,” or “We need to overcome immaturity in a lot of areas.”
- Concerning shared commitment, workers made comments like: “We work for a high-minded company that does not meet its ideals,” or “We are not explicit about our goals. The grand designs are not visible.”
- Concerning joint control, workers made comments like: “If you’re not at the VP level, you’re never really sure what’s going on,” or “We run too lean at times and don’t match resources to workload.”

One is led to surmise that QWL represents a growth area for Q.

4.6 Face-to-Face Interviews with Principals and VPs

Many of the Q principals and VPs are fascinating visionaries who have an awareness that the wave of the future is the transorganization (even though they might not call it that). They also recognize that one of the products of the enterprise is people, not only the workers

within, but also the wider community without. How to ride the wave of the future is not yet quite clear to them, but, as we shall see, it is not for want of trying to find out. One of their VPs, for example, had this to say:

> We have gone through a first wave of innovation based on technology. The second wave of innovation will be about what we, as human beings, want to become. The Americans have world leadership in this second wave, but Q is making a Canadian contribution through its affiliation with local institutes of higher learning. In the second wave the winning corporations will be those who excel in the human element and know how to put people first.

The CEO believes that Q should not strive to be a company because companies don't work. He wants to see Q become "a network in which up and down merge," and where learning is part of a cycle that goes from data to knowledge to inspiration to idea. Moral values cannot be separated from this cycle because they add respect, responsibility, and relevance. Moreover, at Q, HR is Human Relations, not Human Resources because it is simply wrong to think of human beings as resources.

The CEO highly recommended two books, which appear to be a good complement to one another:

?? *Managing by values* (Blanchard, O'Connor, & Ballard, 1997), which gives some guidelines for drawing up organizational values so that they cover the real CEOS—customers, employees, owners, and significant others. Without these values the culture will not be strong enough to be stable.

?? *The centerless corporation* (Pasternack & Viscio, 1998), which gives fascinating insight into the *transorganizational development* process, providing many examples from General Electric, one of the world's most successful TD1 transorganizations. (Recall that according to Boje [2000], a transorganization is of type TD1 if it emphasizes economic values such as short-term maximization of profit; it is of type TD2 if it respects human values and other more fundamental values.)

4.6.1 The looping vision. Because *loops* are such an important part of the Q working environment, it was interesting to get the vision of the principals and VPs concerning the nature of loops.

In the words of one respondent, "Ideally, a loop is a dramatic performance in which the players meet and define roles, get the job done, and then split up to be ready for the next challenge."

Officially there are only client loops; that is, whole networks of specialists representing the many work areas within Q catering to the needs of a single client. Because there is no client at the center, one respondent thought that work area loops (consisting of a group of specialists from the same work area) might be better termed "communities of practice." Indeed, there was some thought that it might even be better to discourage the development of work area processes that might not be optimized to the needs of a particular client. Hence, sharing within a community of practice is not supported by the organization. It is left to the imaginations of the practitioners (who will after all, generally communicate readily because they are seated in the same work area). The only supported sharing that goes

on across loops is that which occurs by virtue of the fact that loops have common node points; that is, the same players will re-appear in multiple loops. The goal of loops is, after all, not to lower costs. In fact, loops are probably more expensive. The goal of loops is to provide better service.

There was general agreement that in a derivative sense there were project loops, in which only a small portion of the client network is involved. Indeed, project loops are considered to be the key to much of Q's recent success. A project loop arises when a client service specialist on the Q side discusses a project with a corresponding area specialist within the client organization. If a major project needs to be accomplished, such as the construction of a website, a project manager specialist within Q will be called in to work with client services specialist. The project manager looks after meeting technical requirements and getting the job done; the client services specialist looks after client contacts and makes sure the client is ready for any decisions Q needs to make. This linking of client services with project managers is an innovative stroke that has allowed Q to be more successful than competitors with large and complex projects.

Loops generally are expected to follow certain methodologies or collections of best practices. The *Demand Builder* mentioned earlier is the only mature methodology; however, others are in development, with a view to solving some of the integration problems mentioned in section 4.5.1. Getting the little tweaks and best practices to "bubble up" into a methodology presents a real challenge. This bubbling up is accomplished through people whose function is to be a "node" or "operator" (a terminology that one of the VPs attributed to Michelle de Certeau). The job of an operator is to keep ideas moving, to ensure that anyone with ideas gets a fair hearing. For example, after speaking with an operator, a young

worker was recently given the mandate to explore the implications of interactive design for the handicapped and was able to bring some new ideas to the organization. During development of a methodology, the operator gathers ideas from as many people as possible and then forms a small steering committee of specialists that does the research and development necessary to bring the methodology to fruition.

4.7 Interviews with CEOs of Other Ad Agencies

Early in my investigations, I discovered that Q had collaborated with other advertising agencies that had tried out the looping concept. Consequently, to get an additional perspective on the looping concept, I asked Q's CEO to recommend some of these other agencies to me. Three of their CEO's agreed to an interview:

- AAA is another integrated communication business that is like Q, located in Canada. They do a lot of work for the federal government. They have about 50 people and are structurally similar to Q with a creative area, a strategic area, a media area, a new media area, and an accounting area.
- Now with 34 people, X&Y is less than 1/4 the size of Q. Every one of the employees owns a share of the company's stock, and there is a stock purchase plan to allow new employees to acquire more stock over time. The idea behind the X&Y partnership is that workers take responsibility for their own contribution. Everyone has freedom and autonomy and there is a true team spirit of all for one and one for all. The idea is to continue a measured growth that permits personal growth of workers and development of strong relationships with clients. It is a policy at X&Y that senior employees are paid below industry standard and fit on a graduated pay curve that increases with seniority and

experience. According to X&Y's CEO, this is quite different from the practice at most advertising agencies where senior staff are paid very good salaries because of the clientele they can attract, but lower level workers are paid just enough to keep them from leaving.

?? The A Team, with about 20 employees, is much smaller than Q, but according to their CEO has similar ways of operating. They enjoy steady growth and, in fact, have doubled in size in the past two years, but growth is not the goal. Some values the A Team has above growth are fun, learning, and doing a quality job. There is an emphasis on worker education and developing a quality culture. They are putting in place an incentive-based compensation plan that reflects measurable levels of responsibility. There will also be a multi-tiered profit sharing plan, which means that it will be more important to make sure employees understand how they are contributing to profitability.

4.7.1 Looping at other agencies. *Loops* are not Q's invention. The CEO of AAA believes they were borrowed from another agency located in Halifax where they are called "pods." Pods are a lot like the cells in *Just-In-Time systems*, and in pods, workers focused on the same client actually sit together as they would in a JIT system. In Q, the concept of pods has been changed slightly, notably in so far as workers seated in the same work area generally have the same professional background, rather than a focus on the same client.

The three agencies other than Q have had quite different experiences with loops, experiences that highlight the tension between assembling dynamic workgroups while

maintaining some control of processes in the dynamic work environment of the knowledge industry:

- AAA uses a looping concept similar to Q's but they are having difficulties implementing it effectively. At first they tried to use just four main loops—strategic, operating, culture, and partners, which tended to correspond roughly to functional areas—but now they have come to believe that they need people from a variety of backgrounds in each loop. For example, unlike Q, which has only professional strategists in the strategy loop, AAA involves workers from a mix of backgrounds in this loop. Other loops that would correspond roughly to Q's client loops are just starting. Instead of being focused on just one client, AAA's loops are focused on one industry, for example, the retail industry.
- At one point X&Y became enamoured with looping after the senior staff visited Q. They came to the conclusion that X&Y was too siloed and that the creative staff were feeling left out of business processes. However, after 2 1/2 years of looping they had gone to an extreme. Everybody was participating in everything. Junior people were pushing back on clients. Loops of 10 to 12 people were typical, which cost $1000 per hour to operate. Now they have switched back to a model where a senior accounts supervisor is the primary point of contact with the client. Work is accomplished through process plans where a role is defined for all. Anyone has the right to challenge, but they are expected to temper their challenges with due deference to experience and knowledge, and with clients should practice the art of persuasion rather than confrontation.

For long-term planning, X&Y divides up into Vision Teams. The aim is to set financial goals and decide what it means to succeed. Everyone participates and develops a piece of the plan. They all get together and present their pieces at a planning meet, where they also have some fun with costumes and skits. This way everyone buys into the vision. Their CEO's quotable quote: "Hallucination is a vision of one."

At X&Y feedback on group performance is taken seriously. All financials are posted to all employees every thirty days, and in addition, there are workgroup performance meetings once per quarter.

?? The A Team makes extensive use of looping, which works well for them. However, because they are lacking personnel with leadership capabilities, their loops are not as independent as Q's. Loops meet weekly to discuss work for the week and project loops meet more often. Conference or contact reports are issued whenever there is a meeting with clients. The A Team, like Q, depends on informal collaboration throughout functional areas for the development of work area processes. In addition all of the client service managers meet every other week.

4.8 Interviews with Suppliers

Q supplied the names of three of its top suppliers and senior staff and all of them were gracious enough to accept the invitation to participate in the study. Their comments were particularly interesting because they, after all, are downstream from the looping process and feel its full effect. Two themes came through consistently:

?? All the suppliers were genuinely excited not only about doing business with Q but also about what they could learn from Q. When asked for examples of successful projects they had completed with Q, they readily supplied stories about long hours, commitment, and collaboration. Clearly the Q vision had touched them all.

?? The suppliers were having trouble with the multi-level approval process that allows Q to achieve high end-product quality (see section 4.5.1). As one supplier explained, "We sometimes find ourselves holding the press while the Q print buyer liaises with the Q loop. Sometimes we'd like a decision, but we're waiting. Film proofing is particularly arduous. The proofs have to go through a long approval process at Q, until everyone has checked and double-checked them and all the little mistakes are eliminated." Looping, it seems, is a good communication mechanism, but there is an apparent failure to develop and capitalize on the expertise that could allow decisions to be made both more effectively and more quickly.

4.9 An Observational Example: A Q Monthly Meeting

Q also offers a unique experience in blending architecture and human interaction. An ambiance of playfulness, spaciousness, and art sets the tone for the interaction of the workers that are surrounded by it. Upon stepping out of the elevator on Q7, the first thing the visitor sees is the sweeping front desk, affectionately called the bridge. Behind the bridge is the Red Room where I held several of my face-to-face interviews. It is playfully decorated with sofas, pull toys, a folded metal cube, and a style Jules Verne painting of a mechanic staring at a clock, the hands of which are at an impossible angle. There are large open areas filled with private nooks, and a few shared offices, but no corner offices. On the corners are the meeting

rooms with sweeping views of the cityscape below (meetings are obviously given the importance that is their due). The main boardroom contains an oval table resting on a huge light bulb that is supposed to symbolize thinking and creation. Huge silhouettes of light bulbs are carved into or rather through the walls of rooms as well (a drywall-carving feat of no small accomplishment, I am told).

The narrative below is an attempt to capture the essence of one of Q's monthly meetings that I had the privilege of attending; it illustrates the way in which the playfulness and openness of the architecture have infected the people.

I arrive five minutes early. The receptionist, a.k.a., the Director of First Impressions, waves me in and tells me to follow the others. When I enter Al's diner (decorated with a poster of Albert Einstein) I don't recognize anyone, but no one seems to care. I stand around awkwardly for a few minutes until the receptionist herself shows up and instructs me to grab a chair as best I can. The room fills, but no one is sitting at my table. Finally someone I have met before shows up and sits beside me. The CEO enters and begins the meeting by introducing me and explaining that I would be writing a thesis about them.

Birthday celebrations are normally held off till pizza day, but someone in the crowd has a birthday today. They sing the Q happy birthday song, which substitutes "youse" for "you" and never gives a name.

Next someone is called up to present the results of the Q Christmas party survey. The party was apparently a brilliant success, even though it was held in January.

Now it is the Q-Ville intranet project manager's turn. The new interface is a hometown theme with U of Q, computer shop, news central, phone booth, welcome wagon,

city hall, post office, library, and whazzup. The project manager will be checking computers and giving $5 bills, which he calls “the Q version of Canadian Tire money,” to employees who have selected Q-Ville as their home page.

There will be some winter activities—a kid’s day and an arts and crafts day. Signup sheets are left on the table.

Now the manager of the O-Loop takes the floor. She announces purchase order training for those who need it. Also they are very proud to have been selected as a beta site for the cost tracking software they are using. The supplier claims they are the best site they have ever worked with. Everyone claps.

Now another speaker, a young woman for the Strategy Loop. They are setting up a usability lab. Apparently the CEO will lose his office at least until new quarters can be prepared. There are lots of questions for her. Evidently, people are used to speaking up.

The CEO presents a summary of the recent state of the business meeting (a.k.a., the SOB). Business accomplishments for the year are highlighted. The CEO makes a point of emphasizing profitability for stability.

An announcement. U of Q level 2 is ready. Bruce Bendinger’s new book is going to be used as a text. Bruce has written about Q in the book!

Another announcement. Q will put $25 towards a board game for any worker’s family.

There is a lengthy discussion about meetings in hallways, which apparently bother people because of the noise and because these informal gatherings make it hard to get by (the hallways *are* narrow).

Another announcement. The person who delivers snack food everyday, who has been called Momma Q, will be from now on known as the Director of Fruit and Veggies.

There is an introduction of new employees, then the CEO entertains questions. Most of the questions are about a storage room that they've apparently decided needs to be kept locked.

The CEO finishes by asking "Good Meeting?" There is no response and people begin to leave.

4.10 Conclusions

Q has a culture and an organization that is well-matched to the turbulence of the knowledge industry. The three characteristics of its culture that stand out are experimentalism, individualism, and informality. It is certainly an organization that learns, but it does lack the pervasive *double-loop learning* that characterizes a *learning organization*. Much of the double-loop learning and knowledge-acquisition that goes on within it depends on individual initiative and the coordinating capabilities of certain key "operators."

The face-to-face interviews highlighted many difficulties that must be overcome before Q becomes a learning organization. Among these difficulties were:

- *Firefighting*, which appears to be the normal mode of operation
- Skill development focused almost exclusively on the individual with little concern for group skills
- Persistence of supervising rather than *coaching* as a leadership style
- Failure to pass clear information about Q's overall performance on to workers

?? Lack of success in *shared visioning*.

There is a general lack of emphasis on process development; indeed, according to at least one manager, day-to-day process development is left up to the "imaginations" of like professionals who happen to be seated together. The need for some over-arching guidelines is met by means of "methodologies," such as the *Demand Builder*, that are developed by teams of specialists.

*Loop*s are a formidable communication mechanism and inclusion of clients and suppliers in these communication forums allows rapid detection of project difficulties so that firefighting becomes a viable option for facing down the wickedness of the knowledge-based industry. Unfortunately, lack of process development and weakness in decision-making sometimes makes efficient firefighting difficult to accomplish.

There are apparently some problems with worker development and with the reward and recognition system that are doubtless being fixed by the new Human Relations person.

QWL is a real problem. Though the principals and senior staff are visionaries striving to create a transorganization that is driven by a shared vision, many workers are sensing a lack of recognition and failing to find a way to participate in the joint control of product and process.

CHAPTER 5

CONCLUSIONS

5.1 Introduction

As discussed in previous chapters, although preliminary discussions with the CEO and senior staff members led me to expect to find a functioning *learning organization* at Q, this expectation was not borne out by research data. Indeed, there was little to no evidence of the pervasive *double-loop learning* that one would expect to find in a learning organization. This is not the same as denying that organizational learning was going on. In fact, learning goes on throughout the Q organization, both single-loop at the day-to-day level and double-loop at the strategy levels. Nor does this mean that Q will never become a learning organization. Doubtless Q is best regarded as a learning organization in becoming, especially given that there are so many visionaries among its senior staff. The fact is, however, that Q is not today a learning organization. In stating this, there is one point worth clarifying. I do not claim to have created an "operational definition" of learning organization, suggesting that a learning organization must manifest double-loop learning just because by using the term "learning organization" in this way I have eliminated much of the vagueness of the learning organization concept. No, quite to the contrary: I am using double-loop learning as a simple index of whether or not an organization is a learning organization. However, behind that index is the entire complex concept of the learning organization, which is much more than an organization that learns because, as Boje (2000) points out, the learning organization is a manifestation of what is sometimes referred to as postmodernism, the denial that there are absolute principles coupled with the belief that the world is constructed as each mind grapples with its own personal reality.

The fact that Q is not a learning organization, at least not in the postmodern sense of the term, raises several other interesting questions, which I will draw generally on the data summarized in chapter 4 to answer:

1. If Q is not a learning organization, how can it best be categorized? What sort of organization is it? *STS theory* provides a useful *lens* for answering that question, as does comparison of Q to a *lean production* organization. The compatibility of knowledge work with STS theory and with lean production was covered in sections 2.3 and 2.6, respectively.
2. What educational interventions might help Q and organizations like Q become a learning organization that is successful in the knowledge industry? In order to prepare the reader for my response to this question, I ask him or her to recall that at the close of chapter 2 I concluded that it was necessary to create a *learning transorganization*, incorporating both learning organizational and STS theory.
3. What might be some of the reasons for Q's success in the marketplace? In considering a learning intervention, after all, we would want to be sure that success factors were not unduly impinged upon.

5.2 Q Compared to an LP Organization through an STS Lens

If Q is not a learning organization, how can it best be categorized? What sort of organization is it?

Niepec and Molleman (1998) have analyzed *lean production* (LP) using the principles of *STS theory*. In this section I summarize Niepec and Molleman's analysis and discuss it with respect to applicability to Q. It will become evident that Q by and large

resembles an LP organization that has adapted to the knowledge industry, an organizational context that is full of complexity and wickedness.

Prinicipe 1. Minimal Critical Specificatio n

In an LP organization work processes are extensively specified and standardized; moreover, this standardization is enforced by a hierarchical leader that commands the team and is responsible and accountable for its success. We can contrast this with the STS approach in which the team has influence over some management functions (such as selection of new staff), supervisors and *leaders* become facilitators or *coaches*, and distribution of tasks is internally controlled by the group doing the work.

Now it is clear that there are really three, possibly four options here: specified and standardized, minimally critically specified, underspecified, and unspecified. As we have seen, at Q most activities and processes are either underspecified or unspecified. Therefore, so as far as principle 1 goes, Q conforms to neither LP nor STS theory. However, Q does resemble an LP organization in some respects. We have seen that hierarchical leadership still exists in some of Q's work areas and, generally speaking, management functions have not been transferred to the workgroup. Also distribution of tasks is generally controlled externally to the group doing the work. So with regard to the applicability of design principle 1, Q resembles an LP organization in that workgroup self-management is not widespread.

Principle 2. Boundaries

In LP boundaries internal to the organization are considered undesirable and unimportant. The organization is the most significant boundary unit and workers are flexibly rotated from one workgroup to another as workload dictates. Moreover, *double-loop learning* occurs mainly at the company-wide level with a view to promulgating it throughout the

organization. According to STS theory, on the other hand, production activities should be performed by teams, which are long-lasting, independent units. The team is the most significant boundary unit; indeed, it is one of the functions of management to buffer the team from problems, such as irate customers, that it does not have the capacity to deal with.

Clearly Q resembles the LP model. *Loops* are, after all, supposed to be little more than dramatic performances and most of the double-loop learning (such as development of the *Demand Builder* methodology) occurs at the organizational level. For a service organization, such as Q, operating in the knowledge industry, buffering may simply not be possible.

Principle 3. Multifunctionality

Multifunctionality refers to the skillsets of workers. According to STS theory, teams have workers with diverse, sometimes highly specialized skillsets; team members tend to be irreplaceable because of the complexity of the tasks they are skilled in. In LP, each worker can perform a range of highly simplified tasks: workers are interchangeable and replaceable.

In this case Q tends to conform to STS theory. However, Q is driven by context here. Multifunctionality is the only possibility for workers in the context of the knowledge industry where all tasks are complex.

Principle 4. Support Congruence

Support congruence refers to a harmonization of the way workers are rewarded and managed with the way that work is accomplished. Since in LP, work processes are highly simplified, it makes sense to reward workers individually for the accomplishment of their own tasks. It falls to supervisors to manage processes and projects so that the tasks done by workers are coordinated into a coherent and smoothly functioning whole. However,

according to STS theory, even though the tasks are complex, ordinary workers should have sufficient process and *project management* skills to ensure coordination of the work done by the team. Hence, some form of team-based reward system makes sense.

In this case Q, once again, resembles the LP model. For as we have seen, workers are individually rewarded and managers must make up for the general lack of process and project management skills among ordinary workers (see section 4.3, especially Category 4: Support). Indeed, as discussed in section 4.5.2, Q's motivation and reward policies may be generating a certain amount of support incongruence with its aspiration to becoming a learning organization.

Principle 5. Feedforward and Feedback

According to STS theory, feedback and feedforward are developed by and directed to workers accomplishing a task so that they can understand the effectiveness of their efforts and make adjustments as necessary. Sufficient information is provided to workers to make not only efficient *single-loop learning*, but also *double-loop learning* possible. In LP control of the process is outside the hands of the ordinary worker and information about the process is used primarily by managers and experts who control the process and look after any double-loop learning. It could be said that according to STS theory, learning is exploratory, but in LP, learning is *exploitative.*

Although customer feedback does get through to ordinary workers at Q, feedback and feedforward are seldom developed by and directed to those who can use them most effectively. An example provided by one worker is that essential feedforward information, such as the expected cost of a graphic, is often not transmitted for fear of disrupting

"creativity." And, as we have seen, in Q double-loop learning is managed and controlled by experts.

Principle 6. Incompletion

Incompletion captures the idea that process design is an ongoing process that is never finished. In LP ongoing process design is accomplished through formal committees using specialized techniques (such as statistical process control). According to STS theory, experimentation and learning should simply be considered an enrichment of daily work.

In Q, as we have seen, most of the ongoing process design follows the LP model; however, in a resemblance to the STS model, a certain amount of process experimentation is left up to the "imaginations" of workers who have spontaneously aggregated into "communities of practice" (see section 4.6.1). Perhaps a certain amount of learning by experimentation is simply inevitable given the temperament of *knowledge workers* and the nature of knowledge work (we recall from section 4.5.1 that workers often pursue knowledge gathering at home, on their own time).

Principle 7. Compatibility

Compatibility refers to the fit between technology and the work processes that comprise the social system in which work gets accomplished. In LP technology is introduced with a view to efficiency only, and technocratic experts design a work system that accommodates the technology. In STS theory, there is an awareness that workers must be committed to the technology before it can be used effectively, and to enhance this commitment workers are involved both in the selection of technology and in the design of the work system that takes advantage of it.

In this case, Q conforms more to the STS model than to LP. In Q it would appear that when technology is chosen it is only after considerable consultation, and after the choice is made an effort is made to sell it to the workers in general. Two instances of this occurred during the course of the study. One was the development of Q-Ville, the Q intranet site, and the other was the introduction of a new cost tracking system. (Both were discussed at the monthly meeting recorded in section 4.9.) This tendency to collaboration in introduction of technology may be not so much due to influence from the knowledge-based context, but rather a spinoff from the *looping* behaviour that is so much a part of the Q culture. The collaborative introduction process may also explain worker commitment to this technology, as evidenced by their enthusiasm at being a beta site for the cost tracking system.

Principle 8. Social Technical Criterion

This is the social technical criterion for the control of variances that result in quality problems. The basic criterion is that corrective action should be applied as early as possible and as closely as possible to the point of origin to minimize consequences. Both STS theory and LP agree on this principle, as would the workers and managers at Q who expend much *loop* time verifying and approving work before it is passed on to the next stage. This is, after all, one of the principles behind the *Demand Builder*, which divides the demand building process into a number of steps with verification and approval at each step. STS theory, however, adds an additional component that LP does not have, which is *double-loop learning* by ordinary workers as they strive to reduce error and improve day-to-day processes.

Q resembles an LP organization in that, as we have seen, it is weak in double-loop learning for day-to-day processes.

Principle 9. Human Values

Human values are the organization's commitment to *quality of working life* (QWL) and to the development of its workers. In LP *commitment* is contractual, and based on maintaining a certain level of trust between management and workers. Workers have the responsibility to be committed so long as management ensures a stable and otherwise acceptable work environment. Worker skill development is encouraged, but QWL is relatively low and workers are supervised, not *coached*. The STS model, by contrast, is fully committed to QWL and to the development of workers to the point where they have sufficient self-control to manage their own day-to-day activities with the consequence that coaching, not supervising, is the only appropriate leadership approach. According to STS theory, commitment is not a responsibility, but an outgrowth of understanding, creating, and influencing your own work environment.

As we saw in sections 4.5.2 and 4.5.6, Q strongly resembles LP in its approach to human values and there is a fair amount of worker scepticism with respect to them. Quite suggestive in this regard is Q's Bill of Rights and Responsibilities, which in several instances repeats that workers have the *responsibility* to be committed. This is a contractual approach to commitment and a decidedly LP way of viewing the matter.

5.2.1 Why Q resembles an LP organization: The organizational context. Of course, Q is not a *lean production* (LP) organization. LP is used in mass production industries, and Q is in the knowledge industry. However, it is interesting to speculate on why so many characteristics of an LP organization, when viewed from the perspective of *STS theory*, should also apply to Q.

One element of context that is crucial in answering this question is the fact that Q is an advertising agency, operating in an industry that has traditionally used *Taylorism* as an organizational model. For example, in a typical advertising agency projects have a chain of command that runs as follows:

Client => Account Manager => Creative Design => Production => Print Supplier

The account manager uses standard sales techniques to sell a contract to the client. Once the client has agreed to a specified job, the work flows out through the other stages to the print supplier with as little feedback as possible. Meanwhile the account manager manages the client's expectations to be sure that the final result is generally pleasing.

Now Dankbaar (1997), in a section titled "Lean production is not the successor to *fordism*, but does contains some building blocks for the organizational forms of the twenty-first century," points out that lean production is essentially what you get when you increase the information flow and capacity for learning of a traditional hierarchical organization that is based on Taylorism. In a lean production system, increased information flow is generated by quality circles, close cooperation across departments, and inclusion of suppliers in decision making; increased capacity for learning comes from the establishment of a learning bureaucracy that captures *double-loop learning* and disseminates the results throughout the organization. In Q, increased information flow is generated by *looping*, and increased

capacity for learning has come about as a result of the installation of visionaries as strategists. However, creating an organization that learns is not the same as creating a *learning organization*; nor does increasing information flow change a traditional hierarchical organization into a transorganization. Hence, I speculate that Q resembles a lean production system, just because, in spite of the increased capacity for learning, many vestiges of a hierarchical system remain, persisting as images of organization in the minds of workers and managers alike. Human beings are creatures of *metaphor* and image after all, and, as Morgan (1997) points out, it is the metaphor we have in mind when we go about working in an organization, much more than any philosophical or humanistic considerations, that will determine its form.

I am also led to speculate that many traditional organizations that set out to adapt to a knowledge-based environment by increasing information flow and increasing the capacity for learning will find themselves bearing a strong resemblance to a lean production organization. The adaptation is forced but the underlying bureaucratic organizational metaphor remains. In the next section we will explore the characteristics of an educational intervention that might correct this situation.

5.3 An Educational Intervention to Become a Learning Organization

What educational interventions might help Q and organizations like Q become a *learning organization* that is successful in the knowledge industry?

In this section I consider the educational precursors to *transorganizational development* and to becoming an adapting organization (see section 2.3.1), and I make note of the educational approach to solving presenting problems. Finally, I consider the viability of using U of Q as a delivery vehicle for educational interventions.

5.3.1 The educational precursors to transorganizational development. What educational intervention might help Q become a *learning transorganization* that matches reality-based *resistance* with appropriate accommodation?

Why state the objective this way? Why not simply create a learning organization to increase organizational efficiency and improve chances for economic success. The answer, as we saw in the introduction to chapter 2, is that these goals disregard other values, such as the development of human potential, stability of the ecosphere, or more equitable distribution of wealth. Matching reality-based resistance with appropriate accommodation leaves the nature of that reality open; it is a reality that must be constructed during *transorganizational development*; because it is constructed from multiple points of view, it is also likely to be more stable and endure the test of time.

Moreover, it is during transorganizational development that the foundation for joint *commitment* and improved *quality of working life* (QWL) is laid and human values are introduced. As Covey (1989, p. 143) so succinctly states it in a section where he talks about shared visioning: "Without involvement, there is no commitment. Mark it down, asterisk it, circle it, underline it. *No involvement, no commitment*."

Transorganizational development rests on the development of a *shared vision*. A shared vision that eliminates the need for *manipulation* and results in the kind of joint commitment that raises QWL cannot simply be delivered once and for all by "telling"—it must be constantly "co-created." The educational requirements of co-creating a shared vision are twofold: 1) widespread understanding of a methodology for creating a shared vision and 2) widespread understanding of a methodology for creating a *personal mastery* that is sufficient to allow workers to be fully participative in the creation process.

In section 4.5.5 and again in section 5.2 (Principle 9), we saw that in Q, despite the vision statement, the mission statement, and extensive statements of goals, values, rights, and responsibilities, there was some skepticism among workers about Q's commitment to human values: Values were regarded as personal. Moreover, attempts to incorporate values into day-to-day activities were seen to be a cause of *firefighting*. Not surprisingly, QWL, which depends on joint commitment to a shared reality, was observed to be low. Workers appeared to lack a methodology for evaluating a shared vision so that it comes alive and the values expressed within it become a source of inspiration. This is where an educational intervention that presents visioning methodologies and personal mastery methodologies comes into play.

It is really beyond the scope of this study to review visioning and personal mastery methodologies. However, a brief discussion of relevant terms and mention of a few considerations to guide the practitioner would seem to be in order. Breaking a well-established *metaphor* is, after all, not easy. As Ian Hacking (1999, p. 71) explains, in any change process, even in pure science, "the world resists." Any attempt to impose a new way of viewing reality will face both a psychological resistance from the people involved, who must change their way of thinking, and a resistance from reality itself because measurements will be in error, new technologies won't work, and mistakes will be made. Only if great care is taken will the resulting accommodation be radically different from what came before.

5.3.1.1 A look at visioning methodologies. In its transorganizational meaning, an organizational vision is an attempt to capture the collective aspirations of network of groups. As such it may consist of any number of components that capture that aspiration. Senge et al. (1994, pp. 337-339), for example, rather than listing the components, simply list a series of

questions that these components might answer. However, for simplicity here, I will give a tentative list of visioning components with some explanation of the relations between them.

As a framework, I will begin with the schema proposed by Collins and Porras (1991), who after reviewing the visioning methodologies of some two dozen successful firms, concluded that organizational visioning consisted of constructing a chain that has the following sequence:

Values => Purpose => Mission => Vivid description.

Components on the left tend to be relatively permanent and constrain the components on the right. The components have the following definitions:

Values: a lengthy statement of rights, expectations, and the significance of organizational activities.

Purpose: a short, inspiring statement, usually not more than a sentence, that describes how the organization contributes to the world by fulfilling a human need. A purpose can be worked toward, but never achieved. For example:

To help leading companies be more successful.

OR

To help ordinary people realize their full potential.

One danger with transorganizations is that they may perceive a need to lengthen and explain the purpose so that all the transorganizational members (no matter how marginal they may be) can understand it. This in my opinion is a mistake. The purpose should be aimed at the core of the transorganization and must be as inspiring and meaningful for them as possible.

Mission: a clear and compelling goal that unifies an organization's efforts. The mission is practical, achievable, and changes as new opportunities arise. For example:

Achieving the goal, before the decade is out, of landing a man on Mars.

Vivid description: an explanation of how the mission is going to be accomplished, covering resources, milestones, etc.

Without some guidelines, the value statement, which may have multiple subcomponents, may be particularly difficult to derive. One approach is to use the stakeholder theory of the firm (discussed in section 2.2.4) to derive the subcomponents. Each group of stakeholders will have a set of statements dedicated to it. This may not, however, be totally adequate, for as Taylor and Felten point out (1993, pp. 39-41) it is probably also desirable to make some mention of the production system, its inputs, outputs, objectives, and goals.

In addition, Taylor and Felten (1993, pp. 42-43), suggest the following value subcomponent, which might help orient the vision toward human values:

Philosophy: a summary of the human values enacted or espoused by the organization. This is a derivative of the statement of values described by Collins and Porras (1991), one that is short enough to be easily remembered and acted upon. It is a good place to emphasize the organization's commitment to initiatives that increase QWL.

Labovitz and Rasonsky (1997) (mentioned in section 2.2.1) emphasize the need to incorporate measurement into the shared vision; indeed, they would claim that unless they are linked to measurable results, vision statements, however philosophically appealing they may be, will have little effect on the day-to-day operation of the business. Ultimately, at the

end of a visioning exercise, there must be a clear understanding of how every work area (or Home Base of an adapting organization) contributes in a measurable way to an organization's *core capabilities.* Measurable results can then provide the basis for single- and *double-loop learning*.

5.3.1.2 A look at personal mastery methodologies. One of the classic approaches to *personal mastery* is that proposed by Covey, who refers to it as personal leadership (Covey, 1989, pp. 96-144). Covey's proposal is to define an overall mission, develop a certain number of behavioural goals (such as showing charity), and describe how this mission and these behaviours will play out in each of your life roles: husband, father, scholar, etc. One is reminded of *Taylorism*, except that in this case, the roles and responsibilities defined are for your life rather than for the organization you work in. One is also reminded of the top-down approach to *leadership* that has fallen out of favour in modern managerial parlance. Can an approach that appears to be aligned with Taylorism achieve for one's personal life what it does not achieve for organizations? Given the chaos of modern life, the main difficulty with Covey's approach might be in formulating the overall mission; in other words, even if Covey has an empirical basis for his approach, one is led to wonder which generally comes first: a meaningful overall mission statement or a life that has somehow been buffered from chaos?

Senge, in the *Fifth discipline fieldbook*, proposes a breathtaking personal mastery exercise that is specifically oriented toward organizational visioning and begins:

> What would you personally like to see your organization become, for its own sake? What kinds of customers would it have? What sorts of processes might it conduct… (Senge et al., 1994, p. 208).

Perhaps Senge's approach makes more sense in an organizational context than Covey's more comprehensive approach. After all, articulating a working philosophy of what it means to be part of an organization and have certain *roles* within it is probably enough. There would seem to be no need to incorporate a unified, overall mission for one's life into a job-related mission statement. Perhaps the stakeholder theory of the firm (see the end of section 2.2.4) could be used as a guide for deriving value statements for these roles.

It is important to keep in mind that because personal mastery stems from answers to fundamental questions, personal mastery probably has no simple formula. Rothwell and Cookson (1997, p. 68) capture this in their description of a working philosophy:

> A working philosophy enables people to answer three important questions: (1) What is real? (2) How do we know? (3) What is right? The first question helps people to articulate what they accept as a truthful representation of reality; the second question helps people clarify the underlying basis for their beliefs; and the third question enables a moral compass to point the way to right and wrong.

Fundamentally, it would seem, personal mastery must have a religious, or most certainly, a metaphysical component. How to guarantee that these religious or metaphysical components will come together to form a coherent reality for the multiple individuals involved in an organization? The *constructivist* view is that because the world *resists,* fundamental answers can be changed by engaging this reality or certainly led to admit a certain tolerance, which means that in an organization that is open to learning, it is human nature for its members to find, or should we say construct, some common reality.

5.3.2 The educational precursors to becoming an adapting organization. In this section I answer the question: What educational intervention might help Q and organizations like Q become an adapting organization, which introduces *STS theory* into *knowledge-based transorganization development*, as discussed in section 2.3? Reasonable aims would be the reduction of *firefighting*, amelioration of *deliberation forums*, and an increase in *double-loop learning*.

Recall that the adapting organization is a two-tiered system consisting of Home Bases, corresponding to Q's work areas, and operating teams, which might be considered to correspond to Q's *loops*. Although adoption of an adapting organizational structure is dependent on factors beyond the control of an educational intervention, I did attempt to prove in section 2.3.1 that an adapting organization is compatible with STS theory. In section 4.7.1 I also noted that some of Q's competitors had adopted a structure similar to Q's. Indeed, we can surmise that in many knowledge organizations, there will be this split between functional areas and projects that must cut across functional areas; hence, much of the organizational structure is likely to already be there. However, without educational intervention, operational difficulties are likely to abound. For example, in section 4.3, category 3: Utilize, I presented evidence for an inefficiency in the expression of project planning skills at Q, in section 4.5.1, I identified an anti-process bias that may prevent efficient group work, and in 4.5.4, I identified an apparent lack of sensitivity to workgroup double-loop learning. Indeed, much of the double-loop learning and knowledge-acquisition that goes on within Q depends on individual initiative and the coordinating capabilities of certain key "operators." The challenge, then, is to ameliorate *deliberation forums* within the tiers of the organization, so that worker self-management of processes and projects may become more widespread and

double-loop learning become more pervasive. This self-management is unlikely to occur spontaneously, for as Kasl, Marsick, and Dechant (1997, p. 231) point out when discussing some of the problems of classic teamwork, “teams can work their way through the developmental stages of forming, norming, storming, and performing (Tuckman, 1965), yet never challenge dysfunctional assumptions or create new knowledge....”

Stebbins and Shani (1998) elaborate on how the amelioration of deliberation forms can be incorporated into an STS design process. Defining a deliberation forum as an unstructured to structured discussion or meeting, they go on to explain that through a process of education of and collaboration with implicated *knowledge workers*, the variables that determine which knowledge is adopted or discarded are determined and the barriers to learning are pinpointed. Deliberation analysis variables include:

> Deliberation topics, purpose and goals of forums, connection to formal hierarchy, size of group, individual forum members, member attendance records, people left out, values and biases of individual member contributions, whether information shared is used or not, missing information (not collected or shared by any member), coalitions among members, degree of co-operation, group process methods utilized, time constraints.

Some of Schein’s (1996) work would also appear to be applicable. He elaborates an adaptive-coping cycle (giving both pathologies and remedies) that could be used by workgroups in deliberation forums. This cycle involves:

1. making accurate perceptions about what is going on in the environment.
2. getting the information about these perceptions to the right people.

3. drawing conclusions that lead to action that is optimal for the organization as a whole.
4. avoiding undesirable side effects.
5. obtaining feedback on the effectiveness of the action.

A prerequisite to the double-loop learning that needs to go on at the Home Base is the ability to analyze processes. STS theory, of course, is particularly strong on process analysis. However, for a quick summary of the fundamentals, the process management work of Herniaux (1996) and Herniaux and Noyé (1996) would be particularly relevant. For example, they elaborate a *metaphor* in which process management is orthogonal to project management because process management involves developing the steps that a project must run through. They also explain the different levels of process management, including day-to-day operations, regulation, decision-making, assistance, and development.

A prerequisite to workers taking more control in day-to-day operations is training in project management. Unfortunately, project management is sometimes equated with the ability to use complicated software applications or to follow a complex sequence of steps. However, a few high-level concepts about the parameters to play with—time, cost, and quality—and some idea about typical project phases—analysis, planning, and development—can go a long way. Certainly, there are many sources of this fundamental information.

Finally, as discussed in section 2.4.4, incorporating information on Senge's disciplines of mental models, team learning, and system thinking is sure to increase the benefits to be derived from becoming an adapting organization.

5.3.3 Using education to solve presenting problems. In *STS theory*, presenting problems are the challenges that are made apparent by what in other contexts is sometimes referred to as a SWOT (Strengths, Weaknesses, Opportunities, Threats) analysis. Presenting problems are by their nature organizationally specific and a SWOT analysis of Q is clearly beyond the scope of this study. Nonetheless, generic solutions, such as becoming a *learning organization* or an adapting organization, are unlikely to solve all of Q's problems. Hence, the point of this section is to emphasize that to arrive at a complete educational solution, a SWOT analysis should be performed to give special attention to problems that are unique to the organization in question.

By way of example, then, here are two potential topics for educational interventions that might help solve problems resulting from Q's 20% growth rate:

- **Initiation.** There is a need for constant efficient initiation of new employees. Some aspects of the Q environment that need to be taken into account are:
  - Unique methodologies, such as the *Demand Builder*
  - Organizational complexity
  - Shortage of senior staff for mentoring
- **Business planning.** New business opportunities have opened up, including expansion into new geographic areas. Key to the success of such expansion is a sensitivity to the need for as well as an ability to competently create business plans.

5.3.4 The future of U of Q. In sections 4.5.2 and 4.5.3 I mentioned some of U of Q's shortcomings. There is little doubt that U of Q makes a statement about Q's commitment to learning, but it is too ancillary to the day-to-day work people are doing to be a resounding

success. For learning to be accepted enthusiastically it must reinforce organizational objectives and fit into perceived career paths, which is not so obviously the case with U of Q. Hence, successful future directions for U of Q would be to give workers a better understanding of their place within a *learning organization*: to help them develop *shared vision* and *personal mastery*, to move them away from developing technical solutions to big problems (see section 4.5.4), and, in short, to give them the competencies needed to come up with more ideas that add value.

5.4 Some Reasons for Q's Success in the Marketplace

Suggesting a major learning intervention for an economically successful organization like Q is somewhat counter-intuitive. Indeed, as Moldachl and Weber (1998), more usual practice is "studying the market leader..and turning them into practical instructions on how to achieve rational and expedient management," a practice that they refer to as "MITology," with due deference to the resounding success of Womack et al.'s (1991) work on lean production. Certainly, it is important to understand the reasons for Q's success in order to ensure that the intervention does not detract from the success factors.

If, indeed, organizational leaders, ordinary workers, and Q's suppliers are correct, the main reason for Q's success is *loops*. Loops are quite innovative in the advertising industry, which has traditionally used *Taylorism* as an organizational model. Loops introduce a team-based structure that at the same time:

- Flexibly matches the wicked problems of the knowledge industry with solutions that unfold as they progress. For example, in complicated multimedia projects project managers can be brought in to work side-by-side with the creative design team.

?? Opens up channels of communication that allow demanding clients to monitor and be involved in the progress of projects, which increases these customers' commitment to the overall result and to the Q organization.

?? Establishes discussion forums that encompass both day-to-day processes (within communities of practice) and client projects (within loops).

I believe, then, that looping is a real addition to the traditional advertising industry, a real added value, which increases both worker involvement and customer commitment and forms the basis for economic success. I also see nothing in the educational interventions I am recommending that would contradict this basis for economic success. Indeed, there is every reason to suppose that moving more aggressively toward becoming both a learning and adapting organization would reinforce this success while complementing it with new dimensions for organizational growth.

5.5 Conclusions and Recommendations

Key to understanding an organization is to discover its *metaphor*; key to changing an organization is to change this metaphor. This metaphor does not exist just in the minds of the organization's leaders, nor for that matter just in the minds of its workers. It does not exist in the organization's artefacts, the art and décor of the building it is housed in, even the street it is located on. Somehow an organization's metaphor rests within all of these, and when people enter into the life of an organization, they enter into its metaphor and this metaphor becomes a reality for them, a reality that *resists* change, a reality that must be accommodated.

Not surprisingly, the more thought and planning that has gone into creating an organization's metaphor, the more difficult it is to change. Consider how Homer-Dixon

(2000, pp. 79-80) describes Canary Wharf one of the largest modern office buildings in London, England:

> ...The place resembles a Disney theme park....Inside the fantasyland, an increasingly homogenized, transnational super elite is at work, earning an ever-larger slice of the global, economic product. As some of the best and brightest of their generation, these men and women must play a leading role in supplying the ingenuity we need to solve our problems. Yet the world in which they work is unlikely to give them a firm grip on the reality of these problems: in countless ways, they are separated from reality, isolated in a land of human construction and human ideas, where reality and illusion are intermingled.

Provided it is accompanied by an educational intervention that permits shared visioning to be founded on the personal mastery of many participants, transorganizational development provides us a means of changing an organization's metaphor by introducing new elements from the personal lives of organizational members. The resulting transorganization may not only produce superior goods and services, but also lead to new opportunities for the development of an even more intangible product—people, who may move the organization away from TD1 to TD2. (Recall that according to Boje [2000], a transorganization is of type TD1 if it emphasizes economic values such as short-term maximization of profit; it is of type TD2 if it respects human values and other more fundamental values.)

Logic and the Q experience suggest that an organizational change that is executed from the top will probably be TD1 and because it must build on persistent cultural metaphors, will probably not encompass radical change. True change, guided though it may

be, must begin at the bottom, specifically by educating workers so that they can participate in shared visioning and have the personal mastery needed to take control of their own destiny.

If the opportunity for further research arose, I would probably make a few changes in the way that I executed it. As the reader will guess by glancing at Appendix A, I spent an inordinate amount of time refining and developing an elaborate interview protocol that in the end could have been immensely streamlined. Compare the much briefer interview protocols for Q senior staff, CEOs of competitors, and suppliers (in Appendixes D, E, and F, respectively). These were every bit as effective. The key is to get the respondents to tell their stories. Unfortunately, stories are hard to analyze. For hard data that can be compared and manipulated, survey questions are essential and can provide the key to the data hidden in the stories. I would, however, love to try Schein's recommendation for gathering cultural data:

> Culture can be assessed by means of individual and group interview processes, with group interviews being by far the better method both in terms of validity and efficiency. Such assessments can be usefully made in as little as half a day. (Schein [1999, p. 86])

Finally, another element I would like to explore is that of the artefacts—the tools, the art, the décor. I am sure that part of the metaphor of an organization is hidden there.

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APPENDIX A

INTERVIEW QUESTIONS FOR WORKERS—VERSION 4

Name and Title:

Date:

Where desk is located (put an X on the Q floor plan).

1. Of the following work areas, which do you most strongly identify with (if more than one, please rank, with 1 being the most strongly identified with):

__Client service
__Design/art
__Public relations
__Finance/administration
__Technical documentation
__Interactive/multi-media
__Database marketing
__Production/proofreading
__Media
__Consumer research
__Technical support
__Copywriting
__Other:

Which work areas have you visited during Q-View? Who gave the presentation?

What is your educational background?

When you completed the Role Definition Questionnaire (RDQ) who was indicated as your Team Leader?

Can you describe for me your role as you described it on the RDQ?

How long have you been with Q?

How would you compare the Q environment to other environments you might have worked in?

If you are a recent employee (less than two years), explain the process you went through to be hired at Q.

Probe: Did you have the impression that the process was longer or shorter than at other organizations?

LONGER SHORTER

2. How does your work area handle complaints or requests from customers that upset the workflow?

How important is it to your work area's performance that you have the latest information about competitors, the market, or new technologies? Please explain.

If this is important, what happens when your work area lacks this information?

If this is important, what actions does your work area take to gain this information? Is anyone assigned the task of collecting this information?

How does your work area acquire information about how customers are reacting to your products and services? Does this information come through management, through workgroup

members, or through some other work area within Q? Please identify all the channels you can think of.

The last time that there was a major change in one of your work area's processes or procedures, can you explain how that came about? What was the problem, how was a solution arrived at, and how was it implemented?

Could you explain how a typical work area meeting might unfold? Probe: How much time is given to status reports vs. group decision making?

Depending on how work is structured, your work group might focus on different factors during its completion. Could you rank the following factors as they apply to work done in your area, with 1 being the highest ranking?

__process
__quality
__customer satisfaction
__efficiency
__other:

If you could discuss one issue in an open way, involving your whole workgroup in the discussion, what would that be?

3. A key organizational concept at Q is the looping concept. What do you understand by it? How does a loop differ from a team?

Probe: Is looping primarily a communication scheme? Please explain.

What is the difference between a project loop and a client loop? Are there other types of loops?

Describe one of the loops you have worked on. Probe: How many members did it have? How many Q? How many external?

In a typical project loop, how are the following functions performed:

Setting objectives?

Definition of roles and responsibilities?

Communication of information?

Decision-making?

Probe: Is project management performed by a separate function? If yes, please explain.

What are the responsibilities of the following with regard to a project loop:

Vice-Presidents?

Client Services?

Probe: What role does client services play in ensuring that the client is satisfied?

Loop leaders?

Probe: Have these responsibilities been clearly communicated by management? How?

Probe: Does management ever step in and take control of a loop? Can you give an example?

In loop communication, under what circumstances is email preferred over face-to-face meetings and vice versa?

Could you explain how a typical loop meeting might unfold? Probe: How much time is given to status reports vs. group decision making?

In your understanding, how do you become a member of the O-loop? the cultural club?

4. How is your personal performance formally evaluated and how often? Please explain the system.

In your experience how are performance problems corrected? How does coaching work?

Are you happy with the current way that performance is evaluated and, if not, how would you like to see it changed?

Is your pay based on your performance? If yes, how does this work?

5. Are you participating in U of Q? Why or why not?

If yes, participating, what was the most interesting thing you've learned?

Have you noticed any change in your or another worker's behaviour that could be attributed to training received through U of Q?

6. What are the things (name as many as you want) that you really like about working here?

What are the things (list as many as you like) that you'd like to see changed or improved?

APPENDIX B

SELF-ADMINISTERED SURVEY QUESTIONS FOR WORKERS

Name:

Please answer the following scaled questions. Be sure to write your name so that your answers here can be matched with the answers you give during the follow-on interview.

Please indicate how aptly the following descriptions of organizational learning orientations apply to Q:

a. Knowledge source: Internal vs. External. Preference for developing knowledge internally versus preference for acquiring knowledge developed externally

Internal External
1 2 3 4 5 6 7 8 9 10

b. Product-Process focus: What? vs. How? Emphasis on accumulation of knowledge about what products/services are required versus how the organization develops makes, and delivers its products/services. “Just ship it” versus “do it well.”

Product Process
1 2 3 4 5 6 7 8 9 10

c. Documentation mode: Personal vs. Public. Knowledge is something individuals possess or is managed and made publicly available.

Personal Public
1 2 3 4 5 6 7 8 9 10

d. Dissemination mode: Formal vs. Informal. Formal, prescribed, organizational methods of sharing learning versus informal methods such as the role modeling that can occur in casual daily interaction.

Formal Informal
1 2 3 4 5 6 7 8 9 10

e. Learning focus: Incremental vs. Transformational. Continuous identification and application of best practices versus an effort to find whole new approaches.

Incremental Transformational
1 2 3 4 5 6 7 8 9 10

f. Value-chain focus: Design vs. Market. Emphasis on production activities versus sales activities.

Design Market
1 2 3 4 5 6 7 8 9 10

g. Skill development focus: Individual vs. Group. Emphasis on development of highly skilled specialists versus development of teamwork skills and dissemination of skills throughout the workgroup.

Individual Group

1 2 3 4 5 6 7 8 9 10

To what degree can the following learning facilitation factors be applied to the behaviour of individuals within Q:

h. Sharing vs. hoarding of knowledge. Do individuals freely share their best thinking, including data and understanding (which may be an important part of their competitive advantage within the organization) or do they hoard or hide knowledge.

Sharing Hoarding

1 2 3 4 5 6 7 8 9 10

i. Re-use or invent. Is there a culture of re-use of processes and procedures (be they externally or internally derived) or do individuals have inclination and latitude to re-invent their own.

Re-use Invent

1 2 3 4 5 6 7 8 9 10

j. Collaboration vs. individualism. When faced with a new project or challenge do individuals naturally form into a team wherein those with the correct expertise are allowed to do the job or do they more naturally try to face the challenge on their own unless management intervenes.

Collaboration Individualism

1 2 3 4 5 6 7 8 9 10

k. Experimental mindset vs. conventionality. Are individuals excited to try new things, curious about how to make them work, accepting of failure, and continuously seeking new learning opportunities, or are they more concerned about applying conventional wisdom, following processes carefully, and avoiding the stigma of failure.

Experimental Conventional

1 2 3 4 5 6 7 8 9 10

l. Informed choice vs. advocacy. When a decision needs to be made do individuals work together to gather concrete data in order to make an informed choice based on collective expertise or does everyone present their own limited point of view as vigorously as possible with a view to winning the others over through skilled advocacy.

Informed choice Advocacy

1 2 3 4 5 6 7 8 9 10

How would you rate Q with regard to the following general performance questions:

m. How would you rate the overall performance of workgroups you have been part of on a scale from 1 to 10 with 10 being the best?
Unsatisfactory Outstanding
1 2 3 4 5 6 7 8 9 10

n. Again, on a scale from 1 to 10 with 10 being the best, how would you rate the general commitment of Qmates to quality?
Unsatisfactory Outstanding
1 2 3 4 5 6 7 8 9 10

o. How efficiently and with what degree of overall coordination would you say that the workgroups you are involved in carry out their work, on a scale from 1 to 10 with 10 being completely efficient?
Uncoordinated Completely efficient
1 2 3 4 5 6 7 8 9 10

p. Within the Q culture, how important is knowledge and data to influencing the outcome of a decision, on a scale of 1 to 10 with 10 being very important?
Other factors Knowledge and data
1 2 3 4 5 6 7 8 9 10

q. How important is it to avoid conflict by not making suggestions that go contrary to the position of another Qmate, on a scale of 1 to 10 with 10 being very important?
Open discussion Conflict avoidance
1 2 3 4 5 6 7 8 9 10

r. How important is it that everyone reach consensus before making a workgroup decision, on a scale of 1 to 10 with 10 being very important?
Closure Consensus
1 2 3 4 5 6 7 8 9 10

s. How would you rate the team spirit at Q, on a scale of 1 to 10 with 10 being the strongest?
Self-first Team spirit
1 2 3 4 5 6 7 8 9 10

t. How would you rate the abundance of verbal praise or other non-monetary recognition that is given for a job well done (may come from either a manager or a co-worker).
Rare Frequent
1 2 3 4 5 6 7 8 9 10

u. How would you rate the balance between careful upfront planning versus firefighting at the end of a project.
Careful planning Firefighting
1 2 3 4 5 6 7 8 9 10

v. How widespread are project management skills? Does everyone possess project management skills and contribute to project management when necessary or is project management the function of a few specialized individuals?
Specialized individuals Widespread
1 2 3 4 5 6 7 8 9 10

w. How would you rate your satisfaction with your understanding of Q's performance as a whole with regard to such measures as profitability, customer satisfaction, business efficiency, and progress toward a learning organization on a scale from 1 to 10 with 10 being the best?
Unsatisfactory Outstanding
1 2 3 4 5 6 7 8 9 10

x. Do workers and managers use Q's ARI values in day-to-day activities?
What's ARI? Yes, frequently
1 2 3 4 5 6 7 8 9 10

y. I find Q's mission statement
Indifferent Inspiring
1 2 3 4 5 6 7 8 9 10

How would you rate Q with respect to the following management practices?

z. How frequently on average do you get a chance to meet with someone at Q in a nonevaluative context to discuss your career and personal development?
Every month Annually or less
1 2 3 4 5 6 7 8 9 10

aa. Is the leadership style more coaching (that is, setting objectives jointly and helping you work toward them) or supervising (that is, assigning a task and monitoring your progress toward completion)?
Coaching Supervising
1 2 3 4 5 6 7 8 9 10

bb. Q has a pay for performance system. How effective is the link between pay and performance?
10% or less 100% link
1 2 3 4 5 6 7 8 9 10

Finally, a ranking question.

What are the prime factors determining pay increments at Q (please rank as many as are relevant, with 1 being the most important):
__political status of your boss
__profitably of the company as a whole
__your competence and experience
__ability to negotiate
__seniority
__your billing-to-salary ratio
__extra hours worked
__gender
__ability to create a good impression
__increased responsibility
__whim and/or chance (for example, last week's events)
__favouritism (a.k.a., "who you know")
__how well you get along with others
__your performance (ability to meet objectives)
__the performance of the loops and workgroups you are associated with
__other:

APPENDIX C

SOURCES AND RATIONALE OF THE SELF-ADMINISTERED SURVEY

The self-administered survey was constructed with a view to determining how learning was accomplished at Q and how the culture at Q supported this learning. To help ensure validity, questions were crafted not only with a view to uncovering valuable data, but also with a view to work that had already been done by other researchers:

?? Questions A to G borrow heavily from what Nevis, DiBella, and Gould (1998) call the "Seven Learning Orientations." These researchers suggest that these orientations can be used to identify an organization's "learning style." Once its learning style has been determined, questions can then be asked about whether the style is appropriate for the organization's industry, size, age, and technology.

?? Questions H to K test for what from what Pasternack and Viscio (1998, p. 118) call the four unnatural acts of knowledge acquisition:

1. *Sharing* your best thinking…
2. *Using* what other people have developed…
3. *Collaborating* by building on the expertise of others.
4. *Improving* by synthesizing new ideas continuously while purging yesterday's conventional wisdom.

The reader will notice that the four unnatural acts are essential aspects of the double-loop learning process.

?? Questions L is based on a key feature of what Argyris (2000, p. 75) calls "Model I, Theory-in-use." Those who use this model, which according to Argyris is quite common in most organizations, strongly advocate their position in order to save face and maintain control while minimizing informed choice, inquiry, and public testing. Such an approach is obviously incompatible with organizational learning.

?? Questions M to T are based on the 12 key indicators of economic success described by Coffman and Harter (1997; cf. www.gallup.com):

1. I know what is expected of me at work
2. I have the materials and equipment I need to do my work right
3. At work, I have the opportunity to do what I do best everyday
4. In the last seven days, I have received recognition or praise for good work
5. My supervisor or the person I report to seems to care about me as a person
6. There is someone at work who encourages my development
7. In the last six months, someone at work has talked to me about my progress
8. At work, my opinions seem to count
9. The mission/purpose of my company makes me feel my job is important
10. My associates (fellow employees) are committed to doing quality work
11. I have a best friend at work
12. This last year, I have had opportunities at work to learn and grow

Weaknesses in the economic success factors might suggest trouble on the horizon for Q.

?? Questions U to W were an attempt to get more information on certain issues that had come up during the pilot study.

?? Questions X and Y were attempts to understand the effectiveness of Q's shared visioning process.

?? Questions Z to BB were a few questions concerning some fundamental aspects of human resource management.

?? The ranking question was a simple list from the pilot study of factors that affected the operation of the pay for performance system. As this was an obvious source of some dissatisfaction, the aim was to determine whether the pay for performance system was causing behaviour, such as individualistically-oriented behaviour, that might be incompatible with a learning organization.

APPENDIX D

PHASE 3 INTERVIEW PROTOCOLS FOR Q SENIOR STAFF

Name and Title:

Date:

1. Of the following work areas, which do you most strongly identify with (if more than one, please rank, with 1 being the most strongly identified with):

__Client service
__Design/art
__Public relations
__Finance/administration
__Technical documentation
__Interactive/multi-media
__Database marketing
__Production/proofreading
__Media
__Consumer research
__Technical support
__Copywriting
__Other:

What is your role within Q? Who are your direct reports?

2. In my research so far I have identified several possible training needs. Could you assist me by ranking them in priority order, with 1 being the highest priority?

__Training that initiates new employees and contractors and hastens their integration into the organization.
__Training in the development and evaluation of business plans and processes.
__Training in group discussion and decision-making techniques so as to improve the results of teamwork.
__Training that would promote project management skills throughout the organization.
__Training in the constructive use of values by a high-performance workgroup.
__Training in coaching and effective participation in the performance management process.
__Other:

3. As you are no doubt aware, my research concerns Q's evolution into a team-based, learning organization. Please explain how you believe Q is meeting the following challenges to building, using, and maintaining the intellectual capital and learning capacity of its organizational units:

Challenge 1: Motivating workers, so that they are eager and interested in their work. This is the only way to integrate diverse skills, to produce consistent quality, and to lower costs continuously.

Challenge 2: Ensuring that all workers who are capable of such higher skills as multi-task integration or initiative do, in fact, get a chance to exhibit these skills.

Challenge 3: Creating an organizational environment that encourages both the development of highly specialized knowledge—including skills that have been crafted to the needs of Q—and the sharing of this knowledge across intra-organizational boundaries.

Challenge 4: In a tight labour market, recruiting and keeping workers who not only have the needed technical skills but also have the needed initiative, learning skills, and integrative attributes.

Challenge 5: Pursuing a skills and knowledge strategy that takes into account the skills and knowledge Q has, the skills and knowledge competitors have, the skills and knowledge Q will need in the future, and takes steps to ensure the acquisition of these needed skills and knowledge.

Challenge 6: Building a coalition of understanding and support among customers, suppliers, and Qmates. Please describe the role that you personally play in client loops, project loops, and work area loops. What is your role vis-à-vis client services?

APPENDIX E

PHASE 3 INVITATIONS FOR INTERVIEWS OF CEOS OF COMPETITORS

I am Philip Lillies, a Master of Distance Education student at Athabasca University. As part of the requirements for completion of my degree, I am doing a study on Q's evolution into a team-based, learning organization.

I was given your name by the CEO of Q because you (or someone in your organization) have also done a review of the Q organization and doubtless have a unique point of view that will help me better understand it.

I think perhaps a half-hour telephone interview would be the best way for me to get the information you need. I am hoping that you (or another contact person) will be able to email me back with a date and time that might be convenient for you (if I am to call you, after 6 PM EST would be better for me as telephone rates are cheaper then).

Important: Please review the attached consent form that explains that this telephone interview is both confidential and voluntary.

I suggest we segment the interview as follows:

5 minutes - get acquainted

5 minutes - organizational learning. Since my study is about learning, I would very much like to know how learning is facilitated in your organization. Have you considered a corporate university? Do you use web-based training internally?

20 minutes - five minutes per topic on four of the following topics, at your choosing -

Process balance. Let us say that a process is balanced if it attends to multiple goals at the same time: efficiency, quality, customer satisfaction, cost, etc. What is your perception of process balance at Q and how this is achieved at your organization?

Teamwork. Teamwork has many aspects. Easy and open communication sets the stage, but jointly working on real group problems and jointly making real improvements to processes are the proof that teamwork is working. What is your perception of the state of teamwork at Q when contrasted with teamwork in your organization?

Unnatural acts. In "The Centerless Corporation," Pasternack and Viscio (1998) speak of the "four unnatural acts" required for knowledge development within an organization. These four unnatural acts are sharing, re-using, collaborating, and continually improving. What is your perception of the tendency for workers at Q to commit these unnatural acts? What about workers in your organization?

Rewards and incentives. What is your perception of Q's reward and incentive scheme? How effective is it? How does it compare with yours? Do you use a performance-rated pay (PRP) system?

Vertical communication. What is your perception of the effectiveness of vertical communication within the Q organization? Do ideas for change and improvement arrive at the right level? How does Q's vertical communication system compare with your organization's?

Looping. For horizontal communication Q uses the concept of looping. Have you perceived that looping is working well for Q? Have you tried to implement looping in your organization? With what result?

Roles vs. jobs. Q prides itself in defining roles for its employees rather than jobs. Do you perceive that this approach is advantageous? Is it working for Q? Have you tried it in your organization?

Organizational visioning. What do you think of the quality of Q's mission and value statements? Are they inspiring? Do they provide an effective basis for decision-making? How do they compare with your organizational visioning statements?

Hoping to hear from you soon,

Philip Lillies

APPENDIX F

PHASE 3 INVITATIONS FOR INTERVIEWS OF SUPPLIERS

I am Philip Lillies, a Master of Distance Education student at Athabasca University. As part of the requirements for completion of my degree, I am doing a study on Q's evolution into a team-based, learning organization.

I was given your name by the CEO of Q because you are a supplier important to Q's main business and doubtless have a unique point of view that will help me better understand the Q organization.

I think perhaps a half-hour telephone interview would be the best way for me to get the information you need. I am hoping that you (or another contact person) will be able to email or Fax me back with a date and time that might be convenient for you.

Important: Please review the attached consent form that explains that this telephone interview is both confidential and voluntary.

I suggest we segment the interview as follows:
5 minutes - get acquainted
5 minutes - organizational learning. Since my study is about learning, I would very much like to know whether your organization has learned through its relationship with Q?
20 minutes - five minutes per topic on the four following topics -

Process balance. Let us say that a process is balanced if it attends to multiple goals at the same time: efficiency, quality, customer satisfaction, cost, etc. What is your perception of process balance at Q?

Teamwork. Teamwork has many aspects. Easy and open communication sets the stage, but jointly working on real group problems and jointly making real improvements to processes are the proof that teamwork is working. What is your perception of the state of teamwork at Q in its dealings with your organization?

Communication. What is your perception of the effectiveness of communication within the Q organization? Does communication reach the right people to allow problems to be solved quickly and efficiently?

Examples. Could you give an example of a Q project that was remarkable for some reason, perhaps because it went so badly or so well?

Hoping to hear from you soon,

Philip Lillies

APPENDIX G

SPREADSHEET FOR CROSS TABULATION OF DATA

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q
1		top = R2 & bottom = R3	**Scores**														**Average**
2		**Personal/Public**	8	5		6	9	3	7	4	8	8	3	4	4	10	5.75
3		**Planning/Firefighting**						4	6	3	9	8	7	6	4	1	5.88
4		a is top-1 (< average)						ac		ac					ac		
5		b is top-2 (> average)															
6		c is bottom-1 (<average)											ad	ad			
7		d is bottom-2 (> average)							bd		bd	bd					
8		# of Score Columns:	13	Regardless of blanks													
9	ac	3		Cells													
10	bc	0	bottom		c	d											
11	ad	2	top	a	3	2	5										
12	bd	3		b	0	3	3										
13					3	5	8										

Continued on next page

Formulas

Q2 = AVERAGEA(C2:O2)

Q3 = AVERAGEA(C3:O3)

C4 (filled right to P4) = IF(AND(NOT(C2=""),NOT(C3=""),C2<Q2,C3<Q3),"ac","")

C5 (filled right to P5) = IF(AND(NOT(C2=""),NOT(C3=""),C2>Q2,C3<Q3),"bc","")

C6 (filled right to P6) = IF(AND(NOT(C2=""),NOT(C3=""),C2<Q2,C3>Q3),"ad","")

C7 (filled right to P7) = IF(AND(NOT(C2=""),NOT(C3=""),C2>Q2,C3>Q3),"bd","")

B9 = C8-(COUNTIF(C4:O4,""))

B10 = C8-(COUNTIF(C5:O5,""))

B11 = C8-(COUNTIF(C6:O6,""))

B12 = C8-(COUNTIF(C7:O7,""))

E11 = B9

F11 = B11

E12 = B10

F12 = B12

APPENDIX H

SAMPLE EMPLOYER CONSENT FORM

To the CEO of Q:

As part of my dissertation studies with Athabasca University in the Masters of Distance Education Program, I am seeking your formal endorsement to explore Q's evolution into a team-based, learning organization. In consideration of human ethics, I am required to obtain permission to interview and observe the activities of your organization and employees.

I am also asking your permission to refer to the Q employee list as an aid to mapping your organization and as a means of obtaining the names of subjects for in-depth interviews. The employee list will be considered a confidential document and will not be shown to anyone outside the Q organization. In addition, the employee list along with all interview records will be shredded at the end of the study.

Please be advised that to help protect the anonymity of your organization, the Q name will not appear in the final report and will only be revealed to the members of my academic review committee and the Human Subjects Sub-Committee at Athabasca University.

To indicate that you grant consent for Q to be the subject of my study, please sign the bottom of this form. If you have any questions or concerns, please do not hesitate to contact me.

Best regards,

Philip Lillies

I_____hereby grant Philip Lillies consent to approach the employees of Q for interviews, to otherwise participate in organizational activities, and to refer to the Q employee list as needed in order to gather data for the completion of his study on Q's evolution into a team-based, learning organization.

APPENDIX I

SAMPLE EMPLOYEE CONSENT FORM

Hello,

I am Philip Lillies, a Master of Distance Education student at Athabasca University. As part of the requirements for completion of my degree, I am doing a study on Q's evolution into a team-based, learning organization.

I have selected your name because I believe that you may have a unique point of view that will help me better understand the Q organization. If you are interested in participating in such a study, I would like to arrange an interview with you. The interview will require about 1hour of your time.

Although the culture club and the entire Q organization have been very supportive of my work, I wish to make it clear that participation in this study i) is absolutely voluntary, ii) is not demanded by your employer, and iii) can be terminated at any time (even during the interview). Furthermore, you may refuse to answer any of the interview questions.

Please be aware that all your responses will be kept strictly confidential. All interview data will be kept by me in my home and will not be accessible to anyone else in the Q organization. In addition, all paper records will be destroyed at the end of study. Any electronic data will be password-protected by a secure password known only to me.

Every effort will be made to keep sources of information anonymous in the final report. If you have concerns about being identified as a source because of the uniqueness of the information you are providing, please let me know so that I can eliminate that content from my final report. If you wish to see the final report before it is published, please let me know and I will be happy to supply a draft to you.

To indicate that you understand the conditions of participation and are aware of the efforts I will be making to maintain confidentiality, you will be asked to sign the bottom of this form before the interview begins. Please contact me at any time should you have any questions or concerns about this project.

Best regards,

Philip Lillies

I_____hereby consent to participate in the study described in this letter and by signing above am indicating that my participation is subject to the conditions that i) it is absolutely voluntary, ii) is not demanded by your employer, and iii) can be terminated at any time (even during the interview). Furthermore, all my responses must be kept strictly confidential and my anonymity guaranteed.