

THEORIZING TQM: AN AUSTRIAN AND EVOLUTIONARY ECONOMICS INTERPRETATION*

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ABSTRACT

Born out of management practice, the principles of TQM (total quality management) have had a profound and unparalleled impact on modern business history. However, as a body of practical knowledge, TQM has been largely atheoretical. As a consequence, this important management philosophy has remained amorphous and shrouded in considerable conceptual haziness and ambiguity. Recent theorizing, primarily emphasizing the application of organizational behaviour theories to TQM, has begun to provide greater clarity, but much work remains to be done. This paper attempts to contribute to this nascent theory-building literature by employing theory from market process economics (MPE), namely, Austrian and evolutionary economics, which explains how processes of dynamic change, adaptation, and learning are driven by entrepreneurial creativity. We contend that the patterns in this body of theory match, to a remarkable degree, the patterns of practical knowledge contained in the TQM literature. We demonstrate this 'pattern-matching' by showing that MPE effectively provides the theoretical underpinnings of TQM's three main principles – customer focus, continuous improvement and teamwork – as well as the respective TQM topics of customer perceptions, adaptation in dynamic environments, and knowledge creation. Having established MPE as a credible theoretical lens for interpreting TQM, it can be used to clarify fuzzy areas that have remained in the TQM literature with the potential to take us beyond what we know now. We illustrate this with three examples that show how we can resolve debates in TQM over incentive systems, recognize that TQM embraces methodological pluralism in the collection and analysis of data, and highlight hidden dangers that attend benchmarking. While MPE has no monopoly on theoretical interpretations of TQM, it is unique in its ability to comprehensively cover the incredible breadth of this practical body of knowledge, and in its interpretation of TQM as a dynamic economic endeavour.

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INTRODUCTION

In surveying the most fundamental questions on the minds of leading executives, a relatively small number of recurring themes emerge (Eaton, 1996; Gates, 1996; Kearns, 1990; Martinez, 1997; Smith, 1991; Stempel, 1990; Welch, 1996): How can we delight our customers by discovering innovative ways to deliver new products and services? What can we do to continually improve our organizational processes and capabilities? How can we rapidly adapt to ensure our survival and prosperity in increasingly turbulent environments? How can we leverage the knowledge of our employees? With issues such as customer satisfaction, benchmarking, continuous improvement, learning, change, teamwork, employee empowerment and organizational survival at its core, the principles of total quality management (TQM) resonate with these concerns of contemporary managers. Little wonder TQM has become so widely adopted by organizations of all types in recent years.

Despite the tremendous amount of interest it has generated among practising managers, management consultants, popular book authors, business journalists, and even the US government through its Malcolm Baldrige National Quality Award, TQM has, until recently, virtually been neglected in management research (Dean and Bowen, 1994; De Cock and Hipkin, 1997; Hackman and Wageman, 1995; Powell, 1995; Sitkin et al., 1994). What accounts for this discrepancy? In our view, management researchers may have been turned off by the slogans, buzzwords, evangelism and faddishness that seem to have characterized TQM. However, we believe the main reason that most management scholars have been unwilling to invest their time in this area of management research is the lack of a theoretical rudder on the ship named TQM.

A handful of scholars have recently attempted to shed theoretical light on TQM by combining insights from TQM literature and management theory. For example, Spencer (1994) used a subset of Morgan's (1986) metaphors to bridge the gap between TQM practices and management theory. Anderson et al. (1994) articulated a theory of quality management underlying Deming's principles. Sitkin et al. (1994) developed an environmental contingency perspective in TQM. Dean and Bowen (1994) used the Baldrige Award criteria to bridge the principles of TQM and management theory. And Hackman and Wageman (1995) explicated the behavioural processes underlying TQM using management theory. Although these efforts have begun the task of infusing TQM with a much-needed dose of theory development, a chorus of commentators cautions that much remains to be done (e.g. Dean and Bowen, 1994; Hackman and Wageman, 1995; Wruck and Jensen, 1994). Also, without further advancement on the theory side, we are unlikely to see much needed improvement on the empirical side of TQM either (for a discussion of the state of empirical TQM research see Hackman and Wageman, 1995; Powell, 1995).

In this paper, we attempt to extend these nascent theorizing efforts by examining TQM through the interpretive lens of Austrian and evolutionary economics, together referred to in this paper as market process economics (MPE). We contend that the patterns in this body of theory match, to a remarkable degree, the patterns of practical knowledge contained in the TQM literature – a match that to this point has gone virtually unnoticed. We demonstrate this 'pattern-matching' (Yin, 1994) by showing that MPE effectively provides the theoretical under-

pinnings for the core principles and ideas of TQM. With this established, MPE can then be used to clarify a host of fuzzy areas that have remained in the TQM literature. This approach not only establishes more solid theoretical moorings for TQM, but provides researchers with a new and remarkably comprehensive perspective that interprets TQM as a dynamic economic endeavour.^[1]

Our approach follows the long-standing tradition in the field of management of developing theory by importing ideas from the social and natural sciences and applying them to organizational problems and contexts. Although our approach is consistent with this practice of 'borrowing from without', it differs markedly from standard practice in TQM research of 'borrowing from within' by tapping quality heuristics such as Deming's 14 Points (Anderson et al., 1994) and the Baldrige Award criteria (e.g. Black and Porter, 1996; Dean and Bowen, 1994), or management theories per se (e.g. Hackman and Wageman, 1995).

Having established our interest in and approach to investigating TQM, we wish to address a number of recent claims ranging from TQM's waning popularity (e.g. Ryan, 1995) to its outright death (*Government Executive*, 1997). When measured in terms of article counts and word counts from electronic databases of business periodicals, TQM's popularity may indeed have declined in recent years (Abrahamson and Fairchild, 1997). But such a view fails to consider other competing hypotheses. One with considerable currency is that TQM's principles, practices and techniques have become institutionalized (Westphal et al., 1997). As taken-for-granted aspects of business, the ideas connected with TQM may no longer capture the interest of business commentators who make their living breaking new news and disseminating the latest ideas. However, the respect of quality practices among numerous stakeholders continues to exert strong legitimacy as well as efficiency pressures on organizations to adopt TQM (Westphal et al., 1997). Thus, while the popular hype over a new management philosophy may have waned, its core principles may be alive and well in the very fabric of contemporary business practice.

In either case, making theoretical sense of TQM remains a valuable exercise. If TQM is shown to be nothing more than an ephemeral management fashion, its impact on modern business history has none the less been unparalleled. It has played an important role in the rise of Japan as an industrial superpower and transformed thinking and practice in American business for nearly two decades. In this case, the sensemaking efforts in this paper have historical value. If TQM has a real and lasting effect on business practice – whether it lives on in the management vocabulary and lexicon, or quietly beneath the surface – the sensemaking efforts in this paper have instrumental value. Perhaps the best gauge of the value of the principles of TQM themselves is whether executives and managers continue to ask the questions which introduced this paper. To the extent these questions continue to be relevant and important – and we believe they will be – the ideas embodied in TQM should not be abandoned, but better understood through rigorous empirical and theoretical research.

To develop our theoretical perspective of TQM, we organize the paper as follows. First, we review and organize the TQM literature. Next, we explore the central tenets of MPE and provide an overview of both Austrian and evolutionary economics. We then demonstrate the strong pattern-matching of MPE theory with the core principles of TQM, and offer three examples in which the MPE lens can clarify fuzzy areas in TQM. We conclude by discussing the implications of our ideas for research and practice.

TOTAL QUALITY MANAGEMENT

With roots in production, statistics and quality control, modern quality management began in the USA in the early 1900s, was taken to Japan in the 1950s by Juran and Deming, and then resurfaced in corporate America with a vengeance during the 1980s. Over the years, a significant body of literature co-evolved with the rise of the quality movement. Scholarly analyses of this literature have concluded there is in fact a common body of knowledge underlying TQM (Hackman and Wageman, 1995). Building on the extant literature, we identify four fundamental orientations of TQM: systems, customer, learning and change. These orientations capture our view that TQM is fundamentally a dynamic economic endeavour in which firms engage to adapt and survive in dynamic environments.^[2]

Systems Orientation

Organizations as total systems. Proponents of TQM adopt a dynamic systems perspective of the firm emphasizing interdependence of subsystems and permeability of boundaries (e.g. Sitkin et al., 1994). Consequently, the central problems organizations face cross traditional functional lines (Hackman and Wageman, 1995) and organizational boundaries, particularly those with suppliers and customers (Spencer, 1994). By integrating the relevant information and expertise in the various subsystems, organizations can harness systemwide knowledge to better serve customers over time (Hackman and Wageman, 1995).

Subsystem co-ordination via top management. Top management is viewed as the driving force behind TQM (Deming, 1986; Feigenbaum, 1961; Juran, 1989). By sharing information in various ways, top managers are able to facilitate the alignment of organizational goals with the goals of subunits and workers. First, a widely communicated and shared vision provides a common goal for all improvement activities in the organization (Ishikawa, 1985; Suzaki, 1987). Second, efforts by top managers to share information ranging from operational to financial performance with the rest of the organization provides important co-ordinative benefits (Pegels, 1995). Finally, the demonstration of commitment to quality initiatives by top managers is essential to obtaining worker 'buy-in' (Deming, 1986; Juran, 1989).

Subsystem co-ordination via incentive systems. Incentive systems provide another means of achieving co-ordination of goals across organizational levels; however, TQM proponents are divided on their use. One camp advocates the elimination of monetary rewards for individual performance (Deming, 1986; Ishikawa, 1985). They are averse to pay-for-performance systems arguing that they create fear, internal competition, and distraction from customer needs. Another camp argues that every worker be held accountable to the customer and advocates rewarding individual performance with cash payouts to improve motivation (Schonberger, 1982). Others advocate profit sharing as a reward for worker suggestions as well as non-monetary rewards for meeting quality goals (Pegels, 1995; Suzaki, 1987).

Subsystem co-ordination via teams. In TQM, teams provide the principal vehicle for co-ordinating workers' specialized knowledge and creative problem-solving skills,

and a forum for learning from one another (Dean and Bowen, 1994; Sitkin et al., 1994). While functional teams, such as quality control teams, typically solve operational problems, cross-functional teams are the true hallmark of TQM organizations with their capacity to 'bring the full spectrum of relevant information and expertise to bear on decisions about systemwide problems' (Hackman and Wageman, 1995, p. 315).

Customer Orientation

Customer focus. Customer focus is the anchor point concept of TQM (e.g. Deming, 1986; Juran, 1986). Attuned to the wants and needs of customers and armed with customer-driven data, TQM organizations attempt to conform to customer requirements (e.g. Crosby, 1979). They also strive to continuously improve work processes and to creatively develop new products and processes (e.g. Suzuki, 1987) that not only satisfy customers but delight them (Hines, 1995).

Customer perceptions. '[T]he most pervasive definition of quality currently in use is the extent to which a product or service meets and/or exceeds a customer's expectations' (Reeves and Bednar, 1994, p. 423). In this sense, quality does not reflect some objective value inherent in the product or service, but value in the eyes of the customer (Gronroos, 1990; Zeithaml, 1988). Thus, quality must be viewed as a dynamic construct, continually changing as customer perceptions change.

Learning Orientation

Continuous improvement. Continuous improvement is one of the central principles of TQM (Dean and Bowen, 1994; Suzuki, 1987) – a principle that ensures continuous learning (Deming, 1986; Ishikawa, 1985), reduction of waste in work processes (Suzuki, 1987), and experimentation with and discovery of novel products that exceed customer expectations (Sitkin et al., 1994). Proponents of TQM suggest that it is through an incremental, unending rotation of plan–do–check–act (PDCA) cycles that products, services and processes are continually improved (Deming, 1986).

Benchmarking. 'What is it that organizations do that gets results so much better than ours?' (Juran, as cited in Ross, 1995, p. 235). Juran's question opened the door on benchmarking, and led to its inclusion as a Baldrige Award criteria and permanent fixture in TQM's arsenal of tools. By benchmarking, organizations acquire knowledge about best industry practices, and learn to develop more efficient work processes and improved products and services that better satisfy their customers (e.g. Splendolini, 1992).

Data-driven analysis. 'TQM strategies for learning about work processes rely heavily on numerical data . . . analysed and interpreted using scientific and statistical tools' (Hackman and Wageman, 1995, p. 331). This fact-based approach to problem solving involves collecting data, analysing them with various statistical and analytical techniques, and examining them through PDCA cycles or designed experiments (Evans and Lindsay, 1996; Taguchi, 1986). The analysis of the data binds participants to proceed objectively and, thus, minimizes the impact of organizational politics in decision-making processes.

Change Orientation

Control. Control is a bedrock feature of TQM's emphasis on change – a view of change rooted in reliability, stability and single-loop learning (e.g. Manz and Stewart, 1997; Sitkin et al., 1994). It is exercised by driving unwanted variability out of products, processes and systems. The organization acts as a self-regulating control system in which data are collected, analysed, compared against a performance standard, and fed back so that the sources of customer dissatisfaction (e.g. errors, uncontrolled variance) can be reduced or eliminated (Deming, 1986; Manz and Stewart, 1997; Sitkin et al., 1994).

Change. Existing in dialectical tension with TQM's emphasis on control is its emphasis on change as a necessary fact of life in dynamic environments – a view of change rooted in exploration, adaptation and double-loop learning (e.g. Sitkin et al., 1994). As customers' needs change and as competitors provide new or improved offerings to meet those needs, it is incumbent upon organizations to continuously and rapidly adapt to change to ensure their survival. Ultimately, TQM relies on the knowledge and skills of workers as well as their interaction in teams to creatively solve problems and generate new ideas capable of enacting or responding to changes in the environment (Deming, 1986; Hackman and Wageman, 1995).

Empowered employees. To unleash the knowledge and creativity of the individual as the ultimate source of idea generation and change, workers in TQM organizations are given greater discretion and autonomy in decision making. And they are allowed to take on a variety of tasks in the value-creation process (e.g. Powell, 1995; Suzaki, 1987).

Organizational survival. 'You don't have to change . . . Survival is not mandatory.' This quote by Deming illustrates the prominent role that organizational change and survival play in TQM. Indeed, the founders of the quality movement shared the view that the primary purpose of the organization was to stay in business for the benefit of the community, customer and employee (Hackman and Wageman, 1995). For TQM, failure to respond to changes in the environment, to continuously improve and learn, to upgrade work processes, to create innovative new products and processes, to simultaneously pursue stability and adaptability, and to satisfy customers with quality offerings puts an organization's very survival at risk.

MARKET PROCESS ECONOMICS

Only recently employed by a small, but influential cadre of strategy and organization scholars (e.g. D'Aveni, 1994; Hill and Deeds, 1996; Jacobson, 1992; Young et al., 1996), Austrian economics is gathering momentum in management theory. Porter (1990, 1991) could also be considered in this group by insight if not by Austrian inspiration. Likewise, the evolutionary perspective has come centre stage as evidenced in a recent special issue of the *Strategic Management Journal* (Summer, 1996) that explores this topic. Together these two areas of enquiry are known to economists as market process theories (Foss, 1994).

Despite different epistemological positions, Austrian and evolutionary economics converge on a view of markets and competition that is highly complementary (Foss, 1994; Jacobson, 1992; Nelson and Winter, 1982; Witt, 1992). Fundamentally, both approaches seek to understand the mechanisms that drive dynamic, disequilibrium processes of change (e.g. Foss, 1994; Witt, 1992), especially change that is endogenous and unanticipated (e.g. Hayek, [1945] 1991; Rizzo, 1979). Specifically, both view competition as a discovery procedure of experimentation and trial-and-error learning that results in the market selecting more creative, hence more successful, ventures while forcing others out (e.g. Kirzner, 1973; Mises, [1936] 1981; Nelson and Winter, 1982). Both presume an environment characterized by significant uncertainty (Lachmann, 1986; Nelson and Winter, 1982). Both acknowledge that economically relevant knowledge is specialized, partial, partly tacit, and dispersed among individuals (Hayek, [1945] 1991; Nelson and Winter, 1982). Both highlight the importance of the creative choices and actions of individual entrepreneurs and the invisible hand mechanisms that aggregate these actions into a systemic order (e.g. Mises, 1949; Nelson and Winter, 1982). Both assume individuals to be in search of and motivated by profit opportunities, or opportunities for gain, rather than calculating maximizers of profit or utility (e.g. Kirzner, 1973; Nelson and Winter, 1982). Both emphasize the pivotal role of routinized behaviour in firms (e.g. Hayek, 1973; Nelson and Winter, 1982). Finally, both adopt an applied approach that pursues a rich understanding of the course of real events (e.g. Foss, 1994).

Overview of Austrian Economics

Austrian economics' core concept and principle claim to theoretical distinction is the theory of the market process (Boettke and Prychitko, 1998; Littlechild, 1979; Vaughn, 1994). Fundamentally, the theory attempts to identify and understand the generative mechanisms that underlie out-of-equilibrium competitive processes. It is a theory of human action and its unintended consequences (Hayek, [1967] 1991; Menger, [1985] 1991; Mises, 1949). Economists of the Austrian tradition begin with the simple notion that individuals act by using scarce means to pursue desired ends. They make choices and act purposefully to improve their circumstances. Their actions take place in time. All individuals differ with respect to the specialized and partial knowledge they possess, the subjective interpretations they construct about the world around them, and the subjective expectations they form about the future. Such differences imply widespread discoordination in the economy and hence ample opportunities for profits, competition, entrepreneurship, improvement, learning and change. As an unintended consequence of pursuing their individual interests and interacting with other market participants, a continual stream of new knowledge is generated in a never-ending process.

Although proponents of the Austrian school agree on these basic conceptual underpinnings, differences exist in describing the systemic order of the market process as illustrated in three distinct perspectives: Kirznerian, Lachmannian and Schumpeterian. The first two are quintessentially Austrian; the third can be viewed as quasi-Austrian. Interestingly, Schumpeter's insights have become most thoroughly ingrained in the collective consciousness of management scholars (e.g. Barney, 1986; D'Aveni, 1994; Meyer et al., 1993). Kirzner's ideas, on the other hand, are just beginning to gain currency (e.g. Chiles and McMackin, 1996;

Hill, 1996; Hill and Deeds, 1996; Jacobson, 1992; Young et al., 1996), while Lachmann's are virtually unknown in management circles.

First, Kirzner (1973) constructs a theory of the market process that broadens the scope of human action by including the behavioural quality of 'alertness'. Through their superior alertness and hence superior information, entrepreneurs are able to discover existing opportunities for mutually beneficial exchange that others have failed to perceive. Human creativity is exercised through the uncovering of that which already exists, but has remained unnoticed by others. As a consequence of bringing new information to light in a world characterized by widespread ignorance, market participants' means–ends frameworks are disrupted and subsequently revised. That is, learning and adjustment take place. This process of spreading knowledge to less alert entrepreneurs and market participants closes pockets of ignorance, co-ordinates widely dispersed knowledge, encourages imitation, and attenuates profit opportunities. The system moves toward equilibrium as an unintended consequence of alert entrepreneurs acting on hitherto unperceived profit opportunities that satisfy customer needs. However, the economy does not actually achieve an equilibrium state because of continually unexploited profit opportunities.

Second, Lachmann (1976, 1986) provides the other distinctly Austrian perspective of the market process which acknowledges the possibility of equilibrating tendencies, but more prominently considers disequilibrating ones that result from entrepreneurial mistakes (a possibility that Kirzner does not consider). Indeed, for Lachmann, the market entails an evolutionary process that does not have a clearly defined starting point, a singular path that it follows, or a stable end point (e.g. O'Driscoll and Rizzo, 1985). Lachmann begins with individuals' plans as the basic unit of analysis and reinterprets the theory of human action as 'the study of how human beings devise and act upon the[ir] plans to use means to achieve ends' (Vaughn, 1992, p. 264). Individuals formulate their plans by imagining desired future ends, and they implement their plans over time. Human creativity is exercised *ex nihilo* through the imagination of possible futures with creative choice never being fully predictable because no two minds are alike in knowledge content nor interpretation (Shackle, 1979). Entrepreneurs can err in a variety of ways such as formulating plans based on faulty perceptions or incorrect information or having their initial plans laid to waste as new knowledge unfolds during the course of implementation. Thus, plans must continually be revised through time as new information comes to light. In a Lachmannian world of uncertainty, unpredictability and 'thorough-going' subjectivism, institutions serve as 'points of orientation' that enable individuals to establish some order and confidence in predicting the actions of others.^[3]

Finally, Schumpeter (1950, 1961) offered a distinct perspective of the competitive market process in which he 'carried on inquiry into Austrian themes using accepted neoclassical language and techniques' (Vaughn, 1994, p. 8). Schumpeter viewed the market as an evolutionary process of growth and expansion, beginning with the capitalist economy in equilibrium – a changeless, 'circular flow' devoid of profits and ruled by inertia and routine activity. Entrepreneurs disrupt this status quo by introducing innovations in the form of new or improved products or production processes or new organizational techniques. Human creativity is exercised through invention (which leads to innovation); however, inventions are presumed to be 'trivially and abundantly available and known to all sorts of people' (Witt,

1992, p. 219). Innovations usher in opportunities for profit and change in the form of 'gales of creative destruction' that move the economy away from one equilibrium and toward another one as imitators learn and profits disappear. In theory, Schumpeter 'presumed that economic equilibria could be achieved and persist for long periods of time' (Vaughn, 1994, p. 61); however, in reality, he maintained that a capitalist economy 'not only never is but never can be stationary' (Schumpeter, 1950, p. 83).

Overview of Evolutionary Economics

Nelson and Winter (1982) formulated a neo-Schumpeterian, evolutionary theory of economic change that identifies the generative mechanisms that operate in dynamic market processes between equilibria. Although Nelson and Winter drew their principal inspiration from Schumpeter, they could just as well have chosen Mises or Hayek (Foss, 1994). The theory they develop is a multi-level exploration of the environmental pressures and unanticipated changes of the market, the growth and decline of firms in an organizational population, the routinized activities of individual firms, and the actions of individuals who initiate change. Markets are conceived as devices that select firms in a population that are better adapted to environmental conditions (Alchian, 1950). Firms are viewed as bundles of routines and decision rules (Cyert and March, 1963), and individuals are assumed to be bounded in their rationality (Simon, 1961). Here, 'real' individuals engage in decision-making processes that are 'adaptively rational, with multiple objectives and continuing organizational learning' (Seth and Thomas, 1994, p. 173).

Evolutionary theories employ natural selection arguments that simultaneously address stability and change. Organizations are viewed as engaging in a Darwinian struggle in which only the fittest survive. Because they are encumbered by inertial forces that impart stability and dampen responsiveness to changes in the environment (Hannan and Freeman, 1984), organizations may eventually become so unfit as to be unviable in new environments that have emerged in the course of significant or rapid environmental change. At some point, they are deselected from the organizational population – they go out of business.

The natural selection argument employed in evolutionary economics has three fundamental components: variation, heredity and selection. First, variation enters through heterogeneity in firm characteristics such as routines, capabilities and histories. Because of these differences, firms will also differ in the extent to which their routines and capabilities match the environmental forces exerted by the market. Furthermore, firms will differ in terms of their reactions to the same unanticipated change due to path dependence and localized search. That is, 'firms are strongly constrained in what they can do by where they have been' (Foss, 1994, p. 110), and they tend to search for solutions to problems in the same areas where previous searches were conducted (Cyert and March, 1963). Importantly, variation provides the raw material necessary for environments to perform a differential sort among organizations.

Second, heredity enters in the form of a firm's routines, which can be copied and transmitted in an organizational population. Routines are patterns of relatively complex behaviour that co-ordinate the interaction of individuals in the absence of rules, directives, or significant verbal communication (Grant, 1996a; Hayek, 1973). They embody the productive and organizational knowledge of the

firm much of which is tacit (Hayek, 1973; Nelson and Winter, 1982) and 'make use of knowledge which nobody possesses as a whole' (Hayek, 1973, p. 49). Routines emerge in a path-dependent fashion that render organizations prisoners of their past (Barnett and Hansen, 1996; Teece et al., 1997) causing them to respond to new circumstances in outdated and less profitable ways (Levitt and March, 1988). Further, they are automatically initiated by a relatively small set of triggering events or choice opportunities (Winter, 1986a, 1986b). Hence, routines supply stability, impart resistance to change, and make immediate adaptation difficult.

Finally, selection implies that those organizations that meet or exceed the environment's selection criteria are retained and grow in number, whereas those that fail to meet the criteria wither and die. Positive realized profits are one example of such market selection criteria (Alchian, 1950). '[S]ome rules are simply more efficient in terms of realized profit for a given market condition. The relatively more efficient rules and routines will therefore increase in weight in the population through the expansion of the firms that embody them' (Foss, 1994, p. 140). Less efficient rules and routines will correspondingly decrease in weight in the population as firms that employ them fail to generate positive realized profits and die off as a consequence.

INTERPRETING TQM'S CORE PRINCIPLES THROUGH THE LENS OF MPE

Austrian economics addresses the role of the individual and in Hayek's (1973) work the role of rule-following within firms in order to understand the anchor point concept – market processes. Likewise, evolutionary economics is concerned with the characterization of individuals and firms as necessary steps in achieving the primary purpose of modelling industry-level change (Nelson and Winter, 1982, p. 18). Thus, MPE, as the name indicates, is an approach that is ultimately interested more in markets than in individuals and firms. To use MPE as a theoretical lens for interpreting TQM, we still employ all levels of analysis implicit in the theory, but shift the emphasis to firms and the individuals that inhabit them.

Our rationale for this shift is supported by at least three points. First, in his acclaimed article, Hayek ([1945] 1991) addressed the role of institutions in overcoming the problems of co-ordinating dispersed knowledge in society. Although he did not explicitly say so, Hayek may be interpreted as asserting that any social system of reasonable size confronts a division of knowledge problem, including firms – especially large ones. Recent work which draws on Hayek's ideas (Cowan and Parker, 1997; Tsoukas, 1996) has explicitly adopted this firm-level perspective noting that the economic problem of organizations, like society, is really one of the 'utilization of knowledge not given to anyone in its totality' (Hayek, [1945] 1991, p. 248). Second, we believe the case for employing the logic of the market process at the organizational level is even stronger than suggested by Tsoukas (1996), who assumes that 'business organizations are deliberately designed systems in a way that societies are not' (p. 13). While we do not disagree with this assertion, we believe it overstates the differences that actually exist between organizational and societal systems. Indeed, scholars in the strategy process tradition have long recognized the order that emerges within organizations is only partially the result of

planned action. Surprises, chance occurrences, serendipitous events, and information sources buried deep within the company as well as the interaction, mutual adjustment and trial-and-error learning of individuals often play a significant role in the emergent organizational order, especially in dynamic environments (e.g. Mintzberg, 1990; Pascale, 1984). Indeed, this perspective is entirely consistent with the Austrian view that institutions (for example, firms) emerge as a result of both the unintended consequences of human action and the intended consequences of deliberate human design, though the former is emphasized (Hayek, [1967] 1991; Menger, [1985] 1991). Third, there is a small literature on ‘market-based management’ that applies market process concepts to the management of firms. This work is mostly produced by consultants and economists with an affiliation to George Mason University’s Center for the Study of Market Processes (e.g. Cowan and Parker, 1997; Gable and Ellig, 1993).

That said, it is our contention that the patterns in the theory of MPE match, to a remarkable degree, the patterns of practical knowledge contained in the TQM literature (see table I for a summary of the connections between TQM and MPE). In this section, we demonstrate this pattern-matching by showing that MPE effectively provides the theoretical underpinnings of TQM’s three main principles – customer focus, continuous improvement and teamwork (Dean and Bowen, 1994) – as well as the respective TQM topics of customer perceptions, adaptation in dynamic environments, and knowledge creation.

Focusing on Customers and Their Perceptions

Customer focus is unequivocally the most important principle in TQM, and it likewise figures centrally in MPE. In MPE, demand curves are not *given*, but must be *discovered* through entrepreneurial efforts in the course of the market process (e.g. Foss, 1994; Kirzner, 1973). Entrepreneurship is viewed as ‘an action that directs the flow of resources toward fulfillment of consumer needs’ (Mises, 1949, as cited in Jacobson, 1992, p. 787). Thus, while the entrepreneur is the driving force in the market process, the customer is the final arbiter.

Entrepreneurs can satisfy the most urgent desires of customers either through the discovery of opportunities that have gone unnoticed by others (Kirzner, 1973), through the improvement of existing products and processes (Deming, 1986; Schumpeter, 1950), or through conformance to customer needs (Crosby, 1979). The entrepreneur can also move beyond satisfying existing wants and needs to creating entirely new ones. Through alertness, entrepreneurs can bring new products to the attention of customers of which they had no previous knowledge (Kirzner, 1973); through imagination, they can offer novel products that satisfy needs customers didn’t know they had (Lachmann, 1986); and through innovation, they can determine customers’ wants by teaching them to desire new things (Schumpeter, 1961, p. 65).

Subjectivism figures prominently in the customer orientation of both TQM and MPE. Whether it’s meeting customers’ expectations to achieve customer satisfaction or exceeding customers’ expectations to produce customer delight, what matters most in TQM is how customers *perceive* the quality of a product or service. Likewise, one of the central pillars of Austrian thought is that individuals subjectively interpret the world around them, and these interpretations may differ among individuals. Accordingly, the same objective data may lead different individuals to take different actions, make different plans, and form different expectations. This

Table I. Comparison of total quality management and market process economics

<i>TQM</i>	<i>Austrian economics</i>	<i>Evolutionary economics</i>
<i>Systems orientation</i>		
Organizations as total systems	Society, markets, organizational systems, firms, individuals	Markets, industries, organizational populations, firms, individuals
Subsystem co-ordination via top management	Plans, imagined futures, design of institutional remedies, co-ordination of dispersed knowledge	Co-ordination of dispersed knowledge
Subsystem co-ordination via incentive systems	Ownership of property rights, economic calculation, profit or opportunities for gain provide entrepreneurial incentives, co-ordination of dispersed knowledge	Profit motivation, ownership of property rights, co-ordination of dispersed knowledge
Subsystem co-ordination via teams	Nested institution within the firm, rule following, co-ordination of dispersed knowledge	Organizational routines, co-ordination of dispersed knowledge
<i>Customer orientation</i>		
Customer focus	Customer as final arbiter in the market process, entrepreneurship directed toward satisfying existing and creating entirely new customer wants and needs, customer wants and needs as selection mechanisms	Customer wants and needs as selection mechanisms
Customer perceptions	Subjectivism, perceptions of customer as a key strategic resource	Customer perceptions as selection mechanisms
<i>Learning orientation</i>		
Continuous improvement	Continuous innovation, improvement, learning, plan revision, means–ends framework revision; market as an evolutionary process of trial-and-error learning	Continuous improvement of organizational routines; continuous innovation and learning; market as an evolutionary process of trial-and-error learning
Benchmarking	Entrepreneurial discovery; imitation by less alert entrepreneurs; profit decay	Innovative search; imitation and diffusion of routines; innovation through imperfect imitation; profit decay
Data-driven analysis	Qualitative methods to address tacit, unobservable factors that tend to defy quantification, measurement and articulation	Qualitative methods to address tacit, unobservable factors that tend to defy quantification, measurement and articulation
<i>Change orientation</i>		
Control	Rule following and other institutions provide stability	Lower-level organizational routines provide stability
Change	Dynamic, disequilibrium processes of change; changes occurs endogenously through invention, alertness and imagination; emergence of novelty	Dynamic, disequilibrium processes of change; changes occurs endogenously through invention/innovation
Empowered employees	Entrepreneurs, human action, methodological individualism, subjectivism, dispersed knowledge	Individuals initiate innovation and change, dispersed knowledge
Organizational survival	Selection processes	Selection processes

‘thorough-going’ subjectivism amounts to a recognition that ‘value is not a property inherent in goods, but constitutes a relationship between an appraising mind and the object appraised’ (Lachmann, 1969, p. 69). Thus, it is easy to see why Jacobson’s (1992) Austrian-inspired argument concluded that one of ‘the key strategic resources of a firm . . . [is] the perceptions of its customers’ (p. 804).

Though fragmented, the TQM literature suggests that empowered employees with the discretion to seize opportunities, make decisions and take responsibility – in other words, to be organizational entrepreneurs – are a key determinant of customer perceptions. Empowerment leads to improvement in product and service quality (Dean and Evans, 1994) which in turn may lead to more favourable customer perceptions of quality (Reeves and Bednar, 1994). Further, an important way customer perceptions are established is through the interaction of employees with customers (e.g. George and Weimerskirch, 1994). Together, this suggests that the greater the interaction of empowered employees with customers, the more favourable the customer's perceptions of the quality of the organization's products and services are likely to be. Service quality scholars have been more forthcoming. According to them, empowered employees have more opportunities to exercise discretion during service delivery (Kelley, 1993) which enables them to provide more customer-oriented service and hence achieve greater customer satisfaction (Saxe and Weitz, 1982) which in turn results in more favourable perceptions of service quality (Parasuraman et al., 1988) and ultimately in enhanced customer loyalty to the organization (Kelley, 1993).

TQM offers a number of tools that allow empowered employees to achieve even greater leverage of their specialized, nuanced and more complete customer knowledge in rapidly responding to changing customer needs. First, TQM practices and techniques such as direct customer contact, collection of information about customer needs, customer surveys and focus groups, and quality function deployment provide employees with a set of tools for sharpening customer focus and improving customer perceptions (Dean and Bowen, 1994). Second, benchmarking the work processes of other organizations allows employees to learn and to improve products and services in ways that better serve customers. Third, TQM's continuous improvement techniques such as PDCA cycles, flowcharts, scatter plots, statistical process control charts, Pareto analyses, and fishbone diagrams (Dean and Bowen, 1994) help employees experiment in ways that may lead to the discovery of novel offerings that satisfy customer needs (Sitkin et al., 1994). Lastly, cross-functional teams allow knowledge that resides in the heads of individual employees to be co-ordinated, amplified and brought to bear on problems related to customer satisfaction and perceptions.

Improving and Adapting in Dynamic Environments

Continuous improvement, organizational adaptation in changing environments, and routinized organizational processes represent an important nexus of the TQM and MPE perspectives.

Continuous improvement is a core concept embedded in MPE. The entrepreneurial discovery process is a process of continuous innovation, learning and improvement that brings the plans of market participants into closer coordination. It is a process in which the best productive techniques must be perpetually 'discovered and discovered anew' (Foss, 1994, p. 110). It is a process that requires firms to continuously search for improvements that will allow them to outperform their rivals (Barnett and Hansen, 1996; D'Aveni, 1994; Imai, 1986; Kirzner, 1973; Porter, 1991). It is a process that yields incremental improvements as well as major breakthroughs or Schumpeterian shocks. But even the firm that ushers in a revolutionary innovation must continuously improve the initial offering with a stream of new and better models and ongoing refinement of produc-

tion methods in order to sustain its competitive advantage (Jacobson, 1992, pp. 798–9). TQM scholars are in perfect agreement (e.g. Choi, 1995; Imai, 1986). They note that new standards of performance associated with a major innovation will experience steady deterioration unless followed-up with continuous improvement efforts. Indeed, with substantial management commitment and the concerted effort of workers, these scholars claim that continuous improvement efforts are capable of upgrading the standard of performance over time.

The ability of organizations to adapt in changing environments is central to MPE. This type of adaptive change is precisely what proponents of the Austrian school meant by the revision of means–ends frameworks (Kirzner, 1973) or plans (Lachmann, 1986) in the face of a continual stream of new knowledge. Indeed, Hayek ([1945] 1991) stressed that ‘economic problems arise always and only in consequence of change’ (p. 252) and that the economic problem of business was ‘mainly one of rapid adaptation to changes’ (p. 255). Likewise, D’Aveni’s (1994) Austrian-inspired argument emphasized the necessity of instant reaction and reflexes of firms in hypercompetitive environments. In MPE, the upshot is that organizations that are successful in rapidly adapting their plans to unanticipated changes in the environment will experience increased growth, improved profits and enhanced survival prospects (Foss, 1994; Littlechild, 1979; Nelson and Winter, 1982).^[4] The success of firms in dynamic environments is also predicated on devising routines (or other institutional remedies such as networks and teams) capable of flexibly adjusting to unanticipated changes (Foss, 1994; Hayek, 1973; Nelson and Winter, 1982).

It is routines (Nelson and Winter, 1982), rules (Hayek, 1973) and institutions (Lachmann, 1971) that are responsible for recurrent patterns of firm behaviour in the market process.^[5] They provide some measure of stability, rigidity and order in a world characterized by significant disequilibrium and uncertainty. As a consequence of this ballast, it is often impossible for firms to immediately adapt to unanticipated environmental change. Furthermore, these routinized activities emerge in organizations through processes of learning, but once a satisfactory level of performance is achieved, the learning stops when managerial attention is redirected to more urgent matters (Winter, 1994). Thus, the natural tendency of routinized organizational processes is toward inefficiency and stagnation over time (Choi, 1995; Winter, 1994). Indeed, Lachmann (1971) viewed institutions as ‘relics of the pioneering efforts of former generations’ (p. 68). But rigid, stagnant, lower-level operating routines may be replaced or modified through the operation of higher-level innovative search routines in response to pressure from the market (Nelson and Winter, 1982). In addition, the responsiveness and co-ordinative efficiency of routines can only be improved through repetition and continuous improvement (Grant, 1996b; Hayek, 1973; Suzaki, 1987). Because organizational knowledge resides in routines (Nelson and Winter, 1982) and in action and practice (Tsoukas, 1996), failure to continuously use and improve routinized processes leads eventually to an atrophy of knowledge within organizations.

The continuous improvement of organizational routines is one of the central objectives of TQM (Choi, 1995; Deming, 1986; Winter, 1994). Dynamic routines, updated and improved on a continuous basis through the disciplined application of a set of TQM practices and techniques, allow organizations to achieve greater flexibility and responsiveness to market changes (Choi, 1995). In this way, TQM guards against the ‘dangers of smugness in an environment that is increasingly

competitive in increasingly unpredictable ways' (Winter, 1994, p. 105). Application of TQM's continuous improvement techniques (e.g. fishbone diagrams, flow-charts) to stagnant routines effectively 'jump starts' a dormant learning process, thus ensuring continuous learning and experimentation with new ideas (Choi, 1995; Winter, 1994).

The practices and techniques of TQM enable organizations to break the shackles of path dependence and the constraints of history by continually refreshing their operating routines with new knowledge from a variety of sources. Customers may provide information that helps the organization tune its routines to better satisfy customer expectations. Suppliers may provide information that allows the organization to improve the efficiency of routines through joint improvement processes (Ellram, 1991). Benchmarking activities may provide firms the opportunity to imitate entirely new routines being used at other organizations or to tap a rich source of new ideas for improving existing routines in their organization (Splendolini, 1992). Finally, employees who spend their time closest to the work processes and to the customer are arguably the best source of knowledge for improving routines (Winter, 1994).

Although individual workers often make their ideas for improvements known through employee suggestion programmes in organizations that have adopted TQM (Deming, 1986; Schonberger, 1982), it is the combining of individual ideas within a team setting that is particularly important to the continuous improvement of routines (Winter, 1994). The fragmented and partly tacit nature of organizational routines presents an obstacle to understanding and improving them that can only be overcome through teamwork.

Aspects of a routine that are unknown to any participant may become known and articulatable if the participants get together and talk it over . . . Together, comparing notes and piecing things together, the team may create an account of how the routine works that simply did not exist before. Such an account provides a framework for predicting the consequences of alterations of the routine and hence an opportunity to plan a successful intervention. (Winter, 1994, p. 101)

In effect, TQM provides the institutional apparatus necessary to convert tacit knowledge (which may not be understood by the firm itself) into explicit knowledge (which it can readily grasp) – a point consistent with the literature on knowledge-based management. The tacit knowledge embedded in routines and in individuals' minds is converted through the co-experience of the individual workers to an explicit knowledge that provides a common base for understanding and subsequent improvement (Nonaka, 1994, p. 24). In sum, this suggests the greater the extent of team interaction among a firm's workers engaged in continuous improvement activities, the more successful the firm is likely to be in improving its routines.

Creating and Co-ordinating Knowledge

Knowledge is a construct of great practical importance in TQM and enormous theoretical significance in MPE. In particular, the creation, co-ordination and acquisition of knowledge figure centrally in both perspectives. We take up creation and co-ordination now and return to acquisition later in the paper.

For both TQM and MPE, the creation of new knowledge has its beginnings in the creative activity of the individual human mind (Suzaki, 1987; Vaughn, 1994; Witt, 1992). Individuals may exercise their creativity through entrepreneurial alertness and discovery (Kirzner, 1973), imagination (Lachmann, 1976; Witt, 1992), or invention/innovation (Nelson and Winter, 1982; Schumpeter, 1950). Furthermore, since the creation of new knowledge is a product of the human mind, and no two minds are alike in the perception and interpretation of 'facts', knowledge must necessarily be subjective (Witt, 1992). Thus, the creativity and subjectivity of the individual represent the ultimate source of new knowledge creation and the driver of constant, unanticipated, endogenous change in the market process.^[6] Of course, the subjective interpretations of the customer represent the final arbiter in this process. So, new knowledge generated through the creativity of entrepreneurs has economic value only if customers 'see' the value.

In order to further understand the nature of economically relevant knowledge and the importance of its co-ordination, we turn to Adam Smith's treatment of the beneficial effects of the progressive division of labour. While this increasing specialization of labour leads to more efficient use of resources, it also creates a dispersion of knowledge (Mises, [1936] 1981; Hayek, [1945] 1991). The knowledge that matters in economic affairs is thus widely dispersed among individuals, none of whom knows all the relevant facts. This knowledge is heterogeneous, local, partial and imperfect. It is a knowledge of the particular circumstances of time and place, that is, the details of everyday life (Hayek, [1945] 1991). This knowledge is specialized, particularized, detailed, private and often tacit.

The dispersion of knowledge creates a co-ordination problem that must be addressed by various social institutions such as the price system, firms, routines, teams, etc. (e.g. Lachmann, 1971; Mises, [1936] 1981). In other words, institutions assist in the formation of co-ordinated states that would not otherwise arise due to the dispersion of knowledge. Institutions are essentially 'adaptations to the impossibility of anyone taking conscious account of all the particular facts which enter into the order of society' (Hayek, 1973, p. 13). So not only do institutions enable society and firms to cope with unanticipated change, they also perform the vital function of efficiently co-ordinating dispersed knowledge (Foss, 1994). TQM can be viewed as an institutional mechanism for solving 'the economic problem of the firm' by efficiently co-ordinating local, specialized, partly tacit knowledge dispersed throughout the firm.

To further establish the TQM-MPE-knowledge link, we offer Hayek's thoughts on organizing human resources in a world of constant change and dispersed knowledge:

If we can agree that the economic problem of society is mainly one of rapid adaptation to changes in the particular circumstances of time and place, it would seem to follow that the ultimate decisions must be left to the people who are familiar with these circumstances, who know directly of the relative changes and of the resources immediately available to meet them. (Hayek, [1945] 1991, p. 255)

Thus, the creation of a decentralized system of empowered individuals is necessary to ensure that the knowledge of local conditions is used promptly and effectively in responding to changes in a dynamic environment (Grant, 1996a, 1996b;

Hayek, [1945] 1991; Spender, 1996; Tsoukas, 1996). In TQM organizations, such specialized knowledge is created by empowering workers to be organizational entrepreneurs with the freedom to quickly respond to changing customer needs as they see fit, by facilitating the interaction of workers in teams so that ideas are mutually co-developed and amplified, and by entrusting to top management the task of creatively imagining a desired future state for the organization (e.g. Dean and Evans, 1994; Deming, 1986; Hill, 1996; Nonaka, 1994). And to make this decentralized system work, institutions are needed to co-ordinate the specialized knowledge dispersed among individuals. In TQM organizations, this knowledge is co-ordinated by team structures of the self-organizing, cross-functional variety which provide an entrepreneurial context for action, and by the articulation of an organizational vision that aligns employees' actions with the objectives of the organization yet allows them considerable flexibility to exercise entrepreneurial licence (e.g. Dean and Evans, 1994; Nonaka, 1994; Suzuki, 1987). When the firm is viewed as a distributed knowledge system, these co-ordinating mechanisms, if they are to be effective and efficient in mobilizing collective action in dynamic environments, must ensure greater connectivity of knowledge at lower levels in the organization *rather than* greater concentration of knowledge at higher levels (Grant, 1996a, 1996b; Spender, 1996; Tsoukas, 1996).

CLARIFYING FUZZY AREAS IN TQM: THREE EXAMPLES

Having established MPE as a credible theoretical lens for interpreting TQM, it can now be used to clarify fuzzy areas that have remained in the TQM literature with the potential to take us beyond what we currently know. We illustrate this with three examples that show how we can resolve debates in TQM over incentive systems, recognize that TQM embraces methodological pluralism in the collection and analysis of data, and highlight hidden dangers that attend benchmarking.

Example 1: Resolving Debates in TQM over Incentive Systems

TQM, as noted earlier, is characterized by dissonant voices on the topic of incentive systems. Despite the benefits of rewarding individual employees with both intrinsic and extrinsic rewards (e.g. Hill, 1996; Wruck and Jensen, 1994), one influential camp in TQM rejects performance-based extrinsic rewards for individuals and teams, instead opting for intrinsic rewards to motivate individuals and organization-wide gainsharing and profit sharing programmes to reward collective excellence (Hackman and Wageman, 1995; Wruck and Jensen, 1994). 'TQM philosophy is explicit that extrinsic rewards, including pay, should not be contingent on measured individual or team performance' (Hackman and Wageman, 1995, p. 336). As champions of methodological individualism, subjectivism and profit incentives, proponents of the Austrian school would consider such an ideological stance woefully misguided.

The purposeful actions, specialized knowledge, and creative ideas of the individual represent the basic building blocks of MPE. While new ideas may be generated from interaction with others, ultimately it is individuals who act, possess specialized knowledge and subjectively create new knowledge. Therefore, individuals must be given the appropriate incentives to engage in entrepreneurial

behaviour. Austrians emphasize private ownership supported by well-defined property rights that provide the appropriate incentives for entrepreneurial discovery and alertness (e.g. Mises, [1920] 1935). In such environments, the existence of market prices allows individuals to engage in rational economic calculation without which they could not discern opportunities for profit or gain. And without the profit motive, the chance for gain, there can be no incentive for entrepreneurial discovery. Profits or opportunities to improve one's circumstances provide the incentives that motivate individuals to discover opportunities, to innovate novel products, and to imagine entirely new offerings. In environments where individuals cannot discern opportunities for profit or gain, or where such opportunities are distorted, one observes 'the crippling of initiative and a sense of responsibility' (Vaughn, 1994, p. 45). By tying organizational rewards to the entrepreneurial creativity of individual employees, organizations reduce the gap between the high-powered incentives of the market and the low-powered incentives of the firm (Williamson, 1985). This affords more reliable economic calculation and less distorted assessments of profit opportunities.

This suggests that the stronger the incentives to engage in entrepreneurial behaviour, including and especially monetary incentives, the more motivated individuals will likely be to engage in such behaviour. Further, incentive systems that reward individuals for the contribution of their specialized, private knowledge are likely to lead to more creative entrepreneurial behaviour than incentive systems that reward individuals based on organization-wide performance.^[7]

Incentives that foster teamwork may also become vital in light of the importance of teams in improving routinized processes, generating new knowledge, and co-ordinating individual knowledge. Although team-based incentives may be important for rank-and-file employees, they are essential for managers. Some examples of individual and team-based rewards include stock options, pay, profit sharing, promotions, status, power, job security, leisure time, and respect of colleagues (e.g. Hill, 1996).

Example 2: Recognizing that TQM Embraces Methodological Pluralism

Managing with 'hard' data is arguably the mantra of the TQM philosophy (Dean and Bowen, 1994; Deming, 1986) with the prevailing view: 'if you can't measure it, you can't manage it' (Garvin, 1993, p. 89). Indeed, proponents of TQM espouse the systematic collection, objective measurement, and statistical analysis of data as the very foundation of customer satisfaction and continuous improvement efforts. The benefits of such a fact-based and science-based approach is that it encourages large numbers of employees at all levels of the organization to use simplified statistical tools and problem-solving methods in everyday decision making (Wruck and Jensen, 1994, p. 253). However, this dominant view of TQM as dealing in the objective, the measurable, and the statistical, is incomplete and may lead one to prematurely conclude that TQM is nothing more than scientific management incarnate. It tends to mask the role of subjective data based on a worker's local knowledge and the use of qualitative methods in TQM. One need only look at an Ishikawa, or fishbone, diagram to see a textual and graphical tool constructed by workers who have detailed local knowledge of a problem and its root causes.

Indeed, Austrian thinkers remind us of the importance of unobservable factors (Kirzner, 1976), variables that cannot be quantified and measured (Rizzo, 1991),

and diffuse, partly tacit, unscientific knowledge of particular circumstances of time and place ‘which by its nature cannot enter into statistics and therefore cannot be conveyed to any central authority in statistical form’ (Hayek, [1945] 1991, p. 254). It is precisely by embracing such ideas that Austrians are able to make sense of a complex, dynamic, socially constructed, disequilibrium world. To Austrians, any attempt to explain such a world using only measurable, observable factors neglects available and often more relevant information necessary to understand real business performance (Jacobson, 1992).

This does not mean individuals should not try to develop methods that may allow them to observe the formerly unobservable, but rather that such methods will need to be different from the quantitative, normal science ones typically associated with TQM. ‘Qualitative methodologies . . . may represent the best way forward in observing the effects of otherwise unobservable, idiosyncratic effects on business strategy and performance’ (Godfrey and Hill, 1995, p. 531; also see Littlechild, 1979). British retailing giant, Marks & Spencer (M&S), provides an example of the strategic value of subjective interpretation, local knowledge, and qualitative analysis over objective data and statistical analysis (Montgomery, 1994). M&S was founded on fundamental operating principles that have a close resemblance to the principles of TQM – customer focus, quality products and services, quality control, co-operation with suppliers, and the business as a social service to both customers and employees. The company eventually adopted qualitative ‘probing’ as its primary managerial tool. According to M&S’s Lord Sieff,

Both the executive and the merchandisers of the department should *probe* into the goods in the store *with seeing eyes and a critical mind*. The department supervisor and the [salesperson] are the best sources of information. To depend on statistics is to asphyxiate the dynamic spirit of business. . . . [W]e distrust statistics and value *probing* (Montgomery, 1994, p. 4; italics in original)

Our point is this: The Austrian perspective forces us to appreciate, contrary to widely-held views by TQM proponents, the important role that subjective data and qualitative methods play in TQM, and hence to recognize that TQM actually embraces methodological pluralism in the collection and analysis of data.

Example 3: Highlighting Hidden Dangers that Attend Benchmarking

Proponents of TQM champion benchmarking activities because they allow organizations to improve work processes and customer satisfaction through knowledge acquired from the best practices of other organizations. Similarly, MPE scholars also emphasize the importance of acquiring new knowledge through search (Nelson and Winter, 1982) and discovery (Kirzner, 1973). TQM scholars argue that benchmarking may even provide the necessary creative spark that fosters novel ideas and new innovations leading to products and services that truly delight customers. Similarly, writers in the MPE tradition have theorized that individuals may inadvertently stumble upon new innovations in their imperfect attempts to imitate others (Alchian, 1950, p. 219). MPE scholars, however, go beyond their TQM counterparts by emphasizing the passage of time and the broader organizational population (Nelson and Winter, 1982) or system (Kirzner, 1973) perspective. In this broader context, the dangers of benchmarking come into full relief – decaying profits, deteriorating competitiveness, and inbreeding of ideas.^[8]

From the perspective of MPE, benchmarking is effectively a mechanism by which firm routines (i.e. the carriers of a firm's productive knowledge) are copied and transmitted in an organizational population. Benchmarking facilitates and accelerates the imitation of successful innovations and processes of more alert entrepreneurs by those who are less alert. As a result, profits enjoyed by early benchmarking firms are gradually competed away (e.g. Kirzner, 1973; Lachmann, 1978; Nelson, 1994; Schumpeter, 1950). As knowledge becomes commonplace in the environment over time, it provides firms only a source of competitive parity, not competitive advantage. For example, in most US manufacturing industries quality was an 'order winner' (i.e. a source of competitive advantage) for firms in the 1980s, but after more than a decade of benchmarking activities, quality has become an 'order qualifier' (i.e. a source of competitive parity) (Ferdow and De Meyer, 1990; Noble, 1995). Furthermore, the inbreeding of ideas in an organizational population may render it more parochial, insular and myopic, and consequently less able to respond to changes in the environment (Abrahamson and Fombrun, 1994; Porter, 1990). While these dangers will be more rapid and profound for intra-industry benchmarking (e.g. Ford benchmarking Mazda), they are none the less present to some degree in inter-industry benchmarking (e.g. Xerox benchmarking L. L. Bean) due to interdependencies that exist between organizational populations (e.g. Baum and Singh, 1994; Kirzner, 1973).

IMPLICATIONS FOR RESEARCH AND PRACTICE

The ideas presented in this paper have a number of implications for research. First, by using MPE as an interpretive lens, we offer researchers a new perspective on TQM as a dynamic economic endeavour. Such a perspective stands in contrast with other work that has employed quality heuristics, organizational behaviour theories, and static economic theories.

Second, we demonstrated the ability of MPE to comprehensively cover the incredible breadth of TQM. To our knowledge, MPE is unique in its ability to span such a wide range of TQM issues. We established the striking extent to which the patterns in MPE theory matched those in the practical knowledge contained in the TQM literature, thereby showing that this interpretive lens effectively provides the theoretical underpinnings of TQM's core principles as well as a number of related ones. Notably, this approach to theorizing is consistent with Dean and Bowen's (1994, p. 411) notion of providing a context for theory development by addressing some of the broad issues related to TQM.

Third, we sketched several examples of how MPE can clarify fuzzy areas in the TQM literature with the potential to generate new understanding for TQM scholars. Although this paper represents only a first step, we believe it can provide a spring board for other researchers. We encourage them to use this lens to elucidate other issues and problem areas within TQM beyond those addressed here. Examples may include explaining why some Baldrige Award winners have gone bankrupt, understanding the role that TQM practices have on firm performance, or considering the role of top managers' perceptions on the knotty issue of TQM implementation. In addition, scholars may find as a fruitful avenue for future research the exploration of TQM through a comprehensive, theoretical integra-

tion of MPE and orthodox economics (see Note 1 for an elaboration of orthodox economics).

Fourth, by interpreting TQM from the perspective of MPE, this management philosophy becomes more intelligible to a broader audience of organizational scholars. Specifically, our use of dynamic theories from economics squarely aligns TQM with the ideas of proponents in the emerging dynamic paradigm in organization and strategy. Scholars in this paradigm speak in terms of dynamic processes of change (Barnett and Hansen, 1996; D'Aveni, 1994), hypercompetitive rivalries (D'Aveni, 1994; Porter, 1991), hyperturbulent environments (Meyer et al., 1993), revolutionary strategies (Hamel, 1996), dynamic capabilities (Tece et al., 1997), cellular organizational forms (Miles et al., 1997), knowledge-based organizations (Grant 1996a, 1996b; Hill, 1996; Nonaka, 1994; Spender, 1996), complex systems (Brown and Eisenhardt, 1997) and imagination (Hamel and Prahalad, 1994; Morgan, 1997).

Fifth, we believe our account of Austrian economics offers greater structure and precision than exists in the extant strategy and organization literature, and may provide useful guidance to organizational scholars wishing to employ this perspective whether their interests lie in the area of TQM or otherwise.

Our findings also have a number of implications for practising managers. From the perspective of MPE, TQM is 'right on the mark' in a number of areas – customer focus and perceptions, continuous improvement, adaptation and learning, employee empowerment, and teamwork. Managers would be well advised to follow the teachings of TQM on these accounts.^[9] However, managers must exercise caution before blindly following other TQM prescriptions. Contrary to some TQM proponents, monetary incentives that reward individual performance should play an essential role in fostering entrepreneurial behaviour. And while a fact and science-based approach has benefits, a single-minded focus on such an approach may cause managers to miss unobservable and unmeasurable factors critical to business success. Finally, managers must be careful not to overlook the long-term dangers inherent in many benchmarking activities.

NOTES

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[1] As a theoretical lens for TQM, we chose to focus on MPE rather than orthodox economics (OE) – a term used in various forms by Foss (1994), Nelson and Winter (1982), Vaughn (1995) and others to refer to 'mainstream' neoclassical and neo-institutional economics literature such as structure–conduct–performance, property rights, agency and transaction cost theories. Two primary reasons support our focus. First, OE is capable of providing an understanding of certain aspects of TQM such as investment in TQM programmes and process technologies, alignment of incentives, allocation of decision rights, reward and control systems necessary to overcome agency problems, cost reduction, technical efficiency, and buyer utility functions. However, this is ground already covered either directly (e.g. Lederer and Rhee, 1995; Wruck and Jensen, 1994) or indirectly (e.g. Aghion and Tirole, 1997) in the extant literature.

Second and most importantly, application of an orthodox lens misses virtually all the dynamic aspects of TQM such as continuous improvement, learning and change, discovery of customer needs, and knowledge creation. It is the twin pillars of OE – equilibrium and maximization – that suppress these dynamic aspects (e.g. Foss, 1994; Kirzner, 1973; Nelson and Winter, 1982; Vaughn, 1994) and lead some scholars to conclude that ‘the quality management perspective is . . . virtually incomprehensible to the orthodox view’ (Winter, 1994, p. 99).

Our emphasis on dynamic process theories could mislead if it conveyed the impression that issues such as ex ante incentive alignment and the allocation of decision rights within firms are not relevant in a dynamic context. Such contractual institutions are indeed relevant in a dynamic context – a view consistent with that of Hayek and especially Lachmann who emphasized that ‘economics should largely be a study of economic institutions within a disequilibrium context’ (Vaughn, 1994, p. 127). Despite this insight and calls from commentators to broker a theoretical marriage of market process and orthodox theories (e.g. Foss, 1994; Vaughn, 1994), the ‘explicit weaving together of the themes of process and institutions is something that [the field of economics] still has to achieve’ (Foss, 1994, p. 206). While we make some attempt to weave together process and institutions in this paper, our objective is not to develop a theoretical synthesis of MPE and OE. Nor is our objective to try to understand TQM through an integration of MPE and OE. Our goal is more limited in scope, more focused: namely, to demonstrate the value that MPE has as a theoretical lens for understanding TQM.

- [2] It is important to note that ours is but one perspective of TQM. We believe that TQM provides a channel for worker creativity and a route to improved organizational competitiveness. We also believe that TQM has overcome some of the earlier criticisms that it neglected ‘soft’ issues such as human resources (Wilkinson, 1992; Wilkinson et al., 1991) – that ‘Human Resource Development and Management’ was added to the Malcolm Baldrige model represents a case in point. However, there is a group of scholars that espouse a different paradigm regarding TQM. These scholars (e.g. Boje and Winsor, 1993; Willmott, 1993) view TQM practices as having ‘sinister implications’ in that they have been ‘developed and implemented with ideological intent, that is, politically to disarm the workforce’ (quotations from an anonymous *Journal of Management Studies* referee’s comments). For instance, Boje and Winsor (1993) view TQM as neo-modern Taylorism that, on the surface, appears to offer workers empowerment, but, beneath the surface, really intends to exploit workers.
- [3] We draw from an excellent review of Lachmann’s work by Vaughn (1992).
- [4] A counterargument is provided by proponents of organizational ecology, who claim that organizations with strong inertial properties as a result of high levels of reproducibility and accountability will be perceived as highly legitimate and will therefore be favoured by selection environments (Hannan and Freeman, 1984).
- [5] As used by Hayek (1973, p. 43), the term ‘rules’ has significant conceptual overlap and is entirely consistent with Nelson and Winter’s (1982) use of the term ‘routines’. Hayek (1973, p. 13) also explicated the conceptual overlap between rules and institutions. Additionally, Lachmann (1971, p. 89) views the social world as a series of nested institutions that affect human plans and behaviour including market institutions such as the price system, subsidiary market institutions such as firms, and social institutions such as the legal structure. Our use of institutions is consistent with the narrower Lachmannian view of firms as institutions and the institutionalized structures and processes nested within firms.
- [6] Witt (1992) argued that Austrian economics was uniquely capable of explaining the emergence of novelty as a result of its subjectivist foundation. On the other hand, the neglect of subjectivism by evolutionary economics rendered it incapable of addressing the emergence of novelty; all that it could explain was the dissemination of novelty. On these grounds, he argued that evolutionary economics (like its Schumpeterian fore-

father) failed to address creativity in the sense of creating something entirely new. However, most other scholars use the term 'creativity' (and by implication the 'emergence of novelty') to apply broadly to innovation/invention, entrepreneurial alertness/discovery, and imagination.

- [7] Here it is important to recognize that we are not arguing that all workers in TQM organizations necessarily behave as organizational entrepreneurs motivated by personal monetary incentives. We are, however, arguing that to be consistent with the tenets of MPE, management should consider workers as entrepreneurial owners of their local domain within the organization and should offer individual monetary rewards as incentives for entrepreneurial discovery.
- [8] A concurrent possibility is raised by Alchian (1950): '[T]here are those who, in their imperfect attempts to imitate others, unconsciously innovate by unwittingly acquiring some unexpected or sought unique attributes which under the prevailing circumstances prove partly responsible for the success. Others, in turn, will attempt to copy the uniqueness, and the innovation-imitation process continues' (pp. 218–19).
- [9] See Wruck and Jensen (1994) on the dangers of indiscriminate decentralization and 'team mania' in TQM. Also see Bowen and Lawler (1995) and Dean and Bowen (1994) who caution against the universal application of empowerment and instead advocate a contingency approach.

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