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**Driving Strategy with Quality:
A Useful Insight**

**Achieving Sustainable Performance
Through TQM and Market Orientation:
A Proposed Framework for Empirical Investigations**

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Abstract

TQM and market orientation as strategic initiatives have been associated to improved organisational effectiveness and financial performance. However, each orientation is often discussed as a separate discipline in the literature. This paper integrates these orientations into a conceptual model of coherence business practises. It highlights the critical components of the model in relation to firms' efforts to sustain high performance through delivering superior customer value for the end customers - the basis for sustainable performance. An empirical investigation is proposed to operationalise this market-based quality orientation.

Key Words: Sustainable performance, market orientation, Customer Value Chain, TQM, Performance, Competitiveness

TQM and Market Orientation Routes to Sustainable Performance: A framework for an empirical investigation

Background literature on TQM, market orientation and performance

In coping with the environmental challenges and to sustain performance, firms practice a different relative emphasis on business orientation during the last three decades. The traditional business orientations evolve from production to sales, to marketing to entrepreneurial (Kotler, 1977; Webster, 1988). A different form of orientations is dominant in different industrial eras thus classifying relative emphasis between internal focus and customer focus behaviour of the firm (Ansoff, 1979; Webster, 1988, 1994; Treacy and Wiersema, 1993). Quality orientation evolves from conformance quality to customer satisfaction to competitive market perceived quality and value to customer value management (Gale, 1994, Garvin, 1988). The earlier two stages are internally focused while the latter forms are more externally oriented.

The recent decades have observed the rising of TQM and market orientation approaches to strategic movement. Whereas market orientation off shoots from marketing concept and is rooted in resource-based theory to competitive advantage (e.g. Webster, 1994; Kohli and Jaworski, 1990). TQM discipline originated in statistical theory, but first developed within manufacturing and operations management before its adoption into services, health care, publics, education and not for profit organisations (e.g. Haris, 1995; Hackman and Wageman, 1995).

Recent descriptive literatures pointed to the convergence of the these two business orientations into an integrated management discipline and practices based on a common objective that is to achieve customer satisfaction through quality (e.g. Webster 1988, 1994; Day 1994; Kotler 1977; Gummesson, 1994, 1998; Mohr-Jackson, 1998). Many other authors implied this integration in their writing. For example, Spencer (1994), and Dean and Bowen (1994) found substantial overlapping between TQM and management theory. As Grant et al. (1994) propose that TQM orientation is a superior model to classical management theory but incompatible hence challenges the traditional economic and behavioural theory of the firm.

Mohr-Jackson (1998) states that total quality orientation and market orientation are complementary philosophies with potential benefits for improving business results. Such congruence benefits marketing function from taking greater responsibilities in quality management. He echoed O'Neil and LaFiet (1992) to suggest that the adoption of TQM is critical for successful application of the marketing concept within a firm. Additionally, TQM provides vehicle for increasing communication and co-operation between marketing and other functions, including operations and production.

Gummesson (1992) proposes a quality-focused orientation as an organisational response to environmental dynamics, which integrate and may supersede production and marketing orientation. Production orientation argues Gummesson (1998) is consistent with internally driven quality management while marketing orientation is closely tied to external quality management. Strategic success is the trade-off between those two. Moreover, he argues that quality management has fortified the relationship between operations management and marketing management and has united production orientation with marketing orientation. All these trends hint the potential viability of a 'market-based quality orientation' as advocated in this research.

From strategic viewpoint, both quality and market orientations represent the demand-side strategy, where obsession with customer satisfaction through quality as the source of competitive advantage and predecessor to business performance (e.g. Webster, 1994; Wayland and Cole, 1996). Deming (1982) calls for transformation of management style based on company-wide quality orientation would lead to future competitive advantage and survival for the organisation. In discussing the paradigm for implementing marketing, Gummesson (1998) stresses that quality management can be approached externally from the market, or internally from the organisation. He asserts that the former is market driven quality management extended from "fitness for use" in Juran's (1992) terms, whereas the latter is driven by technology, organisational structure, systems, and internal goals and values.

Since the literature pointed to the existence of multiple orientations, it appears that firm might employ several orientations simultaneously. However, as Kotler (1977) suggested firms normally adopt only one of the many mutually exclusive orientations as their core philosophy. Moreover, since orientation as part of the corporate culture (Desphande et al., 1993; Webster, 1994), resource-consuming to implement, and lapse in producing results, therefore, implementing them require investment in resources and commitment by top managers and employees. As such, firms nurturing a specific orientation require appropriate strategic focus in their value chain activities. This, demands a balanced approach in implementing strategic contents (effectiveness factors) and processes (efficiency factors) of the chosen orientation (Hofer and Schendel, 1978; Reed et al., 1996), which suit the firm's goals (Sitkin et al., 1994).

A firm's orientation as a business strategy could be studied from "process-content" perspective. In particular to quality orientation, Reed et al. (1996) pointed out the process elements and content elements of TQM, in the context of firm strategy, and identify four strategic TQM contents as market advantage, design optimisation, process optimisation and product reliability. The first two contents are associated with the consequences of being external or customer-focused, while internal or operation-focused leads to firms strive to optimise operational processes and product reliability. They see the contents as the substantive elements that actually cause the changes in performance outcome. The strategic contents are therefore the core activities of the business orientation, which influence performance either singly or in synergy with

other supporting practices. Those elements by themselves are necessary for superior performance but might not be sufficient to hold a sustainable outcome. TQM and market orientation supporting practices form the infrastructure that supports the value creation for the external customer.

Firm Internal- External Orientation

As earlier noted, Internal-external focused as one of the dimensions of business orientation reflects the relative emphasis of the firm's activities during the duration of a particular strategy implementation. Quality advocates such as Shiba et al., (1993) also referred to the concept of 'company-focused' and 'customer-focused' in terms of process aspects of TQM. Explicitly, the external orientation is reflective of customer-focused TQM behaviour, which concerns with the front end of the business that is the transaction of company's products and services with the buyer customers. It is concerned about the relationships with the external customers as sources of revenue to the firm.

Among others, external orientation aims to optimise design processes, gaining market advantage, and enhance firms' market value by exploiting those advantages to increase the revenue (e.g. Reed et al., 1996). It thus represents a proactive response to market dynamics and management of environmental opportunities to create and sustain its "outside-in capabilities" or "market-based orientation" that is guided by the customers and other market forces (Day, 1994).

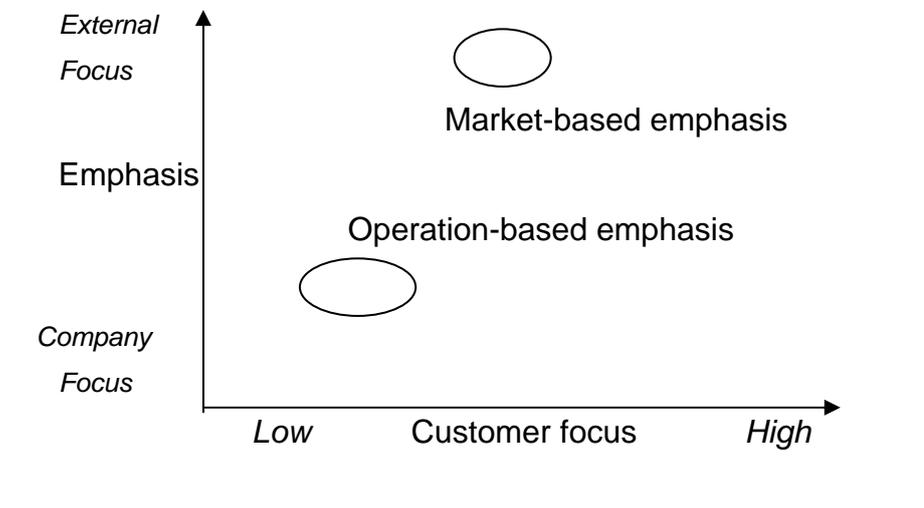
This behavioural emphasis consequently leads a firm to be either oriented more towards the customers or its internal operations. Therefore, the firms that adopt TQM can either be operation-focused or market-focused (customer oriented) as their primary emphasis. Since TQM fundamental advocates customer satisfaction, it is self evident that TQM firms display some degree of customer focus. However, their intensity of customer focus varies depending on the TQM goals and the kinds of TQM programmes implemented. It is expected that the degree of customer focus in TQM companies is lower than of market-oriented firms that embrace TQM.

Customer focus is a primary pillar of market orientation that is the behavioural characteristic of market-driven organisation (e.g. Narver and Slater, 1990; Kohli and Jaworski, 1990; Day, 1994). TQM firms and market-oriented firms though embrace the customer focus as their central philosophy, but might have applied different operating principles and tools thus achieved different degree of customer focus. Since TQM philosophy and market orientation themes converge, and for simplicity of our discussion, internal operations emphasis for TQM companies is equivalent to low concerned to external customers in market-driven organisations. In another word operation focused firms tend to be less customer orientated, which could mean that internal efficiency does not necessarily suited to meeting customers' critical requirements - one of conditions for winning and retaining customers.

Furthermore, some of the important and unique market-based behaviours might be obscured in firms that only practice TQM. For example, continuous improvement typically focuses on operational processes and procedures are targeted at satisfying existing customer needs better. Whereas, external market focus stimulates new ideas and responsiveness to market dynamics hence targeted at anticipated needs (Day, 1994; Jaworski and Kohli, 1993; Sinkula et al., 1997, Slater and Narver, 1994, 1995), thus more proactive to future needs of the customers. Based on these arguments, firm's orientation is a trade-off between a customer focused and internal-

external emphasis. Customer focused is a subset of external emphasis, which could also mean competitor focused or technology-led. Therefore, external emphasis does not necessarily mean customer focus. Figure 1.1 below illustrates the firms' orientation in terms of operations and customer emphasis.

Figure 1.1 Firm relative emphasis on customer and operations.



In stressing a different emphasis, firm may have followed a set of operating principles. Because firm operates in contextual environment and under varied uncertainty levels, the same precepts or philosophical orientations could mean different things among the firms. Its actual operating principles are context-specific and determined to a large extent by what the firms want to achieve and how to go about achieving it. Some authors argue for example, firm pursues TQM effort for enhancing operational control: improving existing activities, for learning and exploration or a balanced combination of these goals (Sitkin et al., 1994; Reed et al., 1996).

Conversely, different goals require different operating principles, which yield a particular emphasis in the firm's business orientation. A growing research in market orientation (e.g. Desphande et al., 1993; Jaworski and Kohli, 1993; Narver and Slater, 1990; Pelham and Wilson, 1995; Slater and Narver, 1994), showed that firms are market oriented to a different extent, which suggests that emphasis on different elements of market orientation will yield a particular form of firm's orientations.

Control-oriented and learning-oriented goals of TQM.

Besides the 'internal-external' perspective earlier discussed, the learning-control dimension is another perspective to describe the goals pursued by a firm adopting TQM. This perspective provides an avenue to disentangle the complex elements of TQM and hence facilitates the theory building (Sitkin et al., 1994). According to this view firm focuses on internal operations more than its external concerns is consistent with control-oriented goal of TQM, whereas heavier external emphasis on markets and customers is more related to learning, exploration and adapting to the changing environment.

Control-oriented is an expanded closed system view to include suppliers, employees, and customers, yet remain focus on internal operations (Sitkin et al., 1994). Control-oriented goal means the firm emphasises internal efficiency and its related objectives, as the firm attempts to control and reduce both production and marketing costs. However, for simplicity it is generalised to an input-output definition of efficiency (Sitkin et al., 1994). Moreover, firm has greater control over costs than it does over activities undertaken in the marketplace (Dickson, 1992). By the same token, downsizing, restructuring, delayering or reengineering, which involve 'remodelling the organisation' to increase productivity, operational efficiency and reduced costs reflect firm's control-oriented goals.

Efficiency objective is a deliberate attempt to achieve operational excellence; that is doing 'right first time and every time' and excels in doing the individual activities along the process of value delivery. The strategy of zero defects and zero defection are also consistent with this emphasis. Control-oriented goals aim to optimise the firm's operational performance, which in TQM terms can be indicated by its operational process optimisation, product reliability, and cost effectiveness (Reed et al., 1996).

The control-oriented goals implies that TQM focuses on improvement activities on processes for current products to satisfy today's customers (Dervitsiotis, 1998) in the existing served markets. This strategy of searching for operational excellence is effective, when no trade-offs required between lower costs and unique position in the marketplace (Porter, 1996). According to Porter simultaneous improvement of cost and differentiation is possible only when the firm's best practises are far behind the productivity frontier or when the frontier shifts quickly outward.

On the contrary, learning-oriented goal is based on open system view, stressing challenges to those system boundaries from the outside, and keeping boundaries as permeable as possible to facilitate second order learning (Sitkin et al., 1994). For example, controlled-oriented goal may view customer satisfaction encircles the present served market, while the learning-oriented goal concerns more with the new customer segments, and with developing products with features beyond what the expressed needs of existing users. Because learning focus is related to experimentation, it encourages exploration of new market or technology to create a new marketplace through industry foresight (Hamel and Prahalad, 1994). Hence, learning-oriented goals promote firm's exploration efforts, beyond its existing served market, and thus stimulate new products development, technology diffusion, and process innovation.

Learning-control goals, like internal-external dimensions are not mutually exclusive options for a firm to pursue. Such dimensional perspectives however, challenge the

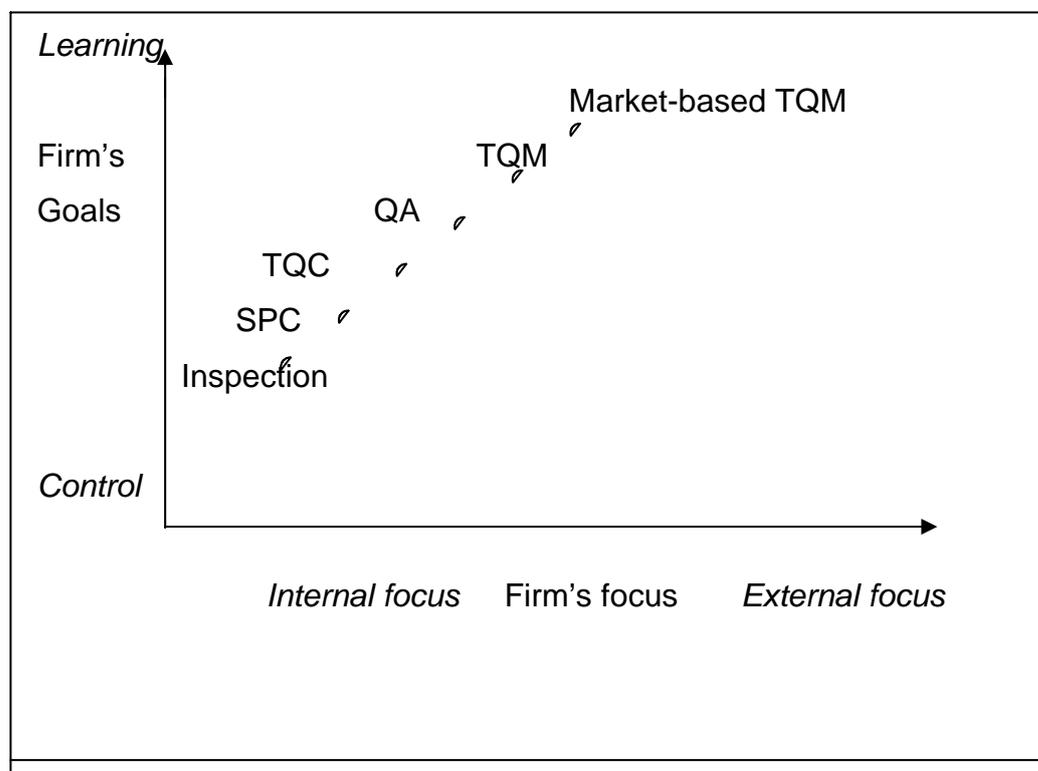
standardised TQM packages, which rely on a rigid set of operating parameters and universal approach to quality orientation. By analysing the quality orientation in this manner, it could help to explain the possible reasons for some TQM failures, partly attributed by the 'miss-match' of TQM goals with practices, which in the past has tarnished the great potential benefits from its effective implementation.

The quality orientation adopted in this thesis is clearly synthesised from the goal perspectives and firm's internal-external dimensions. As illustrated by Figure 1.2, it is the resultant of learning emphasis and a firm's focus, and is depicted in relation to stages of quality evolution and market orientation practices. The proposed model provides a framework for analysis of TQM orientation in terms of its internal emphasis and its external dimension.

Dale (1996) based on his extensive practical work on TQM proposed five clusters of organisations on a quality orientation continuum. Each cluster displays a unique set of operating characteristics with potential 'hybrid' boundaries between clusters as an organisation progresses to a more advanced stage of quality practices. His positioning model of TQM adoption suggests organisations benchmark against advanced practices, hence begin a series of continuous improvement along the TQM journey.

By assessing the degree of firms' adoption of TQM, based on critical lists of operating principles, it is possible to cluster organisations on the basis of similar practices. Subsequently, each cluster can be correlated to their market orientation practices and their corresponding performance measures.

Figure 1.2 Quality orientation continuum



Effect of TQM practices on market orientation

Quality performance under TQM perspective directly affects customer perceived quality outcome, such as of Garvin's (1988) eight dimensions of quality. For example, product features, reliability, operations flexibility, singly and in combination enable strategies of product variety, reputation, and customisation. Additionally, these factors form the basis for product differentiation; offering product with distinctive features by design, engineering variables or communication variables (Webster, 1994, p. 104). Product differentiation in combination with market knowledge, in turn made possible the variety-based positioning, need-based positioning, and access-based positioning, which constitute three sources of strategic positioning (Porter, 1996). In conclusion, quality performance will enable firms to exploit advantageously market opportunities.

Earlier, market advantage is identified as a strategic content of TQM (Reed et al., 1996) and also as one of the objectives of market driven companies. Gaining market advantage is the objective of market orientation that is the result of responding to changing customer needs earlier or better than competitors (Day, 1994). According to Reed et al., (1996) a market advantage means a firm is generating supernormal profits by getting more customers, keeping them longer, or charging higher price for the products that are valued by the customers. Other than differentiation (pricing) and customer relationships, market advantage can be exploited through intangible strategic assets like reputation, patents, trademarks, brand equity, knowledge and learning orientation. Achieving market advantage is also possible by leveraging technological innovation, mass customisation, globalisation, and competitive orientation strategies such as benchmarking, positioning and competitive objective setting.

Some of the strategic assets are purely the result of 'creative phase' in the firm value added chain, but generally they are supported by the performance of 'productive phase'. Branding, for example, is a most powerful form of differentiation that can create lasting market advantage because of its not imitable characteristic. Brand equity, the newer concept than brand image and brand loyalty, is putting value to the brand and nurturing this value through investment in advertising and communication (Webster, 1994). Brand equity is therefore a measure of market advantage created by the brand. Customer patronage of a brand however, is sustainable only when operation performance and product reliability eventually meet the expectation of the brand. Similarly, patents, trademarks, reputation all are dependent on the effectiveness of operational excellence to produce consistency of quality performance in the marketplace.

Deployment of strategic assets to create market advantage can possibly be achieved when firm has a high degree of market orientation. The reasons being those with extensive customer database and greater customer knowledge are able to leverage those knowledge as well as technology to connect with customers (Wayland and Cole, 1997), thus can stay close to customers and ahead than competitors (Day, 1990, 1994). Additionally, knowledge-rich firms are better able to exploit targeting, positioning, customising, and adjust marketing strategies to the market requirements. This also means that market oriented firms can offer superior solutions and experience on matters that customer value most highly e.g. "always the low price" at Wal-Mart and "mass customising" at Dell Computers (Day, 1998).

Market advantage in terms of customer oriented strategies mean that firms can improve customer retention rate thus lead to substantial improvement in profits

(Buchanan, 1990; Reicheld and Sasser, 1990). Additionally, as Gronroos (1990) noted that marketing or transaction costs for every customer can be reduced within long-term relationship, in particular it could lead to facilitation of relationship customisation. Long-term customer relationships would likely easier to create structural bonding such as joint investment in value delivery system (Berry and Parasuraman, 1991), which create difficult-to-imitate competitive advantage hence are likely sustainable. Customer-oriented firms should convert customer satisfaction to customer retention and loyalty (Day, 1998) and creating customer partnership realising that all those are important drivers to profitability. It can be postulated that TQM companies that establish customer relationships are likely to retain customers and achieve higher profitability.

Positional advantage is created in the market place when firm perform the value delivery activities differently from competitors, or perform different activities from competitors. This is the meaning of strategy (Porter, 1980; 1996). In either case, it is also means strategic positioning or differentiation strategy-deliberately choosing a different set of activities to deliver a unique mix of value. Specifically, Porter (1980) identified low-cost advantage and differentiation as the sources of competitive advantage, which businesses may emphasises either or both (Hall, 1980). According to these sources of advantage, differentiation or market niche is also interpreted to be additional product benefits and can take many forms including brand image, product image, product features, customer service, dealer network, and technology (Porter, 1996).

Despite of its many sources, differentiation is most often characterised by superior quality of the products (Phillips et al., 1983). The unique product offering permits higher prices thus allow excess return to the firm. However, a firm actual profitability is determined by its relative cost and differentiation (price) advantage over and above its relative potential profit attributed to the industry or segment 'attractiveness' factors (Hamel and Prahalad, 1994, p. 301). These differentiation effects are essentially external and concerned with an attempt to shift a business's demand curve upward (Narver and Slater, 1990). These arguments clarify the simplified statement that market advantage leads to increased revenue and sustainable performance (e.g. Reed et al., 1996).

On the contrary, a low cost advantage is essentially the effect of operational excellence that can be shared between provider and customer buyer as lower acquisition and use costs. Total customer cost is the bundle of costs customer expects to incur in evaluating, obtaining, and using the product or service (Kotler, 1997, p.38). Total customer value is the difference between total customer costs and the total benefits gained from purchase and product use. The cost saving may be derived from economies of scale, volume, or cost reductions in value delivery processes such as R&D, production, service, sales-force, and advertising (Narver and Slater, 1990). For example, IKEA co-produces furniture with customers and share the cost saving thus increasing value for both parties (Gummesson, 1998).

Firms pursuing cost leadership strategy could accept cheaper components, use standardised processes, and advancing market share in order to reduce unit costs (Phillips et al., (1983). Some TQM practices such as process improvement, changeover flexibility, variety flexibility and efficient design, zero defect and the like, allow some cost containment be achieved. Simply stated, TQM efforts help to make cost leadership strategy possible. At the same time TQM efforts also help firms to support market advantage created by their marketing activities.

Prior to TQM era, firms view cost leadership and high quality are mutually exclusive, otherwise their profitability stuck in the middle. Within TQM perspective, market performance may be related more to the intensity of commitment to quality strategy rather than to the polarity of differentiation or low cost. Current thinking and industrial experience shows that product quality and cost leadership are compatible strategies. Phillips et al., (1983) for example, empirically conclude that quality and cost control interact to generate above average ROI. Although mutually supportive capabilities, these two emphases operationally compete for management time and employee attention, therefore, those firms not attaining leading edge in both areas should focus on variety and cost in sequence (Hamel and Prahalad, 1994, p. 178).

In their study, Narver and Slater (1990) found a higher correlation between the three market orientation components and differentiation strategy (.45) than between those components and low cost strategy (.27), which they claim has provided supports for concurrent validity of the market orientation constructs used in the study. This implies that conceptually differentiation strategy being an external emphasis is more compatible to an SBU with a strong market orientation than a low cost strategy, which is not likely external emphasis. Since TQM efforts could affect differentiation and positioning therefore, TQM and market orientation is related through this relationship. Furthermore, as earlier argued firms' market advantage could be supported by activities that constitutes both quality and market orientation practices.

While conceptually, the two approaches are compatible, simultaneous implementation of a comprehensive system as separable initiatives are less favourable in light of commitment, resources and time required for effective implementation. Given the right resources and organisational culture, TQM and market orientation can promise a powerful contribution in enhancing firm performance. This effect would be empirically tested in this thesis.

Integrating TQM and market orientation elements.

Miles, Russell and Arnold (1995) propose that the firms attempt to leverage strategic quality to create customer value should integrate quality orientation precepts comprising customer focus, continuous improvement, and system perspectives. Mohr-Jackson's (1998) field-based view of total quality constitutes four pillars: organisation-wide commitment, continuous improvement, customer perceived quality, and customer satisfaction. His finding supports the notion of customer-perceived quality that includes all products and service attributes that meet customer requirements better than competition. This supports the assertion that customers judge quality relative to competition and is consistent with earlier literatures (e.g. Buzzel and Gale's (1987) on perceived quality; Garvin's (1988) user-based definition of quality; Marketing Science Institute's (1991) market driven quality; Zeithaml et al's. (1990) service quality).

Such integration suggest that quality orientation to be a commitment to maximise firm's long-term value and stakeholder satisfaction by constantly reducing the product related cost to society. A further integration between quality and market orientation requires a complete delineation of the principles and elements of each approach to find their common themes and peculiar practices.

When discussing TQM and market orientation relationships it is important to differentiate between practices (elements) and performance. Practices, being inputs to achieve performance outcome influence the latter directly and singly or through

interaction with other input variables. TQM and market orientation elements generated in chapter two and three respectively are collection of practices available for managers to steer their firms toward certain types of performance.

Despite authors implied the convergence of TQM and market orientation (e.g. Webster, 1994; Day, 1994; Gummesson, 1994, 1998; Reed et al., 1996; Mohr-Jackson, 1998) but there has been no explicit and precise listing of those practices that comprise the combined orientation. Perhaps the extensive overlapping between those practices (e.g. Webster, 1994; Spencer, 1994; Grant et al., 1994; Dean and Bowen, 1994) makes precise integration difficult. Descriptive literatures suggest that quality and market orientation practices may be mutually supportive, which means, TQM improves product quality and firm's performance but TQM efforts could also improve market orientation performance. The converse may also be true.

This research begins to empirically articulate the relationship between TQM and market orientation, in terms of both elements (practices) and performance. Since TQM fundamentals, like market orientation concept, generate an array of peripheral principles, this research took the approach of dividing the TQM and market orientation elements into unique TQM practices, unique market orientation practices, and common practices. This method is consistent with approach taken by Flynn et al. (1995), who studied TQM and JIT relationships, although their basis for classifying unique and common practices are different.

Consistent with system approach and contingency view points each common practice in isolation or combined supports the effectiveness of the firm's orientation. Common elements, which formed the foundation for integrating TQM and market orientations, become the organisational infrastructure that influences the attainment of firm's core practices. Those conceptually different and similar elements based on related literatures are shown in table 1.1. Customer value is the unifying purpose for both orientations. These elements are assembled into an integrated conceptual model called market-based quality (MBQ) orientation as shown in figure 1.3.

Table 1.1: Unique and common elements of MBQ orientation

Unique TQM Elements	Common Elements	Unique Market Orientation Elements
1. Supplier management	1. Customer orientation	1. Technological orientation
2. Usage of quality/SPC tools	2. Management commitment	2. Marketing-mix modification
3. Operations optimisation	3. Interfunctional coordination	3. Competitor orientation
4. Employee involvement	4. Knowledge and learning	4. Customer relationships
5. Product / Service reliability	5. Design optimisation	5. Innovation orientation
6. Continuous improvement	6. Market advantage	6. Strategic positioning
7. Quality training	7. Measurement	7. Branding
8. Empowerment	8. Customer satisfaction	8. International marketing
9. Teamwork		9. Marketing research
10. Benchmarking		

Market Focus Initiatives

Customer focus has been traditionally construed as being equivalent to the marketing concept (echoes Levitt, 1969: and subsequent writers (Webster, 1994;

Kohli and Jaworski, 1990; Narver and Slater, 1990). Recent literatures have indicated that customer orientation is also a pillar of TQM thus enlarging the concept into a much broader dimension. The view that customer orientation with obsession with quality and customer satisfaction advocated by Deming in 1950's implied that customer orientation is the pillar of TQM. Also, Kotler's total quality marketing concept (1997.) links quality and market orientation through customer orientation. These arguments and others place customer orientation as one of the common factors in the conceptual model to be studied. Customer orientation, under the new marketing concept and TQM thinking means that:

1. Firm is able to create value for customers because it understand their value chain (Porter, 1985),
2. Firm is committed to the generation of market intelligence and organisation-wide response to it (Jaworski and Kohli, 1993; Kohli and Jaworski, 1990; Narver and Slater, 1990).
3. Firm position itself to the target market based on the capabilities and competence to provide superior value, stay close to customer, and ahead of competition (Day, 1990: 357).
4. Firm constantly innovates or continuously improves its business process to enhance customer value and amaze customer (Deming, 1986, Hamel and Prahalad, 1993).
5. Firm Manages customer portfolio, competitive market including technology to improve customer relationships (Webster, 1994; Wayland and Cole, 1997).

The degree of customer orientation reflects the relative emphasis the firm places between the customer (and other market orientation factors) and the internal efficiency or 'company focus' in implementing TQM (refer figure 1.1). In other words a firm pursuing TQM can strive to be either customer focus or operation focus or emphasise both. Literatures accepted that TQM is a business culture and resource consuming to implement thus firm only pay attention to a particular emphasis during different phases of its implementation. If it is suggested to be mutually exclusive like differentiation and low-cost duality of Porter's (1980), TQM orientation thus assumed along unidimensional scale between customer and operation focus (see Figure 1.2). Consequently, it is argued that TQM firm with external orientation emphasis and exhibits high customer focus is market oriented.

Since TQM also emphasises both quality of conformance (producing product to customer specification) and quality of performance (serving customers by improving product quality) (Deming, 1986; Juran, 1992), customer needs become a key input to TQM. Quality inputs derived from effective environmental scanning, competitor analysis, technological forecasting, and customer feedback among others are subsumed under intelligence generation. The customer and competitor information: intelligence generation and dissemination are the processes of market orientation (Kohli and Jaworski, 1990) but involve interdepartmental role, though suggested could be championed by marketing personnel (Webster, 1998; 1994). These market-based activities aim at meeting "quality of performance": customer perceived quality in the marketplace leading to market advantage, whereas ensuring the "quality of conformance to design" is the job of the internal operation. However, both require interfunctional co-ordination.

High market orientation, particularly of customer orientation will directly affect 'quality of design' since market-oriented TQM companies will be able to improve all practices associated to quality of design. Optimisation of design processes is the result of team participation especially by marketing and operations personnel. Moreover,

communication, networks and involvement with suppliers and customers have been shown to facilitate innovation.

Since TQM emphasises the use of cross-functional team approach towards solving quality problems, this practice and teamwork that it creates will enhance interfunctional coordination. This in turn improves internal information flow, though not necessarily reduces departmental conflicts, but help to keep members focus on important issues. It is postulated that TQM companies achieve greater interfunctional co-ordination through cross-functional activities and greater flow of quality and customer information, which result in improved response to market. This, conceptually clarify linkages between quality orientation and market-based behaviour in terms of improved organisational co-ordination.

Furthermore, quality award models such as MBNQA, Deming prize, and EFQM award consider customer's requirements, expectation and satisfaction as criteria for effective quality programmes, which are consistent with contents of marketing concept: customer primacy and long-term satisfaction. Conceptually, TQM and market orientations are two parallel concepts, mutually supportive and rely on common elements such as customer orientation, competitive orientation, innovation, and interfunctional co-ordination. However, only selective deployment of both orientations simultaneously can lead to firms exhibit the highest form of customer orientation.

Market oriented (Customer-focused) TQM companies

Customer-focused TQM companies are firms that exhibit high market orientation practices, place customer related objectives in their quality orientation practices, promote learning about market to develop market-based (outside-in) capabilities such as customer connection, customer relationships, customer retention, customer visits, etc. They practice a host of TQM programmes as well as market oriented behaviours that leverage activities during the 'creative phase' (see figure 1.4) to enhance market advantage as the primary source of revenue and competitiveness.

These companies fulfil the customer demands on customer oriented measures such as high quality, low cost, short lead time, and flexibility, all of which are external measures of successful operations, though they are measurable inside the firm (Schonberger, 1986, p.205). These measures, unlike the traditional internal oriented measures such as cost variance, internal due dates, efficiency, and utilisation, which customer don't really care about, characterise world-class practice. By definition, market oriented measures are closer to measuring firm's competitive advantage. A comprehensive measurement system in market oriented companies that embrace TQM should cover total perspective from design quality to conformance quality and performance quality.

Market-oriented TQM firms use market intelligence to anticipate customer's changing needs and expectation thus become close to customer and deliver superior value earlier than rivals. Being market oriented means gaining and sustaining competitive advantage through customer focus behaviour (e.g. Narver and Slater, 1990; Day, 1994). As they actively collect information about customers and competitors thus would have extensive customer database. Good use of customer database would create knowledge about customers and enable firms to meet the customers' requirements better and earlier than the rival firms. Subsequently, firms with exceptional knowledge of portfolio of customers would be able to focus on

developing and on keeping profitable customers. It is also able to employ and leverage technology effectively to connect with customers better (Wayland and Cole, 1997). As a result of these activities, firms that are customer oriented would enjoy a growth advantage over their peers.

Additionally, Customer-focused TQM company gains competitive advantage by providing customer satisfaction through quality (Deming, 1982). Product quality precedes customer value as the former is internally determined but the latter is measured in the marketplace after the customers experience with the products and realise its 'value-in-use'. The 'Market-based quality orientation' must deploy both product quality and customer value emphases in order to not only create competitive advantage but to translate those advantages into sustainable performance.

Under this approach, firm emphasis covers both quality of 'conformance to design' and quality of 'performance'. Balancing these internal-external concerns creates improved value to external customers. Continuously Improved customer value is the unifying mission for market-based quality oriented companies. By implication, customer-focused TQM companies should strive for revenue growth through optimum market advantage and achieve cost leadership through operational excellence. They benefit from both strategies by practising all the common TQM and market orientation practices as well as unique practices as necessary. In doing so, the contents of TQM and market orientation as generated in the literature review are meshed into the conceptual model, on which to be empirically studied.

TQM companies constantly evaluate its processes in order to improve the value delivery processes. Within TQM literature, process management and continuous improvement are central to quality improvement. Alternatively, improvement could be derived through benchmarking-an outward view of constant improvement by 'copying and improved from the best' so as to continuously achieve best practice. To nurture superior ability to deliver customer value, market-driven firms must compare their value delivery processes with "best-in-class" competitors (Day, 1998). Improvement for market driven companies encompasses product innovation, continuous process improvement and "benchmark improvement".

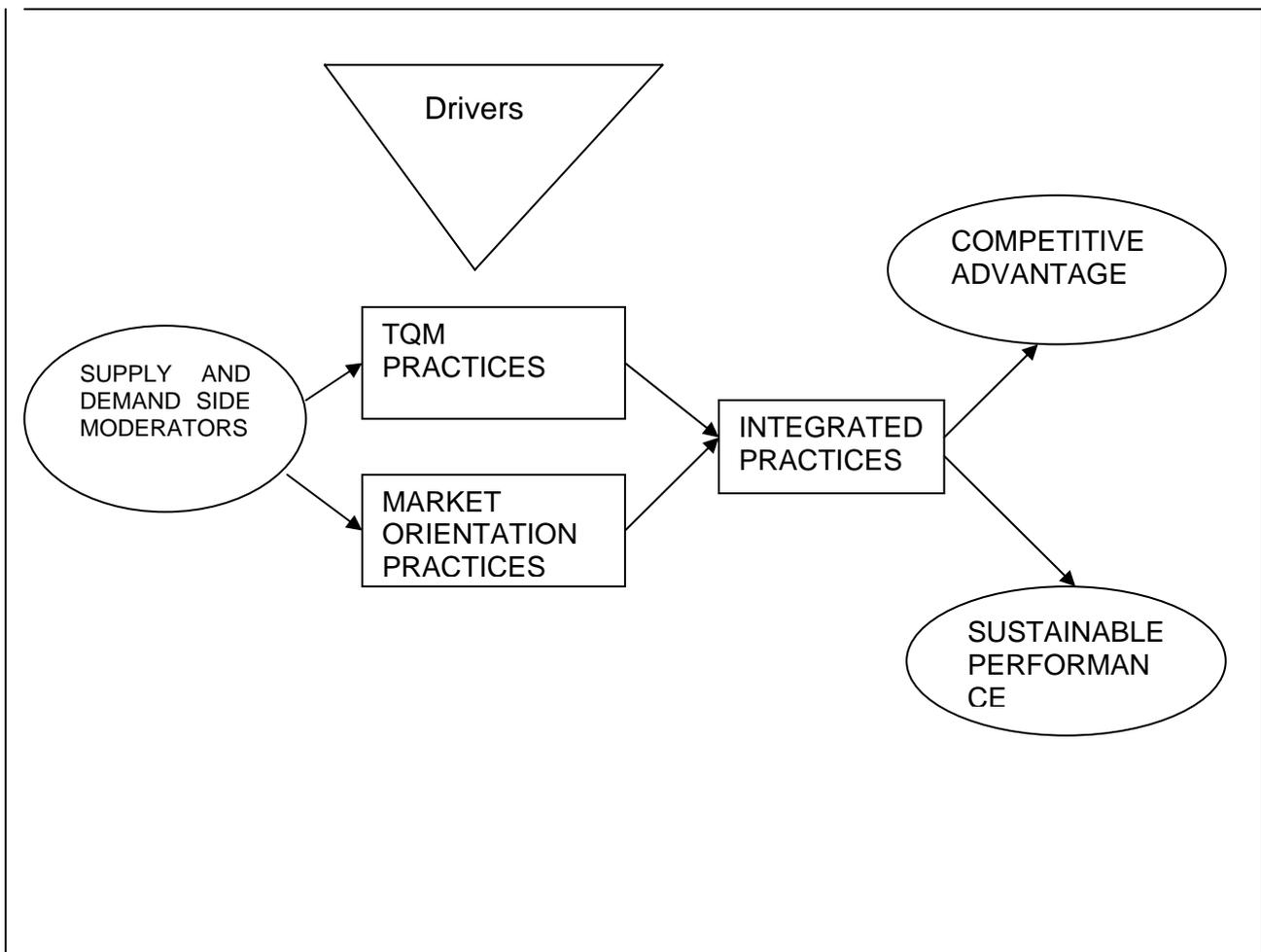
Benchmarking or similar competitor-centred activities such as technological forecasting, setting competitor-centred objectives are contingent to the goals of the orientation itself. For example, a firm operating under stable market demand and facing little technological turbulence, might want to pursue continuous improvement, which could be cheaper and less risky to implement as opposed to more costly competitive benchmarking. In this competitive market, customer-focused TQM companies are likely to adopt competitor-centred initiatives such as strategic benchmarking in order to acquire best practice in delivering customer value.

In competing for customer value delivery, organisations must become highly information driven in managing the operations side and equally information driven in the marketing side (Woodruff, 1997). According to his value framework, achieving overall customer satisfaction is related to customer value dimensions derived from three equivalent satisfaction levels; i.e. goal-based (customer motive) satisfaction, consequence-based (usage) satisfaction, and attribute-based (product attributes) satisfaction. In this context, he suggested that by marrying the skills in managing quality of internal processes and product with customer value orientation firms would enhance customer value delivery practices as sources of competitive advantage.

This dual emphasis requires effective deployment of TQM tools as well as customer value tools such as QFD, benchmarking, customer satisfaction measurement and

customer value-oriented marketing information system (CVOMIS) (Woodruff, 1997). Customer-focused TQM companies are likely to exhibit effective use quality tools, internal quality information and external customer knowledge. As noted earlier, these are possible through improved communication, cross-functional team activities and interfunctional co-ordination. As a result, market oriented TQM companies would be better able to satisfy customer needs earlier than rivals, achieve better market growth hence better performance than the internally focused TQM companies.

Figure 1.3: MBQ Orientation: Conceptual Integrated Model



Description of the conceptual Model

This model combines the elements of both quality orientation and market orientation into an integrated approach. Market-based quality (MBQ) orientation is defined as business philosophy that guides managers to choose the way of doing business. It is a business culture-organisational culture, climate, and style that are oriented toward satisfying profitable customers. "The culture, climate and style pertain to the interrelationships which exist within a firm's micro-environment", while the orientation pertains to how firms interact with all environment (Miles et al., 1995). Explicitly, the actual orientation defines how firm relates to its external, internal and the contextual competitive environment. As firm faces unique situations within their internal and external environment, the actual orientation represents selecting the contents and processes from the model that compatible to the firm resources and skills in an attempt to develop a sustainable advantage.

This model assumes that the philosophy held by organisational members influences both the strategic and tactical decisions in all business activities and is consistent with Foxal (1984) that organisational orientation influence the actions and "the attitudes and behaviour of all members of the company". This implied that MBQ orientation should be pervasively deployed throughout the organisation and led by top management.

The model incorporates all critical elements derived from market-based behaviour and quality-focused characteristics. However, in practice each firm may display a set of operating principles that suit their contextual environment especially related to their control-learning oriented goals. In order to study the relationship between firm's actual orientation (measured on set of practices) and firm's performance, a causal model (see figure 1.4) is constructed. These relationships between core elements in the model and performance form the main hypotheses in this research. The causal model extracts the "content elements" from the conceptual model and the list of practices in table 1.1.

Research model (figure 1.5) shows the contents and processes of the MBQ orientation. The contents are the core practices (elements) that truly create competitive advantage, which have been identified from the literature as operational optimisation (process efficiency), products / service reliability, design optimisation and market advantage. These core elements are by no mean exhaustive but are thought as sufficient to embrace the peripheral concepts delineated from market orientation and TQM fundamentals. The causal model separates the process elements from the contents though they may be equally important in securing the sustainable advantage.

These contents elements are derived directly from Deming three stage definition of quality; i.e. quality of design and redesign; quality of conformance; and quality of performance [Gitlow et al., (1987, p. 8)] and Juran's four elements definition; quality of design, quality of conformance; availability; and field service (Juran and Gryana, 1988). Juran is more explicit than Deming to state quality of performance in terms of availability and field service, which can be translated into product reliability consistent with SERVQUAL model by Zeithaml et al., (1990).

Reliability, a primary element of TQM is a multi-construct concept encompassing product usable age, ease and speed of maintainability, parts replacement availability, promptness of correction, delivery as promise, on-time service, and integrity of

service in correcting problems. Reliability is at the core of product offering supported by services as 'augmented product' making a bundle of benefits to the customer. High reliability is not only a core determinant of product performance but also perquisite to customer satisfaction.

Market advantage in this context is the result of leveraging the product reliability and customer satisfaction relative to the competition in the industry. In another word market advantage is the consequence of product/service reliability and customer satisfaction. The latter two concepts are the purpose of all quality strategies. Therefore quality of performance is measured in the marketplace and can be enhanced externally, for example through customer education and after sale service. Similarly, relationship-marketing strategies are primarily concerned with enhancing and translating the outcome of quality of performance to create market advantage.

Quality of conformance in operations management or engineering term means meeting standards in production process (Crosby, 1979) and associated with process control. Operational optimisation is largely affected by optimum design. Design and operational optimisation in turn result in high reliability products/ service being delivered to customer. This value-added chain is continuously improved through various TQM efforts and market oriented behaviour thus making firms achieve both operational excellence and unique market position to sustain their performance.

Figure 1.4 MBQ Orientation: Content - process model

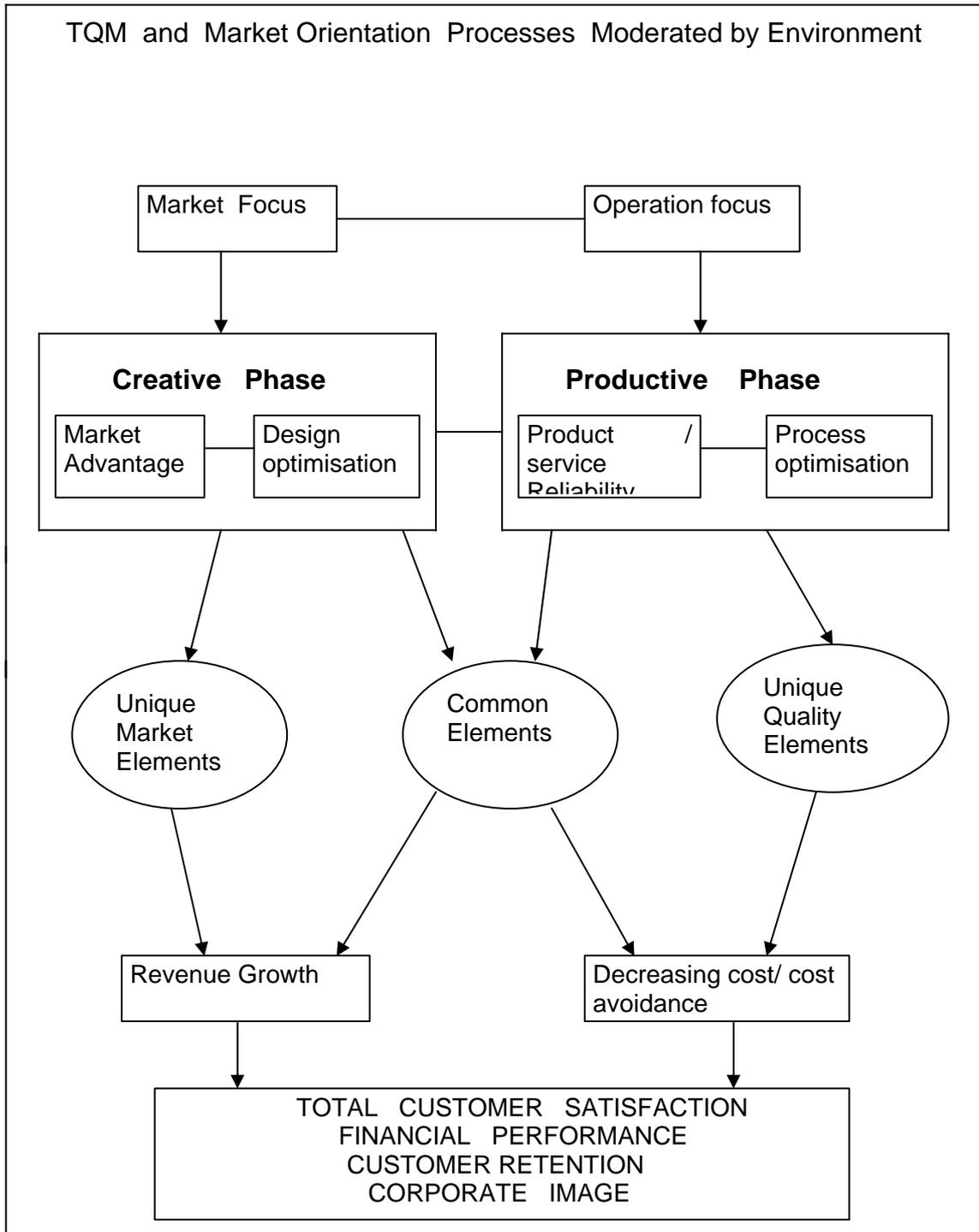
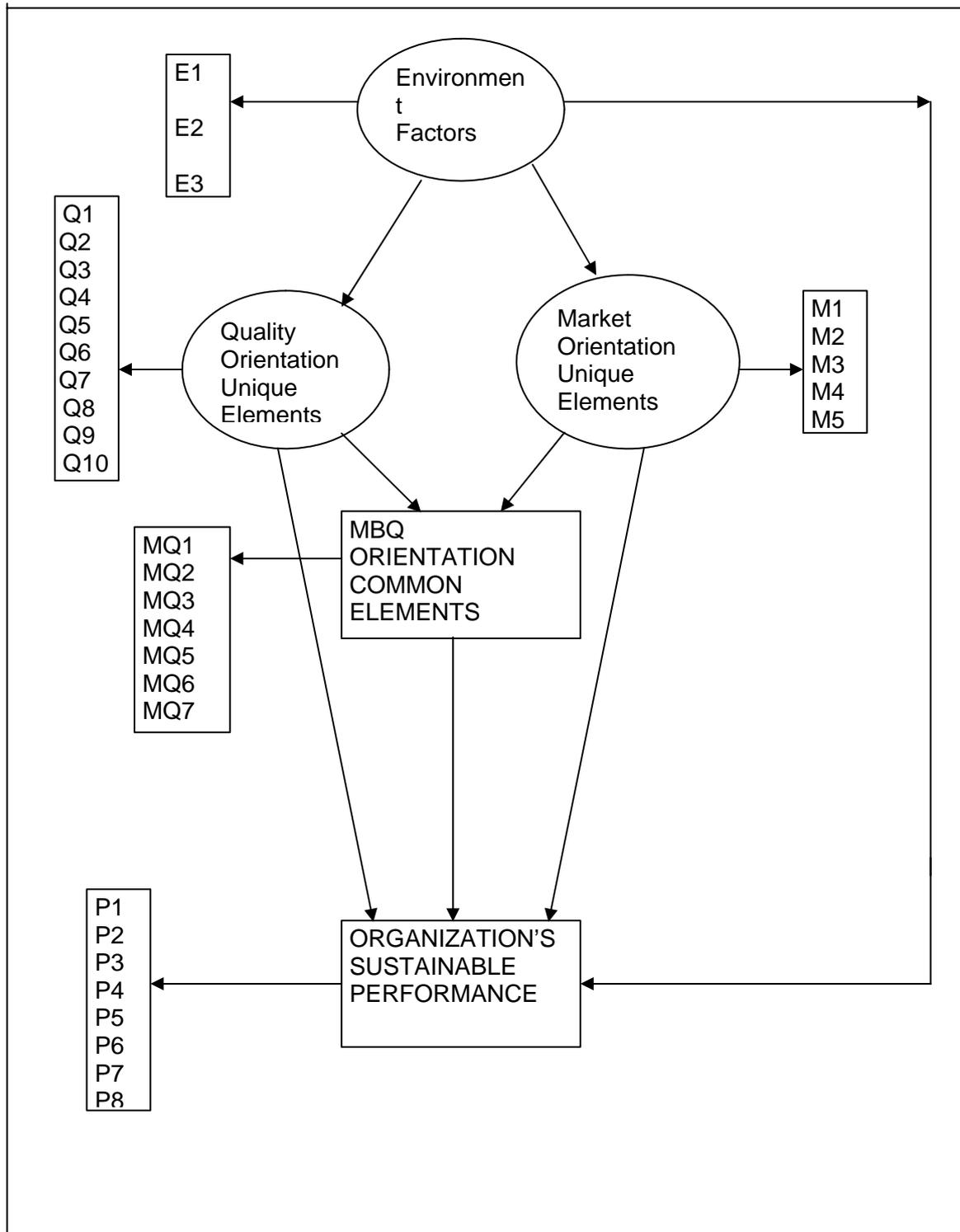


Figure 1.5 MBQ Orientation: Research Model



MBQ elements and sustainable performance

Firm that implement TQM can derive competitive advantage in the market place as well as from the operational processes. In the market place, created positional advantage can produce increased market share and increase revenue. Dean and Bowen (1994) argue about the relationship between TQM and competitive advantage by linking improved quality with high prices and increased market share. Internally, improved design can lead directly to efficient process, which can reduce defective production. This argument is also consistent with Deming's quality chain that improved quality lead to reduced cost, which in turn increase market share and profit (Deming, 1982).

Effective and efficient design would yield directly both improved product reliability and market reputation (Reed et al., 1996). Improved reliability is a resulted after the customers use the product or experience the service, hence has its time lapse before its effect can be recognised. However, once reputation on reliability has been built, repeat purchase is more likely. Reputation, rooted in product reliability is therefore a source of competitive advantage, which is more sustainable because it is harder for competitor to imitate (e.g. Kay, 1993).

Design optimisation, process optimisation and product or service reliability by themselves are sources of quality advantage. Design process is a combination of managerial responsibilities and customer analysis which include identification of core customer benefits, benefits positioning, and development of physical products, strategy, and service policy to fulfil the key benefits. Design optimisation includes activities that allow firms to use cost-effective input in product design and develop better product faster than competitors thus reduce new product cycle time to meet time-based competition. Optimisation in design would improve defect in production through design for produceability and by using fewer components. It would also enable firms to increase process optimisation through efforts such as plant modernisation, facilities expansion, and re-layout, redesign and reengineering. Design optimisation is often driven by internal processes as opposed to product reliability which is more stimulated by market response, such as customer complaint (Garvin, 1988). In essence, design optimisation, process optimisation and product reliability are prerequisites to lowering product costs and achieving operational excellence. Also as has been discussed in earlier section design optimisation is antecedent to an array of strategic assets, which in turn can contribute to market advantage leading to sustainable competitive advantage.

Design optimisation and sustainable performance

Design quality is the process and activities that ensure providers fully meet customer requirements. This means designing include identifying customer need, developing what satisfies the need, checking the conformance to the need, and ensuring that the need is satisfied (Oakland, 1993, p. 45). These entail to carefully manage the entire design process by using effective design management framework such as concurrent engineering or total design.

Cost reduction in TQM context can be associated to design optimisation, often subsumed under the concept of concurrent engineering (Schmidt and Finnigan, 1992). Concurrent engineering enables participation of multi-division personnel early

in the design process. This is a highly critical process because as much as 80% of the product cost is committed at the design stage (Pye Andy, 1998).

Simultaneous or concurrent engineering includes techniques like the Taguchi design method, design for manufacturability, design for assembly, and quality function deployment (Reed et al., 1996). QFD is concerned with selection of critical customer expectation into design features to create product with market advantage and cost effective to produce. By various claims QFD has reduced design time by 40% and design costs by 60% while maintaining or enhancing the quality of the design (Hauser and Clausing, 1988). In tandem, all synergistic effect of efficient design-robust and manufacturability, reliable product with less defective production can lead to reduced costs and sustaining advantage.

Computer aided design (CAD) is one of the enabling technologies for concurrent engineering. Through this, consistent design data provides an ideal mean of coordination and bridging information across divisions and disciplines. Related to CAD, electronic data management (EDM) can make a major contribution to concurrent engineering. The ability to produce, access and revise critical documents quickly can lead to competitive advantage through reduced new product development life cycle, increased product complexity, and reduced time to market.

TQM and market orientation cultures promote flat structure, speedier corporate communication, and team approach to decision making. All the above, particularly cross-functional teams can simplify design process. It also facilitates modular approach to design, which enables firms to combine and utilise existing standardised components to create new models or services more effectively and drastically reduce product development costs (Lau, 1996). According to Lau modular design results in firm's flexibility to meet changing market demand faster. The entire process is seen as making value delivery processes into modules of dynamic network of skills and capabilities, which allow integration of resources to customise product or services.

Design determines what elements of tangible and intangible features should be included in the product or service. This decision in turn determines the key financial factors in an operation: revenue, cost, and capital employed, which all affect profitability. For example, redesign that applies substitution with lower cost materials lead to reduced total cost. Redesign for produceability (or ease of operations in service) leads to increased labour productivity and increases capacity of existing facility.

The above arguments support the notion that TQM companies, either customer focus or operation focus, tends to benefit from optimum design and product or service reliability therefore can translate into higher degree of customer focus and market orientation. Flynn et al., (1995) propose that optimise design create direct impact on quality performance through its effects on product reliability, product features, and serviceability. The indirect effects of design on quality performance take root through its impact on produceability, which in turn affect operation flow management. It is hypothesised that TQM companies produce reliable products and employ optimum design will achieve lower cost and hence better performance. Consequently, the market oriented TQM companies, which employ optimum design and produce reliable products are more likely to maintain sustainable performance.

Process optimisation and performance.

Process optimisation refers to various organisational capabilities and practices to control and achieve efficient operations in the value delivery processes. It aims to lower product costs while ensure quality of conformance to design. Constant improvement in process may lead to best practices, which can be reflected through high plants and facilities utilisation; labour efficiency; reduced scrap, waste and rework; increased product and service reliability; and reduced relative operating costs. This emphasis is consistent with cost leadership advantage, although not all process optimisation emphasis leads to lowest cost in the industry.

Internally focused revenue growth can be derived from either cost saving in operation or reduction in capital employed, which mean in either case managing effectively existing resources. In another word firm's TQM contents are tailored to improve productivity that is by getting more output from the same resources or getting the same outcome from fewer resources. Through TQM efforts productivity is achieved without specifically resulting in reduced headcount, unlike downsizing, rightsizing, delayering, or reengineering, which almost always do (e.g. Hamel and Prahalad, 1994).

Cost avoidance through holding capital expansion, cutting promotion, deferred physical investment or making employees redundant (through downsizing, restructuring or reengineering) are common practices in times of economic malaise, but cost reduction by continuous process improvement can be a continual pursuit irrespective of economic conditions. Lower cost can be the result as well as the cause to increased productivity. In the context of operation, increased productivity is parallel to process optimisation, which can be derived from improved design, improved reliability or conformance to specifications. Flynn et al., (1995) suggest that effective process management improve quality performance through reduction of process variance and defective production. They noted that process flow management practices include reliance on preventive maintenance (echoed Garvin, 1993), foolproofing or poka-yoki, flexible and effective scheduling, and teamwork between managers and operatives in quickly solving operations problems. Therefore, TQM companies that improve process optimisation will be able to control operational costs and achieve sustainable performance.

Product and service reliability and performance

Quality leadership is based on thrust to become a leader in industry through achieving high standards in the product performance, reliability and features, at competitive cost. High reliability creates product or service reputation, which is also a component of company reputation and source of market advantage. By leveraging this reputation as strategic asset firm can charge premium price in the market. High product and service reliability has been shown to be associated with fewer complaints, lower warranty costs, reduced service costs after sale, higher customer satisfaction and perceived market quality. Perceived product performance relative to competitor's products can create differential advantage and reputation, which are likely to sustain firm's performance.

Reliability is affected by design, quality control in operation, control of suppliers and maintenance. These activities must be co-ordinated with appropriate resources suitable to the requirements of the product. Product requirements for reliability may involve varied degrees of customer and supplier involvement and must be determined by market assessment, warranty cost considerations and the customers. Since reliability affects availability, repairs, spare units, support technician, customer

defection recovery efforts, etc, the improvement in delivered customer value can be achieved by improving total aspects of reliability.

Operation-focused firm and sustainable performance

This category of companies is concerned with operational excellence: effective operation and efficient process to achieve lower costs. They search for improved operational results and best practices as the sources for competitiveness. They operate in opposite direction to the customer-focused TQM companies. This strategy is not necessarily ineffective, especially in stable market environment and less dynamic technological change.

Garvin (1988, p. 90) has depicted the relationship between improved quality and lowering cost. Gummesson (1994) links quality to both productivity and profitably. The Crosby's (1979) slogan 'Quality is free' suggests that substantial saving can be achieved by doing job right first time that avoid rework and prevent dissatisfied customers. This means a cheaper product or service cost at the end, while firm enhances its image among customers. As a consequent it encourages repeat purchase, attracting new customers resulting from word of mouth recommendation, and increasing revenue.

Crosby (1979) suggests that cost of quality arising from producing 'non-quality' as much as 35 %, which 95% of it is accounted by failure and appraisal cost. Because TQM emphasises cost effectiveness through continuous improvement and process management, there is a massive potential reduction in overall cost, even by allocating prevention cost such as TQM planning and implementation cost above 5% level. As has been earlier pointed out in chapter two one of the assumptions of TQM principles is that the benefits from TQM implementation by far outweigh the costs of not implementing TQM.

TQM literature clearly indicated that efficient production through prevention of defect along the production stages lead to cost saving and lower cost of production (Crosby, 1979, 1984; Deming, 1982, 1986), and the earlier the defect is detected, the less expensive it is to correct (Garvin, 1988). The quality gurus address many aspects of management issues in improving efficiency and control of the firm operation. Unlike customer orientation construct, operation focus has never been fully defined or measured although wide acceptance of the concept exist in the classical scientific management and current management theory that deal with the internal control of the firm and the governance of its activities (Reed et al., 1996).

Operation focus firms aim to excel through quality leadership via product performance, reliability and features and cost effectiveness. Therefore their emphases are more likely associated with operational excellence indicated by process efficiency and product and service reliability. TQM programmes such as process management, statistical control, continuous improvement, employee involvement, supplier management and inspections are all related to operational effectiveness, which can lead to lower cost.

Continuous improvement and performance

Cost advantage is one of the routes to competitive advantage (Day and Wensley, 1988; Porter, 1985). For operation focus firm, a cost-based advantage may be seen

as corresponding to market advantage in the customer oriented firm (Reed, et. al., 1996). Operation focus TQM companies are construed as relying on continuous improvement tool for improving design improvement, reliability improvement and process optimisation.

Continuous improvement in the context of people oriented efforts is seen as kaizen-incremental reduction in effort and time to conduct operation (Schmidt and Finnigan, 1992). Others see Continuous improvement as a broader concept which includes innovation in process resultant from the application of new technologies and research and development effort, while it resembles the economic concept of experience-curve effects (Reed et al., 1996). These arguments are consistent with Gilmore (1990), who projected that with continuous improvement, long-run average cost curves getting below the previous one as the firm adopted new methodologies in technology, manufacturing methods, or materials. Lowest cost producer strategy for Market-oriented firm is thus consistent with operation focused strategy for TQM company. In other words TQM firms pursuing continuous improvement in operation will achieve lower production cost, which in turn lead to improved market share and market performance.

Continuous improvement philosophy captures the desire to enhance the reliability and control of performance (doing it right first time and every time), and to enhance learning and experimentation (continuous learning) in order to develop new skills and capabilities. In practice, most quality programmes focus on enhancing the organisational performance through continuous improvement by systematically reduces or eliminates sources of customer dissatisfaction. Extensive data collection, analysis, and feedback systems that help to identify problems and direct the employees' attention to those problems achieve this (Day, 1990). Continuous improvement is the lowest step in improvement activity as opposed to benchmarking and reengineering, which are more complex to implement.

Employee involvement, Empowerment and Teamwork.

TQM advocates employee involvement in decision making to solve workplace problems. This is normally achieved via project teams, QCC, suggestion system, or self-managed team and the like. For example, the QCC teams choose routine problems where members have ability to overcome them. Generally, the identified problems are routine and low in uncertainty (i.e. problems are analysable), therefore dramatic result in efficiency are some time achieved.

Similarly, the suggestion system also confines employees to suggest improvement within which employees themselves or their sections' members can implement the improvement. The problems of interdepartmental in nature, often concerned with creation of customer value would be left unsolved. It can be proposed that organisation with TQM programmes that involve employees in enhancing control-oriented goals will not improve customer value delivery. These companies also fail to realise the full benefits of employee participation when the firm operates in a highly uncertain environment.

Empowerment is a 'state of mind' that exist in employees when companies implement practices that distribute power, information, knowledge, and rewards throughout the organisation. This 'high-involvement-high-performance' approach is guided by non-bureaucratic and participation-oriented philosophy (Bowen and Lawler, 1995). They argued that empowerment creates superior performance

capabilities, which are organisationally embedded thus become a source of sustainable competitive advantage. Others also suggest that successful organisations empower their employees (e.g. Kotter and Haskett, 1992; Milliken, 19996; Scotto, 1996).

Teamwork is collaboration between managers and non-managers, between functions and between customers and suppliers. The non-managerial employees contribute to the organisation when they are empowered and prepared. Functional teamwork follows the notion of system optimisation, whereas the customer-supplier collaboration is based on the perceived benefits of partnerships (Dean and Bowen, 1994). Deming's (1993) system thinking even suggests teamwork among competitors, where competition should be directed to expand the market thus meets the customers' needs not yet served. To Deming, competition between people, teams, department, divisions are actually destructive.

Dean and Bowen (1994) echoed Ciampa (1992) regard teamwork practices include identifying the needs of all groups and organisation involved in decision making, searching for mutually benefited solutions, sharing responsibility and credit. These practices are promoted by forming teams and team building techniques such as role clarification and group feedback. Superior performing companies value cross-functional teams and people working together in teams (e.g. Beck and Yeager (1996); Kern, 1997; Milliken, 1996).

The complete elements of MBQ orientation are listed under table 1.2 as research constructs. Primarily, consisting of TQM elements therefore their meanings are consistent with the current definitions discussed in many related literatures. The main relationships among the elements and firm's performance have been formulated into the research hypotheses to facilitate the empirical work.

Proposed Research Constructs

Table 1.2 Research Constructs

Code	Research constructs as represented by figure 1.5
Q1	Operation focused-process optimisation
Q2	Operation focused-product and service reliability
Q3	Continuous improvement
Q4	Supplier management
Q5	Usage of quality tools
Q6	Employee involvement
Q7	Quality information and planning
Q8	Quality training
Q9	Benchmarking
Q10	Empowerment
M1	Competitor orientation
M2	Technological orientation
M3	Innovation orientation
M4	Customer relationship (final customers)
M5	Channel relationship (agents and distributors)
M6-N	Strategic positioning & segmentation -(not tested)
M7-N	Marketing mix modifications (e.g. mass customisation)
M8-N	Branding

M9-N M10-N	International marketing (e.g. globalisation) Marketing research
MQ1 MQ2 MQ3 MQ4 MQ5 MQ6 MQ7 MQ8 MQ9	Customer orientation Market advantage Design optimisation Interfunctional co-ordination Top management commitment Teamwork Customer satisfaction (internal and external) Knowledge and learning (not tested) Measurement (not tested)
P1 P2 P3 P4 P5 P6 P7 P8	Sales growth Return on assets Customer retention Success in new products or services Corporate image or company reputation Sales over revenue ratio (profitability) Customer satisfaction Relative market share
E1 E2 E3	Market turbulence Competitive intensity Technological turbulence

Proposed research hypotheses are:

General hypotheses:

P1: Firms with customer-focused TQM practices (IV) tend to display high degree of market orientation (DV).

P2: Firms with operation-focused TQM practices (IV) tend to display low degree of market orientation (DV).

P3: Firms with customer focused TQM practices tend to display higher degree of market orientation than firms with operation focused TQM practices.

P4: Firms with low market orientation (IV) that use TQM but operation focused (MV) will achieve medium to low sustainable performance (DV).

MBQ orientation contents and performance:

P5: Firms with a high *degree of market orientation (MV)* that use TQM to generate *market advantage (IV)* will realise benefits of growth in revenues and achieve high *sustainable performance (DV)*.

P6: Firms with a high *degree of market orientation (MV)* that use TQM to improve *design optimisation (IV)* will realise benefits of reduction in costs and achieve high *sustainable performance (DV)*.

P7: Firms with a high *degree of market orientation (MV)* that use TQM to improve *process optimisation (IV)* will realise benefits of reduction in costs and achieve high *sustainable performance (DV)*.

P8: Firms with high degree of market orientation (MV) that use TQM to improve product reliability (IV) or (pursuing continuous improvement) will realise benefits of growth in revenues and achieve high sustainable performance (DV).

P9: Firms with *low market orientation (MV)* that use TQM to improve *process optimisation (IV)* will realise benefits of reduction in costs and achieve medium *sustainable performance (DV)*.

P10: Firms with *low degree of market orientation (MV)* that use TQM to improve *product reliability (IV)* will realise benefits of growth in revenues and achieve medium *sustainable performance (DV)*.

MBQ orientation processes and sustainable performance

P 11: The higher the interfunctional co-ordination (IV) the greater the *TQM effectiveness (DV)* . (TQM effectiveness is positively related to interfunctional co-ordination). and the higher the *interfunctional co-ordination (IV)*, the higher the *market orientation (DV)* (Degree of market orientation is positively related to interfunctional co-ordination).

P12: TQM companies that apply *customer-oriented tools (IV)* such as QFD, competitive benchmarking tend to be able to satisfy customer needs better than competitors hence are more market-oriented and achieve better growth and *sustainable performance (DV)*.

P13: TQM companies that established *customer relationships (IV)* programmes has higher retained customers and achieved market growth and *sustainable performance (DV)*.

P14: Organisational climate determines the top management decision making style which control structure, system, corporate culture, and values, moderate the TQM and market orientation effectiveness and hence sustainable performance relationship. The better the *organisational climate (IV)* the higher the *sustainable performance (DV)*

P15: The higher the *innovation orientation (IV)* the higher the TQM effectiveness and market orientation thus the higher *the sustainable performance (DV)*.

P16: Customer focused TQM and sustainable performance relationship is stronger in the high environmental uncertainty.

P17: Operation focused TQM and sustainable performance relationship is stronger in the low environmental uncertainty.

Conclusion

This article has constructed the research model from the conceptual framework integrating the elements of quality and market orientation. The resultant causal

model, which can be empirically tested in the research fieldwork, is called market-based quality orientation approach to managing business. The MBQ model is the extended TQM model with integration of market orientation elements thus making it the integrated approach to business strategy. It is a business philosophy based on quality management principles that is guided by market factors thus seeks to deliver sustainable competitive advantage hence sustained performance. The model amalgamates both orientations and has a powerful link to improved performance.

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