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Customer-focused performance and the dynamic model for competence building and leveraging

A resource-based view

Customer-focused performance

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Abstract In today's turbulent environment, customers are playing a more important role in competition, which can be reflected by customers as co-producer, value co-producer, or co-developer of knowledge and competencies, etc. Accordingly, business priority should be given to what customers really value. Unlike previous studies, which emphasize market performance mainly from the internal or firm's perspective, this paper proposes that firms should prioritize customer-focused performance, defined totally from an external perspective of targeted customers. The paper examines the important role of customer-focused performance and its interactive relationships with other dimensions of the overall performance system, and goes further to analyze the components and dynamics of customer-focused performance. Finally, attention is given to the dynamic competence building and leveraging process and its key elements, which determines the customer-focused performance in perspective of resource-based views. Important propositions are presented and future implications discussed.

1. Introduction

The increasingly dynamic nature of competition has made the improvement of organizational learning and the development of more effective methods for managing knowledge and other intangible resources, a central concern of contemporary strategic management. Consequently, an approach based on resources and dynamic capabilities, which emphasizes the critical importance to sustainable competitive advantage and performance of invaluable resources and competences such as customer relationship, learning culture, and employee



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skills and knowledge (Barney, 1991; Teece *et al.*, 1997), has won increasing attention both from academic and practical circles.

In environments characterized by high velocity change, accelerating product life cycles, narrowing customer niches, mass customization and technological discontinuities, today's product markets can appear and disappear quickly (D'Aveni, 1994), with traditional product-centered strategies providing little long-term advantage (Christensen, 1998). This has led to renewed efforts to understand how firms can develop dynamic capabilities which enable them to adapt, integrate, and reconfigure their skills and knowledge in order to adapt to a changing business environment. The dynamic process of developing resources and competences has also turned the attention of firms to collective learning (Prahalad and Hamel, 1990), a process through which organizations apply existing knowledge and develop new knowledge that shapes the development of new competences that are necessary in the changing environment (Kogut and Zander, 1992; Henderson and Cockburn, 1994). Furthermore, this work has highlighted the need for a deeper understanding of how trajectories of knowledge and capabilities develop and how factors such as absorptive capability (Cohen and Levinthal, 1990) and "lock in" (Dosi, 1988) influence the process of knowledge and capability development. However, up to now, there have been few systematic studies done in this field. Furthermore, there has been a strong trend for researchers and managers to try to explain the influential factors of competitive advantage and performance from their own perspective and ignore the rationality of views from other streams. Thus, little effort has been made to integrate knowledge management, organizational learning and competence-based competition with empirical investigations and, as a result, little research has been done to explore and examine the interactive relationship between knowledge acquisition, accumulation and sharing, organizational learning, and competence building and leveraging, and their impact on customer satisfaction, service quality and other dimensions of business performance.

Furthermore, even though almost all researchers agree that firms competing in present and future situations will encounter a dynamic environment in which strategic flexibility and responsiveness will be paramount, few take strategic flexibility into account when they explore or test the causal links between different factors and firm performance. In addition, in today's turbulent environment, customers are playing an ever more important role in business competition, and many means have been advocated of understanding customer demands from the viewpoint of customers themselves, so that these demands can be translated into business language and actions. However, little progress has been achieved concerning customer-focused performance. Although many studies have been made of business performance, most of which take overall performance, market performance or new product performance, as the focus. Therefore, drawing on a growing body of

literature that distinguishes between a firm's products and its resources and capabilities (Snow and Hrebiniak, 1980; Hitt and Ireland, 1985; Barney, 1991; Henderson and Cockburn, 1994; Markides and Williamson, 1996), emphasizes organizational learning (Argyris and Schon, 1978, 1990; Senge, 1990), and pays more attention to customer satisfaction and service quality (Gronroos, 1988; Parasuraman *et al.*, 1991; Zeithaml *et al.*, 1990; Anderson *et al.*, 1994), this paper will try to bridge gaps that currently exist in our understanding of business dynamics in turbulent environments and link what strategic management field argues and what service management emphasizes.

In this paper we aim at defining customer-focused performance in perspective of customers totally externally and identifying its key determinants on the basis of a resource-based view. Section two, which follows the introduction, gives a simple definition of customer-focused performance and its key role in the whole business performance system, and discusses the interactive relationship among different dimensions of performance. The components and dynamics of customer-focused performance are analyzed in section three. Section four provides a dynamic model for excellence in customer-focused performance in perspective of a resource-based view, while trying to combine external perspective from customers and internal perspectives within firms of business together, in order to help managers bring together these seemingly disparate elements of a company's competitive agenda. These elements are described as customer oriented, marketing driven, learning oriented, competence-based and so on. What's more, the moderating effects of environment turbulence and strategic orientations are also identified. It is further hoped that this research will provide valuable insights and lay a foundation for further empirical research in the future. Finally, implications and conclusions are provided and future research directions suggested.

2. Customer-focused performance and its significant role in success

Concepts such as customer orientation, staying "close to the customer", customer segmentation and niche marketing, customer as co-producer (Wikstrom, 1996), value co-production, critical co-developer of knowledge and competence (Sivula *et al.*, 1997) and co-opting customer knowledge (Gibbert *et al.*, 2001), all point to the much more significant role of customers in business success than ever, which necessitates the focus of customer-focused performance.

2.1 Customer-focused performance

Accordingly, customer-focused performance, which is perceived and evaluated directly by customers themselves based on what a company provides them, represents the key dimension in, and the decisive source of, company competitive advantage. Only by addressing this can companies go beyond the

traditional financial performance, understand the real requirements of their targeted customers, act on the actual information flowing from customer demand, and deliver superior customer value and higher satisfaction than their key competitors. This paper strongly recommends that, in pursuing this goal, firms should define some of their performance measures based on customer assessment and view their performance through their customers' eyes. In addition, this would be consistent with most companies' mission or vision statements, which pointedly refer to the special significance of customers (Kaplan and Norton, 1992).

Therefore, how a company is performing from its customers' perspective is inevitably a priority for top management, which reinforces the significance of customer-focused performance, as defined here. In practice, it seems that some firms have begun to act unconsciously based on this idea. For example, the J.D. Powers Quality Survey has become the standard of performance of the automobile industry (Kaplan and Norton, 1992). Firms, therefore, need to maneuver all their resources, competences and operational activities around achieving superior customer-focused performance, because this can provide a practical standard to see whether they are valued by their targeted customers, or not.

2.2 The embarrassed context of financial measures

Traditionally, firms are believed to exist for shareholders, and their performance is measured financially. They focus primarily on the character and rate of financial return, operating income and return on investment (Paple-Shields and Malhotra, 2001), taking sales and earnings growth, market share change and cash flow, into account. However, with the increasingly stronger bargaining power of other stakeholders, the situation has changed significantly. With the current stronger trends such as the contraction of communication cycles, the blurring of industry boundaries, the deconstruction of traditional value chains and the fact that industries are being "blown to bits", customers are playing an increasingly important role in business success. They have already moved out of the audience and onto the stage, and are fundamentally changing the dynamics of the marketplace and the market, as a result, has become a forum in which customers are playing an active role in creating and competing for value (Prahalad and Ramaswamy, 2000). On the contrary, financial measures have been criticized for their well-documented inadequacies, their backward-looking focus and their inability to reflect contemporary value-creating actions. Furthermore, these financial measures are only the result of operational actions and contribute almost nothing to the improvement of customer satisfaction and value, or service quality, cycle time and employee motivation.

2.3 The whole company performance system based on different perspectives

Accordingly, different perspectives have been introduced to help firms compete successfully and survive in the long-term, for example, the special interests of

other stakeholders such as customers (suppliers, dealer and ultimate clients), employees, managers, government and communities. Figure 1 shows the interactive relationship of customer-focused performance, shareholder-based performance and employee-based perception. As a well-known and useful measurement of performance, the balanced scorecard is one of the typical examples of the interactive relationship (Kaplan and Norton, 1992). It consists of customer perspective, internal business perspective, innovation and learning perspective, and financial perspective. However, there are still some differences between what we call customer-focused performance here and what Kaplan defines as from the customer's perspective. The former stresses what customers can see, feel, obtain and value, that is, what they can see and perceive for themselves, while some elements of the latter are not actually from the customers' perspective by virtue. For example, customers show less concern for internal processes or information to produce or deliver a product or service, such as when a new product is launched, how innovative it is, the minutiae of its production, or the percentage of its sales, which are often considered performance measures of customer perspective by Kaplan and Norton (1992). In comparison, customers show more interest in how much value they receive from a product or service, how good the product is, and the degree of satisfaction they gain, all of which are external measures assessed by customers and constitute customer-focused performance, which we defined above, as important measures. In fact, Kaplan's performance measures reflect, in a sense, a firm's internal view of customer perceptions.

2.4 The interactions of different dimensions of company performance

As a whole system, all of these four perspectives (shareholder, customer, internal process and learning and growth) have their own benefits and

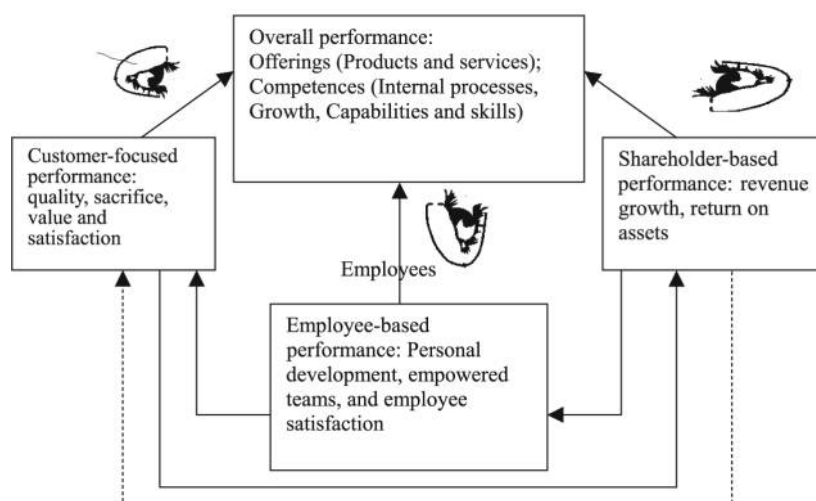


Figure 1.
Relationship among
dimensions of
performance: example
from customers,
employees and
shareholders

emphases and also interact with one another continuously. Creating value for shareholders has been said to be the purpose of business, shareholder value, however, is really the outcome of business success, not its intrinsic reason for being. Only if the real purpose, creating and providing valuable products and services for customers, is first met, can a firm provide shareholder value. Therefore, as Drucker (1973) notes, business success is determined, not by the producer, but by the customer, and the customer-focused dimension should be the priority of managerial attention. This dimension not only acts as the key driver of the financial dimension, but also determines the character of the other two dimensions. In other words, the internal process and learning and growth dimensions act as the basis of the customer-focused dimension, enabling the latter to drive financial performance as a result. This can also be seen in the service profit chain model of Heskett *et al.* (1997), which stipulates that there are direct and strong relationships between customer loyalty, customer satisfaction, value of goods and services delivered to customers, service quality and productivity, employee capability, satisfaction and loyalty, financial profit and growth. Similarly, the employee-customer profit chain model developed by Rucci *et al.* (1998) describes further the interactive relationship among different dimensions of business performance, and stresses that an attractive place to work provides solid support for an attractive place to shop and, finally, drives an attractive place to invest. Figure 1 shows the relationships among dimensions of performance from different perspectives. On the one hand, the greater the customer value, the more attractive and competitive the product, resulting in higher employee satisfaction and superior profitability. On the other hand, the greater the shareholder value, the more money there is for investment in R&D, training and customer service systems, and the more competitive again the product, resulting in superior customer-focused performance, which shows dynamically the cycles of interactive improvement.

In fact, customer-focused performance represents not only short-term competitiveness, but also long-term or potential competitiveness. As a key indicator of customer-focused performance, customer satisfaction has often been considered one of the important dimensions of business performance, no matter when competitiveness or performance is studied, strategically or operationally. Enhanced customer satisfaction, greater customer loyalty, increased sales and productivity, high new product success, effectiveness of internal processes, innovation and improvement activities and higher employee satisfaction and empowerment are all inter-linked and will always lead to more sustainable competitive advantage (Meyers *et al.*, 1999; Lipovatz *et al.*, 2000). As for other aspects of customer-focused performance, Zeithaml (1996) report a study of the links between service quality and customer behavior, in which the overall findings offer strong support for the intuitive notion that improving service quality can increase favorable behavioral intentions and decrease unfavorable intentions, implying great potential for higher profit. Rust *et al.*

(1995) examine the links between service quality, customer satisfaction, loyalty and profitability, and provide strong support for the profit impact of improvements in service quality. Similarly, Kordupleski (1995) provides empirical evidence that successful customer value based strategy increases shareholder value. For example, AT&T research shows how improvement in revenue share growth is driven by improvement in customer value. Parasuraman (1997) gives further empirical evidence of a systematic, positive association between customer value and organizational value (stockholder), which provides an impetus for implementing value-based strategies in companies that might otherwise be reluctant to do so.

- P1.* Firms with superior customer-focused performance usually have superior financial performance and higher employee satisfaction.

Therefore, the activities best suited to today's competitive environment may be those that help to achieve superior customer-focused performance, through which the interests of other stakeholders, such as shareholders and employees, can also be met, resulting in higher profitability. All other dimensions would serve as the basis of, and provide support for, customer-focused performance throughout the process, including investment in employee training, advertising, and strong career paths. In fact, as discussed above, a number of profit impact of market strategies-related studies (PIMS) have provided valuable empirical support for positive quality-profitability relationships (Buzzell and Gale, 1987; Phillips *et al.*, 1983; Zeithaml, 1996; Rust *et al.*, 1995; Chang and Cheng, 1998).

3. Dynamics and key components of customer-focused performance

Customer satisfaction is driven by price and quality attributes which businesses need to define, refine and redefine, if they are to secure competitive advantage. Customer-focused performance is driven by the need for businesses to redeploy and link their processes and build strong capabilities based on value innovation, in order for the performance to deliver superior customer value and higher customer satisfaction. Customer-focused performance is characterized by a number of components.

3.1 Key components of customer-focused performance

Many factors may influence customer-focused performance in practice, and all have a significant impact on business performance, especially on profitability. However, all these factors tend to fall into four categories: time, quality, performance and service, and cost (including price, effort, energy and other related cost such as ordering, scheduling and delivering). In this paper, we suggest that service quality, customer value and customer satisfaction are the most effective and important dimensions of customer-focused performance, because they are related directly to customer perceptions and, hence, their

purchasing decisions. For example, on the one hand, time, quality and cost can all be reflected in terms of customer perceived quality. On the other hand, the same attributes can be understood even better in terms of customer value if they are combined, and the combination of performance and service can then measure how the company's product and service quality contributes to creating value for its customers.

Furthermore, the three dimensions, i.e. service quality, customer value and customer satisfaction, also interact dynamically with one another (Wang and Lo, 2002b). For example, Oliver (1993) first suggests that service quality should be antecedent to customer satisfaction, regardless of whether these dimensions are measured for a given experience, or over time. McDougall and Levesque (2000) identify two key drivers of customer satisfaction: service quality and customer value. Similarly, Patterson *et al.* (1997) identify the dynamic interactive relationship among service quality, customer value and satisfaction, and its impact on purchase behaviors. Up to now, other researchers have found empirical support for the point of view mentioned above (Anderson and Mary, 1993; Spreng and Mackoy, 1996), wherein customer satisfaction is a consequence of service quality and customer value (see Figure 2). Whats more, customer value may be the most important factor in determining the superiority of customer-focused performance, because customer satisfaction can generally be considered the consequence of customer value, and service quality is only one of its antecedents. That is to say, only customers who obtain superior customer value in the form of higher quality, lower sacrifice, or a combination thereof, may be satisfied, but only by first providing quality products, can firms deliver superior customer value. Customers who buy products of quality lower than threshold level, will not feel value for money at all[1]. In addition, these three dimensions are themselves dynamic, and their nature and determinants may change over various stages of a customer's association with a company. However, it should be noted here that researchers sometimes obscure the distinction between customer satisfaction and value. For example, when measuring value to customers, five measurement items are used by Tu *et al.* (2001), at least two of them are directly related to customer satisfaction.

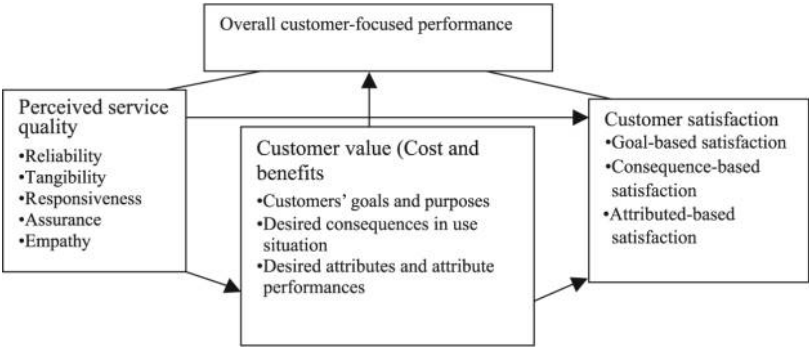


Figure 2.
Customer-focused
performance:
components and
dynamics

- P2a.* Both customer value and customer service quality contributes positively to higher customer satisfaction.
- P2b.* Both customer perceived sacrifice and customer service quality have an important influence on customer value.

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3.2 Customer perceived service quality

It has been widely accepted that quality products can result, not only in lower cost by reducing waste and deficiencies, but also in higher competitiveness, by establishing reputation, delivering superior customer value and realizing other positive attraction and retention effects. As a result, with the changing role of customers (Prahalad and Ramaswamy, 2000), customer perceived service quality has been given more attention for its specific contribution to business competitiveness (Wang *et al.*, 2003).

Over recent years, there have been a variety of studies on different aspects of service quality measurement. Traditionally, service quality has been defined as the difference between customer expectations and perceptions of service (Gronroos, 1984; Parasuraman *et al.*, 1985, 1990). These researchers believe that measuring service quality as disconfirmation (the difference between perceptions and expectations) is valid, and allows service providers to identify gaps in the service provided. However, most of these studies have found a poor fit with the disconfirmation model. As a result, their SERVQUAL scale has been frequently criticized by researchers for its use of gap scores, for its measurement of expectations, for positively and negatively worded items, for the generalizability of its dimensions, and for its defining of a baseline standard for good quality (Cronin and Taylor, 1992; Brown *et al.*, 1993; Oliver, 1993; Teas, 1993; Spreng and Olshavsky, 1992). Further, problems of reliability, discriminant validity and variance restriction exist because of the computed difference scores. As a result, researchers have tried to combine expectations and perceptions into a single measure to alleviate these problems, and have found that this technique outperforms the SERVQUAL scale in terms of both reliability and validity (Babakus and Boller, 1992; Brown *et al.*, 1993; Andaleeb and Amiya, 1994; Mittal and Lassar, 1996; Dabholkar, 2000).

Although an increasing number of research findings have appeared concerning quality in the past two decades, it is still worth noting that there are several distinct conceptualizations of quality. In marketing and economics, quality often has been viewed as dependent on the level of product attributes. In operations management, quality is described as having two primary dimensions (Garvin, 1988):

- (1) Fitness of use: Does the product or service do what it is supposed to? Does it possess features that meet the needs of customers?
- (2) Reliability: To what extent is the product free from deficiencies?

In the service literature, quality is viewed as an overall assessment (Parasuraman *et al.*, 1985). As for the overall measure of quality, Parasuraman *et al.* (1985) write that it can be obtained in the form of an average score of the five related dimensions.

On the other hand, some have advocated measuring overall service quality directly. Among them, only a few have used multi-item measures (Dabholkar, 2000; Dabholkar *et al.*, 1996; Spreng and Mackoy, 1996; Taylor and Baker, 1994), while most (Babakus and Boller, 1992; Bolton and Drew, 1991; Boulding *et al.*, 1993) have used a single-item measure, which makes it impossible to ascertain the reliability of the construct.

3.3 Customer satisfaction

By nature, the study of customer satisfaction typically falls within the domain of marketing (Rust and Zahorik, 1993; Anderson *et al.*, 1994; Dean and Bowen, 1994). It is perceived to be a key indicator of a firm's market share and profitability, and portrayed as an important indicator of a firm's overall financial health. Simply stated, a satisfied customer will repeat the purchase of the goods or services, increasing a firm's market share and profits, which signifies its significance to successful competition in customer-centered era.

Originally, satisfaction is defined as disconfirmation (Miller, 1976; Oliver, 1981) and later is equated with emotion (Westbrook, 1980; Westbrook, 1991). Generally speaking, there are at least two different conceptualizations of customer satisfaction: one is transaction-specific, the other is cumulative (Boulding *et al.*, 1993).

On the one hand, from a transaction-specific perspective, customer satisfaction is viewed as a post-choice evaluative judgment of a specific purchase occasion (Hunt, 1977; Oliver, 1977, 1981, 1993). Up to now, behavioral researchers have developed a rich body of literature focusing on the antecedents and consequences of this type of customer satisfaction at the individual level (Zeithaml, 1988). On the other hand, cumulative customer satisfaction is an overall evaluation based on the total purchase and consumption experiences with a product or service over time (Fornell, 1992; Johnson and Fornell, 1991), which is a more fundamental indicator of the firm's past, present and future performance. It is the cumulative customer satisfaction that motivates a firm's investment in customer satisfaction. So here our theoretical framework treats customer satisfaction as cumulative.

Fornell (1992) enumerates several key benefits of high customer satisfaction for a firm. In general, high customer satisfaction should indicate increased loyalty of current customers, reduced price elasticity (Garvin, 1988), insulation of current customers from competitive pressure, lower costs of future transactions, reduced failure costs, low cost of attracting new customers, and enhanced reputation for the firm. For example, increased current loyalty means more customers will repurchase (be retained) in future, and ensures a steady

stream of future cash flow (Reichheld and Sasser, 1990). An increase in customer satisfaction should enhance the overall reputation of the firm, which can aid in introducing new products by providing instant awareness and lowering the buyers' risk of trial (Robertson and Gatignon, 1986). What is more, reputation also can be beneficial in establishing and maintaining relationships with key suppliers, distributors, and potential allies. At some point, however, there must be diminishing returns to increasing customer satisfaction (Anderson *et al.*, 1994), which means there is a trade-off during the process of improving customer satisfaction. However, empirical studies have, for most part, not addressed the differential effects of service quality and customer satisfaction. Even for those by Taylor and Baker (1994), Gotlieb *et al.* (1994), Dabholkar (1995), Dabholkar (2000), no effort has been paid to disclose the conditional benefits of customer satisfaction, i.e. attributed-based satisfaction, consequence-based satisfaction and goal-based satisfaction, although all of them should be emphasized in business improvement at the same time. In addition, findings have been somewhat different across these studies and the relationships between customer satisfaction and other constructs mentioned in the paper have, up to now, been less discussed, which implicates the necessity of more related research.

3.4 Customer value

Driven by demanding customers, keen competition and rapid technological change, more and more firms are searching for new ways to achieve, retain, upgrade and leverage competitive advantages. As a result, many firms are transforming their focus from looking internally for improvement by way of quality management, downsizing, business process reengineering or lean production and agile manufacturing, to pursuing superior customer value delivery (Band, 1991; Day, 1990; Gale, 1994; Naumann, 1995; Butz and Goodstein, 1996; Woodruff, 1997). Furthermore, as some researchers have concluded (Narver and Slater, 1990), creating superior customer value is a major goal for market-driven firms, and delivering superior customer value is becoming one of the most important success factors. Therefore, knowledge about customer value and learning how to respond to it, is playing a more important role in a firm's competitiveness. There is much evidence to support the key position of customer value for success of firms, for example, the experience of many companies such as AT&T, Federal Express and Xerox, and the findings of the positive relationship between market orientation and organizational performance (Slater and Narver, 1992; Jaworski and Kohli, 1993).

Accordingly, in today's hypercompetitive environment, any firm which aims at achieving competitiveness and superior performance must have ample knowledge about customer value and its definitions, processes, key drivers and effective management practices. Learning about the process of customer

perception of value and value delivery has become the focus, along with the sources and driver, of customer value in increasingly competitive environments. It is clear that any factors influencing the benefits customers receive, or the sacrifices customers have to make, will cause different assessments of customer value, which may also change over time. For example, product-related factors such as product quality, and product customization, service-related factors such as responsiveness, flexibility, reliability and technical competence, and relationship-related factors such as image, time/effort/energy and solidarity, are all customer value drivers or sources (Lapierre, 2000; Ravald and Gronroos, 1996; Bolton and Drew, 1991; Zeithaml, 1988).

Although the significance of customer value is widely recognized, the growing body of research about customer value is quite fragmented, and the definitions of customer value diverge. Zeithaml (1988) considers value as the customer's overall assessment of the utility of a product, based on the perception of what is received and what is given. It has been argued that buyers' perceptions of value represent a trade-off between the quality or benefits they received in the product, relative to the sacrifice they perceive in paying the price. Gale (1994) considers it as market perceived quality adjusted for the relative price of the product. Butz and Goodstein (1996) define it as the emotional bond established between a customer and a producer after the customer has used a salient product or service produced by that supplier. Woodruff (1997) defines value as customer perceived preference for, or evaluation of, those product attributes, attribute performances and consequences arising from use that facilitate achieving the customer's goals and purposes. Woodruff's definition is based on empirical research into how customers think about value. However, it is obvious that there are some areas of consensus among the different concepts mentioned above. For example, customer value is inherent in some products or services, or is linked through their use. Customer value is something perceived by customers rather than objectively determined by sellers or other stakeholders and those perception processes typically involve a trade-off between what customers receive, such as quality, benefits and utilities, and what they sacrifice, such as price, and opportunity, maintenance and learning costs. The present study concurs with the majority of researchers who define customer value in terms of "get" (benefit) and "give" (sacrifice) components (Woodruff, 1997; Slater, 1997; Berry and Yadav, 1996; Ravald and Gronroos, 1996; Slater, 1997; Hass, 1995; Mazumdar, 1993; Slater and Narver, 1992; Narver and Slater, 1990; Day, 1990; Zeithaml, 1988), although some researchers argue that perceived value consists only of benefits (Hunt and Morgan, 1995; Hamel and Prahalad, 1994).

As far as the significance of customer perceived value is concerned, researchers are now paying more attention to the operationalization of this concept. Among them, Barney (1991) develop a broad theoretical framework. They suggest five dimensions of value, i.e. social, emotional, functional,

epistemic and conditional value, which provide the best foundation for extending the existing value construct. However, it is worth noting that not all the dimensions have equal significance at any time, although they are related in some sense. In fact, different value dimensions may have different importance in different situations or industries, over time.

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3.5 *Customer perceived sacrifice*

As is discussed above, customer value has a relation to not only what customers can get, but also what they have to give up; that is, customer perceived sacrifice. Sacrifice refers to what is given up or sacrificed to acquire a product or service (Heskett *et al.*, 1997; Zeithaml, 1988). For example, Lapierre (2000) identifies the key drivers of customer perceived value and clarifies sacrifice as one of the two key factors (the other is benefits). However, not only is price considered an element of sacrifice, but also other non-monetary factors are believed to be closely related to sacrifice. Many customers count time rather than dollar cost as their most precious asset. Therefore, generally speaking, there are two broad kinds of sacrifice: monetary costs and non-monetary costs. The former can be assessed by a direct measure of the dollar price of the service or product, and the latter can be defined as the time, effort, energy, distance and conflict invested by customers to obtain products or services, or to establish a relationship with a supplier.

4. The dynamic model for excellence in turbulent environments

Although customer-focused measures are important, they must be translated into measures of what a company must do internally to meet its targeted customers' expectations. Many studies, especially resource-based ones, witness that competitive advantage does not rest in industry structure or the firm's membership in a collective, but rather in its strategic resources and core competences, which are a complex combination of processes, routines, technologies and individual skills. This means that superior performance is always derived from the possession of unique difficult-to-imitate skills, knowledge, resources, or competences and assets. For example, large scale statistical studies of the industry effect, while they produce different quantitative estimates, generally agree that only between 16-19 percent of the total variations in profit between business units can be directly explained by industry variables (Rumelt, 1991). Thus, superior customer-focused performance is achieved through a set of interlinked business processes and coordination of strategic resources, whose goal is to satisfy customer needs. Such key determinants of performance as customer care, structure change, marketing effort, reputation, organizational redesign, distribution strength and staff skills (Petroni, 2000) can all be reflected by the strategic resources and core competence of the firm.

4.1 A conceptual model

Those factors that interact with one another and are combined to lay a solid foundation for the distinctive competences of a firm, are difficult to copy or imitate, and finally determine its the firm's customer-focused performance. The resource-based view allows each action to be referenced to the satisfaction of customer needs; in other words, to the delivery of value (Hamel and Prahalad, 1989; Chiesa and Barbeschi, 1994) and believes that superior performance is based on the dynamic competence building and leveraging process, as shown in Figure 3. Turbulent environments characterized by dynamics, complexity and unpredictability, determine the sustainability of existing core competences or competitive advantages and require organizations to make continual improvements to their existing products and processes, and foster the ability to introduce entirely new products with expanded capabilities. This involves competence building and leveraging at the same time. Organizations, as a result, must decide on and measure the processes and competences they must excel at, and the critical technologies needed to ensure continued market leadership based on the type of special strategic orientation, such as operational excellence, customer intimacy or product leadership[2]. In addition, they must build and upgrade their own competences through organizational learning, innovative ability and strategic flexibility, which help to identify trends in business, track performance of customer value delivery, deal with ambiguity and support quick response. Generally speaking, core competences, organizational learning, strategic flexibility and turbulent environments must maintain a healthy internal fit around strategic positioning, while firms need also to decide on proper strategic positioning, based on environment scanning and sensing capabilities and their existing core competences. The new competence building and leveraging process can then begin and any changes in environment will be perceived by organizational learning activities coupled

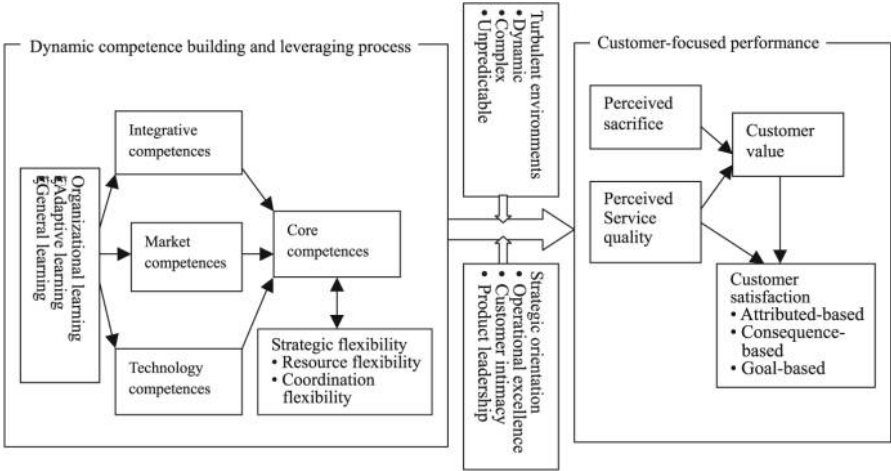


Figure 3.
The conceptually
dynamic model for
excellence in
customer-focused
performance in turbulent
environments

with an advanced real-time environment information system. With the existing core competences as catalysts, organizational learning in the resource market (from component suppliers, talented labor forces, shareholders, debtors, etc.) and in the product market (from dealers, customers, competitors and cooperators) will help firms find profitable opportunities to build new competences, leverage existing ones, reorient strategic positioning, create new market space, and adapt effectively. This will enhance the strategic flexibility necessitated by the environmental turbulence, while improved strategic flexibility will propel the process of competence building and leveraging, in line with changes in environment.

It should be noted that this conceptual model is applicable not only to manufacturing companies but also to service companies, given that both kinds of firms need to build and leverage their unique competences to achieve superior customer-focused performance. For example, Federal Express has achieved sustainable competitive advantages in the service market by building and leveraging competences in package transport and delivery such as bar-coding technologies and linear programming skills, which provide superior customer value and rapid responses. Wal-Mart has realized rapid and sustainable growth based on its unique competences, such as its cross-dock transportation system, its inventory management skills, and its accumulated knowledge about delivering large amounts of goods, globally and rapidly. Wal-Mart has also developed meta-competences that enable it to transfer from the original location-based advantages, to the more dynamic knowledge-based advantages. Similarly, the continuous building and leveraging processes of the competences in brand management of Coca Cola, the innovative capabilities of 3M, the particular imaging technologies of Canon, the lean production system of Toyota, the agile manufacturing techniques of Mazda, the mail-order sales management of Dell Computers, and the fast-flexible response of Boeing based on its multitask production equipment, enable all of these businesses to deliver high quality products/services and superior customer value and thus achieve higher customer satisfaction (Hamel and Heene, 1994)

4.2 Core competences

Bogner and Thomas (1994) define core competences as firm-specific skills and cognitive traits directed towards the attainment of the highest possible levels of customer satisfaction, *vis-à-vis* competitors. These can be leveraged directly to satisfy existing customer needs, or indirectly to develop a range of core products or core services, based on which a stream of final products or services of higher quality is delivered. Therefore, core competences are skills that enable a firm to deliver fundamental customer benefits (Hamel and Heene, 1994) by enabling the firm to establish, enhance, upgrade and utilize proprietary access to those resources that lead to a stream of sustainable competitive advantages.

However, core competences are the least definable kinds of productive resources, and consist of complex bundles of constituent skills and technologies, collective learning, and both tacit and explicit knowledge, contributing to competitiveness through organizational processes that ensure superior coordination of functional activities (Prahalad and Hamel, 1990). These have often been referred to in the contexts of functional areas (Snow and Hrebiniak, 1980), abilities, technologies (Prahalad and Hamel, 1990) or simply skills and resources (Reed and DeFillippi, 1990). They provide the conceptual glue that gives shared meaning to all the separate functional activities and programs, and serve to coordinate the competitive actions driven by the unique strategic positioning of a firm. Even though these competences are in large measure, a by-product of past activities, what matters at any point is the range of future activities that they make possible and the fact that they constitute the fundamental sources of sustainable competitive advantages (Prahalad and Hamel, 1990; Leonard-Barton, 1992). At the same time, core competences represent both the underlying knowledge base and the set of skills required to compete successfully. What is more, a firm's current core competences serve as platforms for ongoing development and application of those new competences needed to sustain competitive advantages in the future, which evolve through an iteration of repeated doing and learning, with each sequence expanding knowledge and enriching the core competences. This may explain why firms are being increasingly seen as portfolios of core competences, which admits a proactive construction of competence, sees competence as spanning multiple businesses, and sees competition as being over the acquisition and development of competences.

Recent theoretical developments and empirical evidence have shown that firms with superior competences are better generators of information about customer wants and needs and are also better at developing and marketing goods or services to meet these wants and needs by well coordinated activities. Furthermore, superior competences also give firms the capability to generate and act on knowledge about competitor actions and reactions, which help them to develop the basis for competitive advantages (Naver and Slater, 1990; Tuominen *et al.*, 1997; Woodruff, 1997). However, to sustain those advantages, core competences must add value, be difficult to replace by substitute processes, be difficult for competitors to imitate, and be immobile across firm boundaries (Barney, 1991; Grant, 1991, 1996). Furthermore, at least four mechanisms related to core competences, such as time-compression diseconomies, asset mass efficiencies, asset interconnectedness and causal ambiguity (Dierickx and Cool, 1989) may help to prevent both cheap and rapid asset accumulation and the sustaining of competitive advantage resulting from core competences[3]. In addition, to qualify as a core competence, a capability must meet the following requirements. It must be a close integration of skills or technologies, be competitively unique, and must contribute to customer

perceived value and provide an entry into new markets (Prahalad and Hamel, 1990; Hamel and Heene, 1994).

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P3. Core competences contribute positively to superior customer-focused performance.

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Today, there are many different ways to view core competences, with different emphasis trends. For example, Meyer and Utterback (1993) emphasize the special role of technology and single out R&D competence, production and manufacturing competence, and marketing competence. Dosi and Teece (1993) define core competences as allocative competence, transactional competence, administrative competence and technical competence. Leonard-Barton (1992) emphasizes the importance of knowledge, and considers core competence as a complex knowledge system that includes employee skills and learning, and the technological, managerial and value systems of the firm. Oliver (1997) pays more attention to strategic resources and argues that the resources constituting core competence should be scarce, unique, specific, intangible, immobile and difficult to substitute and imitate. Hamel and Heene (1994) distinguishes market-access competences, integrity-related competences and functionality-related competences. Bogner and Thomas (1994) argue that core competence is comprised of three fundamental components: shared value systems, recipes and routines, and tacit understanding of interaction. Richard Hall (1994) believes those functional, cultural, positional and regulatory capabilities as a whole constitute and determine the competitiveness of the firm.

As mentioned above, although most writers tend to focus on technological competences as the basis for core competences, other knowledge-based or experiential assets may underlie core competences (Wang and Lo, 2002a). For example, organizational culture could also be a fundamental source of core competences and sustained competitive advantages (Barney, 1986). Furthermore, since core competences often go beyond the traditional boundary of functions, result from capabilities integrated across functional lines, and are deployed across multiple product-markets to leverage firm-specific value-added activities and processes, we can classify all these competences into three broad types: technological competences, marketing competences and integrative competences. Each of these makes a different contribution to the core competences of a firm. Generally speaking, technological competences determine which products or services can be provided technically at one time; marketing competences determine which products are demanded by targeted customers; and integrative competences reflect the degree of fitness between the above first two competences and the effectiveness and efficiency of delivering offerings with superior customer value. It is with the last kind of competences, for example human capital and knowledge learning culture, that a firm can encompass its unique human, physical, organizational and coordinating resources, respond to a

variety of changing environmental conditions, and deploy its resources in ways that can lead to competitive advantages.

P4. The three kinds of competences do not contribute equally to the core competences of a firm.

Technological competences. Technological competences refer to the ability to develop and design new products and processes and combine knowledge about the physical world in unique ways, transforming this knowledge into designs and instructions for the creation of desired outcomes. So they are more than the mastery of technological capabilities; they are the capability to deploy and expand the range of core competences, integrate various streams of technologies, and effectively mobilize resources across firms (Miyazaki, 1994). More concretely, technological competences are a set of pieces of knowledge consisting of both practical and theoretical know-how, methods, procedures, experience and physical devices and equipment (Dosi, 1984). They also refer to superior and heterogeneous technical assets of a firm, which are closely related with product, design, process and information technologies. Technological competences require a deep understanding of scientific principles, as well as the ability to generate new knowledge, although they are different from science in that they are usually implicit in experience and skills (Wheelwright and Clark, 1992; Dosi, 1988). In particular, technological competences represent an important potential source of competitive advantage in technologically competitive markets (Tyler, 2001). Only if aligned with customer demand can this potential source become a powerful tool for success.

P4a. Technological competences contribute the lowest to core competences in customer-oriented environments, compared with the other two competences.

Market competences. As one more important element of core competences, market competences are defined as the processes designed to apply the collective knowledge, skills and resources of the firm to the market related needs of the business, which add value to its goods and services so as to meet the competitive demands of customers. Therefore, they are based on a profound understanding of customers' current and future needs, preferences, factors affecting them and knowledge of competitors' possible action (Kohli and Jaworski, 1990). So there are two important elements of market competences in nature: competitor knowledge and customer knowledge and access, which are usually supported mainly by input assets, channel assets, customer assets and market knowledge assets identified by Paul and Peter (1994).

P4b. Marketing competences contribute more than technological competences to core competences in customer-oriented environments.

Superior market competence is characterized by a set of cultural values and beliefs that put customer interests and current and potential customer demands first; that is, it is market-oriented. With such competences in action, the firm can have strong capacity to sense events and trends in its rapidly changing markets ahead of its major competitors, and focus its most intensive efforts on understanding the market and on developing strategies in response to market opportunities or threats. It can anticipate more accurately the response to actions designed to retain or attract customers, improve channel relations or thwart competitors, and act on market information in a timely, coherent manner, which has significant implications for attainment and sustainability of competitive advantage. To help organizations deal with market events and trends, specific internal supporting processes can be developed to harness valuable data from customer surveys and other market research, to learn what buyers want, and to deliver the value they desire (Moller and Anttila, 1987; Slater and Narver, 1994). This may include formal and informal approaches for gathering, processing, communicating and interpreting marketing information, such as data on customer visits, customer complaints, customer-targeting, customer value determination, and competitor offerings. Of these, marketing strategy planning processes and the related value generating processes, such as customer value delivery processes, mass customization processes and integrated marketing processes, used to analyze and leverage market knowledge, are cited as being among the most important (Moller and Anttila, 1987) and as being the most adaptable as market conditions change (Tuominen *et al.*, 1997). Recently, six dimensions of marketing competences were identified: marketing research capabilities, pricing capabilities, product development capabilities, channels/distribution capabilities, promotion capabilities and marketing management/planning capabilities. For each dimension, several items are used to measure effectively.

Integrative competence. Even though unique marketing competences for understanding customers and markets, and technological competences for making innovative use of technological developments are strategically important, not all firms in possession of them achieve above industry average performance (Teece, 1986; Teece *et al.*, 1997). In practice, to compete successfully firms need one more important competence: integrative competence. In fact, it is this competence that helps to achieve the positive interaction among elements of the dynamic competence building and leveraging process, that enhances the strategic alignments and fitness among elements such as different competences, organizational learning, strategic flexibility, turbulent environments and strategic positioning, and finally determines the ultimate results of competition. Given that core competences are complex, the capability to weave the individual strands, both internal and external, into one complex thread, requires a rich pattern of cross discipline communication and learning, which is very important strategically.

Furthermore, as there is no value for customers if marketing competences or technological competences are isolated, it is vital for the firm to integrate both competences to reflect both customer demands and technological trends, and to use new technology to realize innovative services and products. In addition, since internalization of skills and knowledge gained from outside and their integration with internal resources has become central to a resource-based strategy, integrative competences are playing an ever more important role. In turbulent environments, firms must analyze products and services beyond the industry boundary, especially those complementary to current offerings, define or even redefine the targeted customer segmentation, identify attributes whose performance is either beyond or below the standard level, and integrate them together to create new market-space continuously. Integrative competences enable firms to combine the wide-ranging capabilities, information, perspectives and knowledge necessary to develop products or services in the market-space (Grant, 1996). Therefore, they are sometimes also called combinative competences, which often draw on firms' "architectural competence" (Henderson and Cockburn, 1994), organizational routines (Nelson and Winter, 1982) or principles, in order to create, transfer and combine knowledge from within and outside the firms. In addition, integrative competences enable firms to generate new applications of existing knowledge (Kogut and Zander, 1992) and guide the problem-solving strategies that shape the development of new competence (Henderson and Cockburn, 1994). For example, marketing competences are developed when the firm's marketing employees repeatedly apply their knowledge and skills to solving marketing problems, or create unique combinations of intangible and tangible resources. Therefore, integrative competences here have at least four implications:

- (1) the ability of the firm to integrate different technological specialties;
- (2) the ability to combine different functional specialties;
- (3) the ability to exploit synergies across business units or divisions; and
- (4) the ability to integrate the whole dynamic competence building and leveraging process.

P4c. Integrative competences contribute the most to core competences in customer-oriented environments.

However, whichever category of competences they belong to, to sustain those advantages, core competences must add value, must be difficult to replace by substitute processes, be difficult for competitors to imitate and should be immobile across firm boundaries (Barney, 1991; Grant, 1991, 1996). Furthermore, at least four mechanisms-related core competence such as time-compression diseconomies, asset mass efficiencies, asset interconnectedness and causal ambiguity (Dierickx and Cool, 1989) help to impede cheap and rapid asset accumulation and sustain the competitive

advantage resulting from core competences. In addition to quality as a core competence, a capability meets the requirements as follows: It must be integration of skills or technologies, be competitively unique and must contribute to customer perceived value and provides an entry into new markets (Prahalad and Hamel, 1990; Hamel and Heene, 1994).

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4.3 Organizational learning

Organizational learning was addressed by Cyert and March (1963) over 30 years ago as a process by which organizations as collectives learn through interaction with their environments. Members within the organization share information, creating organizational memory in the form of shared beliefs, assumptions and norms, which will guide individual and organizational actions. The ability for organizations to learn is determined by competences relevant to information processing, communication, knowledge transfer, inter-unit coordination, and the ability to develop trusting relationships and negotiation. In fact, it is one of the hallmarks of competence development for business to learn through repetition and doing (Grant, 1991; Prahalad and Hamel, 1990; Sinkula, 1994; Tuominen *et al.*, 1997). As Chaston and Badger (1999) have noted, organizational learning functions as an antecedent of organizational competences. It brings employees and other resources together, firms develop the processes on which competences are built, and employees continuously apply their knowledge and skills to operational or strategic problems so that a deeper knowledge base develops, which will also enhance competences.

Competence building and upgrading can only be achieved by organizational learning. By learning we mean the acquisition, integration and application of new and unique knowledge through experimentation, improvement and innovation by ways of internal activities, such as learning by doing, using, failing and reflecting, and by learning outside in resource markets and product markets from customers, competitors, suppliers, technological sources and other key stakeholders. In practice, not only do firms seek specific information to remain competitive and continue their core competences, but they also learn how to acquire, process, store and retrieve information effectively and efficiently. This enables a firm to determine the information needed to upgrade, redeploy or reconfigure its core competences after careful and continuous environmental scanning and sensing. For example, it has been concluded that competences lie in the embedded knowledge and skills of the firm and are accumulated through the processes of continuous learning (Hamel and Prahalad, 1993), and also that the process of experimentation and improvement is the key to competitive success (Senge and Sterman, 1992). Indeed, given the nature of the cumulative development of competences, their improvement requires continuous and collective learning. Therefore, learning is a process that allows a continuous adaptation of firm-specific competences in the light of

experience and further information (Pavitt, 1990), and can be defined as the way firms build and supplement their knowledge bases in technologies, marketing, products and processes, and develop and improve the use of the broad skills of their workforce (Dodgson, 1991). It is no wonder that many researchers have drawn the same conclusion that, in today's knowledge intensive society, the only ultimate source of competitive advantages for a firm is to learn faster than its competitor. It must gather market intelligence, analyze and disseminate the marketing knowledge developed across departments and work groups, identify technological market development trends and use them to develop appropriate strategies and tactics to combine both market knowledge and sensitive technological knowledge skillfully and timely. However, it is not enough for firms to compete successfully. To succeed, they have to meet three requirements as follows. First, in the long run, enterprises must be able to learn at a rate at least equal to environment change if they are to develop and maintain core competences that have value in the market. Second, the rate of learning within an organization must be at least equal to that of competitors if changes in market performance are to be expected. Third, the success of the learning activities should be addressed by performance measures (Prahalad and Hamel, 1990), which means that learning activities have influential impacts on business competitiveness. Only in this way, can businesses that possess the ability to learn rapidly about changing environments and act timely on them, be best positioned to achieve competitive advantage.

P5. Organizational learning influences positively the core competences of a firm.

Each organization is likely to have its own unique style and ability to learn and different ways of learning, such as adaptive, single-loop learning and generative, double-loop learning. The former is sufficient to motivate tactical adjustments to operations, production and planning. The latter is typically prerequisite to more fundamental strategic shifts in these areas, which is pivotal in that it reflects an organization's capacity to change its "view of the world" by unlearning obsolete perspectives, systems and procedures, and proactively replacing them with approaches that are capable of creating or maintaining competitive advantages (Day, 1991; Dickson, 1996). However, no well-accepted scale of organizational learning has been identified up to now among the limited empirical studies in this field. Huber (1991) describes the following four organizational learning-related constructs: knowledge acquisition, information distribution, information interpretation, and organizational memory[4]. It has been suggested that the learning process includes three basic stages: knowledge acquisition, knowledge sharing and knowledge utilization, for which they have developed a comprehensive model of organizational learning that includes seven learning orientation and ten

facilitating factors. Later, Boydel and Leary (1996) and Chaston and Badger, (1999) operationalize and test this using a short form of the organizational learning modes questionnaire, which consists of implementing, improving and integrating. A 21-item scale of five dimensions: clarity of purpose and mission, leadership commitment and empowerment, experimentation, transfer of knowledge and teamwork and group-problem solving was used. Tomas *et al.* (1997) develop a scale of global organization learning in purchasing, with four dimensions: team orientation, systems orientation, learning orientation and memory orientation. Sinkula (1994) and Baker and Sinkula (1999) measure and test learning orientation using three dimensions: commitment to learning, shared vision and open-mindedness, with 18 items.

4.4 Strategic flexibility

The increasing speed and cost of technological change, the rapid shifting of customer preferences and market upheavals, the discontinuous innovations, the convergence of high-technology industries, and the emergence of new global competitors all promise an increasingly uncertain business environment[5]. These dynamically interactive forces demand organizations to be not only efficient and innovative, but also to be strategically flexible. However, despite increasing recognition of the importance of strategic flexibility as a new competitive advantage, there have, to date, been few influential studies exploring the major dimensions of strategic flexibility, or examining its relationship with business performance or competitiveness.

The term strategic flexibility has been widely used by researchers and practitioners to denote a firm's ability to respond to various demands in dynamic competitive environments. Accordingly, research on strategic flexibility has ranged from limited empirical investigations of the relative flexibility of firms, to managing environment volatilities, to conceptual assessments of the freedom available to managers to do things differently. For example, strategic flexibility has been defined by Aaker and Mascarenhas (1984) as "the ability of the organization to adapt to substantial, uncertain, and fast occurring environmental changes that have a meaningful impact on the organizational performance, which enables firms to manage uncertain and fast-occurring markets effectively". Harrigan (1985) studies the flexibility of alliances and vertically integrated firms and looks at strategic flexibility in terms of a firm's ability to reposition itself in a market, or to change its strategies when its customers cease to be attracted. Carlsson (1989) considers strategic flexibility as one of the three dimensions of flexibility: operational flexibility, tactical flexibility and strategic flexibility; and argues that two aspects of strategic flexibility are particularly important. One is the way in which firms position themselves with respect to future changes in products and the concomitant changes in the manufacturing process, and the other is the attitude towards change and how that is fostered or encumbered by

organizational structure. Evans (1991) studies the strategic flexibility in high technology product markets characterized by “products, manufacturing processes, markets, distribution channels, and competitive boundaries that are in a state of continuous flux”, and points to strategic flexibility as an expedient capability for managing capricious settings. Sanchez (1991, 1993, 1995) sees strategic flexibility as alternative courses of action or strategic options available to the firm for competing in a dynamic market, which can bestow on a firm the ability to respond promptly to market opportunities and changing technologies. He also proposes models for strategic flexibility in product competition. A further study is made of strategic flexibility in the home appliance area, and effective ways of organizing for strategic flexibility is noted. Ybarra and Wiersema (1999) look at strategic flexibility in information technology alliances from a perspective of both transaction cost economics and social exchange theory, and try to find the main determinants of two types of strategic flexibility (exit and modification).

In the studies mentioned above, flexibility is usually hypothesized to have a positive influence on the competitiveness of enterprises in unstable environments. In these environments, business units need to quickly adjust existing operations or strategic orientation to dynamic environmental changes such as frequent demand fluctuation and technological innovation. Strategic flexibility is also expected to increase the effectiveness of both communication and of plans and strategies, which, coupled with adapted product offerings and other aspects of market mix, should enhance firm performance (Miles and Snow, 1978). Furthermore, Das (1995) considers strategic flexibility as key to effective performance. Michael *et al.* (1998) conclude that success in the twenty-first century organization will depend first on building strategic flexibility, which, interacting with core competences, contributes significantly to business competitiveness. However, on the other hand, in stable environment, the impact of flexibility on competitiveness is hypothesized to be negative because business units may incur more costs than benefits by maintaining strategic flexibility.

- P6. Strategic flexibility has significant positive influence on core competences and customer-focused performance, directly or indirectly, in turbulent environments.

Therefore, strategic flexibility is the ability of an organization to respond to changes in the environment in a timely and appropriate manner with due regard to the competitive forces in the marketplace, which will have significant influence on business competitiveness and performance. Das (1995) argues that strategic flexibility needs to be understood in terms of three major dimensions: speed of change, cost of change and degree of change. Speed of change means how quickly the firm can adapt to change in the market, which can be measured by the time required for implementing changes in key elements of the firm's strategy. Cost

efficiency means that the cost incurred by the firm should be less, or at least not greater than, the benefits of the expected increased flexibility, which results in reasonable cost structure and lower overall cost of delivering products when compared with major competitors. The degree of change is another important factor in the assessment of strategic flexibility. Once the firm is committed to a particular degree of flexibility in its strategy, it becomes a constraining element, which implies that strategic flexibility does not mean infinite choices for a firm. Similarly, Sanchez (1995) notes that strategic flexibility can be represented by resource flexibility and coordination flexibility. As for resource flexibility, there are three key influential dimensions: the range of alternative uses, the cost and difficulty of switching from one use of a resource to an alternative use, and the time required in switching to an alternative resource use. On the other hand, coordination flexibility involves three processes as follows:

- (1) defining the firm's product strategies in terms of which products the firm intends to offer and which market segments it will target;
- (2) configuring chains of resources the firm can use in developing, distributing, and marketing its intended products to targeted markets; and
- (3) deploying resources through organizational structures that support the firm's strategies.

Ybarra and Wiersema (1999) identify two types of strategic flexibility and measure them independently in their study of strategic flexibility in information technology alliances:

- (1) Modification flexibility
 - the willingness of the parties to modify the agreement when unexpected situations arise;
 - flexibility in response to requests for changes; and
 - the willingness of the parties to make adjustments in the ongoing relationship to cope with changing circumstances.
- (2) Exit flexibility
 - the probability of the firm to terminate the alliance within the next year; and
 - performance.

More recently, Grewal and Tansuhaj (2001) use the following four items to measure strategic flexibility:

- (1) building excess resources by hedging and sharing investments across business activities;
- (2) a firm's emphasis on deriving benefits from diversity in the environment;

- (3) the importance the firm puts on benefiting from opportunities arising from variability in environments; and
- (4) a firm's emphasis on managing macro environment risk.

4.5 Moderating effects of environment turbulence

Although the key resource-based determinants interact with one another and should have significant influence on customer-focused performance as proposed above, the process to enhance core competences, upgrading organizational learning capability and improve strategic flexibility always means the increment the costs of a firm. Therefore, if environment turbulence moderates the interactive relationship among them, a firm can achieve superior customer-focused performance in a more cost effective manner by seeking the appropriate level of each determinant based on the level of environment turbulence. According to the resource dependence theory, the technological environment is perceived, interpreted and evaluated by human actors in organizations. Managers' perceptions become their reality, which makes environment conditions important to the extent that they are perceived by managers and always results in distinct managerial actions (Hall, 1991; Weick, 1979). It is argued that the basic information-gathering activities required for successful innovation differ in emphasis according to the level of perceived environment uncertainty. In fact, the impact of rapid technological change coupled with radical market changes has become more evident in customer-focused performance improvement process than ever, since it has been widely recognized that successful firms have to reflect both market change and technology change at the same time. As suggested by the resource-based view, various factors external and internal to a firm can neutralize or dissipate a resource's comparative advantage (Barney, 1991; Reed and DeFillippi, 1990). For example, a firm may fail to modify its resources in response to a change in the technological environment. As a result, a capability or resource that was once an asset can become a liability if it is no longer appropriate for a given NPD project. Similarly, Leonard-Barton (1992) contend that core capability in new product development can become core rigidities in the face of changing technological environments. However, although the significant roles of organizational learning, core competences and strategic flexibility in customer-focused performance are escalating, less empirical studies can be found, up to now, to examine the influence environment turbulence on their interactive relationship.

Past research suggests that there are various types of environment turbulence, e.g. technological turbulence, market/consumer turbulence, competitive turbulence, resource turbulence (Clark, 1985; Duncan, 1972; Jauch and Kraft, 1986; Milliken, 1987). In this paper we believe at least two measures of environment turbulence should be utilized and studied, i.e. technological turbulence and market turbulence (Milliken, 1987; Houston, 1986; Kohli and Jaworski, 1990). The former refers to an individual's perception that he/she is

unable to accurately predict or completely understand some aspect of the technological environment (Milliken, 1987). It is obvious that technology is creating new imperatives for the conduct and restructuring of superior customer value delivery processes because new knowledge is applied at a faster rate, greater numbers of new products are being introduced over time, more real-time customer information can be collected, analyzed and applied, the time between innovations is decreasing, and technology fusion is occurring across and within industries. The latter represents changes in the composition of customers and their preferences and competition intensity, which corresponds to elements of the environment turbulence construct (Kohli and Jaworski, 1990). Houston (1986) and Kohli and Jaworski (1990) observe, in the absence of competition an organization performs well even if it has no strong core competences because customers are “stuck” with the organization’s products and services. By contrast, under conditions of high competition, customers have many alternative options to satisfy their needs and wants. To put it more concretely, similar to what has been examined in some studies of the moderating effects of environment turbulence on market orientation-performance relationship (Kohli and Jaworski, 1990), organizations that operate in more turbulent markets are likely to have to modify their strategies, products and services continually according to different levels of environmental turbulence, in order to satisfactorily cater to customers’ changing preferences and competitors’ attacks.

- P7.* Both technological turbulence and market turbulence moderate the relationships among organizational learning, core competences, strategic flexibility and customer-focused performance..

4.6 Moderating effects of strategic orientations

The review of literature suggests the existence of moderating role of strategic orientations. As Walker and Ruekert (1987) argue, strategic orientation performance on particular dimensions and business activities have contingent relationships. Firms choose a strategy orientation to excel in particular dimensions of performance and execute relevant strategies by the most appropriate business activities. Strategic orientation, as a general direction of the firm’s response based on the filtered or distilled environmental information, therefore, can conceivably explain the varying magnitude of relationship between performance measures and a firm’s specific response mechanism (Jennings and Zandbergen, 1995), such as organizational learning, technological competences, marketing competences, integrative competences and strategic flexibility. In fact, the central logic is that implementing a particular strategic orientation is essentially a process of organizational adaptation to the market environment (Miles and Snow, 1978), in which organizational learning, core competences and strategic

flexibility should play a fundamental role. For example, a customer intimacy oriented firm will definitely focus on marketing competences, emphasize activities of learning from targeting customers and lead users, and enhance the capability to respond timely to continual changes of customer demands, which, accordingly, influences the relationships among constructs such as organizational learning, marketing competences, technological competences, integrative competences, strategic flexibility and their impacts on customer focused performance.

- P8. Strategic orientations moderate the relationships among organizational learning, core competences, strategic flexibility and customer-focused performance.

4.7 Methodology of model testing

In order to link the two major parts together, i.e. key determinants and customer-focused performance, and test the propositions mentioned above, data needs to be collected from two kinds of sources respectively in order to build a structural equation model or conduct path analysis, so that all the relationships shown in Figure 3 can be estimated and tested. On the one hand, data from the chosen companies is needed to test the interactive relationships among different key determinants; on the other hand, data from key customers is to be used for testing the interactive relationships among different components of customer-focused performance. However, the most important here is that all the customers in this study should be customers of chosen companies which data concerning specific firms derives from in order to link and test the relationships among different determinants and components of customer-focused performance. For firm sample, it is better to ensure that both manufacturing companies and service firms are chosen randomly, and that one president, chairman or vice president from each selected firm is asked to complete the specifically designed survey instrument for the firm, in order to compare the relationship difference between the two major groups. For the customer sample, more than 20 main customers per firm can be selected from the firm's key customer list, based on certain criteria, and asked to complete the other specially designed survey instrument in order to collect data on customer-based performance.

These data can then be processed and analyzed step by step with the data analysis to proceed according to a two-step approach. First, the measurement model is estimated. In this study, the measurement model consists of ten latent factors, described earlier. An assessment of the reliability, discriminant validity and convergent validity of these scales is included in the model assessment, especially for those newly developed scales such as core competences and strategic flexibility. Second, a structural equation model representing a series of path relationships linking the four customer-based performance constructs

and their six key determinant constructs, is specified. The path coefficients among those latent variables are then estimated in this analysis using AMOS, LISREL or PLS.

Customer-
focused
performance

5. Implications and conclusions

In this paper, we have proposed that today's turbulent environment requires firms to give highest priority to customer-focused performance, with the actual customer perspective as the focus, so that interests of other stakeholders can also be met. Despite a close relationship, there is a research gap between what the resource-based view advocates, such as the sources of sustainable competitive advantages, heterogeneous resources and core competences, and what the service management view emphasizes, such as customer perceived quality, customer satisfaction and customer value. By bridging the gap and integrating these views, this study seeks to identify and recognize the closely intertwined competence building and leveraging process, which consists of organizational learning, strategic flexibility and core competences, which determines customer-focused performance and further sustainable competitive advantages in turbulent environments, and also assists in realizing superior performance. In addition, understanding their special roles and contributions in the dynamic process and with achieving superior internal fit is also beneficial to both researchers and managers.

The perspectives presented in this paper also highlight the need for thorough exploration of how organizational learning, strategic flexibility, core competences and related strategic positioning achieve superior internal fit and determine customer-focused performance. For example, what is the unique contribution and priority of each broad type of competences, especially for firms with different environments, knowledge bases, or strategic positioning? Are these conditions all necessary for firms to achieve superior customer-focused performance and sustainable competitive advantages? If not, which one is indispensable? Should marketing competences always be seen as the most important? With the strong trend towards outsourcing, alliances and networks, greater numbers of firms are focusing on the development of one type of competence, and integrating this with firms that have complementary competences (Hagel and Singer, 1999) by acquiring competences and knowledge from outside. But how are firms to decide which type of competences to choose and how to integrate them effectively and efficiently? What are the differences between integrating newly developed competences and combining new competences from beyond the firm's boundary? Additional research is needed on how to create infrastructure and systems that reflect new organizational forms or rapid information technology and reward the management of strategic flexibility, organizational learning and competence building and leveraging. In this framework, organizational learning, strategic flexibility and core competences are identified as central to achieving superior

customer-focused performance and sustainable competitive advantages because these three form the basis for the development of new products or services, with superior attributes performance going beyond threshold level and reflecting what targeted customers value. However, other complementary capabilities, such as those in financial management or human resources, may be also necessary because they support or enable the firm to leverage or build its marketing competences, technological competences, integrative competences, organizational learning activities and strategic flexibility (Argyris, 1990; Boydell and Leary, 1996; Rucci *et al.* (1998). While most of these factors can be assigned to integrative competences and organizational learning capabilities, this will make them too broad and complex to understand thoroughly.

Finally, challenges associated with exploring the wide range of research questions and managerial challenges that accompany resource-based views, are also significant. Measurement issues abound for both researchers and managers, although much effort has been given to scales development. Managers have to identify and understand strategic resources and the underlying knowledge in a firm if they are to make decisions that lead to superior customer-focused performance and sustainable competitive advantages. Given that core competences, organizational learning capabilities and strategic flexibility are all soft assets that do not appear on the balance sheet and are always dynamic, this is easier in theory than in practice. Clearly, significant studies are necessary to better describe and measure marketing competences, technological competences, integrative competences, organizational learning and strategic flexibility. Furthermore, the dependent variable in our model, customer-focused performance, also raises measurement problems. What should be included besides the three interrelated components? What reasonable weights should be given respectively? Will the intangible and dynamic nature of customer-focused performance, competences, organizational learning and strategic flexibility call into question the current practices to assess them, especially if the firm's environment is complex, unpredictable and dynamic. In Table I we offer some possibilities that may spur the development of more meaningful measures of these constructs.

The critical nature of the research subject, crossing the boundaries of multiple academic disciplines such as technology and marketing, innovation and change management, strategic management, epistemology and psychology, necessitates a rich and diverse research method for empirical testing. A series of detailed empirical studies may provide other fertile contexts in which to test the dynamic relationships we propose and may also offer constructive insights into processes which high performance organizations employ to enhance and upgrade their dynamic competences and strategic flexibility. In this paper we have integrated findings from a variety of

Sources	Construct	Items or scales
Barney, 1986, 1991; Hamel and Prahalad, 1989, 1992; Leonard-Barton, 1992; Bogner and Thomas, 1994; Grant, 1991	Core competences	<ol style="list-style-type: none"> 1. Our competences can provide superior customer value 2. We have strong capability to support multi-market entry 3. We have strong capability to respond to customers' demand 4. Our competences are difficult to be imitated, copied, mobiled or transferred
Grewal and Tansuhaj, 2001; Ybarra and Wiersema, 1999; Sanchez, 1993, 1995; Das, 1995	Strategic flexibility	<ol style="list-style-type: none"> 1. Capability to build excess resources by hedging and sharing investments across business activities 2. Capability to derive benefits from diversity in the environment 3. Capability to redirect the strategic positioning quickly and effectively 4. Capability to redeploy strategic resources 5. Capability to respond to environmental changes such as customers' demands and competitors' actions
Buzzell and Gale, 1987; Lapierre, 2000; Miyazaki, 1994; Dosi, 1984, 1988; Tyler, 2001	Technology competences	<ol style="list-style-type: none"> 1. The relative level of R&D investment when compared with our largest competitor 2. The technological strength when compared with our largest competitor 3. Employees' specialized expertise in your activity sector 4. The way employees use new technology to generate solutions 5. Employees' ability to provide system solution in response to your problems
Han <i>et al.</i> , 1998	Integrative competences	<ol style="list-style-type: none"> 1. We benefit less from the new offerings in the past three years 2. We rarely communicate and cooperate for new products/service design 3. We rarely share information on customers and competitors' products/services and strategies 4. We rarely cooperate in evaluating and refining new product/service 5. Technological knowledge and marketing knowledge are never integrated in new product development 6. There is no functional integration in strategy

(continued)

Table I.
Literature sources
for different
constructs and their
measurements or
scales proposed

Sources	Construct	Items or scales
Jaworski and Kohli, 1993; Narver and Slater, 1990	Market-driven competences	1. Customer knowledge process our knowledge of customer needs is scant we rarely use research procedures such as personal interviews, surveys, focus groups to gather customer information we casually process and analyze customer information we seldom use customers to test and evaluate new products/services customer information is barely integrated in new product or service design 2. Competitor knowledge process we rarely search and collect information about our competitors, and their product/services we causally analyze information about competitors information about competitors' products/services is scarcely integrated into our product/service design our knowledge about competitors' strength and weakness is scarce
McDougall and Levesque, 2000; Patterson <i>et al.</i> , 1997; Taylor and Baker, 1994; Gotlieb <i>et al.</i> , 1994; Dabholkar, 1995, 2000	Customer satisfaction	1. The offerings always meet customers' expectation 2. The customer is extremely satisfied with the offerings 3. The customer is delighted with the offerings 4. Taking the experience of the customers with other companies, he/she is satisfied with our offerings and us
Sujan <i>et al.</i> , 1994; Sinkula, 1994, Tuominen <i>et al.</i> , 1997; Huber, 1991; Boydell and Leary, 1996; Tomas <i>et al.</i> , 1997; Sinkula, 1994	Organizational learning	1. Continuous learning of market and technological trends and change 2. Benchmarking experience 3. Alliance or network experience 4. Knowledge sharing practice 5. Knowledge acquisition practice 6. Learning orientation 7. Organization memory
Parasuraman <i>et al.</i> , 1985, 1990; Cronin and Taylor, 1992; Brown <i>et al.</i> , 1993; Oliver, 1993; Teas, 1993; Spreng and Olshavsky, 1992; Dabholkar, 2000; Dabholkar <i>et al.</i> , 1996; Spreng and Mackoy, 1996; Taylor and Baker, 1994	Service quality	Modified SERVQUAL/SERVPERF

(continued)

Table I.

Table I.

Sources	Construct	Items or scales
McDougall and Levesque, 2000; Patterson <i>et al.</i> , 1997; Lapierre, 2000	Customer value	<ol style="list-style-type: none"> 1. The provider offered good value for money 2. Considering the time, efforts, energy, and other non-monetary factors, overall the customer believe he/she received fair value 3. Taking what our competitors' product or service the customer has received, he/she believes what we offer is worth
Ruyter <i>et al.</i> 1997; Barney, 1991; Chang <i>et al.</i> , 1994; Cronin <i>et al.</i> , 1997; Lapierre, 2000	Customer perceived sacrifice	<ol style="list-style-type: none"> 1. The customer has to spend more time and energy to get or use the offerings 2. The customer has to take great effort to get and use the offerings 3. The customer feels the price is too expensive
Weick, 1979; Daft, 1981; Milliken, 1987; Houston, 1986; Jauch and Kraft, 1986; Miller 1987; Clark, 1985; Hall, 1991; Kohl and Jaworski, 1990	Environment turbulence	<ol style="list-style-type: none"> 1. Extent of market turbulence in the environment 2. Predictability of market demand and consumer tastes 3. Activities of major competitors and competition intensity 4. Speed and pace of the change of technologies 5. Predictability of technological changes 6. Impact of new technology on operations and competition
Miles and Snow, 1978; Jennings and Zandbergen, 1995; Walker and Ruekert, 1987; Hambrick, 1982; Jemison, 1984	Strategic orientations	<ol style="list-style-type: none"> 1. Customer intimacy orientation 2. Competitor orientation 3. Product leadership 4. Operational excellence

disciplines to clarify and suggest relationships that may provoke thought and add value to studies concerning learning, knowledge management, competence-based competition and performance. We hope that the research presented here forms a basis for improved understanding of customer-focused performance and of related challenges faced by businesses and managers in the turbulent environment to come.

Notes

1. In fact, all the attributes of the performance of products or services have to meet the threshold level in competition to survive. See Bogner, W.C. and Thomas, H. (1996), From skills to competences: the "play-out" of resource bundles across firms, *In Dynamics of Competence-Based Competition: Theory and Practice in the new Strategic Management*, Sanchez, R., Heene, A. and Thomas, H. (Eds), John Wiley & Sons, New York, NY, pp. 101-117.
2. Operational excellence implicates companies excel at competitive pricing, product and service quality, and on-time delivery; customer intimacy implicates companies excel at

offering personalized service to customers and at building long-term relations with them; product leadership implicates companies excel at creating unique products that push the envelope.

3. Time-compression diseconomies refer to the extra cost associated with accumulating the required assets under time pressure. Asset mass efficiencies mean that some types of assets are more costly to accumulate when the firm's existing stock of that asset is small. Asset interconnectedness means that the lack of complementary assets can prevent a firm from accumulating an asset that it needs to compete successfully. Causal ambiguity refers to the uncertainty associated with pinpointing which specific factors or processes are required to accumulate a required asset.
4. Among them, knowledge acquisition is the process by which knowledge is obtained; information distribution is the process by which information from different sources is shared and thereby leads to new information or understanding; information interpretation is the process by which distributed information is given one or more commonly understood interpretations; organizational memory is the means by which knowledge is stored for future use.
5. Those innovations result from revolutionary breakthrough rather than incremental improvements and are characterized by making existing technologies, products or practices outdated.

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