3

TOTAL QUALITY MANAGEMENT

3.1 INTRODUCTION

Total Quality Management (TQM) is a new management philosophy adopted throughout the world, upon which strategies are being formulated to improve competitiveness of business in terms of their ability to better satisfy needs and to significantly improve quality and productivity.

Although TQM approaches vary from company to company, there are a set of core principles which are common to every organization for Total Quality activities:

1. Customer-driven quality
2. Top management leadership
3. Process Focus
4. Design quality and prevention
5. Theme of continuous improvement
6. Organization-wide involvement
7. Fundamental paradigm shift
8. Management by fact
9. Long-range outlook
10. Partnership development

The concept of customer-driven quality means meeting or exceeding customer requirements. By focusing on the customer requirements, managers view quality as a means of achieving competitive advantage by providing value to customers.

TQM is an organization renewal process that requires changes in systems, strategy and culture. Changes require top management leadership and commitment.

Focusing on processes as a route to business improvement can reduce cost, improve quality, cycle time, and flexibility which contribute to improving customer value.

The best way to improve quality is to put quality at the design stage determining the right things right at the first time. Quality of design should cover products and services, production and operations, and resources and supplies.

The process of continuous improvement is driven by the Plan, Do, Check and Act (PDCA) cycle. This is in essence the fundamental learning process that is applied throughout the TQM approach.

TQM stresses the importance of quality in every aspects of an organization. The word "total" means everybody, every function, every process and every activity must get involved. In the broadest sense, quality is anything that can be improved.

TQM requires a fundamental paradigm shift, which involves the shift of the whole field of management. Paradigm shift is not just the shift of the methodology; it is a total shift in philosophy, approach, concepts, culture and shared values.

TQM is a data-driven approach to quality improvement. Management by fact requires good systems for acquiring, analyzing, and using information to understand the requirements for quality excellence. A total performance measurement system should be set up which must be linked with the customer values, in terms of quality, cost, cycle time and flexibility.

TQM is a long-range effort, supported by top management, to improve an organization's systems and processes through effective management of organizational culture. Long-term constancy of purpose for continuous improvement and innovation is an obligation that management should accept as the foundation of TQM. Partnering for mutual benefits is fundamental to TQM. Those who work together may be the customers, fellow employees, suppliers and society at large. Business firms must develop a long-term partnership with the stakeholders.

3.2 TOTAL BUSINESS PROFILE

TQM is a new management philosophy. It is a philosophy of managing processes and activities, not symptoms such as costs. It looks at every business as a series of processes and activities. Furthermore, a customer's activities consume the company's activities. The efficiency with which the company consumes resources is critical to its competitiveness.

Business is no longer defined in terms of products and markets, but in terms of activities performed. The company can add or subtract activities, change the frequency of activities and eliminate non-value-added activities. For over a century, most companies have sought to improve performance by reducing costs. This focus induces cost-myopic behaviors that ultimately lead to poor business performance.

An organization can be viewed as a system of interrelated, interdependent processes, each of which contributed to total organizational functioning and to the achievement of its goals. There are three kinds of processes within an organization: core business processes, sub-processes and micro-processes (activities). The core business processes of an organization usually include:

- Executive process
- Support process
- Marketing process
- Design process
- Operations process
- After-sales support process

Any core business can be divided into sub-processes. For example, the executive process includes:

- Strategy formulation
- Planning and building
- Performance measurement
- Resource allocation

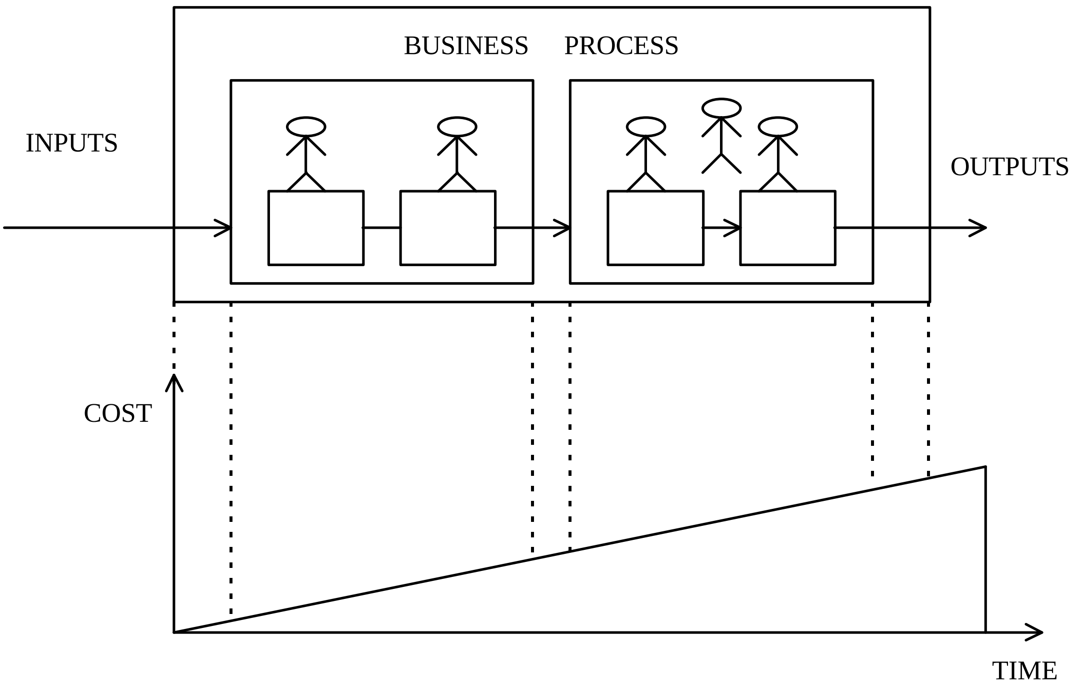
- Human resource planning
- Infrastructure building
- Stakeholder communications

Each sub-process can be made up of a number of micro-processes (activities), which have clearly defined input and events, with one easily recognized principal output or result. In order to improve sub-process, we have to identify the cause and effect of all the micro-processes related to the sub-processes. Every process can be mapped and analyzed, and its cost and time dimensions charted on a Cost/Time Profile. (**Exhibit 3-1**) shows a simple example.

At this simple model, vertical lines on the profile represent purchased materials, services, information, or technology. Horizontal lines are waiting times. Diagonal lines represent work-dollars per hour of cost added over time. The slope of the line depends on workers' pay rates and on the duration of the work. At the top of the diagram, a process consists of people receiving inputs, adding value, and delivery outputs. The profile, as shown in the bottom describes those activities in the context of the total elapsed time (cycle time) required to perform one iteration of the process. Reducing waiting times - which can approach 95% of total cycle time - offers the opportunity for improvement efforts.

The objective in improving a process is to drive quality toward 100% and cycle time toward zero. In our view, constant reaching for continuous improvement may be achieved through little steps (increments) and big steps (innovations). The cycle of quality improvement and innovation becomes a continuous improvement process.

Exhibit 3-1 : Cost/Time Profile of a Process



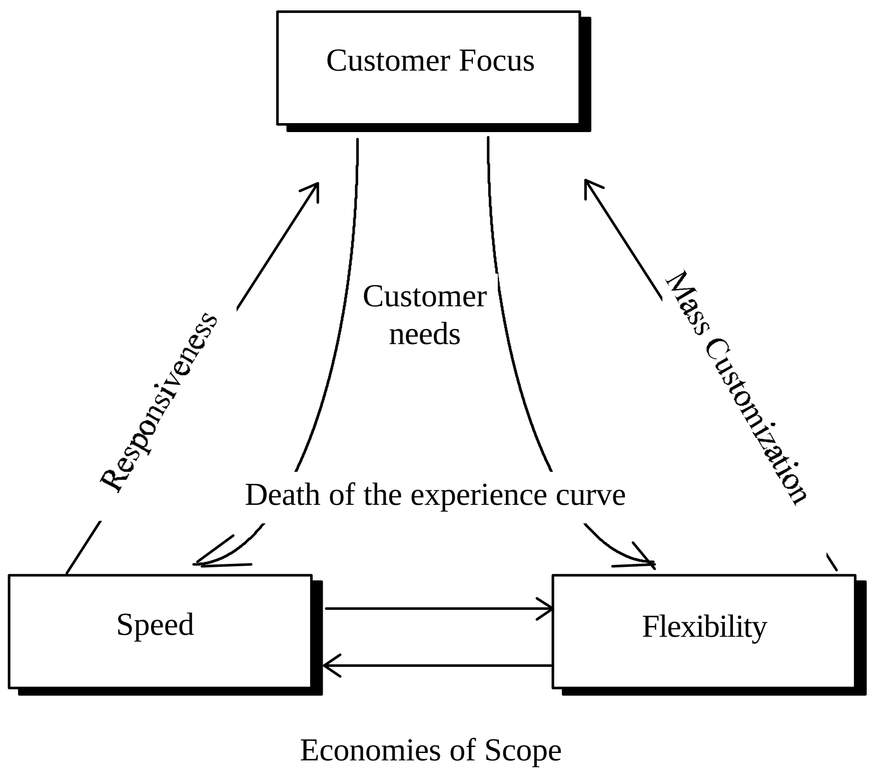
Business process re-engineering (BPR) represents a radical change in the form of related customer-oriented business processes, to achieve better performance in quality, cost, cycle time and flexibility. It represents a breakthrough to improve process performance. As we can continue innovating after quality improvement (little steps), virtually without limit, we can shrink the Cost / Time Profile.

Customer value, on the other hand, relates revenue to customer needs. Customer value provides a company with more buying loyalty and the ability to charge higher prices. To support the move to customer value, companies have to accelerate their quality improvement efforts. Simultaneously, companies will have to increase their "speed" and "flexibility". (**Exhibit 3-2**) shows the basis of competitive advantage in the 1990s.

Time-based competitive capabilities have been increasing in importance after quality. The time it takes to satisfy customer needs is critical to raising customer value. Shortening the time from product design to manufacture will change the basis of competitiveness. The programmed time reductions will have a significant favorable input on financial performance.

Flexibility is the ability to produce products to meet the customer needs today – no more and no less. This will ensure low inventories and high service levels. Flexibility of this kind requires small lot sizes, short cycle times, and the ability to quickly change production mix and volumes.

Exhibit 3-2 : The Basis of Competitive Advantage in the 1990s



3.3 THE BALDRIGE APPROACH TO QUALITY

In 1987, the United states established the Malcolm Baldrige National Quality Award to promote quality awareness, recognize quality achievements of American companies, and publicize successful quality strategies.

The award criteria consist of seven measures. Each of those seven measures carries a certain number of award points, the total of which adds to 1,000 points. The 1996 Award criteria are as follows (**Exhibit 3-3**) :

1. Leadership (90 points)
2. Information and Analysis (75 points)
3. Strategic Planning (55 points)
4. Human Resource Development and Management (140 points)
5. Process Management (140 points)
6. Business Results (250 points)
7. Customer Focus and Satisfaction (250 points)

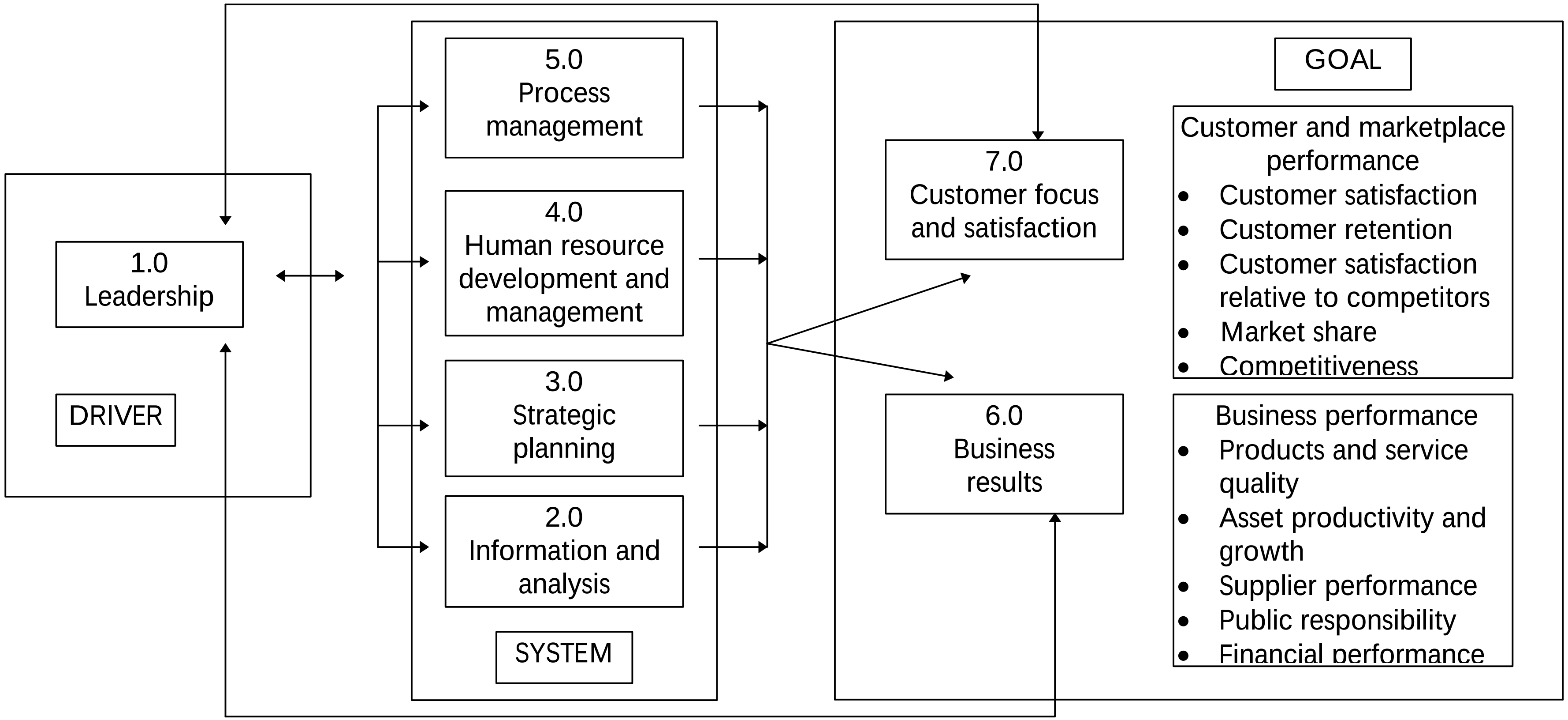
The Baldrige Award criteria are directed toward dual results-oriented goals: "To project key requirements for delivering ever-improving value to customers while at the same time maximizing the overall productivity and effectiveness of the delivering organization." [9]

Of these seven measures, Customer Focus and Satisfaction get 250 points. The 250 points are further broken down into:

1. Customer and Market Knowledge (30 points)
2. Customers Relationship Management (30 points)
3. Customer Satisfaction Determination (30 points)
4. Customer Satisfaction Results (160 points)

[9] The 1992 Award Criteria, published by the National Institute of standards and Technology.

Exhibit 3-3 : The Baldrige Model : Dynamic Relationships in the Award Criteria Framework. (The 1996 Award Criteria : The Malcolm Baldrige Quality Award.)



Baldrige category 7.0, **Customer Focus and Satisfaction**, examines a company's relationships with its customers, its knowledge of the customers' requirements and the key quality factors that determine its competitiveness. These are the questions any effective customer satisfaction system must answer:

Item 7.1: How do you manage your relationships with your customers, including determining customer requirements, defining and communicating service standards, handling complaints, and choosing and supporting customer-contact employees?

Item 7.2: What commitments do you make to your customers to promote confidence in your products, services, and relationships?

Item 7.3: How do you determine customer satisfaction?

Item 7.4: How satisfied are your customers?

Item 7.5: How do your customer satisfaction results compare with those of your competitors?

Item 7.6: How do you determine the future requirements and expectations of your customers?

3.4 MANAGING CUSTOMER RELATIONSHIP

Solectron Corporation, the 1991 Award Winner, considers customer relationship is one factor that has helped to gain its competitive edge. Here are some of the techniques it uses:

1. Carry out weekly customer satisfaction polls. Every single customer is asked to rate the satisfaction in terms of :

- Quality: How good was the quality of the product that we sent you?
- Delivery: Was our delivery on time? Did the product arrive in good shape?
- Communication: Are we returning your phone calls? Are we paying attention to your needs?
- Service: How good are we at meeting your needs? Are you happy with our service?

2. Give customers feedback every week.
3. Provide customer support.

   The customers are supported by two teams :

   - Customer Focus Teams: To prevent potential problems and to identify ways to improve process yields.
   - Project-Planning Teams: To work with customers in planning, scheduling, and defining material requirements to ensure customer on-time delivery.

4. Set up customized centers for specific customers.

   The assembly operations at Solectron are designed for specific customers' products, so the same people work on the same products over time. If a customer has a large amount of work, separate division will be created.

In its Baldrige application, **Xerox** identified several sources of information about customer requirements, including :

- Data that detail the needs for different market segments
- The company's customer satisfaction measurement system

(CSMS)

- Information collected at various points in the product delivery process
- Competitive benchmarking
- Product user groups
- Data reflected by the sales, service, and administration personnel who have daily contact with Xerox customers

Each month Xerox mails 55,000 surveys to customers, asking them to rate Xerox equipment, sales, service, and customer administration performance. Between 20,000 and 30,000 Xerox copiers worldwide have microprocessors connected to phone lines that automatically report diagnostic status and problems directly to the Xerox service offices. The microprocessors also tell Xerox in real time how their copiers are being used, reporting such things as whether volumes are increasing or decreasing and the frequency of use of features, such as enlarging or two-sided copying. The data collected by the copiers becomes an integral part of Xerox's customer satisfaction process.

Xerox customers rate the professionalism of the company's service personnel at 99 percent - the same rating as they give sales telephone follow-up. Telephone waiting time was reduced by 28 percent in three years down to 16 percent, better than the industry standard. Refunds for sales reversals dropped 29 percent, and billing transaction quality improved 35 percent.

3.5 COMMITMENTS TO CUSTOMERS

Baldrige item 7.2 looks at the commitments to customers regarding products and services, which might include guarantees and product warranties. Embedded in the item is a direct connection with the product and service quality, showing ways how improvements in the quality of products and services over the past three years have been translated into strong commitments. The types of commitments the company makes to promote trust and confidence in its products, services, and relationship are crucial to avoid gaps between customers' expectations and delivery.

Zytec empowers every employee to spend up to $1,000 without approval to service a customer. Cross-functional teams work closely with customers at four key stages in the design and development of new products :

- Pre-design initiation
- Design initiation
- Prototype delivery and testing
- Pre-production certification

Zytec relies on 18 different processes to gather data and information from and about customers. Based on the surveys and customer input, Zytec identified product quality, product reliability, and on-time delivery as the vital few features its customers value most.

All employees at Zytec receive quality-related training in analytical and problem-solving methods. To encourage employees to further improve their job skills and to gain more flexibility after basic training, Zytec has initiated its Multi-Functional Employee Program (MFE), through which employees are rewarded for the number of job skills they acquire.

3.6 MEASURING CUSTOMER SATISFACTION

Baldrige item 7.3, 7.4 and 7.5 examine how to measure customer satisfaction and what those measurements will show. Total customer service contributes to total customer satisfaction. Customer service as defined by the Baldrige criteria means establishing service standards based on customer expectations, empowering employees to provide quality service, seeing complaints as opportunities to improve service, and making commitments that reflect the quality of products and services.

To spur progress toward its ultimate goal of total customer satisfaction, **Federal Express** replaced its old measure of quality performance - percent of on-time deliveries - with an index that comprehensively describes how its performance is viewed by its customers.

Federal Express established the Service Quality Indicators (SQI) to reflect the customers' view of the company's performance by placing greater weight on SQI categories that have the greatest impact on the customers' perception of service received. The SQI is based on the following 12 service component :

1. Wrong day, late delivery
2. Right day, late delivery
3. Invoice adjustments
4. Trace requests
5. Lost package
6. Damaged packages
7. Overgoods (lost-and-found items)
8. Missed pickups
9. Complaints reopened
10. Abandoned calls
11. Missing proof of delivery
12. International

The number of average daily failure points for each component is calculated by multiplying the number of daily occurrences for that component by its assigned importance weight. The SQI is the sum of the average daily failure points for all 12 components and is tracked and reported on a weekly basis, with monthly summaries. The SQI measurements are directly linked to the corporate planning process, which begins with the CEO and COO and an executive planning committee. Individual performance objectives are established and monitored. Executive bonuses rest on the performance of the whole corporation in meeting performance improvement goals.

3.7 ANTICIPATING CUSTOMER EXPECTATIONS

Meeting customers' requirements will no longer be enough to sustain competitive advantage of a company. Customers requirements may change due to technological, competitive, societal, economic, and demographic factors. The way to sustain long-term competitive advantage is to **anticipate** future customer requirements and expectations, a process described for Baldrige item 7.6.

The company must project how the improvement process considers new market opportunities and extension of the time horizon for the determination of customer requirements and expectations. In order to project future customer requirements and expectations, a company must build long-term partnerships with its customers.

Partnership requires a continuous communication effort to sustain the new relationship, because the company is likely to be dealing on many different levels. Partnership is a long-term relationship, so it is important to understand the customer's changing requirements. This can be achieved by working at a consultative level with the customers. It is also important to encourage feedback on the quality of products and service provided.

Focusing on future customer requirements, customer segments, and customers of competitors encourages companies to think in terms of attributes and, hence, innovative and creative ways to serve customer needs.

Inter-organizational partnerships are becoming increasingly common to comprehend fully the complexity of the products and services required by the customers. Cooperation between companies is one way to help assure survival, and it is one of the most striking benefits of the Baldrige process, according to Joseph E. Malandrakis, division vice president of Perkin-Elmer Corporation. "We want to share what we learned through the Baldrige process with other companies," he said. "At one time, companies wouldn't share information. But the Baldrige has helped in the communication arena, where firms like Xerox, Motorola, and Perkin-Elmer are now talking to each other on a complementary type basis and sharing ideas."

3.8 A CUSTOMER-DRIVEN ORGANIZATION

A company is unlikely to deliver quality products or services to meet the customer needs in the long run, unless it transforms the traditional organization structure to a customer-driven organization design. It means that the organization should be re-designed, based on the TQM principles. The principles of re-designing an organization into a customer-driven organization are as follows :

1. Designing the organization to be in alignment with customer values
2. Ensuring the development of the organization as a learning system
3. Simultaneous, continuous emphasis on quality, productivity, customer needs and innovation
4. Emphasizing on flexible, adaptive response
5. Emphasizing on best design of cross-functional teams and ad hoc project teams to perform a given task

6. Keeping organization structure as flat as possible with blurred boundaries so as to meet the customer needs faster

7. Building a lean organization emphasizing added value

8. Building a customer-driven quality system where the understanding, ownership and development is vested in all concerned

9. Developing a team-based structure

10. Establishing partnerships with all the stakeholders, even with the competitors in some cases

The **transition** to a customer-driven organization is a considerable challenge for the top management. A customer-driven organization bears the following characteristics :

- A high commitment to customer-driven quality and strive for excellence in everything it does.

- A value system that focuses on total customer satisfaction.

- A focus on continuous improvement and innovation in all the business processes.

- A focus on continuous training and education for all its employees towards customer-driven quality.

- To understand what is a **customer-driven** organization, we can use the McKensey's "Seven S" framework to illustrate. In the model, there are seven components of an organization: (1) Strategy, (2) Structure, (3) Systems, (4) Skills, (5) Style, (6) Staff, and (7) Shared Values.

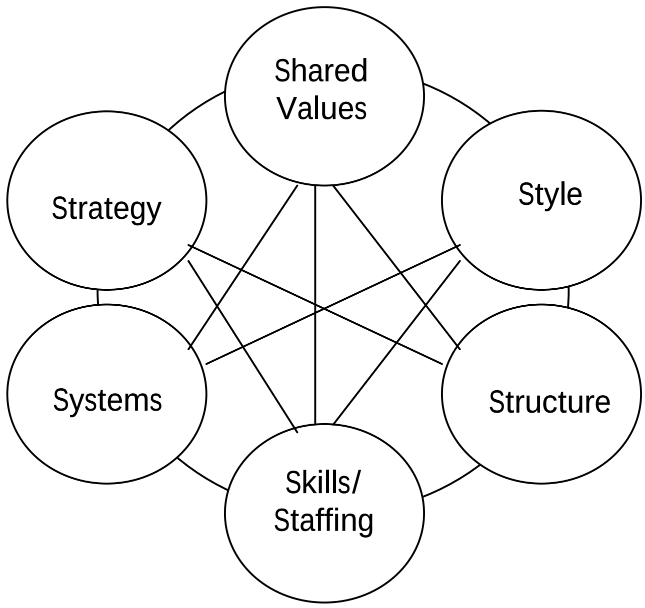
(**Exhibit 3-4**) shows examples of aspects of these seven components that can be important in the transition to a customer-driven organization.

Exhibit 3-4 : Developing a Customer-Driven Organization

Shared Value
- Customer-driven quality
- Prevention
- Continuous improvement
- Partnership

Strategy
- Customer value strategy
- Long-range focus
- Partnership development with all stakeholders

Style
- Leadership for quality
- Commitment and visibility
- Open communication
- Management by factkeholders



Systems
- Customer-driven system
- Total marketing communicatio n system
- Activity-based costing system

Structure
- Flat Structure
- Team-based structure
- Simple structure based on market/ geography

Skills/Staffing
- Staff development programs
- Performance appraisal based on non-financial measures
- Quality improvement skills
- Customer interactive skills
- Leadership skills

3.8.1. STRATEGY

Traditionally, the sources of competitive advantage are on the economies of scale, economies of learning (learning curve effect), invocation, low factor cost and low cost of capital. Since the late 80s, sources of competitive advantage have changed. Now, companies seek to deliver **total customer value** better than anyone else. All business strategies are customer-driven. The sources of competitive advantage are as follows :

- Quality
- Cost efficiency
- Speed
- Information
- Flexibility
- Logistics
- Market acuity
- Customer focus

In order to deliver **superior** customer **value**, companies have to deliver products or services with high quality at low cost, as soon as possible, and with as much variety as possible. This can be regarded as the "Customer Value Strategy". The ways to achieve these goals are as follows :

- Dedication to quality
- Process innovations
- Product innovations
- System innovations
- Leverage through organizational expertise and image

To implement a Customer Value Strategy, a company must re-define the business scope and identify the strategic intent for the future state of business. With the focus on customer value, the basic questions are:

- For what kind of customer needs do we take responsibility?
- How can we provide best value to satisfy those need?

- What can we expect in return?

Given an organization in a **complex environment**, the strategic management process should include the following activities:

1. Defining the business in terms of management vision, philosophy, values, and goals for meeting specified customer needs.
2. Assessing external opportunities and threats to improving customer value (OT-Analysis).
3. Assessing internal value capabilities, resourcefulness, and weaknesses (SW-Analysis).
4. Defining the key problems and strategic issues from the environmental analyses.
5. Identifying strategic alternatives in terms of long-term objectives and broad strategy.
6. Choosing one of strategic alternatives.
7. Developing annual objectives, allocating resources, and implementing short-term goals.
8. Monitoring and improving customer value and value-delivery systems.

Having defined the new business scope in terms of vision, philosophy, values and goals, management must raise and answer the following questions :

1. Is the vision, mission, values and goals clearly stated and understood by all employees?
2. Is the style of management in line with it?
3. Are the products, pricing policies, strategies, and all activities of

the company supporting and implementing the vision?

4. Are there practices anywhere in the operation that are inconsistent with the vision as stated?

5. Are all communications to the customers, such as advertising, and in-store promotions, synchronized to implement the vision?

In a company, where there is substantial complexity in products, markets, or the **sales** and **distribution** channels employed, a charter statement must be formulated. A charter statement would include :

- A statement of the future and intent of the company and of the vision proposed for it.
- An outline of the long-term objectives and strategies for meeting customer needs.
- A delineation of the scope of the business, with each market segment defined in terms of activities, products and markets.
- A definition of important continuing relationships with the stakeholders.
- A commitment to customer value in terms of quality, time and flexibility.

3.8.2. STYLE

To install a customer-driven quality concept in a traditional organization requires a **change** in **management style**. To change an organization's character, senior managers must appreciate the following styles of management :

- Eliminate management by fear, management by numerical quotas and management by control.

- Institute leadership by providing a certain capability that inspires people to move forward.
- Build relationships with all the stakeholders.
- Empower people who own the processes to make sound decisions.
- Commit resources and training to improve the skills of employees.
- Work as an example to quality improvement activities.
- Facilitate open communication between all functional groups and marketing staff.

(**Exhibit 3-5**) compares the traditional versus the emerging management attribute / style.

3.8.3. STRUCTURE

Organizational structure is the arrangement of tasks, roles, authority and responsibility through which a firm performs its work. The purpose of the structure is to support the firm's behavior. In examining a structure suitable for a customer-driven organization, we must raise and ask the following questions :

- Is the existing structure appropriate to the needs of an organization?
- Does it support the mission and strategy?
- Does it provide the most logical and effective grouping of functions?
- Is there a structure that obtains the best out of the people in the organization?

Exhibit 3-5 : Traditional Versus Emerging Management Attribute/style

	Traditional Attribute / Style	Emerging Attribute / Style
1. Style of Communication	Writing	Speaking
2. Behavior	Cautious Harmonious	Aggressive Confrontational
3. Assign Responsibility	To System	To Individual / Terms
4. Approach to Decentralization	Small Units Defined as P & L Centers	Integrated Units Defined as Processes
5. Relies On	Reports Committees	Keydata Employee Feedback
6. Belief in Planning	Unlimited Forecasting	Limited in Turn with Market
7. Attitude to Uncertainty	Avoid	Accept
8. Attitude to Change	Control	Accept

In designing a customer-driven organizational structure, we must consider the following factors :

- Kind of industry
- Size of organization
- Impact of technology

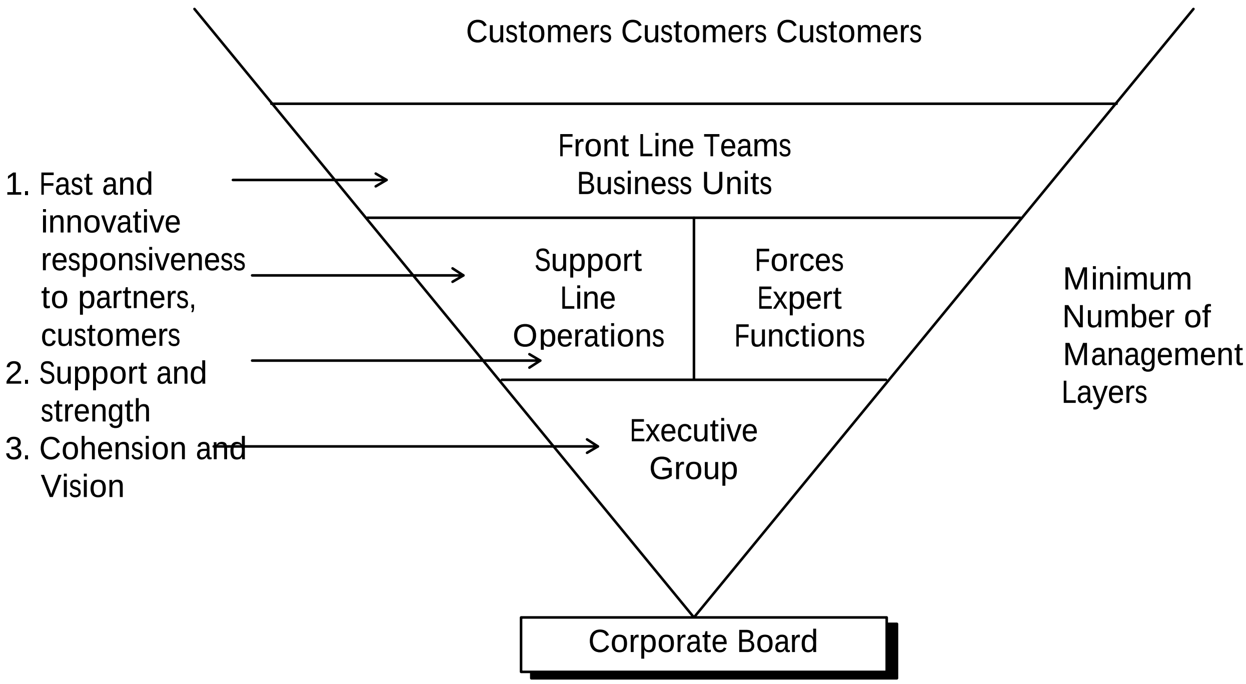
- History and ownership
- Customers and markets
- System and processes
- People and responsibility
- Stage of development
- Performance measures

The **criteria** of designing a customer-driven organization, are as follows :

1. Integration of all activities across the team to ensure conformity with corporate strategy.
2. Providing for rapid and effective decision-making at the point closest to the customer.
3. Providing effective communication between different functions.
4. Focusing attention on processes.
5. Souring effective employee relations.
6. Encouraging and development of leadership skills.
7. Keeping the layers of management to a minimum (not more than five).

(**Exhibit 3-6**) shows an example of a customer-driven organizational structure. The basic characteristic of this structure is the inverted pyramid of a traditional organizational structure with minimum number of management levels.

Exhibit 3-6 : A Customer-Driven Structure



3.8.4. SYSTEM

A **system** is a set of business processes to achieve the ultimate goal of a firm. The basic criteria of a quality system are as follows :

1. It must be designed to accomplish an objective i.e. total customer satisfaction.

2. The elements of a system must have an established arrangement (the customer-supplier relationship to deliver customer value).

3. Interrelationships must exist among the individual elements of a system and these interrelationships must be synergistic in nature (global optimization instead of sub-optimization).

4. The basic ingredients of a process, flows of information, energy and materials are more vital than the basic elements of a system.

Process improvement is more important than the final outcomes.

5. Feedback of information regarding the performance is used to adjust and control performance. (Customer feedback provides an opportunity to continuous improvement).

A customer-driven organization should develop system with the following capabilities :

- Establish system ownership
- Promote teamwork for improvement
- Focus on customer value
- Flattens hierarchy so as to be more responsive to customer
- Reduce complexity

3.8.5. SKILLS/STAFFING

Skills are the capabilities possessed by the organization as a whole as distinct from those of individuals. In order to develop the skills of an organization, we must develop the staff development program and institute a human resource strategy for employee involvement and empowerment.

Capability is the unique combination of resources that provides a firm's ability to deliver customer value. Resources may include such things as technology, human resources, finance, production and marketing.

Capability is usually the result of complex **patterns** of **coordination** between a number of functions. The organizational capabilities/skills must be measured in terms of quality, speed, flexibility and cost efficiency, customer service, innovation.

An evaluation of capability is generally required when a gap is observed between strategic goals and actual performance. Capabilities link TQM to strategy. Quality programs provide a tactic to continuously improve capabilities.

A company's **success** in meeting its quality and performance objectives depends on work-force quality and involvement. The close link between employee satisfaction and customer satisfaction creates a shared fate relationship between companies and its staff. For this, the company must develop a long-term human resource strategy to develop, attract, and retain the qualified employees. Factors that bear upon the safety, health, well-being, and morale of employees need to be part of the company's continuous improvement objectives. Increasing training and education need to be tailored to a more diverse work force and a more flexible work organization.

3.8.6. SHARED VALUES

Shared-Values are the philosophy and guiding principles of operating a company. The Key Values of a customer-driven organization are as follows :

- The primary indicator of success is customer satisfaction.
- Decisions will be made closest to the source of the issues.
- There will be no unnecessary barriers which limit anyone's ability to make a contribution to the organization.
- Constructive disagreement will be encouraged.
- People will be rewarded for appropriate risk-taking.
- The customer will be always provided with the best value.
- Information will be freely shared.

The steps to create a customer-driven quality culture are as follows :

1. Understand the old culture

2. Leading with a customer-driven vision
3. Reinforcing people with new ideas to change the old culture
4. Recognizing outstanding units and using them as a model
5. Adopting management values, behaviors and commitment which speak louder than words
6. Allowing employees to be involved in finding their own new approaches to change
7. Respect for people
8. Trust and support
9. Power equalization
10. Confrontation

3.9 THE NEW ROLES OF MARKETERS

Marketers must play **several major roles** in helping their company define and deliver superior customer value to target customers.

First, marketers must ensure that their company is focused on customer value, and that means they must constantly advocate evolution and improvements in response to changes in customer or market conditions and demands.

Second, marketers must communicate customer expectations correctly to product design and redesign, as well as process design and redesign. They must work in a cross-functional team to translate the customer's requirements into quality attributes and deploy the measures to the other functions.

Third, marketers must identify the quality gaps (the differences between customer's expectations and the actual performance of the company) and bear the responsibility for setting up the process improvement programs with the other team members.

Fourth, in contrast to the traditional way of having sales, discounts, and monetary incentives to shove products to consumers, marketers must take leadership roles in showing how the organization implement TQM.

Fifth, marketers must spend time and effort not only to improve external marketing, but also to improve internal marketing. They must train, retain and develop the employees so as to enhance the quality of the total organization.

Finally, marketers must take a shift to relationship marketing instead of more traditional transaction-based selling. They must keep in touch with customers after the sale to make sure that they are satisfied and remain satisfied.

In order to **improve** the customer-value delivery system, the marketers must build new relationships with other functions of the business. The marketing team will utilize knowledge gained from the customer requirements and the external competitive factor to help the other functions to work for a common goal.

With respect to **research, development**, and **engineering**, the marketing team is in a position to :

- Provide marketplace guideline to improve existing products and processes.
- Facilitate development of new offerings and new processes.

In working with production, marketers can :

- Facilitate production scheduling through improved communication about sales requirements.
- Help improve quality through monitoring and feedback from

the customers.

- Participate in the quality improvement programs of the shop floor.

In working with finance and accounting, marketers can :

- Re-design the cost system based on activities related to customers and products.
- Identify the life-cycle cost of the product.

Identify the activities for budgeting purpose.