1

Organizing for Quality

OBJECTIVES

1. To introduce the quality organization function.
2. To discuss the quality management delegation process.
3. To present different quality organizational structures.

TERMINOLOGY

Attribute: A characteristic inherent in or ascribed to something.

Authority: The right to command and expend resources.

Category: A group of similar classifications that contain the same (multiple) attributes.

Centralized organization: An organization in which little or no authority is delegated.

Classification: A group of items in a category that contain the same (single) attribute.

Management: A process or form of work that involves the guidance or direction of a group of people toward organizational objectives, goals, or requirements.

Organization: People working together in groups to attain objectives.

Organizing: Categorizing and classifying activities, under a manager, necessary to attain objectives.

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Performance measurement: The use of statistical evidence to determine progress toward specifically defined organizational objectives, goals, or standards.

Quality: Meeting customer needs.

Responsibility: Accountability for obtainment of an objective through the utilization of resources and adherence to policies.

Span of control: The number of subordinates that can be effectively managed.

Variable: A continuous or discrete measurable factor, characteristic, or attribute of an item, process, or system; some factor that might be expected to vary over time or between objects.

INTRODUCTION

The purpose of organizing is to establish lines of authority. A line of appropriate authority creates order within the company. This is necessary in order to prevent chaos where everybody is trying to do everything at once. To create synergism, departments and individuals need to work together in a coordinated effort resulting in higher efficiency. In effect, three people working together can do more work than ten people working separately. Another benefit of organizing the business is more efficient communication and reduced conflict by ensuring that authority and responsibility coincide.

CATEGORIZING DUTIES

Organizing can be viewed as categorizing activities in a business by some meaningful attributes. In most cases, business activities can be categorized into *leadership*, *product or service producing*, and *support*. A category is a responsibility center with an activity or collection of activities controlled by a single individual. In the quality organization and planning process, objectives are proposed for each responsibility center. The responsibility center then becomes the focal point for planning and control.

Leadership

The leadership category comprises those individuals who provide direction and guidance within the company. This includes establishing policies, goals, objectives, and standards. This group has authority and responsibility throughout the organization, from the overall system down to its individual processes. In general, the highest level of leadership (executive management) in the company is responsible for the overall direction (objectives) of the business. Individual process leaders (departmental managers) in turn are responsible for the procedures needed to achieve a given objective. Each individual with decision-making authority in an organization has responsibility for some aspect of achieving the company's objectives. It is essential to recognize this through the development of the quality management system. That is, the focus of the performance-reporting system is on responsibility centers.

Product or Service Producing

A product- or service-producing center (see Figure 1.1) is also called a *product realization center* if the person responsible has authority for producing or providing products or services to the customer.

The product- or service-producing category contains those individuals who are directly engaged in providing an output to the customer. This encompasses sales, engineering, and production activities. Ironically, the perceived order of importance of these activities is in reverse order. That is, production activities are the most visible, whereas engineering and sales are indirectly perceived as impacting the overall output. The opposite is
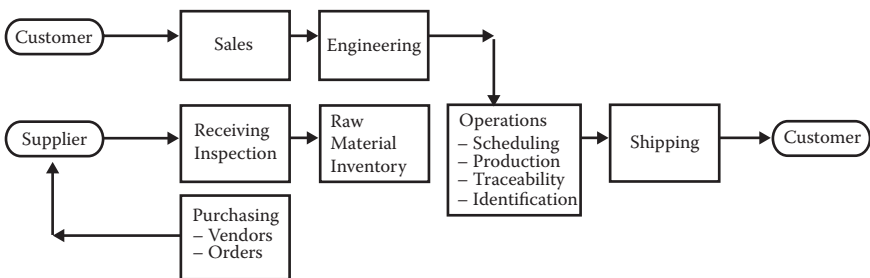
FIGURE 1.1
Product- or service-producing activities.

actually true. If the need for the product or service was not defined properly, the error will be propagated to the engineering and production functions. The same is true for poor product or service designs.
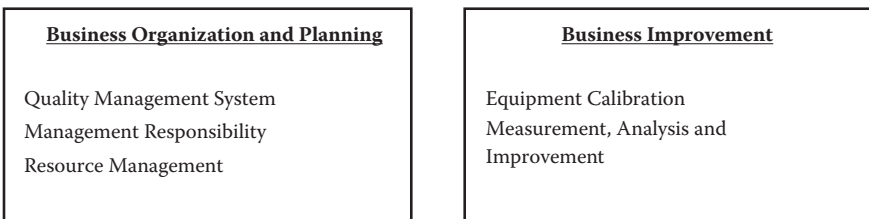
Support

A *support center* (see Figure 1.2) is a category in which the manager has authority only for providing management information or internal services within the organization with regard to product realization activities' efficiency and effectiveness.

Individuals involved in providing the leadership group with information used to make decisions regarding the efficiency and effectiveness of the business are considered support staff. This would include accounting, human resources, and quality. These individuals provide information and resources with regard to business performance. This can be in the form of a financial report, employee training, or efficiency reports.

Incongruence

Product- or service-producing and support categories cannot be intermixed. If a support activity is wrongfully placed into a product or service function, it produces group incongruence resulting in negative entropy. Eventually the magnitude of the incongruence can become so great that it may result in system (business) failure. For example, having finance reports written under sales would cause a conflict that would create chaos because they have diametrically opposed purposes. The same would be true if you placed the quality group under production.

Business Organization and Planning	**Business Improvement**
Quality Management System Management Responsibility Resource Management	Equipment Calibration Measurement, Analysis and Improvement

FIGURE 1.2
Support activities.

BREAKING CATEGORIES INTO CLASSIFICATIONS

Leadership Classifications

The structure of the classifications under the leadership category can vary slightly from company to company. The main component of these classifications revolves around the principle of the *span of control.* This refers to the number of subordinates a manager can effectively manage. The number of people who should report directly to any one person should be based upon the complexity, variety, and proximity of the work.

In practice, this turns out to be a ratio of 1:5 or 1:7. Therefore, every five to seven workers would report to a lead person; in turn, five to seven leads would report to a supervisor (5^n); and so on. This would mean that a supervisor would be able to effectively manage twenty-five workers; a manager could lead 125, and a director 625 in each department or group. The higher levels of management (directors and managers) should be spending the majority of their time organizing and planning the activities in their respective departments, while the lower levels of management (leads and supervisors) are predominantly involved in worker motivation and control. Examples of managerial-level classifications are as follows:

- President
- Vice president
- Director
- Manager
- Supervisor
- Lead

Product- or Service-Producing Classifications

The product- or service-producing categories' associated classifications are those activities that are related to providing product to the customer. This includes transformation processes where raw material is turned into finished goods. In some cases, this may mean writing a sales order, scheduling production, issuing a purchasing document to purchase raw materials, or manufacturing a product. Examples of product realization classifications are as follows:

- Customer-related processes (sales)
- Design control (engineering)
- Purchasing (production)
- Customer-supplied property (production)
- Product identification and traceability (production)
- Process control (production)
- Preservation of product (shipping and receiving)
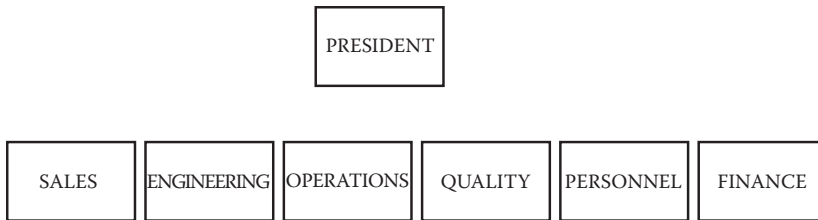- Servicing

Support Classifications

A support center is a category in which the manager has authority only for providing management information or internal services, with regard to a product realization center's efficiency and effectiveness. Their related classifications are associated with the administration of the business. In some cases, this may mean writing business performance statements or financial statements, or providing training to employees. Examples of support classifications are as follows:

- Control of documents
- Monitoring and measurement of product
- Monitoring and measurement of processes
- Calibration
- Control of nonconforming product
- Corrective and preventative action
- Control of quality records
- Internal quality audits
- Human resources
- Finance (accounting)

BASIC FUNCTIONAL STRUCTURE

From Figure 1.3, you can see the basic line and staff organizational structure. The organizational departments are defined by the nature of the work they perform. *President* refers to the individual who establishes the broad company policies, objectives, goals, and standards. It is expected that the individuals in the leadership group provide monthly or weekly reports to

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                    │  PRESIDENT   │
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│ SALES  ││ ENGINEERING ││ OPERATIONS   ││  QUALITY    ││ PERSONNEL   ││ FINANCE  │
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FIGURE 1.3
Line and staff organization.

the support functions with respect to the outputs of their departments showing progress toward goal attainment. An example of this would be an expense report given to accounting, training records to human resources, or yield reports to quality.

Sales refers to the function that defines product features, product promotion (including inside and outside sales), distribution (product market placement), and product pricing. The engineering function designs a product based upon product features and pricing, among other things. The operations function is responsible for reproducing the design in quantities necessary to meet customer demand. Collectively, these are the product- or service-producing functions.

The quality, accounting (finance), and human resources (personnel) functions perform support activities and provide management with information and reports with respect to company efficiency and effectiveness. The accounting department issues a monthly report called a *profit and loss statement* (P&L statement) showing financial effectiveness. The quality department issues a business quality report (BQR) that shows the performance of the organization in meeting customer needs, whereas the human resources group issues a human factor utilization report. Combined, they provide a picture of the health of the organization. For example, the P&L statement only reports the results of financial transactions, whereas the BQR shows the performance of the transactions. Collectively, these are the support functions.

Quality Function Considerations

The role of the quality department is to identify, analyze, summarize, and report the efficiency of business operations in meeting customer requirements. Additionally, the quality department may be called upon to manage

certain quality projects to improve the efficiency of business operations. The need to understand the role of the quality department is an essential step in effective utilization of its resources. The following are some basic assertions:

1. Company management is responsible for quality (the financial and operational efficiency is senior management's responsibility).
2. Company management cannot delegate responsibility for quality (business efficiency starts and stays at the top); it is not a bottom-up process.
3. The quality department is not responsible for ensuring quality (senior management must take actions with regard to operational efficiency, i.e., allocate resources, goals, and performance appraisals).
4. The quality department's activities are similar to those of accounting: they only report performance, and it is up to management to act. For example, if sales are off, you would not reproach the accounting group.
5. Quality management encompasses the entire business, not just one department.

AUTHORITY, ACCOUNTABILITY, AND RESPONSIBILITY

Table 1.1 shows a responsibility matrix that clearly defines operational authority, accountability, and responsibility. The first column identifies

TABLE 1.1

Responsibility Matrix

1. Categories and Classifications	2. Department	3. Responsibility	
		Primary	**Alternate**
Product or Service			
Customer-related processes	Sales	Tom	Alice
Design control	Engineering	Mary	Jim
Purchasing	Production	Sue	Alice
Customer-supplied property	Production	Sue	Alice
Product identification and traceability	Production	Mary	Alice
Process control	Production	Mary	Alice
Preservation of product	Shipping and receiving	Hal	Sam
Servicing	Quality	Sally	Andy

the organization's functional categories and associated classifications. The next column identifies the department responsible for performing and managing the classified activities. The last column identifies specific individual responsibility (leadership). These individuals are accountable for the performance of their identified functional areas. It is senior management's responsibility to hold these individuals accountable for their respective areas. These individuals have the right to command and expend resources in their functional areas.

AUTHORITY PRINCIPLES

Delegation: There is little debate about delegation of authority. When management successfully delegates, their time is freed to pursue more important tasks, and subordinates gain feelings of belonging and added. This produces genuine feelings of commitment by workers and is the best method for development.

Unity of command: Workers should have one and only one immediate supervisor. The difficulties in servicing more than one supervisor have been well established for the last 3,000 years. In fact, almost 30 percent of all personnel problems can be related to disunity.

Scalar: The authority in an organization flows one link at a time, through the various management links. This is based upon the need for communications; circumventing the process may cause pertinent and vital information to be missed.

Exception: This principle states that managers should concentrate their efforts on matters which deviate from the norm and should allow subordinates to handle routine matters. It is believed that abnormal issues require more of the manager's abilities. Additionally, this prevents managers from becoming bogged down in routine tasks.

REVISE AND ADJUST

Due to the organic nature of the organizational structure, it should be reviewed and revised as the complexity of the company changes.

From time to time, senior management may need to add or delete a classification, department, or individual responsibility. These changes should not occur more than once per year. To do this any more frequently would be evidence of a dysfunctional organization.

COMMUNICATION

Once the organizational process has been completed by senior management, it must be published and enforced. There should be no overlapping responsibilities or departmental incongruence with respect to functional categories and classifications. The responsibility matrix in Table 1.1 shows the internal communication path for specific roles and responsibilities. For example, for sales questions you would talk to Tom or Alice, not Sally.

SUMMARY

Paying attention to the specific categorization and classification of tasks performed, and grouping those into departments should prevent incongruence and chaos in the business. This process is vital because it forms the foundation and basis for planning. There is no sense in establishing short- or long-term plans when departmental and individual managerial roles have not been properly defined. Distinguishing between product-producing and support groups should be a priority. Mixing the two would cause negative entropy and, in a worst-case scenario, business failure due to a highly dysfunctional operation.

REVIEW QUESTIONS

1. What is the purpose of organization?
2. Describe the different categories in the organization.
3. Define the leadership category.
4. Define the basic functional structure of a business.

5. Describe organizational incongruence.
6. Describe how individual accountability, responsibility, and authority are identified.
7. Describe the principles of authority.
8. Describe the role of the quality department.
9. Define the support group.
10. Explain the following:
    A. Product or service function
    B. Support function
    C. Leadership functions