THE EVOLUTION OF QUALITY SYSTEMS

INTRODUCTION

This chapter discusses the development of quality management systems, how they came into being and their evolution, the ISO 9000:2000 series of quality management standards, and the changes made to the standards with the year 2000 revision. A significant portion of the chapter deals with a discussion of the eight quality management principles that amplify the increased focus on management responsibility in this new version.

THE BEGINNINGS

Quality systems in corporate America date back to the post World War II period when organizations, making the transition from producing war materials to consumer goods, adopted some of the controls they had been using to operate their factories to their new operations.

Many different types of systems were developed, such as GM's *Zero Defects* and Ford's *Quality is Job 1* programs, and more recently *Total Quality Management* or TQM. All of these systems suffered from the same weakness – they were not globally accepted. In fact, many suppliers had trouble adapting to the myriad of varying quality requirements imposed by these many systems. In some extreme cases, suppliers were subject to as many as a dozen competing and, sometimes, contradictory quality standards! One customer or another was constantly auditing these same suppliers.

The globalization of business in the late 1970's and early 1980's prompted organizations to rethink how they treated quality. The shortcomings of Quality Control and its attempts to inspect quality into a product had become readily apparent.

During this time, Europe was developing the European Union, a mighty trading block

operating to a single set of rules and guidelines. The EU, as it has become known, decided that a single standard by which to judge product or service quality was not only sensible, but highly desirable. This was the impetus that drove the development of the ISO 9000 series of quality management standards and increased its popularity with major trading nations worldwide.

THE FOUNDATIONS OF ISO 9000

The origins of the ISO 9000 series of quality standards can be traced back to WW II. During the Allied build up in the early 1940's, the British military procurement agency was having difficulty ensuring the quality of the munitions being purchased.

Since it was impossible to get feedback from the end receiver of the product, and the military organizations involved in its delivery did not provide effective communication on quality issues, a means to determine product quality was needed. To satisfy this requirement, the British military procurement agency developed a series of characteristics that could be used to measure a company's ability to provide products of consistent quality. These became the MoD 05 series of quality standards. Many large purchasing organizations, seeing the value of evaluating a supplier's quality system, began adopting the MoD 05 series for their own use.

Since many organizations had no direct dealings with the military establishment nor had any affinity for the MoD 05 series of standards, a parallel standard, BS 5179, evolved which found greater favor among the business community. This standard ultimately led to the creation of BS 5750, parts 1, 2, and 3 in 1979. The introduction of this series led to the elimination of other company proprietary systems for evaluating quality.

During this same time period, the American military establishment developed MIL-STD-9858A for determining the effectiveness of

are necessary for organizations to achieve success.

Key benefits of adhering to this principle include:

- Revenue and market share increases due to flexible and fast responses to customer requirements and market opportunities.
- Increased effective use of the organization's resources to enhance customer satisfaction.
- Improved customer loyalty resulting in repeat business.

Applying the principle of customer focus usually finds the organization:

- Researching and understanding customer needs and expectations
- Ensuring that organizational objectives are linked to customer needs and expectations
- Communicating customer needs and expectations throughout the whole organization
- Measuring customer satisfaction and acting on the results
- Managing customer relations systematically
- Ensuring a balanced approach is taken between satisfying customers and the organization's other stakeholders

Leadership

Establishing a unity of purpose and direction for the organization is a responsibility of its leadership. It should create and maintain an environment that allows employees to become fully involved in achieving the organization's objectives.

Key benefits of adhering to this principle include:

- People will be motivated to achieve and understand the goals and objectives of the organization
- There will be a unified way of evaluating, aligning, and implementing activities
- Miscommunication between the different

- Procedures required by the organization to ensure effective planning, operation, and control of processes.

Level II (Procedures)

What is the process for documenting the quality management system to ensure that:

- A quality policy and quality objectives are documented?
- A quality manual exists?
- Documented procedures specifically required by the standard exist?
- Documented procedures required by the organization to ensure effective planning, operation and control of quality management system processes exist?
- Records specifically required by the standard are created and maintained?

Quality Manual

Requirements

An organization must prepare and maintain a Quality Manual that describes:

- The scope of the quality management system, including the details and justification of any exclusions granted by the standard.
- Quality management system procedures, or references to them.
- The interaction between the processes of the quality management system.

Auditor's Expectations

A Quality Manual containing documented procedures, or references to them, defining the quality management system.

Level I (Policy)

State the organization’s commitment to the preparation, maintenance, and control of a