REVIEW OF LITERATURE

SECTION 1

RESEARCHES ON TQM PRACTICES IN VARIOUS COMPANIES

Deliberations on TQM have long been considered as significant issue at national as well as International level. The available literature on TQM in the Indian automobile industry is scanty. However, at international level and in other industries, several references on TQM practices across spectrum of industries are available. The issue of TQM vis-à-vis national/International economy has also attracted the attention of some researchers. Among these, the academic endeavors and research efforts in the area of TQM treat, identification of critical factors facilitating and/or impeding TQM, promotional thrust at specific company level in any industry, in a general manner. The following paragraphs give an idea of the work surveyed and reported.

Quite a number of organizations have tried to implement total quality management (TQM practices but have failed to achieve their goals, while many other organizations have implemented TQM with great success (Douglas and Judge, 2001).

A significant study titled “Impression from a Quality Tour in Japan: Deming to Knowledge Management” based on meetings with quality experts and Quality Award Committee members, concluded that Japan’s willingness to “do it” (to adopt new approaches and learn from other countries) is growing. Whilst the economic situation in Japan has deteriorated, the impression about Japan is still the one of the world’s leading countries in terms of providing customer service (Mann R. & Nishide S., 2001).

Despite several differences in the nature of operations in manufacturing and services firms, a research finding indicated no significant difference in the level of most of TQM practices and quality performance between the two sectors (Daniel, P., 2005). The study has shown that TQM constructs based on the Malcolm Baldrige National Quality Award (MBNQA) criteria is valid across both sectors and its relationship with quality performances also has insignificant difference between the two sectors.

A comparative study “TQM practice and organizational performance of SMEs with and without ISO-9000 certification” (Rahman, S., 2001), cites that there is no significant difference between SMEs with and without ISO certification with respect to TQM implementation and organization performance.
A research study of TQM practices in Singapore’s manufacturing companies (B.C. Ghosh, Wee Han Hua, 1996) points out the fact that by maintaining a qualitative edge over their competitors (such as those in Malaysia, Indonesia, Thailand, China etc.), these companies continue to contribute about 25% of gross domestic product (GDP). Despite, a high-cost country, manufacturing companies in Singapore have maintained their competitive advantage in the marketplace through an edge in quality of its products. The use of and commitment to the concepts of TQM has lead these companies on the way to world-class manufacturing.

As regional import barriers fall and trading blocks are formed, small developing nations become viable options for sourcing components as part of multinationals value chain activities. Such countries are seeking to gain competitive advantage either through simple or complex endowment factor. In an attempt to explore about the status of quality management practices in developing countries and in global context, Prasad S., Motwani J., and Tata J. (1999) studied Costa Rica in the South America, in its pursuit of competition against larger nations such as Brazil and Mexico. And the study revealed that quality management is certainly helping to make Costa Rican firms more competitive. The evidence of this research also suggests that the concept and practices of TQM programs can be transferred from industrialized to developing countries. Indeed, there is a need for companies in these countries to adopt a proactive, comprehensive approach to TQM as part of their strategy to take a full place within global manufacturing.

The study (Sausa, R., Vass, C.A., 2002) on the relationship between QM practice and performance indicate that, as a whole, QM practices have a significant and strong impact on quality and operational performance. However, the impact of QM practices on business performance is weaker and not always significant.

Besides efforts for quality improvement by large companies, many small and medium-sized enterprises (SMEs) have also pursued their quality improvement effort, but mostly through the ISO-9000 certification route. A survey of TQM practices in Malaysian electrical and electronic industry (Yusof, S.M., 2003) revealed that there was a significant difference between the TQM practices of large and small companies. The study also highlighted the importance of TQM adoption in SMEs to meet future challenges in realizing the vision of world-class organizations. Engineering innovation must be limited to ‘hard technology’ alone but should incorporate advanced manufacturing management techniques to sustain the improvement efforts and in meeting the long term needs of the nation.
A regional study of quality management infrastructure practices in manufacturing companies located in the North and Central regions of Mexico, and the US Midwest region (Solis, L.E., Raghu-Nathan, T.S., Rao S.S., 2000) highlighted that the companies located in the North region of Mexico exhibit significantly better levels of quality management infrastructure practices than companies located in the US Midwest and central Mexico region.

The application of TQM practices increased in US organizations in last two decades, particularly in organizations facing severe competitive pressure. The research (Mohrman, S.A., Tenkai, R.V., Lawler, E.E., Ledford, G.E., 1995) highlighted that these practices fall into two categories: core practices and production oriented practices, and companies perceive benefit in three areas: improvement in work performance, company competitiveness and profitability, and employee outcomes. Service organizations experience these benefits primarily from implementing core practices more extensively.

Exploring that a growing number of companies in Turkey are willing to implement TQM to generate competitive advantage a study (Bayazit O, 2003) on TQM practices in Turkish Manufacturing organization elaborated upper management support, employee involvement and commitment, customer focus, quality education and training, teamwork and use of statistical techniques as important factors for successful implementation of TQM.

An exploratory study (Miyagawa, M., Yoshida, K., 2005) of TQM practices in Japanese owned manufacturers in China showed a positive and significant relation of TQM practices and performance of organizations, besides revealing that TQM is an effective method to improve business performance regardless of its operational location.

Malcolm Baldrige National Quality Award Model (Khanna, V.K., Vrat, P., Shankar, R., and Sahay, B.S., 2002), substantiated the dynamic interactions among TQM subsystems which help in identifying proactive action in implementing of TQM philosophy. The premise that TQM is playing an increasingly important role in the survival and growth of companies in the automobile sector was substantiated.

Despite growing interest in quality in developing countries, very few researchers have examined the TQM programs or quality management practices there. Although researches have extensively examined quality management in industrialized countries such as the USA, Japan, the UK, and other European countries (Benson et al., 1991; Easton, 1993; Flyn, 1992; Garvin, 1986; Oakland
and Aldridge, 1995; Porter and Smith, 1993), studies on quality in the developing countries are limited. However, interest on quality is growing in countries such as India and Mexico (Knotts and Tomlin, 1994; Lakhe and Mohanty, 1994; Motwani et al., 1994; Vargas and Johnson, 1992). There is a trend towards stronger demand for improved measures of the performance of companies and TQM has significant role to play in this direction (Williams, R., Wiele T., Iwaarden J., 2004).

The illustrative case example of Glaxo India (Blythe, R.M., Rao, H., Shahni, N., 1997) elaborates the purpose of implementation of Glaxo Wellcome Excellence Process (GWEP) namely to bring an attitudinal change in the entire company and to bring in excellence in all spheres of business activities. Accordingly, there has to be a sound commitment from the top management for all steps in excellence process - determine the starting point, define the destination, map the route, put in place a structured and organized training programme for all staff, set goals and measurables, and launch the recognition system. Because of the use of internet there is growing pressure to create excellence at the operational level. Also it has been shown in the past that a level of excellence in operational processes can never be reached without support from top management. Besides, there is a trend towards stronger demand for improved measures of the performance of companies. Each of these perspectives reinforces the importance of total quality management for top management and most companies will be touched by these issues.

SECTION 2: ELEMENTS OF TQM

1. TQM and Total Preventative Maintenance (TPM)

One of the important components of TQM is Quality Control during the manufacturing process or reduce the variability during the process or maintain constancy of functional performance of manufacturing machines and equipments. SPC(Statistical Process Control) which is derived from assignable causes is the key part of this control during manufacturing. Needs for this control could be effectively reduced by:

1. CBM- condition based maintenance or condition monitoring.
2. Reliability and Failure (downtime) analysis of machines and equipments.

3. Inspection, testing and lubrication of machines etc.

2. **Total Quality Management (TQM) and Total Safety Systems (TSS); Total Quality Through Zero Risk**

Total Safety Systems (TSS) has been defined (Rose, M.I., 1988) as those procedures, guidelines and plans which would ensure the safe interaction of socio-technical systems towards the achievement of organizational competitiveness objectives. The main objective of TSS is to establish a culture based on ‘Zero Risk’ through continuous improvement activities. So quality and safety go side by side. TSS represents the technical and social elements of organizational system and includes:

1. Safety of workplace design
2. Safety of technical processes
3. Safety of employees.

2.1 **TQM Based Approach To Safety Systems**

What is more important is that TSS in context with TQM has got a different approach as compared to traditional approach to TSS. This is evident from Table below:

<table>
<thead>
<tr>
<th>Traditional Approach</th>
<th>TQM Based Approach</th>
</tr>
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<tbody>
<tr>
<td>Compliance with legal requirements</td>
<td>- Exceeding legal requirements by adopting Zero Risk approach.</td>
</tr>
<tr>
<td></td>
<td>- Identifying all possible risks and striving</td>
</tr>
</tbody>
</table>
Reacting to identified risks only to eliminate them by using SPC technique and safety control charts.

Designing safety systems for complex workplace by process of patching up.

External safety measures on process guarding and emergency switches.

Designing for the worker.

Induction as training as a one off experience.

Employees understand that safety is a condition for doing the job.

Standard is compliance

Poor data availability (only record accidents)

- Designing with visibility in mind and through a continuous effort to simplify tasks.

- Intrinsic safety for on line intelligent fail-safe systems.

- Worker involvement in safety designs.

- Training for the task with skills/task Changes closely monitored.

- Employees appreciate that safety contributes to the job

- Standard is striving for excellence.

- Rich data availability (Inspection, diagnosis, continuous recording and analysis).

Total Safety Systems seek to achieve a Zero Risk objective by the implementation of a harmonious, healthy, productive and creative work environment. The systems are, therefore, people centered and the contribution of the worker in raising safety standards of his/her work environment through continuous improvement activities is considered to be essential. Safety under TQM follow an innovative approach talking incremental steps to improve, modify or change existing arrangements with task simplification, task integration for organizational objectives and with an value added approach towards the fulfillment of organizational objectives. TSS also presents a case of behaviour medication for interaction between technical system and people

3. Workplace Improvement: The 5 S’s
Japanese companies follow a simple tool of 5 S’s (Osada, T., 1991) which is as follows:

**SEIRI** - To sort out unnecessary items in the workplace and discard them.

**SEITON** - To arrange necessary items in good order so that they can be easily picked for use. To arrange:

* a place for everything, and
* everything in its place

**SEISO** - To clean one’s workplace thoroughly so that there is no dust on floors, machines and equipment.

**SEIKETSU** - To maintain high standards of housekeeping at workplace all the times.

**SHITSUKE** - To train people to follow good housekeeping to be disciplined automatically.

The 5 S approach is a people-oriented approach as well as also practice-oriented approach and contributes to quality and productivity improvement over a period of time on a continual basis.

4. **Just-In-Time (JIT) and Total Quality (TQ)**

Manufacturing companies implement Just-in-Time intending to increase efficiency and productivity. JIT also forces manufacturers to improve quality as nothing makes quality problems with suppliers and in the factory more evident than a JIT system. In fact, JIT will not succeed without the implementation of a parallel quality programme. A JIT manufacturer has no choice but to procure quality parts for the company’s process. The best way to accommodate all these requirements is to plan the implementation of both systems concurrently. JIT is not a methodology or a software package (Sriparavastu, L., & Gupta, T., 1997) but it is a philosophy which when implemented correctly will permeate every section of the company and changes the way in which everyone operates. The essential pillars of JIT philosophy are:

- Elimination of waste.
- Attacking fundamental problems.
- Striving for simplicity.
- Devising systems to identify problems.

5. **TQM and Advanced Manufacturing Technology (AMT)**
Advanced Manufacturing Technology (Jack, S.C., & Laura, L.C., 1994) invariably uses hard and soft technological innovations, either methodology driven or computer driven, to make impact in following areas in order to make company’s operations open for global competitiveness:

1. Flexibility
2. Adaptability
3. Speed of response
4. Productivity levels
5. Business performance

AMT through the utilization of technological innovations such as CAD/CAM, FMS, CNC, AGV’s, Robotics, MRP II, OPT and JIT is intended to give organizational systems the ‘determination’ to compete on flexibility, adaptability, speed of response, effectiveness and higher productivity standards.

TQM on the other hand (Zairi, M., 1993), though the introduction of concepts, techniques and systems such as ISO 9000, Statistical Process Control (SPC), Failure Mode & Effect Analysis (FMEA), Quality Function Deployment (QFD), continuous improvement teams is intended to help organizational systems achieve the required ‘discipline’ to compete by raising effectiveness and efficiency levels in areas of cost reduction and adding value to customer products and services. Optimized Production Technology, Flexible Manufacturing Systems, Manufacturing Resource Planning establish linkages with TQM strategy.

6. TQM and The Supplier

Continuous improvement also depends on the control of procured materials, parts and services (Crosby 1979; Deming, 1986; Garvin, 1984; Ishikawa, 1985). Vendors’ participation during initial design of new products and in the solutions of problems is important to achieve high quality and faster response to market needs. A fundamental concept of Total Quality (TQ) is that the manufacturer of a part should be held-

1. responsible for producing quality-perfect parts in first time.
2. accountable for wasting customer’s time and money in processing and returning defective parts.
A defective part inadvertently going through the process (Beaumont, P.B., Hunter, L.C., & Sinclair, D.M., 1994) would result in build-up of incorrect product which would ultimately produce an unsatisfied customer much against the concept of Total Quality. A manufacturer burdened with a system meant for rejecting defective parts would head for unproductive operations. No supplier should burden its customer with this problem. The best way to ensure perfect quality at the source of the part is to implement a programme designed to emphasise on this concept of quality. Most manufacturers claim the quality systems in their factories are great, but the same manufacturers fail to maintain a quality programme with their suppliers to reduce the number of defective parts in the supplier’s process.

The main thrust of a total quality system (Lascelles and Dale, 1989; Steeples, 1992) is to solve all quality issues with suppliers before parts are shipped. It will also help to increase the efficiency of the manufacturer by requiring only a small organization to monitor the quality of its own process. So a first-class supplier programme is critical to the success of TQM. Quality programme with supplier include, Lead-Time reduction programme with supplier, supplier’s process improvement programme, inspection at source, supplier information system, vendor quality certification/vendor qualification and vendor development.

7. TQM and The Customer

The ultimate measurement of a product’s value is that of the service it provides to its user. The quality of a product (Peters, 1988; Steeples, 1992) is also defined by its working condition when it arrives at the customer’s site. It is also measured by the reliability the product shows during it’s expected useful life. But very few companies define quality by the level of customer satisfaction achieved when the product is used. Customer satisfaction achieved when the product is used. Customer satisfaction as an index of a product’s quality covers two important areas:-

a) The actual performance of a product compared against the ‘expectations’ fostered in a customer’s mind during the selling process.

b) The level of customer support provided after the delivery of the product.

So the customer is the ultimate inspector of quality.

Some Customer Satisfaction Determinants are:-

(1) DEAD ON ARRIVAL (DoA)
The DoA rate refers to the percentage of products shipped that don’t work when they arrive at customer’s site. The customer receives a product, it gets installed but it does not work. The total quality concept (Hernandez, A., 1993, p 95) calls DoA anything that makes the product different from what the customer expected when it was ordered. A company with a perfect-quality programme should have a zero DoA rate.

(2) INFANT MORTALITY AND MTBF (MEAN TIME BETWEEN FAILURES):
Infant mortality is defined as a malfunction of the product within a short period of time after installation and initial usage. Infant mortality is usually a measurement of quality of the components used to build the product and a reflection of the process capability.

(3) MEAN TIME BETWEEN SERVIC CALLS (MTBSC)
For complex products, the MTBF is not the only measure of the product performance once it is installed. Customer satisfaction could be better measured by tracking the ‘Mean Time Between Service Calls (MTBSC)’ (Hernandez, A., 1993, p 97) as it would also track problems with a system that are software related e.g. poor customer training, errors in documentation, excessive maintenance visits.

Failure Mode and Effect Analysis (FMEA) is a special technique for design assurance, facilitating systematic study of defects and failures as effects of certain causes. Failure Tree Analysis (FTA) is more comprehensive and complex technique and was developed at bell Laboratories and became widely used in US space and defence programmes in the 1960s. FTA focuses on relationships between functional effects and product components and is done top downward in the sense that it begins by identifying the top event, known as undesirable event of the system.

8. TQM and Design Assurance:
A design review would normally verify the FMEA and a special final test of the design confirms whether or not a validity review be undertaken. A design is valid and reliable when the actual performance of the items under the intended conditions satisfies customer’s expectations and other functional requirements. Such tests that finalise a design require the production of a prototype. Once the review of specifications of the complete design, product and underlying
design process has affirmed the adequacy of the design and its compliance with appropriate
design standards, preparation for planning the production could start. All documents describing
the design in necessary detail must then be complete, approved by proper authorities and
released to production department. Design Approval; contract review and design documentation
is important in design assurance. Concurrent engineering, Quality Function Deployment,
Taguchi Methods, Reliability analysis, Failure Mode & Effect Analysis, and Statistically
designed experiments are the methods for design and development assurance.

9. TQM and Process Capability

Before mass-scale production is commenced, it is necessary and important in planning for
quality to make an analysis of the capability of the intended process. The capability of a process
must be tailored to the requirements of the product it builds. It is useless to manufacture a
product with tight tolerances with a process that is not capable of meeting them. Process
capabilities must match the product’s requirements (Hernandez, A., 1993, p 48) with regard to
accuracy and repeatability. A process designed to build a product should consistently produce
products that have an operating range within its limits.

10. Humanistic Aspects of TQM

Total Quality Management should encompass education and training of all employees on quality
and cost improvement on a continuous basis. Striving to maintain high levels of quality depends
on the best use of the talents and abilities of a company’s entire work force (Choppin, 1991;
Crosby, 1979; Deming, 1982, 1986; Garvin 1983, 1984; Gibson, 1990, Gilbert, 1990; Gryna,
1991; Harber et al., 1991; Juran, 1986; Leonard and Sasser, 1982; Steeples, 1992; Stratton,
1991). To achieve world class quality, it is imperative that a company trains and empowers its
workers. Companies must develop and realize the full potential of the work force and maintain
an environment conducive to full participation, quality leadership, and personal and
organizational growth.

11. TQM and Employees
Personal Capacity: Sullivan of American Supplier Institute, USA quotes Masao Nemoto of Toyoda Gosei (Sullivan, L.P., 1984) as saying that personal capability is more important than process capability and the main jobs of management should be to improve the personal capability of all employees through education and training.

Span of Control: Continuous education and training has also an impact on the organizational span of control. Employees at all levels can operate more independently if they are properly educated and trained. This affects the number of employees and the number of organizational levels between line workers and top management, i.e., they can operate more efficiently even with a large span of control. Ishikawa is quoted saying that the ideal span of control is 100 workers for each supervisor.\(^{30}\)

Technical Training: One important component of continual education and training is technical training to be done by the manager rather than by separate trainers. Top management trains their immediate subordinates who train their immediate subordinates and so on. Also subordinates recognize true management, commitment and credibility through this system. Educational training implications of SPC (Statistical Process Control) have been discussed by Owen.\(^{31}\)

Job Rotation: One of the important aspect of education and training in Japanese companies is job rotation for executives and managers. This greatly enhances knowledge and also facilitates horizontal interaction by developing common understanding of interdepartmental issues. It is not unusual for a sales executive to rotate with a plant manager or for design engineer to rotate with purchasing executives.

12. TQM and Leadership

Leadership (Crosby, P.B., 1979, Deming, W.E., 1982) has proven to be key in the continuous quality improvement process and the driver of the quality management practices. Senior executives are those who create and sustain clear and visible quality values along with a management system to guide all activities of the company towards quality excellence. Senior executives’ leadership is described in terms of personal involvement, and visibility in developing and maintaining an environment of quality excellence. Leaders play an important role in how quality values are projected in a consistent manner (Garvin, D.A., 1983, 1984, Gibson, T.C., 1990, Gilbert, R.J, 1990), and how adoption of the values through the company is determined and enforced.
13. TQM and Information

Continuous quality improvement relies on a steady flow of accurate information about processes that generate a company’s products and from various constituencies like workers, agents, vendors and customers (Crosby, 1979; Deming, 1976; Ishikawa, 1985; Juran, 1986). Analysis of this information allows management to make effective decisions in managing quality. This construct considers scope, availability and use of quality data that underlie the company’s overall quality management system.

14. TQM and Strategic Quality Planning

Improving quality is a long term competitive strategy (Barclay, 1993; Deming, 1986; Juran, 1986; Lascelles and Dale, 1989). Although companies often enjoy immediate benefits from the start of a quality improvement process, the focus is clearly on the long term. Integrating a quality culture into a company is lengthy and sometimes frustrating process. Articulating a clear vision (Peters, 1988; Tillery and Rutledge, 1991) for the future is the key to keep everyone on the track. Companies must plan the process for achieving quality leadership and must plan how to integrate quality improvement planning into overall business planning.

From Management by Results to Quality Leadership: The Deming Chain Reaction

When quality level is increased by improving process (not by expanded inspection), the better quality will lead to improved productivity leading to lower costs, ultimately resulting in lower prices. Better quality and lower prices mean the company can expand its market and can stay in business providing more jobs and a return on investment (ROI) as evident from figure below.

Improve Quality → Improve Productivity → Decrease Costs → Decrease Prices → Increase Market → Stay in Business → Provide jobs and more jobs → ROI

The element ROI has been added by Joiner and Scholtes of Joiner Inc., USA.

15. Tools and Techniques for TQM
Ishikawa proposed seven elemental (Q-7) tools based on statistical techniques. These have been described as the magnificent seven (Wadsworth, J., Harrison, M., Stephen, K.S., Godfrey, A., 1986). These are:

1. Histograms
2. Scatter diagram
3. Stratification
4. Pareto Analysis
5. Check-sheets
6. cause and Effect diagram
7. control charts

All these tools are basic statistical tools and their detailed discussion would be too primary to be dealt here.

**Q-7 New Tools**

These tools do not replace the basic Q-7 tools nor are they extension of these. These tools are basically used for improving quality of design and as a part of quality design. These are:

1. Affinity diagram
2. Interrelationship diagraph
3. Systems flow/ tree diagram
4. Matrix Diagram
5. Matrix Data Analysis
6. Process Decision Programme Chart (PDPC)
7. Arrow Diagram

According to Tari and Sabater (2003) quality tools and techniques is an important sign of TQM level maturity in order to improve the TQM levels and results. Some of the quality engineering tools and techniques do not work exactly as they are intended when firms try to apply them. The root causes of failure in applying these quality engineering are not due to the fact that they are ineffective, but due to lack of clear understanding by people regarding when, where, and how to apply it(Kwok and Tummala, 1998). Some researchers found that the main problem faced by companies on using QE tools and techniques is no effective training about QE tools and
techniques (Bunney and dale, 1997; McQuarter et.al, 1995; tari and Sabater, 2003, Zin et.al, 2004)

16. The Difference Between ISO 9000 and TQM Approaches

It is often asked whether or not there is any connection between the Quality management Standards BS5750/IS 14000/ISO 000 and TQM approach. The differences between ISO 9000 and TQM could be summarized as follows:

Table 2: Comparison of ISO 9000 & TQM

<table>
<thead>
<tr>
<th>ISO 9000</th>
<th>TQM</th>
</tr>
</thead>
<tbody>
<tr>
<td>- A technical system of TQM.</td>
<td>- A total management philosophy</td>
</tr>
<tr>
<td>- Not necessarily customer focused.</td>
<td>- Definitely customer focused.</td>
</tr>
<tr>
<td>- Not always integrated with corporate strategy.</td>
<td>- Always integrated to company strategy,</td>
</tr>
<tr>
<td></td>
<td>mission and vision.</td>
</tr>
<tr>
<td>- Technical system and procedures focused.</td>
<td>- Philosophy, concepts, tools &amp; techniques focused.</td>
</tr>
<tr>
<td>- Employee involvement not necessary.</td>
<td>- Emphasis on total employee involvement</td>
</tr>
<tr>
<td>- No focus on continuous improvement.</td>
<td>(TEI) and empowerment.</td>
</tr>
<tr>
<td>- Can be departmentally focused. More responsibility to Quality improvement.</td>
<td>- Continuous improvement focused. TQM</td>
</tr>
<tr>
<td></td>
<td>never ending journey.</td>
</tr>
<tr>
<td>- Focus on preserving status quo.</td>
<td>- Organisation wide. Everyone department and everyone responsible at every level.</td>
</tr>
<tr>
<td></td>
<td>- Involves process and culture change. An organization development process.</td>
</tr>
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</table>
17. Quality Audits

Quality audit (ISO 10011, sec 3.1, 1998) is a systematic and independent examination to determine whether quality activities and related results comply with planned arrangements and whether these arrangements are implemented effectively and are suitable to achieve objectives.

TYPES OF AUDITS

1. **First Party Audit**: This refers to an internal audit where the auditee is its own client, i.e., audit by an organization, working on itself.

2. **Second Party Audit**: This refers to audit by one organization on another (auditee). This type of audit is normally done on a supplier by a customer.

3. **Third Party Audit**: This is audit by an independent organization on a supplier, done on the request of a group of customers to list the audited organisation’s (auditee) quality system in a register.

The Stages of An Audit

The audit should have a number of planned stages. These must be rigorously applied to external audits but they can also be beneficially applied, modified as necessary to internal audits.

The stages are:

1. Information gathering: It can be done by means of e-mail, telephone, questionnaire, visit or any other means.

2. Preparation: Using the information thus collected the team leader should set about the very important phase of the audit. As a part of preparatory activities, the auditor decides how much work is involved, nominates other team members etc.

3. Opening meeting: It is the first activity of audit which is chaired by the team leader. The leader introduces him and team mates, explains the scope of audits and details of the depth of audit, confirms the standard to be used etc.

4. The Audit Process: As a part of the audit process clear and precise discrepancy reports are raised. All discrepancies are based on sound, objective evidence, and regular liaison meetings are held as audit process part.

5. The Closing meeting: Although it takes place at the end of audit, but when a major discrepancy is found, it may take place at that time only unless the major discrepancy
results from an amalgamation of several minor ones. It is preferable to involve same set of people as were in opening meeting.

6. Audit report Content: The final report presented at the closing meeting should contain only factual statements of discrepancies supported by objective evidence. Audit document should be retained by agreement between the client, the auditing organization and the auditee and in accordance with any regulatory requirements. The audit is completed upon submission of the audit report to the client.

7. Corrective Action and Follow-Up: The auditee is responsible for determining and initiating corrective action needed to correct a non-conformity. The auditor is only responsible for identifying the non-conformity. Corrective action and subsequent follow-up audits should be completed within a time period agreed by the client and the auditee in consultation with the auditing organization.