CHAPTER 4:   THE CASE

4.1   ISO 9002 Certification

The quality journey of DMIB started in 1990 when the Company was preparing for the ISO 9002 certification. After successful obtaining ISO 9002 in 1991, the Company has established quality improvement as top priority and demonstrate management commitment to it.   Many activities and project were launched and are to be introduced to all level of the employees.

ISO 9002 is model for quality assurance in production, installation and servicing.   ISO 9002 is basically a group of generic standards which specify what should be in a company's quality system, whatever the product or service, whether it is a small or large company.   ISO 9002 is the most common system used and can be applied to either manufacturing or services industries providing a standard product or services.   A broad scope of quality system elements are covered by the ISO 9000 series, such as: management responsibility, contract review, document control, purchasing, process control, inspection and testing, design control, control of non-conformance product, corrective action, handling, storage, packaging and delivery, quality records, internal quality audits, training and servicing.

Among the reasons why the Company establishes ISO 9000

certification are:

i). To export to European Community (EC)

Set by the International Standards Organisation (ISO) in Geneva, the EC chose ISO 9000 standards in 1989 to provide a universal framework for quality assurance among its 12 member-nations. The EC's support of the ISO 9000 standards has increased their international importance.

EC has stated in a directive that suppliers intending to export to the EC will requires ISO certification by January 1, 1993 (V. Daniel Hunt, 1993).

As a major OE (Original Equipment) supplier to locally assembled cars such as Proton, which export cars to EC, the Company need to comply to the requirement.

ii) To be serious about quality

Quality is critical to the Company's products as product defects may cause fatal injuries. The Company must put in place a quality system, which is being used and maintained to provide quality products and services, and at the same time able to demonstrate that quality can be achieved consistently.

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iii) To meet customer's requirements

The traditional view of quality is simply 'conformance to specification' which will fully satisfying the customer's requirements.

iv) To stay competitive

As fifty-five countries have adopted ISO 9000 as national standards, and more companies have and will receive ISO certification, the Company cannot be left behind in the competition. Certification can also demonstrate to both existing and potential customers that the Company has a high quality management system for manufacturing.

4.2 Factors For a Successful ISO 9002 Implementation

There are some hurdles that firms have to overcome in order to achieve ISO 9000 certification. It needs strong leadership and company-wide understanding. These are the steps taken by DMIB which lead to successful implementation and achieving of ISO certification.
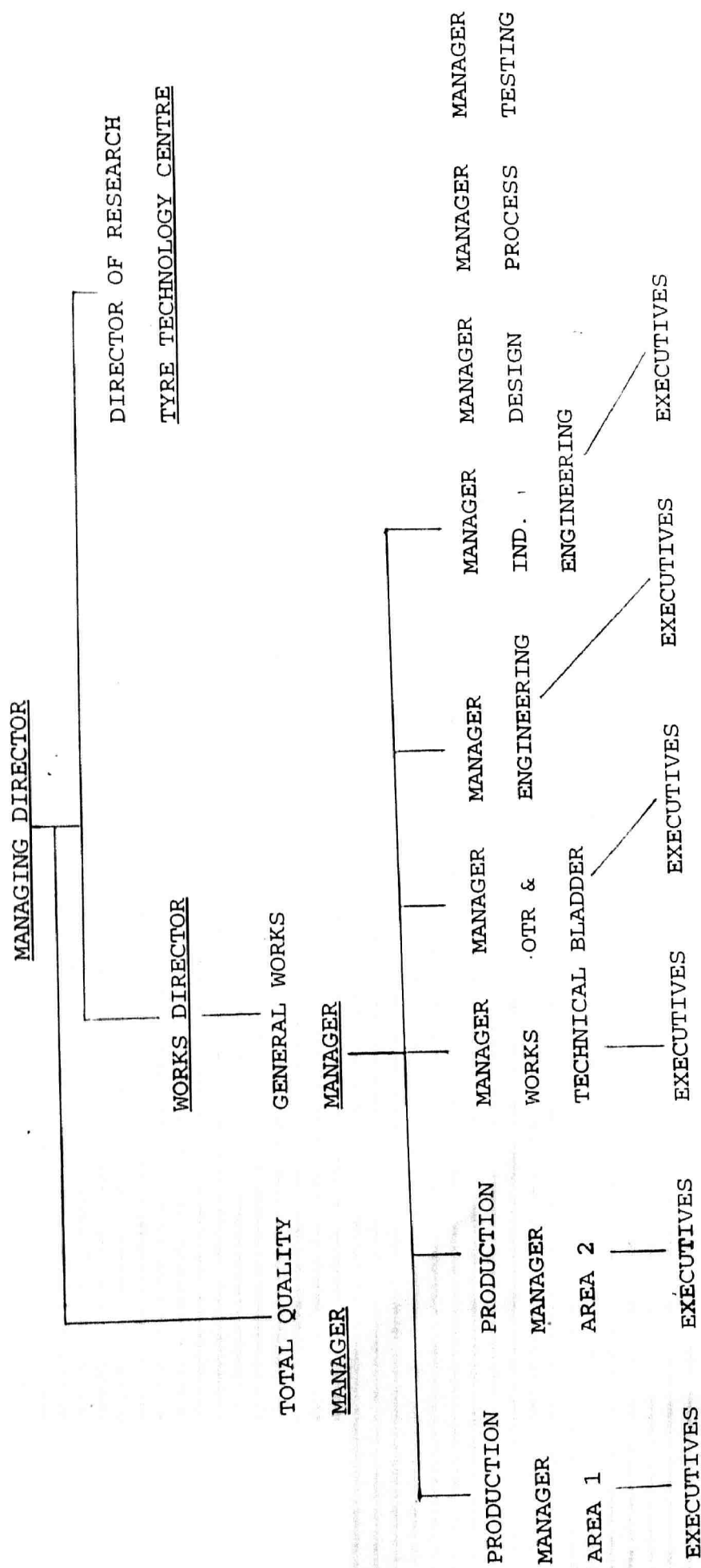
4.2.1 *Top management commitment* is very important as top management will approve the resources and assign responsibilities to achieve the certification. Without their commitment, the process would take longer and would be more painful than it has to be.

4.2.2   *Quality Management Review* is the formal meetings, chaired by the director of the Company to review matters related to quality areas. Actions are discussed and responsibilities are assigned in this meeting.

4.2.3   *Quality council or committee* has been formed that comprises of senior members from every area of the Company's organisation. The committee principal function is to look after the quality issues in the Company and delegate quality responsibility throughout the organisation. Exhibit 3 shows the Company's quality structure.

4.2.4   *Quality awareness* for all employees. Quality messages are sent out through newsletter, notices, banners, posters and others media to create quality awareness. Education on important of maintaining high product quality has be conducted regularly. The Company is aware that awareness and education could reduces resistance to change. Some important messages are 'Quality First', 'Customer Satisfaction', 'Team Work', 'Avoid Accident, Think Safely, Act Safely' and others messages.

EXHIBIT 3   DMIB ORGANIZATION QUALITY STRUCTURE

MANAGING DIRECTOR

- WORKS DIRECTOR
  - GENERAL WORKS MANAGER
    - PRODUCTION MANAGER
      - AREA 1 PRODUCTION MANAGER
        - EXECUTIVES
      - AREA 2 PRODUCTION MANAGER
        - EXECUTIVES
    - WORKS MANAGER
      - TECHNICAL BLADDER
        - EXECUTIVES
    - OTR & MANAGER
      - EXECUTIVES
    - ENGINEERING MANAGER
      - EXECUTIVES
    - IND. ENGINEERING MANAGER
      - EXECUTIVES

- DIRECTOR OF RESEARCH
  - TYRE TECHNOLOGY CENTRE
    - DESIGN MANAGER
    - PROCESS MANAGER
    - TESTING MANAGER

- TOTAL QUALITY MANAGER

4.2.5   *Effective Documentation* is very important in assuring success. In this Company, the pyramid of quality model is adopted. 3 levels of documentation are adopted:

- Quality Assurance Manual

  This is a top level manual which contains a policy, authority and responsibility in organisation. This manual is issued to specify a Quality Assurance Programme in which quality system principles have been utilised to assure that the products are conform to specified requirement. This quality assurance manual is controlled and issued to the Directors and Departmental Heads only.

- Quality Procedure Manual

  A very comprehensive manual that includes the objectives and what, who, how, when and where of each activity that addresses the requirements of ISO 9000. The description of functional responsibility may be reviewed by internal customer or external customers or suppliers. These manuals are kept and maintained by the respective departments and the Quality Assurance Department acts as the central body and maintains a copy of all manuals.

- Work Instruction

  This provides details of how specific tasks (design, production, calibration, inspection, testing, etc.) are carried out in compliance with standards and quality plans. These instructions
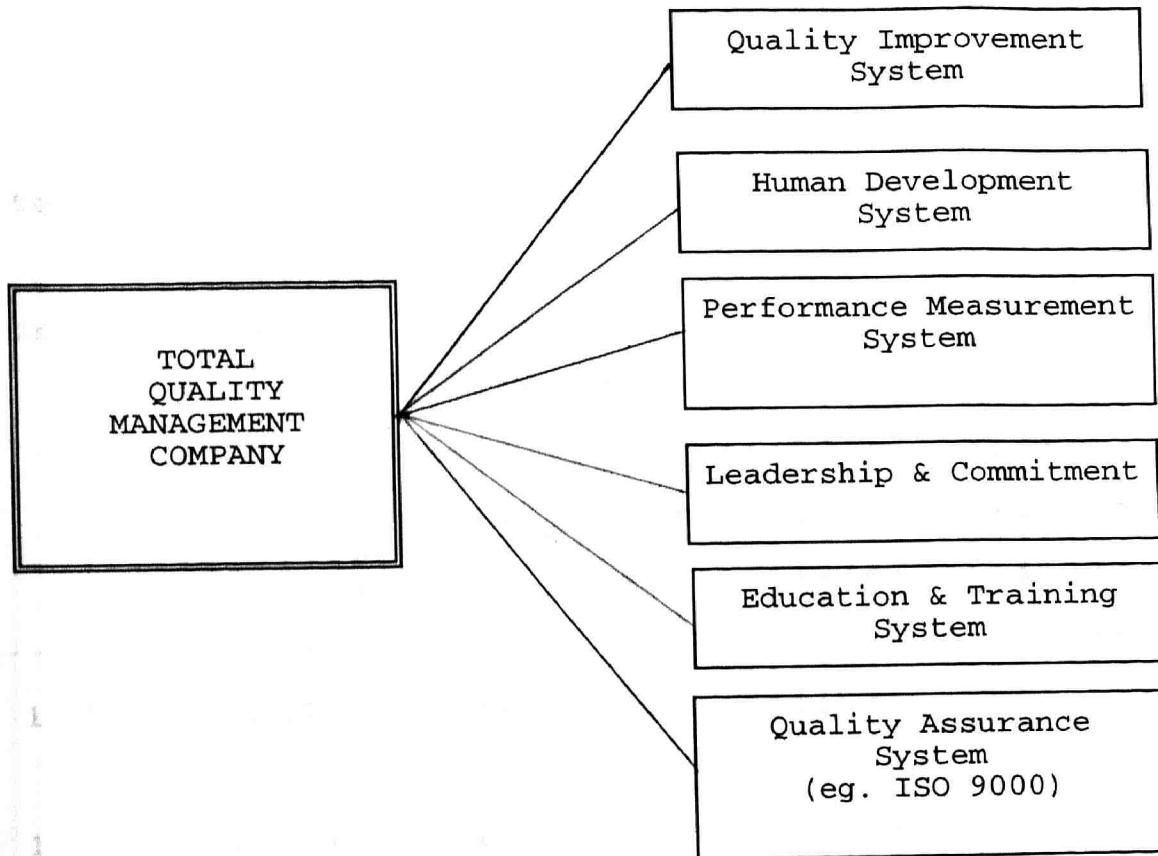
are kept at respective section in the factory.

4.2.6   *Follow-up* by top management and the committee is necessary to ensure the right practices are being carried out. A well scheduled of internal audit and practical corrective action procedures must be in place. Internal quality audit verify whether quality activities comply with planned arrangements (Quality Procedure) and determine the effectiveness of the quality system. A complete cycle of auditing takes 7 months to complete and findings are analyse and discuss in the monthly tyre management meeting and corrective action are taken to overcome the problems.

4.3   **Implementation of TQM**

There are three possible ways of implementing TQM; top-down, bottom-up and middle-out. The Company use the approach of top-down implementation. This is because this approach has the highest probability of successful. The top-down approach started from the top management and cascaded down to the people on the shopfloor. Exhibit 4 shows the model of a TQM organization.

EXHIBIT 4.   MODEL OF A TQM ORGANIZATION

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                                         ┌─────────────────────────┐
                                         │   Quality Improvement   │
                                         │         System          │
                                         └─────────────────────────┘

                                         ┌─────────────────────────┐
                                         │    Human Development     │
                                         │         System          │
                                         └─────────────────────────┘

    ┌─────────────────────┐              ┌─────────────────────────┐
    │       TOTAL         │              │ Performance Measurement  │
    │      QUALITY        │              │         System          │
    │    MANAGEMENT       │              └─────────────────────────┘
    │     COMPANY         │
    │                     │              ┌─────────────────────────┐
    └─────────────────────┘              │  Leadership & Commitment │
                                         └─────────────────────────┘

                                         ┌─────────────────────────┐
                                         │   Education & Training   │
                                         │         System          │
                                         └─────────────────────────┘

                                         ┌─────────────────────────┐
                                         │    Quality Assurance     │
                                         │         System          │
                                         │      (eg. ISO 9000)      │
                                         └─────────────────────────┘
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If the commitment from the top is visible, then the rest will follow suit. Management must lead the effort, providing a TQM vision and philosophy for the company. Management must also lead the total quality change.

Why Develop TQM in the Company ?

The need for establishing TQM in the Company is identified by management as essential to sharpen the Company's competitiveness over the current strategic time-frame. Table 2 shows some financial statistics for the Company over the past 7 years.

Table 2: COMPANY FINANCIAL STATISTIC FROM 1989 TO 1995

Amounts in RM'000

		Year Ended 30th June			
	Turnover	Profit before tax	Profit after tax	Total assets employed	Earning per stock unit (sen)
1989	246,767	34,866	21,731	213,439	7.2
1990	295,036	39,476	23,508	238,395	7.8
1991	302,179	39,356	25,147	205,319	8.4
1992	302,950	39,338	25,745	202,176	8.6
1993	307,820	38,453	27,717	211,037	9.2
1994	323,924	38,427	28,540	224,640	9.5
1995	366,407	30,950	25,169	254,629	8.4

In view of the highly competitive market and to ensure DMIB's survival and growth in the future, the implementation of TQM is a question of survival whereby management has full responsibility to take up this challenge and fulfil the vision. It offers the best prospects for bringing about a cultural change and establishing a quality culture unique and suitable to the long term survival of the Company.

Quality issues must be treated and placed on the top of agenda for Company to succeed. Strategic quality planning is needed to address the importance of quality for survival. Quality certification and improvement need not be confined to manufacturing and related areas. Finance, Administration, Human Resource, Marketing and Safety can apply the same concept. People in an organisation must understand the real issue of quality. Quality is the responsibility of everyone in the organisation. It is therefore important that everyone is effective (doing the right things all the time) and efficient (doing things right all the time) in their work as consumers and users today are highly educated, intelligent and sophisticated. TQM can be related to the assimilation of the quality culture in the company where every level of the workforce understands what quality is and what is needed to make products and services of high quality.

4.5   TQM Culture

4.5.1   Company's Culture

Implementing TQM requires changing the culture of the company. Uttal (1983) describes company culture as the system of shared values (what is important) and beliefs (how things work) that interact with a company's people, organisational structures and control systems to produce behavioural norms.

It is clear from the established literature that the culture of an organisation can have a significant influence on both organizational and individual behaviour and is a major contributor to implementation success of its strategies.

Changing culture takes time and effort. Management needs to develop mission statement and quality system (ISO 9002) and communicate to all levels of the company to seek commitment and ensure successful implementation. Management needs to create a corporate culture that is transparent and conducive to continuous quality improvement efforts. Corporate culture is important as it influences employee attitude and behaviour and action towards work and customers.

Management behaviours are a critical element in TQM success. Time use, priorities, daily activity and relationships with employees are important indications

of what is going on in a organisation. Real change occurs only after the people in the organisation begin to change what they do on a daily basis. This is particularly true for managers and supervisors. It reflects a new set of priorities and actions (Jerry Glover 1933).

The core values of a quality culture are customer focus, teamwork, employee autonomy, recognition based on attainment of quality goals, open and honest communication and continuous improvement of work process through prevention.

4.5.2 **How to implement TQM ?**

TQM is a philosophy and not a programme, with a starting date and a finishing date. It is a continuous process towards efficient and effective operations in achieving organisational excellence. There is actually no single best way of implementing TQM. TQM should not be regarded as a wholly-minded approach to running an organisation. It requires a carefully planned and fully integrated strategy, derived form the mission. That way it will help an organisation to realise its value.

The Company is aware that elements that make TQM a success are:

-    Leadership by top and senior management
-    Quality improvement structure and systems

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- Education and training
- Communications system
- Reward and recognition system
- Organizational performance measurement systems

4.5.2.1 Leadership by top and senior management

Leadership by example is the principle for management from top to senior management and the executives in the Company. Management Support Team was initiated to help supervisors and employees fulfil their various projects and solving factory problems such as poor systems and work methods, inefficient design and untrained employees. The Management Support Team consists of a team of executives and superintendents whose sole objective is to look at issues relating to 4M ie machine, material, method and man and 4S in the workplace. 4S is Japanese culture related to the cleaniness and tidyness of the workplace. 4S means

Seiri   Sort out unwanted items and dispose

Seiton   Keep things neat and properly arranged

Seiso   Clean up your workplace

Seiketsu Manitain cleanliness of your workplace at all
          time

The purposes of the Management Support Team is to support factory supervisors and employees in achieving daily objectives such as working to time, using the 4S in the workplace, encouraging safe working practices in

the factory and using 2G (Genze Genbutsu) ie analyse and solving problem at the shopfloor and 4M in solving problems.

4.5.2.2 Quality improvement structure and systems
Exhibit 3 shows the organisation's quality structure of the Company. It is the responsibility of each employee and departments to perform his function with the objective that conformance to requirements is the only successful way towards total quality assurance and customer satisfaction.

4.5.2.3 Education and training
Training and experience is an on-going process and it is the Company philosophy that everyone is part of the team. Education and training is seen as important activity and improvements on existing working conditions and environment must be done. Training and re-training is important to the Company so that the employees are prepared to meet the industry challenges and to keep abreast of new technologies. At the end of each training, certificates are issued to all participants who completed the training.

4.5.2.3.1 Team Building Courses
Team Building Course (TBC) is one of the core monthly training programme conducted for all employees to enhance teamwork and co-operation amongst employees.

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The objectives of this programme are to enable employees to get to know one another in depth and to build trust and confidence amongst them. Twenty seven TBC programmes (around 700 employees) have been conducted with participants ranging from senior managers and executives to engineers, other staff and operators.

4.5.2.3.2 Total Quality Management course

Total Quality Management courses were conducted in 1994 for all levels of employees. Quality improvement tools and techniques such as Pareto chart, Plan, Do, Check and Action (PDCA), Fish Bone Chart, Statistical Process Control (SPC) and other quality tools were given during the training.

Statistical process control techniques are used in some of the operations. Data collection and statistical analysis are done and stored electronically. Recorder charts are installed in practical operations to indicate trend and show variability.

4.5.2.3.3 Workplace First Aid Training

Workplace First Aid training programme has embarked for all operators which is to help all operators with the knowledge and skills required for the prevention of accidents and sickness.

4.5.2.3.4 Total Preventive Maintenance (TPM) and 4S Appreciation programme

The in-house training on the TPM and appreciation of 4S was conducted in 1995 for the employees. This is to enhance the awareness amongst employees the important of maintaining clean and tidy machine and workplace for comfort and better working environment.

4.5.2.3.5 Tyre product seminar

A series of the Dunlop tyre product seminar was conducted continuously for the Company's dealer to upgrade professionalism in the dealer network and customer service.

4.5.2.4 Communications system

As a continuation of the development programmes, the Company has initiated a series of training programmes for the employees to enhance the effectiveness of the communication.

4.5.2.4.1 Mentoring, Coaching and Communication Skills training

Mentoring, coaching and communication skills training for all those who work very closely with the direct workforce (operators) to develop and improve the skills in dealing with manning and production problems to improve quality and productivity.

4.5.2.4.2 Employee Wellness Programme

Employee Wellness Programme was held in 1995 to help the employees understand what a 'better lifestyle' meant, as a healthy body contributes to an increase in productivity.

4.5.2.5 Reward and recognition system

People must have pride in what they do and it follows with a proper reward and recognition system. Many creative ways of rewarding and recognising one's achievement can be implemented.

Recognition means encouraging individuals and groups by acknowledging their achievements. It also serves as a spur to further effort through appreciating contribution already made. There are both formal and informal ways of giving recognition. Some examples of formal recognition are presentation of their accomplishments at management reviews, publication of achievements in company media, lunches or dinners, award certificates and other tokens. Informal recognition includes words of thanks and favourable comments made to others about the individual or group.

Reward is the giving of financial benefits linked to performance, further reinforcing the day-to-day recognition processes. Two examples are merit-based

increase in earnings resulting from performance appraisal, and the promotion of an individual who contributes in a major way to quality improvement.

An appropriate system of recognition and reward is critical to any company's TQM programme, particulatly as the quality improvement process offers greater involvement to ordinary working people. Both recognition and rewards have a powerful motivating effects on people at work. People work for many reasons - for achievement, advancement, increased responsibility, recognition, job interest as well as money. Both recognition and rewards enhance a person's awareness of self-worth and self-esteem.

4.5.2.5.1 Small Group Activity (SGA)

Small Group Activities (SGA) were introduced in 1994 with the idea that people will take more interest and pride in their work if given the opportunity to influence decisions and given a say on how to carry them out. Employees from the same work area meets regularly to discuss and solve problems affecting its work area.

4.5.2.5.2 Suggestion Scheme

Suggestion scheme was launched in 1994 to encourage employee to come out with good idea to improve their work and working environment. For every suggestion submitted to the Suggestion Committee, the employee will

get a sourvenir of mug or T-shirt. The suggestion is then evaluated by the committee and points is given to the suggestion. Present in form of hampers is given based on the point awarded to the particular suggestion.

4.5.2.5.3 Excellent Attendance Award

Awards in terms of gold pendants are presented to employees that achieve zero medical leave and long service in the Company every year. A dinner is held to honour long service and dedicated employees and their spouse.

4.5.2.6 Organisational performance measurement systems

Quality improvement efforts must be able to measure and evaluate to determine progress toward attainment of established quality goals. The Company has initiated a two-level communication process with all employees. The first level relates to the overall performance of the Company and the other on individual's performance. Both communications are conducted at the half yearly to provide feedback on issues, opportunities and achievement of the Company and employees so that the Company as a whole can attain a new level of excellent.

4.6   Mission Statement

To ensure a focus on a common purpose, a Company **Mission Statement** is established. The mission is the concept around which the Company can rally. The mission states the rationale for the organization's existence. The Company Mission Statement is as follows:

The mission is "to be the best in each of the businesses in the region to ensure the survival and growth in the future". To accomplish this, the Company shall provide quality products and services at competitive prices. This will allow the Company to meet the needs and aspirations of the customers and stakeholders.

Together with the launching of the mission statement are the launching of the vision statement and value statements. The Company vision statement is "Leadership Through Technology, Quality and Services". These statements are meant to provide all the employees with the direction to achieve the goals of the future.