Implementation of ISO 9000 in A British Textile Mill

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ABSTRACT

ISO 9000 quality systems have been developed to provide necessary conceptual and structural input for fulfilling customer consistent and desired product quality. British textile businessmen now realize that ISO 9000 is very effective tool to maintain competitiveness in the global market for their export. Many textile companies apply for quality management system certification based on these standards. C.S. Huang discusses the case study of implementation of ISO 9000 in the British textile industry.

Key Words: Quality Management System, certification, continuous quality improvement, and customer satisfaction
1. AN OUTLINE OF THE COMPANY

“Parkland Manufacturing undertakes to deliver products conforming to our customers agreed requirements, on time, every time. We believe in the philosophy of fault prevention to create a right first time environment. To achieve this, every person in the organization was committed to the policy of continuous quality improvement.”
B.E.Lodder, Chief Executive Officer.

Company profile
- Established: 1908
- Turnover £30 million
- Employees: 350
- Main products: Worsted fabrics
- Main markets: UK, Germany, Middle East, and Far East

2. REASONS FOR SEEKING CERTIFICATION

According to Miss Strachan, the quality assurance manager of Parkland, quality was recognized by Parkland as a fundamental requirement for long-term survival and for entering competitive markets. The main motivation for certification seemed to be the need for developing an effective quality system.

Parkland believed that certification to ISO 9000 demonstrates an effective system which can improve product quality, cost control and business performance.

3. THE QUALITY SYSTEM

3.1 The quality system before ISO 9000

Quality was defined as ‘meeting, specifications and tolerances, testing, inspection and re-work’. Parkland’s quality system emphasised a problem-solving approach that was unstructured, individualistic and function oriented. At the mill, the formal operational procedures and working instructions were inadequate and the quality element of “document control” was incomplete. Some were outdated and they were not reviewed regularly. The process was a gradual improvement over many years, which therefore involved different managers and which catered for the changing requirements of ISO 9000. However, some procedures were in place in certain areas such as the laboratory for scouring and dyeing.

3.2 The quality system after ISO 9000
After ISO 9000 implementation, they had achieved a cultural change: everybody was responsible for quality and responsibility was delegated to the lowest organizational level possible. In a quality management program, quality was defined as meeting users’ needs and wishes and was built in as a result of total commitment. The problem-solving approach was structured, participatory, and process-oriented (cross-functional). The company established a quality assurance department which was in charge of the following work:

- incoming material inspection---in sampling;
- outgoing product inspection---100%;
- ISO 9000 implementation;
- customer complaints.

The site director was in charge of production control and process control. The new system is shown in Figure 1.

4. METHODS OF PREPARATION

Since the company had an experienced quality department, which had a good command of the full range of integrated management tools, and since the quality assurance team were enthusiastic, it was possible to achieve and maintain certification without the help of an external consultant. The company established a seven-stage programme to achieve certification as follows:

Stage 1: Chief executive decision and commitment
Stage 2: Education and training
Stage 3: Preparation of quality manuals, operations procedures and working instructions
Stage 4: Implementation
Stage 5: Internal audits and corrective actions continue
Stage 6: Pre-assessment by BSI
Stage 7: Registration

4.1 Education and training

In 1988, the directors of Parkland were impressed by the quality doctrine presented by Philip Crosby, during a course on quality education for top management at Crosby’s Florida Quality College. Crosby emphasised the need for management commitment towards quality, led by top management; for management by objectives; and for continuous improvement. Subsequently, Parkland launched their “A heritage for excellence” initiative. This was a commitment to the principle of quality management that subsequently permeated the
company at all levels. Parkland found it necessary to develop its own training program, based on the Crosby material; to embed the principle and practices of the Parkland quality philosophy throughout its operation. First of all, Parkland held some quality courses within the company using those directors who had graduated from the Philip Crosby Quality College as lecturers.

In the second stage of preparation, the quality assurance manager was sent to an ISO 9000 seminar, attended and passed a five day lead assessor’s course. An internal auditing course was developed by the quality assurance manager for quality control personnel within the company. This consisted of sixteen hours in-house training designed to develop the knowledge necessary to become an internal auditor and to guide delegates to a better understanding of how to prepare, conduct and report on audits. Furthermore, the company was convinced that everyone on the shop floor must be responsible for quality. Therefore, a booklet about BS 5750 was distributed to each operative for their self-study. The detailed list of education and training is shown as in Table.

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours Occupied/class</th>
<th>Cumulative No of attendants</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Quality education system for top management held by Crosby in the USA</td>
<td>30 hours (5 days)</td>
<td>5 directors</td>
</tr>
<tr>
<td>2. Quality management seminar held by directors who attended Crosby’s course. (In the house training)</td>
<td>60 hours</td>
<td>40 (Managers and any director who did not attend the above course)</td>
</tr>
<tr>
<td>3. Lead assessor training by BSI</td>
<td>30 hours (5 days)</td>
<td>1 (QA manager)</td>
</tr>
<tr>
<td>4. Internal quality auditing held for quality staff by quality assurance manager</td>
<td>16 hours</td>
<td>6</td>
</tr>
<tr>
<td>5. Preparation of ISO 9002 documentation</td>
<td>30 hours</td>
<td>1 (QA manager)</td>
</tr>
<tr>
<td>6. “About BS 5750” (The booklet was distributed to each operative)</td>
<td>Self-study</td>
<td>250</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>330</td>
</tr>
</tbody>
</table>

Source: Based on the author’s research at Parkland Manufacturing
Figure 1 The current management system in Parkland Manufacturing

(Chaired by the Chief Executive, attended by the directors of production, design and development, sales, finance and quality)

Once a month (half day meeting)

Commercial Review

(Chaired by the operations director, attended by the production director, the quality director, the production managers and the quality assurance manager)

Once a month (3 hour meeting)

Quality Meeting

(Chaired by the quality director, attended by the director of design and development, quality assurance manager, and the people who were invited depending on the agenda)

Once a month (3 hour meeting)

Daily Production Meeting

(Chaired by the production site director, attended by managers, supervisors, and the people who are invited depending on the agenda)

Daily (Up to one hour)

Routine Quality Work

(Diverse activities at all levels within the company)

Source: Based on the author’s research at Parkland Manufacturing
4.2 Preparing a quality manual, procedure and working instruction

First of all, they interpreted the ISO 9000 standards to their own needs. All divisional quality manuals such as design and marking, quality and technical, weaving, dyeing and finishing, and sales, were structured in an identical manner. When the manual was written, the following existing procedures and working instructions were simultaneously amended to give a more detailed description of the jobs within the quality system.

Procedures:
1. General procedure
2. Purchasing and production
3. Yarn testing
4. Fabric production
5. Design and development
6. Customer complaints

Working instructions:
1. Goods in and sort
2. Batching
3. Milling and wash off
4. Bleaching and dyeing
5. Burling
6. Decate
7. Shrink and relax
8. Warehouse

For the preparation of procedures and instructions which did not already exist, individual managers and supervisors wrote the draft, which was then edited by the quality assurance manager. Since Parkland was a medium sized enterprise, their quality system was simple and clearly established. They merely prepared appropriate written procedures and instructions for what they needed.

4.3 Document control

All quality manual documents were prepared in the way prescribed in ISO 9000.

(1) All procedures and related documents were issued to a registered list of recipients as indicated on the following holder list.
Holder List
(2) Only registered holders of procedures received new issues and updates. Controlled and uncontrolled procedures were clearly identified by signature, and obsolete copies were retained for reference.

(3) The master procedures manuals were held in the quality assurance department and the department procedures control sheets identified changes, approvals and issue dates of all procedures and changes.

4.4 Conducting internal audits

In order to ensure the effective operation of the quality system, continuous internal audits were carried out. Auditing was treated as an important tool, and it was used to determine both compliance and effectiveness. Many sources of information existed, which provided indicators of the effectiveness, efficiency and economy of the company’s operation. Audits gathered facts. The main sources among these included:

- system audit report
- in-house production audit report
- customer complaints
- non-conformance reports
- registered quality problems

5. DIFFICULTIES EXPERIENCED

5.1 Increased paper work

According to Miss Strachan, quality assurance manager of Parkland, the assessors pressed for the paperwork system to be further developed. Therefore, a large amount of paperwork was required and a considerable amount of time was required in the preparation of additional documentation.
5.2 Lack of commitment

Some managers did not recognize the need for their own contribution to quality management. When an internal audit was carried out, several non-compliances were found and corrective actions required. However, corrective actions were not completely implemented. Irrespective of how busy they may be, the omission of quality management activities by production personnel was never condoned by senior management. Some managers also often misinterpreted their quality management obligation as an extra burden unrelated to their real job.

6. LESSONS LEARNED

1. Every company should implement ISO 9000 to suit their individual needs.
   Miss Strachan, quality assurance manager, stressed the need to adopt a quality system appropriate to a company’s needs. She believed that her efforts to achieve this were largely responsible for the success of the current system.

2. ISO 9000 provided a basis for continuous improvement.
   At Parkland Manufacturing, continuous improvement was identified as a priority for the ISO 9000 program initiated in 1989. ISO 9000 not only satisfied the requirements of contract, at a point in time, but also provided a basis for continuous improvement. For instance, delivery time of dyed cloth was reduced from six to eight weeks to three weeks and delivery time of color woven type fabrics was also reduced from ten to twelve weeks to six weeks. According to Parkland, it was emphasised that when the ISO 9002 quality manual was implemented as a total system, the attainment of continuous improvement on a well-managed basis was very evident.

7. IMPACT OF ISO 9000 ON THE COMPANY

In conclusion, according to Miss Strachan, “Our company’s experience with quality management systems based on ISO 9000 has been a positive one.” The benefits included:
- reduced delivery time;
- a more efficient system;
- more motivated personnel with a desire to pursue continuous improvement;
- improved customer satisfaction and loyalty.

Parkland director, Mr. Malcolm Campbell, said “A year ago we were quoting six to eight weeks for dyed cloth and now, on a planned contract basis, we can do it in three weeks”. “On color woven types fabrics, we are now doing it in six weeks.” He added, “we have taken a lot
of business away from our competitors because they have not been making the necessary changes to achieve quick response to customer’s requirements.”

8. PLANS FOR THE FUTURE

Parkland realized that ISO 9000 certification was not the end of journey. Instead, it established the base upon which the quality superstructure should be built, not only as a means to gain publicity and marketability but also to achieve continuous quality improvement.

Miss Strachan emphasised that the quality system installed in compliance with ISO 9000 must be designed to increase efficiency, productivity and to achieve continuous improvement in quality. Furthermore, at Parkland Manufacturing, there were four plants located at Huddersfield, Bradford, Oldham and Halifax. The Huddersfield, Bradford, and Oldham plants had already received their ISO 9000 certification. Parkland was so confident of this new approach toward quality management that the Halifax plant was going to prepare for its certification in the future.