
QUALITY PROBLEMS FACING TANZANIAN INDUSTRIAL FIRMS

M.S. Msafiri* and B.A.T. Kundi**

*Tanzania Automotive Technology Centre, Dar es Salaam, Tanzania

**Dept. Of Mechanical Engineering, University of Dar Es Salaam, P.O. Box 35131, Dar es Salaam, Tanzania

ABSTRACT

This paper reports on the results of a study of quality problems facing Tanzanian industrial firms. The results show that Tanzanian firms do not set goals with respect to quality and quality management, thus their quality performance is generally poor. Although there are a number of operational problems constraining the companies, the main problems lie with the internal management of the quality function. Extensive ideas and suggestions for improving the performance of the quality function are given.

INTRODUCTION

The liberalization of the Tanzanian economy has enhanced interests in quality, causing increased demand for products which satisfy the needs of users and produced at the right cost. A number of reports on quality problems in Tanzania have pointed out a number of quality predicaments including those due to unavailability of raw materials at the right time and at required quality level, due to obsolete technology, due to lack of technical know how e.t.c, [1]. However, a case study of seven industrial firms in Dar Es Salaam which forms the basis of this paper (see [3] for full details), revealed that the dominant obstacle to the performance of the quality function lies, firstly, with the manufacturers themselves (i.e., managing quality within the companies), and secondly, with the lack of a conducive and supportive quality environment.

PROBLEMS RELATED TO THE MANUFACTURERS

Management

Today the quality problem in Tanzanian firms is no longer one among many; it is now the real major problem. In solving the problem, or fixing quality, it means to fix the whole company, a task that cannot be simply delegated. Since the core factor in achieving quality in all aspects is efficient management, then the new impetus for attaining quality will be limited only by the pace at which the top management in our industrial organizations becomes proactively engaged in this responsibility. The important aspects include quality awareness and commitment, and internal communication.

Quality Awareness and Commitment

Tanzanian firms are aware that consumers are no longer interested in shoddy products. But, they have failed to strike a balance in enacting quality. In general, quality awareness and commitment are very low, especially in the service part of the companies. Top managers have been found to be fairly detached from quality; their attention focuses mainly on financial aspects and their decisions reflect that focus. Further, the entire responsibility for quality activities is delegated to the so called "quality controllers."

It should be noted that the critical success variable in Japanese quality leadership is the high active participation by upper managers. The USA lost the worlds' leadership in quality primarily because top management of her industries was relatively isolated from the quality function [2]. In the same way many Tanzanian firms, according to the findings of the study by Msafiri [3] do not see reasons to make serious changes in quality. Lack of accountability and willingness to learn new ideas in Tanzanian firms is predominant. If managers were seriously answerable for actions carried out and performance achieved in their firms this behaviour could have changed.

Internal Communication

Companies should effectively utilize their personnel, working together, to achieve quality outputs. Towards this, internal communication is invaluable in harnessing peoples' expertise to make improvements both in product quality and quantity. Managers and engineers especially those in the parastatals are well educated, but it has been observed that they have had different interests. In some companies, two to three levels of employees have been created, i.e., managers, engineers and labour. These do not interact sufficiently and thus do not share same goals.

Creation of a company culture that stimulates open communication exchanges is extremely important for quality and other company objectives. This could be done through regular formal meetings, internal seminars, and extensive informal interactions among workers (of all types).

We have observed through the study that, in most of the times, engineers in this country have not made effective use of their skills, in improving the quality of products. This is especially true in the parastatal companies. Prevailing circumstances have made engineers fail in imparting the necessary quality knowledge to shopfloor workers.

Organizational barriers to quality management have been the most evident. It has been found that in many firms production is a job of one unit while quality is of another. And in general, there is a relative lack of effective coordination between the units for improved product quality. Management, therefore, should become more proactive in improving internal communication. It should acknowledge that, positive worker attitudes including commitment to excellent product quality are effectively and efficiently developed through enhanced positive interactions between workers within the context of work. To succeed in quality improvement, management must break organizational barriers, so that multi-function causes of quality problems can be identified and solved on a regular, on-going, basis.

INFORMATION

Transformation of Market Needs, Standards and Specifications.

Companies can only be sustained by continuous satisfaction of market needs. Market requirements have to be transformed into good products through efficient and effective design of products. The latter requires a capable design department, whose output is well prepared technical drawings. In general, we have observed that most Tanzanian manufacturing firms lack well equipped and staffed design departments.

The lack of effective design departments has made some companies to use samples instead of well prepared technical drawings, thus producing products which do not meet important quality standards. If a company must work on the basis of a sample, then it should first, determine the proper dimensions and tolerances using books on established standards, and requisite measuring tools. Second, it should use requisite testing facilities to determine the actual material characteristics and specifications. On the former, assistance can be sought from R&D organizations such as TEMDO and the Faculty of Engineering at the University of Dar Es Salaam. On the latter aspect, assistance can be sought from TBS and the FoE at University of Dar Es Salaam.

There is therefore ample capacity to solve design problems within the country. What is lacking is coordination and sincere cooperation between institutions.

Documentation

In general, records keeping in Tanzanian firms is very poor and systematic and cumulative quality records are almost non-existent. Firms cannot conduct improvement activities without reference records. The latter will enable the companies to analyze existing problems and provide means of setting new objectives.

Computers, could simplify the task of managing quality records/information. Unfortunately, at the present, Tanzanian firms do not utilize computers in quality. There is a need to start making serious use of application

software packages now available which have been purpose-designed for quality information systems.

Another documentation issue that is seriously lacking in this country is the use of quality manuals. Very few companies have taken bold measures to prepare quality manuals.

MANUFACTURING

Factors determining quality in manufacturing in our firms are varied. The crucial ones are the following:

Machinery and Equipment

Tanzanian firms complain that poor quality of their products is caused by old machinery and equipment. These machines range from 5 to 40 years old. But Schroeder[5], takes a strong counterposition. He says that in Europe and America there are machines as old as 40 years which are delivering quality products in reasonable levels of consistency.

Therefore, the problems in our firms are poor maintenance and unskilled labour which cause many quality-related problems. Further, measuring equipments like callipers, micrometers, screw gauges, e.t.c., are not in good conditions due to old age, misuse and improper storage.

It is important to note that the spare parts problem should no longer be a major bottleneck to proper maintenance of facilities. As it has been observed [6], given proper parts management, facilities exist in the country to produce more than half of the spares for textile and engineering industries. In this case, management is once again shown to be a major factor in meeting quality objectives. Moreover, with the liberalization of trade, standard spare parts should become increasingly more available. Effective maintenance management thus remains an important challenge for Tanzanian firms in the efforts to aspire for quality of their products.

Raw Materials

The supply of raw materials to our firms is faced with serious problems. Nearly 95% of the raw materials needed by the local engineering manufacturers are imported. Usually, the cost of raw materials forms a large proportion of the final selling price of a company's products. Furthermore, the quality of these materials significantly influences the quality of the manufactured products.

Unfortunately, it appears that the purchasing function in many of our local firms does not receive the attention which it deserves in order to ensure that the selection, quality, delivery, price, acceptability and reliability of raw materials are proper.

Another problem observed relates to the Open General License (OGL) facility. Today companies with import licenses can import directly from abroad through the facility which was created by the World Bank and other donors. However, the manufacturers should have the necessary cash cover. Unfortunately, problems arise in the opening of Letters of Credit (LC); the procedures are often tedious, hierarchical and disappointing. Thus companies have problems of securing sufficient raw materials, and since workers are paid while not producing, firms realize undesirable costs.

Personnel Motivation and Skills

We have found that the lack of requisite knowledge and motivation affects product quality considerably in Tanzania.

Lack of knowledge: Actually, managers of the parastatals are well educated. The National Development Corporation, for example, employs engineers and posts them to its subsidiaries. Yet, despite all these efforts, quality awareness in Tanzanian firms is low; quality knowledge is extremely lacking and general quality education and skills in the firms which were studied are deplorably low. Only about 33 percent of production workers have at least National Vocation Training Centre education. Quality knowledge is limited to 2% of the entire work force, and again it is not fully utilized. It is no wonder then that these firms are failing to deliver high quality products. Low operator skills contribute to less precision work and

undesirable breakdowns. The solution would have been to train employees through MEIDA and the Tanzania Bureau of Standards (TBS), but we have observed that these institutions are hardly regularly consulted. Thus, given the above situation, quality assurance set up in Tanzanian firms leaves much to be desired.

Indeed quality training has been unsatisfactory hitherto, and especially in the use of powerful tools for process control, e.g. statistical process control. The latter could assist in manufacturing products to design specifications and minimizing defects so that as few flawed products as possible will find their way into buyers hands. Producers should learn to make things right in the first place, and stop looking at products to find the bad ones. Old ideas of using inspection to weed out defects should be thrown overboard and replaced with modern quality concepts such as Total Quality Management (TQM).

Lack of motivation: The cost of living in Tanzania on average increased in real terms, by 480% during 1969 to 1981 period. But salaries increased by only 15% in the same period. At the time of the present study [3], the average monthly salary in the firms was Tshs. 17,888.35. This hardly suffices a family for a week!. Motivation is thus very poor especially at lower levels. This has induced managers to often use their positions for personal benefits rather than working for the best interests of their companies.

Production of quality products has been adversely affected by the above situation because it contradicts the basic theory underlying achievement of quality. Employees' ambitions are frustrated and their spirit made very low. With reference to Maslow's hierarchy of needs, we found that, most of employees' primary needs are hardly met. Further, the situation creates a poor base for quality improvements because without personnel quality (skills and motivation), attaining quality products is impossible. With good income workers won't be forced to seek parallel jobs for survival. They would be trusted for more work and responsibility in their respective organizations. Simultaneously, they would have reasons to contribute their efforts diligently to solving quality problems.

Subcontracting

Aversion to subcontracting persists among Tanzanian firms. The culture to subcontract is lacking and, unless forced by circumstances seldom do firms subcontract. Firms should accept the fact that, none of them is completely self-supporting. The complexity of most of the processes which are operated in industry, places them beyond the full control of any one firm. Further, the expertise level and efficiency in different firms differ. Therefore, companies should create mutual trust and increase cooperation. They should conduct surveys aimed at discovering activities that can be done better and cheaply by other firms. Those should be subcontracted so as to increase the quality of products in a cost-efficient manner.

Testing is another important aspect to quality where inter-institutional cooperation is highly desirable. It is surprising, however, to observe that, while most firms are generally lacking in testing laboratories, TBS testing facilities are not heavily utilized.

Product Competitiveness

Tanzanian firms are not very cost conscious. This problem is widely spread, especially in the public sector companies. The present situation needs to be changed. We should vigorously promote competitive products based on a balance between quality and cost factors. We have found that some firms are not aware of the effects of poor quality, let alone the importance of conducting quality costing. Costs of poor quality cuts down on the competitive edge of a company's products.

Skills in measuring the costs of quality is therefore an area which needs immediate attention in this country. This is the necessary step towards ensuring that the cost of achieving quality is managed carefully so that the long-term impact of quality-related costs on the firm is positive.

CONDUCTIVE AND SUPPORTIVE ENVIRONMENT

Efforts beyond the company are needed to effectively promote quality in any society. Thus full Government support in achieving product quality at competitive prices should be the rule rather than exception. Government assistance can cover the area of tariffs policy and structure, legislation, training, R&D, and supply of basic utilities.

Tariff Policy and Structure

Historically, all nations have wanted to provide protection for domestically produced goods against those from overseas. Thus there is usually a correlation between tariff rates and a government's desire to encourage domestic production. However, it is suggested that imported raw materials should have little or no duty imposed on them [7]. The intention is not to induce complacency on the local manufacturers. Firms in the USA and other industrialized countries are protected in this way from injuries caused by increased imports [7].

Protecting locally manufactured goods against competition from similar imported goods is another key role of the government. However, we are recommending that, only those companies with efficient manufacturing/operations should be protected. Otherwise, wholesale protection could create very uncompetitive industries. There must therefore be a mechanism through which the government can be regularly informed of the efficiency at which firms are operating.

In addition to the above, an effective quota system and well thought-out importation procedures should assist in discriminating in favour of domestic producers. Finally, effective laws against dumping should be instituted and enforced.

Compliance with National Standards

TBS has prepared national standards covering terminologies, sampling and testing methods, specifications and code of practice. Besides, the bureau can test products for compliance with the standards and grants certifi-

cates incase of satisfactory compliance. But as already noted, Tanzanian firms do not consult TBS sufficiently. To encourage firms to use the TBS expertise, the Government should enforce more vigorously the requirements that products manufactured in the country or imported must meet approved national standards. The issue of quality products is too important for the well being of the nation to be left to companies 'so that they can do as they see fit'!

Training

Training bodies like MEIDA and TBS have been conducting quality assurance/management seminars. Most of the (few) participants were middle level personnel. Very few executives attended. The number is even smaller in the case of shop floor workers[3]. Tanzanian executives should learn that, when Juran lectured about quality in Japan in 1954, CEOs were the first to attend and then senior Japanese managers[2].

Tanzanian executives' aversion to quality training must change. They should take a lead in quality seminars because, only then can they generate the momentum necessary for effecting improvements in quality of products. They should acquire the skills, training and experience needed to set appropriate quality goals and develop plans of action for achieving them.

National programs should be conducted to impart quality awareness among industrial workers, in general. These are to be organized by relevant governmental bodies and could use a variety of techniques and/or means to build up quality mindedness and motivation, eg, induction and vocational training, poster compaigns, competitions, exhibitions, etc.

National Design Centres

Since our firms are constrained in the area of research, development and product designing, the idea of forming TEMDO was an excellent one. Almost all local manufacturing firms do not have well established R&D funtions. TEMDO, therefore, was meant for design and production of prototypes for the Tanzanian firms. But, at moment, very few of the firms do subcontract their services to, let alone use the resources of, TEMDO or

other R&D institutions in the country. Worse still, today, a lot of the R&D results from our R&D institutions are not being commercialized.

The government through its relevant organs such as COSTECH should assist more vigorously in promoting mutually reinforcing links between the R&D institutions and manufacturing firms. The assistance would initially be in the form of funding to encourage joint, interactive activities between the two sides and also for strengthening the capabilities and capacities of the R&D institutions for conducting effective basic research, concept design, prototypes development, prototype testing and commercialization.

Power Fluctuations and Water Shortages

Unreliable electricity and water shortage have affected product quality substantially. First, unnecessary operational overheads are incurred by paying workers while waiting for the same. Second, volumes of production are considerably decreased because of the problems. Definitely, more defectives are also realized, only that firms do not keep proper records. The Tanzania Electrical Supply Company (TANESCO) and the water authorities should be required (and assisted, if necessary) by the Government to ensure reliable delivery of their services if at all, Tanzanian firms are to be able to deliver quality products priced competitively. They should also be required to compensate industries for losses sustained through their inefficiencies.

CONCLUSIONS AND RECOMMENDATIONS

From the foregoing, it can be concluded that, Tanzanian industrial firms can produce quality products if management will:

- outline and follow clear quality objectives and policies;
- establish effective organizational and technical systems and other resources for motivating and directing efforts towards attaining the objectives of their quality policies;

- institute instruments for monitoring and controlling the performance of the quality function.

Furthermore, it is important that quality aspects be stressed in all functional areas including marketing, design and development, purchasing, costing, manufacturing and manpower development. Additionally, manufacturing firms should seek professional advice and consultancy services from competent local firms such as TEMDO, TBS, MEIDA and the University of Dar es Salaam. Lastly, the Government should device means to encourage industrial firms through legal, policy and funding means to establish sustainable quality management systems.

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