

External Obstacles to Quality for Small Scale Enterprises

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Abstract

The Small scale manufacturing enterprises are facing critical problems while selling their products. As the SSE is not having huge financial backup and so they depend very much on the revenue earned after selling their product. The product sales can only increase if the manufactured product is meeting the desired level of standard of the customers' requirement. But actually it is not doing so. In this paper, we have tried to analyse the problems in the context of external obstacles to Quality by taking survey with the help of questionnaire for the SSE. If the external obstacles are addressed properly by the SSE, then they can remove the obstacles to quality to a large extent by changing them accordingly as per market demand.

Keywords: Quality, Profit, SSE, Quality loop, Customer

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Introduction

Quality perspectives with gaps between different visual ranges of quality within organization and customers are forcing to find new ways of improving the efficiency. Harmony in quality perspectives and ability to decrease size of different perspective gaps within organization, departments and individuals are factors making organization to act with best possible results. In order to have cognition of possible variations and causes of differences and gaps within the perspectives of quality inside the organization it gives management the basic ground to start continuous improvement for organization's total quality.

Organizations are facing changes since the working environment changes. This creates pressure for organizations to adapt new ways of doing things. As a result, we are now living in the world where organizations are in the different phases of changes depending on the area of industry on development within it. Differences are recognized in the sizes, structures and culture of the organizations. Therefore, different factors are disturbing organizations having best possible effort on total quality and customer satisfaction.

Quality has its operational view. Quality is the degree to which the customer requirements are met. All the stages are

contributors to quality and are said to form a “quality loop” encircling the “customer & producer” or “customer & supplier”. An organization generally seeks to accomplish three objectives with regard to quality. These are (i) to achieve & maintain the quality of its products & services to meet its customer needs, (ii) to gain confidence of its customers that the quality has been, or will be achieved & maintained and (iii) to support management’s confidence that the quality system has been installed & it is effective. Thus, quality is the sum total of the knowing what customers need, designing to meet those requirements and reliable “bought in” components. Powell (1995) carried out study on closer customer relationships; closer supplier relationships, committed leadership; adoption and communication of TQM, benchmarking, open organization, zero-defects mentality, flexible manufacturing, process improvement, and measurement in increased training under employee empowerment. Youssef *et al* (1996) conducted empirical study on customer focus with top management commitment, organizational learning, process and function improvements, learning top management role models, middle management teams, problem solving. Forker *et al* (1997) made study on supplier quality management leadership and quality policy; product/service design; process management; quality data and

reporting; role of the quality department employee relations; training. Easton and Jarrell (1998) studied on customer focus; supplier performance and supplier relationships, process focus; systematic improvement; company wide emphasis; recognition of TQM as critical competitive strategy under employee involvement and development; cross-functional management. Douglas and Judge (2001) focused on the customer management by fact; continuous improvement of process; adoption of quality philosophy; use of TQM methods with top management team involvement; emphasis on TQM-orientated training. Chandler and Mc Evoy (2000) studied for closeness to the customer waste; quality tools; cleanup management involvement. Ho. Duffy and Shih (2001) focused on supplier quality management role of top management; role of quality department; product design; process management; quality data reporting; supplier quality management, employee relations and training.

Majority of the small scale units use old techniques of production & outdated machinery & equipment. Updating of technology & achieving economies of scale is one of the major problems facing the small scale sector. They cannot afford new machines & equipments and are not in a position to use the latest techniques of production. They do not find it possible to conduct research and development on a continuous

basis. Therefore, productivity & quality in small scale firms tend to be low while unit cost of production is generally high. But with the liberalization of economy the SSIs are facing stiff competition from imports and, as such, need technological updating in order to have better quality products at cheaper rates.

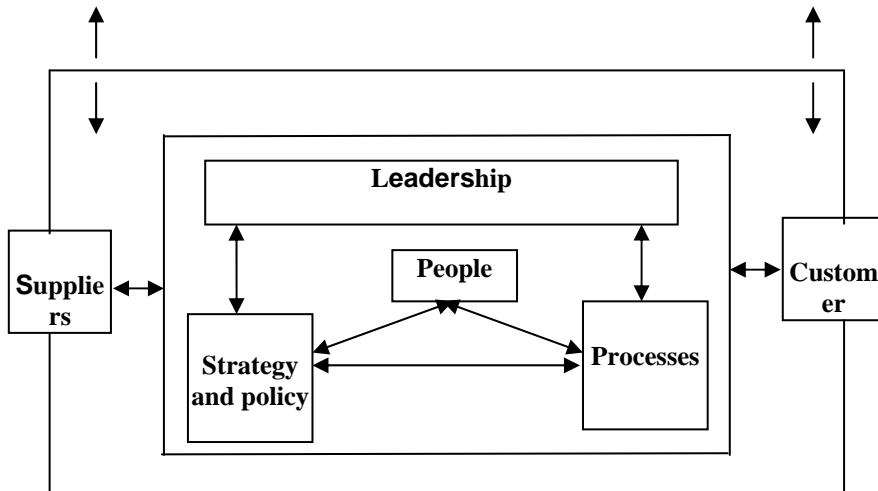
The challenges to quality are both internal and external obstacles. To overcome the aforesaid obstacles to quality, several remedial measures have been suggested in this study. In this paper, we are trying to focus on these problems by the application of quality concept in small scale industries, which suggests quality model that will result in the enhancement in the overall operational performance with the desired level of quality along with the requisite improvement plan and policy.

System Approach of SME for Quality

A system is a set of things considered as a connected whole. System approach in small manufacturing enterprise can be defined as the planned and integrated manner of using staffs, materials, methods and process with proper strategy and policy under a competent leadership guideline while handling the internal environment and interacting with the external environment i.e. suppliers and customers so as to achieve the desired standards of quality for pre-defined producer-

customer objectives in general and business benefits through several operational improvement programs for its survival and future growth. A simple system model of SME is shown in figure 1.

Figure 1: System approach for SME with its internal and external environment



Factors behind Quality of SSE

Philip Crosby stated in the 1970s that quality is free (Crosby 1979). He developed pragmatic concepts, which are now considered as the foundational elements of the body of quality knowledge, based on his Four Absolutes of Quality Management:

- ✓ Quality means conformance to requirements, not goodness;
- ✓ Quality is achieved by prevention, not appraisal;
- ✓ Quality is measured by the price of non-conformance, not indexes.
- ✓ Quality has a performance standard of Zero Defects, not acceptable quality levels;

Other quality experts and authors, e.g. Feigenbaum, Juran, Deming etc., have elaborated on the meaning of quality for productivity. Feigenbaum identified the quality costs in his PAFmodel (Preventive-Appraisal-Failure –costs) (Dale 1994). Deming (1986) created his fourteen point program for quality improvement, where one point is the continuous development of different processes in order to improve quality and productivity. One basic quality tool – the PDCA-circle (“Plan-Do-Check-Act”) - was determined by Deming. Kaizen philosophy stresses process-oriented thinking, because processes have to be improved so that better results can be achieved (Imai 1997). Juran (1989) stressed the importance of customer satisfaction and the role of management in lowering quality costs.

During the last decade, statistical quality methods have become increasingly popular in order to raise productivity and quality. Modern computers and software have made it possible to collect and analyse efficiently almost any amount of data.

The factors that are going to affect the quality of an SSE are as under:

(a)Supplier: The raw materials supplied by the supplier are going to affect the quality of the product of the company. So the supplier must provide those materials and spare parts that are fulfilling the requirement of the specified quality standard of the SSE.

(b)Process: The process must be proper as appropriate process is required for producing quality product. For that, time-to-time process control and improvement are to be made. The product design is also one of the important aspects to be attended along with quality system improvement.

(c)Leadership: the leadership is the most important parameter of quality for an SSE since generally the proprietor is the entrepreneur. If the entrepreneur is not having proper leading quality the total SSE is at a mess

because if he is the captain of the ship who is giving direction at each and every moment of the journey of the SSE through tough and competitive market conditions of the business.

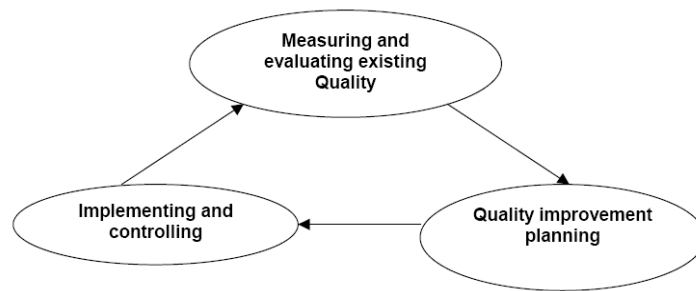
(d)Strategy and policy: The strategy and policy are to be properly decided by the SSE so that to what extent customers' requirements are satisfied after availing the company's product and what future strategy the company has taken regarding quality dimensions in its policy matters for proving better quality product.

(e)People: It means the employees of the company must participate in various quality improvement programmes where different training is given to them as required and evaluated by giving reward for there performance. As if the staff members are trained as per quality dimensions and the performance done by them are more quality job.

(f)Customer: The main matter of the quality is to look into what customers are looking for in the product features and attributes. The customer ecstasy is the main aspect in today's competitive world. If the customers are satisfied then automatically the demand for the product is going to increase for the SSE.

Obstacles to Improvement in Quality

Figure 3: Quality improvement cycle



Internal obstacles

The internal obstacles to quality improvement are factors, which are inside the small manufacturing enterprise. It is possible to affect these internal obstacles by actions performed inside the firm. Basically, the internal obstacles are, thus, factors, which are under the control of the small manufacturing enterprises. The management and the workers can eliminate these internal obstacles. They can adopt several measures to weaken their effects. For example lack of time is one typical internal obstacle. In many small manufacturing enterprises there are nowadays so few employees that nobody has time for planning or even thinking about quality improvement. If there are some employees who could spend time for quality assessment, the situation would be much better. Dearth of knowledge, professionalism, work values

and poor methods are also typical internal obstacles. There is not enough knowledge concerning quality improvement, and neither the superiors nor the workers have enough knowledge to recognize the problems in quality or to improve it. This situation has a clear connection to the level and suitability of the production methods and equipment. Also, for example, the attitudes of the personnel can be internal obstacles.

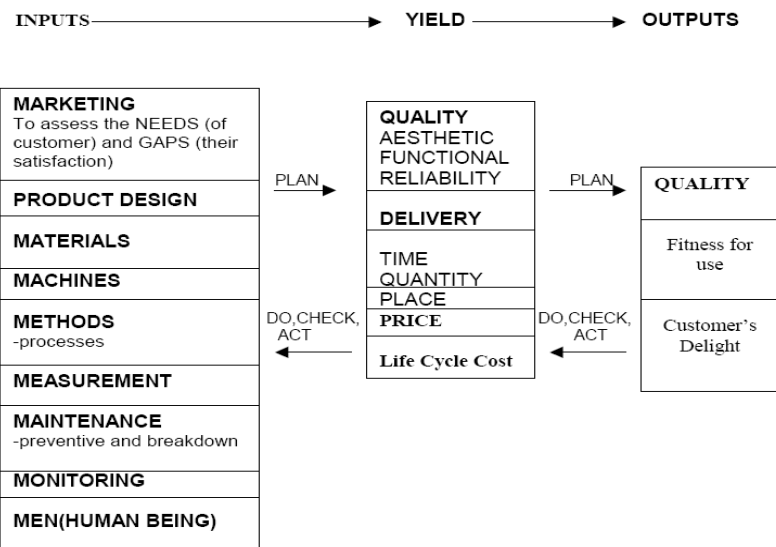
External Obstacles

There are many external factors that are acting as obstacles to the quality or affecting in the other way round. The external factors may not be within the control of the SME but the organization can take precautions to overcome these factors. For this, a SSE is to identify these obstacles and the issues should be given priority as per degree.

Scrutiny of External Obstacles to Quality

This section illustrates the research procedure to investigate the external obstacles that create barrier to the quality improvement process. The analysis of the obstacles is based on a survey carried out in the small manufacturing enterprises located around Kolkata, Howrah and South 24 Parganas districts of West Bengal. The survey forms were supplied to the SSEs for getting data for this study through a structured questionnaire.

Figure4: Organising For Quality



Results and Discussion of the Survey

- For External Obstacles:

The results of these questionnaires were processed with general methods. The mean of every possible external obstacle were calculated. The most meaningful obstacles were found on the basis of the mean of the questions. If the mean was high, the obstacles were significant. If the respondent's answers' mean was low, the obstacle was of less importance. The basis of calculation of the mean is based on the number of firms opted in affirmative regarding the specific factors out of

the total number of SMEs undergone the survey and accordingly the mean of consumer behaviour is 0.75, supplier motive is 0.6833, value approach is 0.5833, infrastructure and environment is 0.5833, societal factors is 0.333, technological innovation is 0.333, exim policy is 0.30 and outsourcing agency is 0.016. In this survey, all possible obstacles were considered as restraining quality improvement whereas the main interest of this study concentrates only on external obstacles. In figure 5, the external obstacles are presented in the order of meaningfulness according to the answers of questionnaires.

- Format of Questionnaire for External Obstacles to Quality in SSEs

Basic Information:

1	Name of the Unit Address/Email/Contact No.	
2	Type of Constitution (Proprietorship/Partnership/Pvt ltd.)	
3	Investment (Land & Plant & Machinery) Rs. In Lakhs	
4.	Employment	
5.	Age of the Company	
6.	Turn Over	
Supportive Information:		
7	Consumer Behavior: i) Trend of Market Order ii) Export Requirement iii) Qualitative View of	

	Consumer	
8	Value Approach: i) Consumer is Cost Conscious ii) Durability iii) Packaging/Packing Mode	
9	Supplier Motive: i) Aware of Product Quality ii) Additional care for the material supplied iii) How Frequently Supplier evaluation done	
10	Outsourcing Agency: i) Stability of Agency ii) Quality of Job work done.	
11	Exim Policy: i) Is favourable for the Product ii) Foreign customers are aware of the quality iii) Availability of Export Inspection Agency iv) Any Govt. Scheme available	
12	Technology Innovation: i) Easy available technology ii) Long/Short Persistent Technology	
13	Societal Factors:	

	<ul style="list-style-type: none"> i) Production is Consumer Type/Industrial ii) Local Influence for Supply. iii) Social Contribution played 	
14	<p>Infrastructure & Environment:</p> <ul style="list-style-type: none"> i) Nearby Road/Rail/Water/Air/Transport ii) Industrial Estate iii) Average Electrical Load require iv) DG Set Used/Not v) Common Facility Centre/Test House available/Not vi) Frequency of Visit of Govt. Officials vii) Average Power Cut 	

General Information:

- I) Any specific Problem of your Company:
- II) Probable Solutions/Suggestions:

Figure 5 The Meaningful External Obstacles To Quality Of SSE



The figure 5 depicts the main external obstacles, which are arising out of the different factors namely, prioritywise consumer behaviour, supplier motive, value approach, infrastructure and environment, technology innovation, societal factors, exim policy and outsourcing agency.

Depending on the level of significance the means of different factors, which have been plotted, are shown in the pie-chart. Out of 60 SMEs that have filled up the questionnaires, majority have opted that consumer behaviour, supplier motive and value approach are the main external obstacles to quality for SSEs.

The consumer behaviour is the most important external obstacle to quality in the SSE of India. It means, from SSE point of view, trend of market order i.e., market behaviour , export requirements and qualitative view of consumer.

The next external obstacle is the supplier motive of the SSE. If the supplier of raw materials is aware of product quality, then additional care can be taken by him for the material supplied. The SSE must perform the supplier evaluation from time to time to know to what extent it is fulfilling their requirement.

While manufacturing product the SSE must look from the value approach view i.e., what kind of customers is catering their need? Whether they are cost conscious or looking for durability in addition to concerned packaging mode. If the SSE cannot fulfill the specific requirements of the client then it is difficult to retain which is going to be a big obstacle.

The fourth external obstacle is the infrastructure and environment. It includes mode of transport (whether the SSE is located in the industrial estate or not), average electrical load requirement, common facility center/ test center available or not and the frequency of power cut. All these are going to affect the quality of the product manufactured by SSE.

The society plays a crucial role in our life as well as for any organization. One cannot deny that. Since the product being

produced is consumer oriented or industrial nature, local influence and social contribution played by the SSE for the welfare of the locality are required to get an order or not. All these are coming under societal factors which if not properly dealt with then it will act as an external obstacle for the SSE.

As the world is moving fast, new developments are taking place now and then in the technological arena. So, when a SSE is producing a product with a certain technology but after some days it is becoming obsolete as new technology products are available in the market. At that time the SSE's technology is becoming obsolete. In the other words, the new technological innovation is acting as an external obstacle for the SSE.

The next external obstacle is the exim policy. Whether it is favourable for the product or the foreign customers are aware of the quality or availability of export inspection agency or any govt. scheme available or not for the concern SSE.

The last external obstacle is the outsourcing agency who are doing the part of the job for the SSE if they are not having the requisite infrastructure or facility to manufacture the specific part of the product. Whether those agencies are stable i.e.,

they are in a position to fulfill the given assignment within stipulated timeframe and the quality of the job work done is up to the standard of the SSE requirement or not.

Proposed quality Improvement Model Considering External Obstacles

The quality improvement's problematic sides are observed during the study & interview with the employees & staff of the management of small scale enterprises.

- i) The entrepreneurs of SSE do not carry out any sort of quality study that is required for their own survival and existence.
- ii) The employees are not having requisite qualification & expertise in the aspect of improvement in quality.
- iii) Some staff members are having ideas but fear from their higher authority restricts them from suggesting new concept for the improvement of quality.
- iv) The management is just interested to sale more number of units they produce. They think external obstacles to their quality improvement will be taken care by the government. Thus, they always

go for short-term benefit and no long term planning is there in that regard.

From the above observation, it is apparent that the external factors are going to affect the quality of small scale enterprises. Thus, the SSE must put emphasis over external factors immensely affecting the quality. Once Internal obstacles are controlled by the organization they should bring idea for external factors. So the SSE has to change as per the need of fast changing global environment.

A core group of managers must be there in SSE who are going to give required suggestions to the concerned authority for requisite changes required for improving and removing the hindrances to the quality improvement.

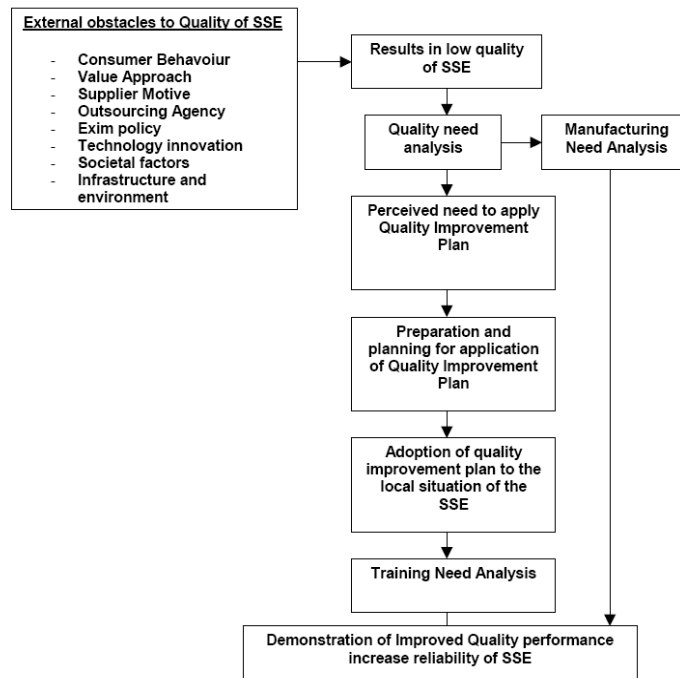
In that regard, a quality need analysis is to be made which is to be subsequently followed by manufacturing need analysis & training need analysis. The manufacturing need analysis is being performed by interaction with the management authority to ascertain the current level of adjustment with the different external factors as required and redefining the different processes with new perspective. Since SSEs are not

having adequate manpower they can hire this service or outsource the process.

The next important matter is training need analysis that is to be provided to the employees from quality perspective. SSEs are to be prepared in a much better way to the changing global factors that are acting as hindrances to the improvement of quality.

The training need analysis indicates the level of knowledge of required employees engaged in different training programme being conducted by MSME- development Institute. The correct skills of the employees are to be applied to proper areas so that the resultant effect is the enhancement in the manufacturing performance and ultimately improvement in quality.

**Figure 6: Proposed Model For Quality Improvement
Considering External Obstacles**



Improvement Plan for Quality of Small Scale Enterprise

Small Scale Entrepreneurs are not much aware of the quality improvement parameters. They just try to fulfill the stated requirement of customers. Again it is a generalized idea that more is the quality, more is the cost involvement. So it is judicious to pay what customer deserves and to what cost customer will retain. This is again a short-term calculation for

a small Scale Entrepreneur. The small Scale Entrepreneur should understand that basic qualitative improvement plan is to be drawn through management's resolution on proactive action and customer's implied quality. A Management plan to minimize the effect of internal obstacles and positive attitude to combat the external obstacles will certainly be the agenda points for improvement plan.

It is found that most of the small scale manufacturing units have no defect free format for recording Quality Control data, or the required skilled manpower who understands to record QC data. In most of the cases organization feels that it is wastage of manpower.

A few suggestive plans for improvement of quality are given below:

a) Plan for quality control data, quality control Instruments, parameter, Calibration plan of control equipments, Regular review of QC data and its Analysis and Improvement Plan are required. Improvement plan will be based on root cause analysis and many management solutions.

b) Plan for Organization should identify the most prominent internal Obstacles and take suitable measures to eliminate these obstacles of quality.

c) Elimination method is to be implemented through improvement of processes, development of manpower and keeping provision of resources- sometimes finance also.

d) Planning of regular training and development of manpower are needed. Organisation is to plan such training programme in its site or can depute the persons to related training institute. The training curriculum should be both technical and managerial. Since major internal obstacles are techno-managerial, regular training for shop floor of office personnel, orientation of finance for training, development of human resource are to be given priority.

e) Planning for adoption of Quality Management System is essential at this stage. This will help the organization to standardize processes, boost mindset of manpower, identify weaknesses of the organization and address customer value.

f) Plan should include regular redressed system of its customers through Quality-cost-delivery-safety.

g) Planning for adoption of best management solutions available in the market is to be made; namely ISO Series, Management information System, Customized Software, Inventory control and Customer-Suppliers Solutions.

To deal with External Obstacles of quality improvement plan, a collaborative approach is essential. Since external obstacles are from the outside of the organization, the Suppliers, the

Customers and Promotional agencies have to set common agenda.

h) The major points to be addressed in suppliers' orientation plan are Suppliers' evaluation, Quality Control at suppliers site, to make aware of voice of customer and voice of process.

j) Plan is to be prepared for effective utilization of Government Schemes like ISO Reimbursement Scheme for Small Scale Enterprise, Various National Manufacturing Competitiveness Programme, Cluster Development Programme, Credit Linked Capital Subsidy Scheme or Similar Schemes available in State Government.

It is theoretically expected that more specific and active plan will help a small scale enterprise to exist for longtime in the market. But owing to open market policy and withdrawal of government reservations of manufacturing items under small scale sector, customer has higher expectation of qualitative product from medium and large scale manufacturers. Hence field of competition for small scale enterprise has multiplied in qualitative and quantitative part. Small scale enterprise has no choice other than to adopt the most advanced quality management solutions required and update its unit at par with large and medium scale enterprises.

Conclusion

The main purpose of this study is to collect the data and information about external factors, which restrain the ability of the firms to improve quality. The most important external obstacles to quality for SSE were the factors involving consumer behaviour, value approach and infrastructure and environment. These factors are common to all sectors of SSEs.

These obstacles restraining quality constitute a difficult situation, where internal and external obstacles affect each other. This paper has focused on external obstacles to quality only. External factors are not in the control of the SSE directly but if they are aware of these factors, they may restrain their enterprises. These external factors are to be dealt with proper priority & importance. And requisite measures are to be adopted by quality need analysis and the SSE's management. Managers along with employees must train & equip themselves for removing the obstacles being created by the external factors of the environment and make their product more reliable in the minds of the client and customer for more acceptances.

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