

# A competitive framework for the South African clothing industry

Kem Ramdass<sup>1</sup>, Leon Pretorius<sup>2</sup>,

<sup>1</sup>Post Graduate student, Faculty of Engineering, University of Johannesburg, Kingsway, Auckland Park, South Africa

<sup>2</sup>Professor, Faculty of Engineering, University of Johannesburg, Kingsway, Auckland Park, University of Pretoria, South Africa

**Abstract** - The SA clothing industry has shed over 67 000 jobs in the past three years [1]. There is a possibility that more jobs may be shed in the South African clothing industry over the next few years [1]. The SA clothing industry is facing a great challenge because of the rapidly changing business environment with respect to global competition, market performance, and advancing technology. The study is part of doctoral thesis and has focused on the development of a framework that would assist to reaffirm and re-establish strategies that may improve the current plight of manufacturers and help prevent job losses through innovative thinking ([www.dti.org.za](http://www.dti.org.za)).

The methodology adopted in the research includes a review of existing literature and documents on the industry from Clofed, Texfed, relevant research reports from the DTI, NEPAD, newspaper articles, journal articles such as the International Journal of Clothing Science and Technology and Operations Management, interviews and discussions with organizational staff and management [2].

## I. LITERATURE REVIEW

The multitude of competitive priorities has been the subject of considerable argument by manufacturers around the world. A universal set of priorities does not exist for all the firms in the global marketplace. Porter [3] formalized the concept of competitive priorities into four different types namely, price; flexibility; quality and dependability.

Ward et al [4] identified five different dimensions namely price; quality; dependability; product flexibility; and volume flexibility.

Chan et al [5] proposed a combined list of competitive priorities, including plant and equipment, production planning and control, labour and staffing, product design and engineering, and organisation and management.

Hill [6] argued that a firm should identify those criteria or priorities that win orders against the competition in the marketplace. His "order-winning" criteria included price, delivery, quality, product design and variety. Hill also considered that "qualifying" criteria (or performance criteria) were also important for an organisation.

Krajewski and Ritzman [7] put forth a more detailed list by differentiating four different aspects namely, cost; quality; time; and flexibility.

In the South African clothing industry context, competitive strategies that require implementation as a

matter of urgency from the researcher's perspective would be leadership that is people orientated with an insight into cultural diversity, financial management by understanding organizational costs, service delivery with quality management imperatives and last but not least, performance management initiatives.

## II. BACKGROUND

### A. China as a global competitor

Now a major engine of global growth, China is likely to induce further shifts in the global economy in the coming year as it captures a bigger share of world market. China's textile and garment industry involves 15 million workers and 300,000 factories. It is likely to dominate the world market after the lifting on January 1,2005 of trade quotas that were created by industrialized nations four decades ago [8]

### B. The history of the textile and clothing industries in South Africa

The clothing, textile and footwear industries in South Africa were developed under a protectionist structure of tariffs and restrictions imposed before 1994. In addition, direct support for investment was given to these sectors by the state-owned Industrial Development Corporation (IDC). Products were manufactured and sold on the domestic market and exports formed only approximately 6% of domestic production during the 1970s. In 1989 exports increased to 15%, but trade was restricted significantly by international sanctions during the latter part of the National Party government ([www.da.org.za](http://www.da.org.za)).

### C. The Clothing Sector In Kwazulu-Natal

The Durban Metropolitan Area (DMA) represents the largest clothing cluster within KwaZulu-Natal in South Africa. Of a total of approximately 525 clothing firms in KwaZulu-Natal, 416 are based in the Durban, Pinetown, Inanda and Chatsworth areas. There are moreover 32,409 employees within the Durban clothing industry [9]. The industry in Durban produces 79 percent of the gross output and pays 76 percent of the provincial industry's production wages. [9] [10] [11] [12] [13].

Significant clusters of firms within central Durban can be found in Beatrice and Gale Streets and in Stamford

Hill, Sidney and Umbilo Roads. Firm clusters within the southern metropolitan area can be found in the Southern Industrial Basin, Chatsworth and Umkomaas, whilst in the northern metropolitan area they can be found in the Phoenix and Springfield industrial parks.

The poor performance of the clothing industry has led to the creation of a framework that may assist manufacturers improve performance and create more jobs [14].

### III. THE FRAMEWORK FOR EFFECTIVE CLOTHING MANUFACTURE IN SA

A framework for developing a competitive clothing and textile industry introduced by Ramdass in his research thesis is shown in figure 1 and discussed briefly.

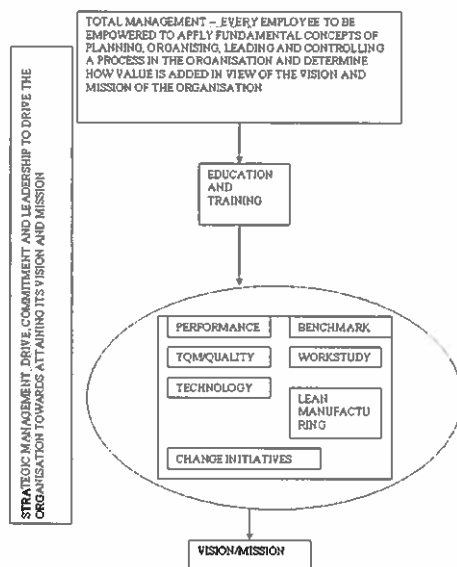


Fig. 1. The framework for developing a competitive clothing and textile industry developed by K. Ramdass.

#### A. Strategy For Productivity Improvement

Based on the study of factors showing association with productivity and the suggestions by the respondents to be reported on in the currently unpublished thesis of Ramdass [14], and relevant literature [3] [4] [5] [15], the recommendations for productivity improvement are summed up as follows:

- (1) Apply workstudy principles. Work study and industrial engineering practices are essential and must be strengthened in clothing factories. Factories could gradually move towards a fully developed industrial engineering department.
- (2) Apply training initiatives for all stakeholders. A study of the factors associated with productivity levels establishes that the factory management must adopt modern practices to achieve higher productivity. This would be possible, only if the

supervisory and managerial teams are trained to bring in these changes.

(3) Set up operator training cell. Results of the study have established that factories that had invested in operator training had higher productivity. It is essential to start an in-house operator training program for skill as well as work culture, so that the operators are made aware of how to achieve world-class performance.

(4) Strengthen quality systems. The average repair and rejection levels reported by the respondents were quite high. It is important that factories implement a quality system for the total organisation.

(5) Strategic technology up-grade. Factories need to use more specialised machines in spreading, cutting, sewing, and finishing areas. It is important that the factories draw up a strategic plan for technology up-grading.

(6) Introduce productivity measurement systems. This will help the factory to record, measure and communicate performance at different levels as well as to provide data for internal and external benchmarking.

(7) Strengthen planning and scheduling. With the implementation of a successful performance management system, the focus should now be strengthening production planning and scheduling. The aim should be the maximum utilisation of productive resources of the factory. The factories could also evaluate software solutions available for this purpose.

(8) Introduce incentive schemes. To maintain a motivated staff, it would be necessary to implement a scheme that would provide a win-win situation. It would be necessary to draw up a credible incentive scheme that would help to sustain a high level of productivity.

(9) Black economic empowerment (BEE) initiatives. When management and workers are totally involved in the operation of the organisation and there is transparency of operation, the entire organisation takes ownership of profit/loss of the organisation. Only 2 large manufacturers in the region have been experimenting with this notion.

#### B. Benchmarking

Benchmark the clothing and textile sector across the entire value chain: Information on pricing, quality and service levels between firms will be derived from benchmarking and this will help identify globally uncompetitive and inefficient sub-sectors and firms.

Awareness of non-competitiveness will lead to research to analyse non-competitive areas and this will lead to identifying ways of improving global competitiveness. This information will enable both government and industry to address the parameters that hinder competitiveness.

Industry and individual company strategies can then be formulated to become more globally competitive. As the global competitive management and worker mentality improves, firms may decide to opt away from import equivalence pricing so that the upstream activities all along the chain can be more competitive, resulting in increased volumes for the whole value chain.

### C. Change Initiatives

Quality of work life (QWL) focuses on the connection between factors affecting product quality and full participation of employees and management in decision making. These factors reflect an organisation's culture. The concept as first introduced referred to a broad range of approaches and techniques that have been implemented in organisations with the common goal of improving the quality of life for people at work. Many of these approaches had their birth in the industrial democracy movement in Western Europe.

### D. Work Effectiveness

Work effectiveness is a summary term employed to capture both the quality and quantity aspects of work performance. It is expected to be higher for enriched jobs than for more specialised or simplified and routine jobs. According to Herzberg's theory of motivation, characteristics of enriched jobs fall into two separate and distinct categories, motivator and hygiene factors.

Motivator includes factors intrinsic to the job, such as achievement, recognition, responsibility, advancement, and personal growth and development. Hygiene factors, on the other hand, are extrinsic to the work itself and refer to such things as company policies, supervision, working conditions, salary, interpersonal relationships, status, and security.

Herzberg refers to job enrichment as vertical enrichment. The term vertical is employed to indicate that job enrichment involves a downward vertical shift in the organization of authority and responsibility for effective performance.

### E. Total Quality Management

Total quality management initiatives involve the entire organisation working as a team to accomplish the goals of the organisation. The main characteristic of this approach is its ability to break down barriers between departments and create an understanding of internal customers through self-managing work groups. Another characteristic is its ability to operate as open systems (i.e. systems that interact and are independent with the broader external environment in which they exist).

"Total management," a term coined by Ramdass, would empower employees to apply the fundamental concepts of management in all processes in that organisation. Employees need to apply strategic initiatives such as quality management principles, work-study

techniques, performance management and so forth to determine how they could improve their ability to add value to their respective processes. The team members themselves determine which roles each will play in accomplishing their primary task. These roles are generally subject to frequent change and revision (at the discretion of the team), based on the particular skills and preferences of team members.

A TQM organisation's primary focus is the ability to satisfy customer demands. The ability to move people within groups creates flexibility and capacity, helps in facilitating communication among the group members. Communication for resolving problems is usually practised by forming quality circles.

### F. Quality Circles

Quality circles are small groups of workers preferably from different departments who get together periodically to discuss problems experienced during their course of work. The brainstorming technique is normally used to define, measure, analyse improve and control problems related to product quality and technology management issues. Quality circles are an important part of the TQM concept. The concept should be applied to the entire supply chain with sharing of information and resolution of problems.

## V. SUMMARY OF STRATEGIC ACTIVITIES

The focus is to totally engage management in its drive to accomplish its mission and vision in the clothing industry.

### A. Management And Leadership

The development of an organisational culture that practices an open and participative management style which is strategic in thought and supportive of innovation are the foundations of management and leadership. Achievable goals for the organization are made and measured against set standards; this fosters an environment where sensible risk taking is rewarded. There must be a thorough understanding of the products and the critical manufacturing process capabilities required in order to achieve optimum efficiency.

This therefore develops a systems perspective which treats manufacturing as one part of a process which moves seamlessly from establishing customer requirements to satisfactory delivery and preparation of products fit for use. This manages processes across functional boundaries where managers are to be seen regularly on the shop floor, engineers are located close to the shop floor and face to face communication is more common than written memoranda.

### B. Manufacturing Strategy

The organization needs a clearly defined strategic intent with defined success over the longer-term. This strategy should be consistent with the potential to develop the required manufacturing capabilities, with a global view of competition. The strategy should be a blueprint for action therefore a pattern of decisions may be executed over time. Development of the strategy should take place through a participative approach and be shared it freely with all employees in the organisation. It should be reviewed on a periodic basis to ensure congruence with current and future goals and capabilities. Strategic intentions should be allowed to drive the size of the steps. This may include for the South African clothing industry a focus on :

- Bundle System Methodology
- Competitive Advantages Of Modular Manufacturing
- Work Measurement And Method Study
- Method Improvement
- Equipment Selection
- Motion Economy
- Activity Sampling
- The M/A Ratio
- Operator Capacity
- Line Balancing
- Garment Costing
- Environmental Conditions

### C. Organisation

The current trend is towards designing flatter organizations (maintaining five or fewer managerial levels) and eliminating barriers between departments. This would improve communication between functional units whereby there would be a free flow of information and alignment towards the attainments of organisational goals in the most efficient way. While total quality management philosophy has been in existence since the 1950s, its implementation process has taken various directions [15].

### D. Manufacturing Capabilities

The goal of all operations should be dependability and consistency in quality, delivery and service to customers. Manufacturing operations should be adapted to quick response in products and markets. The application of lean manufacturing principles in all facets of the organization should be a drive by all stakeholders. Environmental considerations should be considered in all products and processes.

### E. Performance Measurement

Organisations should focus on competitive variables that the customer sees which develop a competitive advantage. Measurement systems should be developed

that encourage continual learning. Performance management systems should be strategic in intent to continually improve the organization.

### F. Human Assets

Human assets should be considered the most important assets of the organization and should be treated as such. Empowerment programmes would encourage teams to fulfill the vision and mission of the organization. Supervisors should encourage team work, problem solving and group performance rewards. People should be evaluated by their ability to achieve competitive capabilities, to learn and to adapt to change. Accelerated and integrative learning programs should be a plant wide philosophy which would create a high degree loyalty to the company from employees.

### G. Technology

The organization should develop an investment strategy for the continual enhancement of technology throughout the organisation, based on a clearly defined vision of future competitive requirements. The identification of competitive advantage through the knowledge base and advanced technology can create an organization that would excel in its endeavors and simultaneously implement new technology and develop the new knowledge base. Technological upgrades should be planned to be consistent with infra-structural upgrades. The evaluation and implementation (as appropriate) of concurrent engineering, ERP and "global information technology" would enhance competitiveness by on time information sharing.

## VI. CONCLUSION

Once convinced of the value of the framework for the improvement of manufacturing practices in the clothing industry, the question then becomes how to design and implement an effective programme of improvement practices? The case study indicates various focus areas of improvement.

The most important factor for any change in an organisation is the vision and mission provided by senior leadership. Improvement should be recognised as being more than just a project or programme. It is a complex and ongoing process that should be an integral part of both corporate strategy and culture. Organisations that have adopted a continual improvement philosophy would be well positioned to embrace the framework and continue to adjust the proposed framework according to their needs.

This research has illustrated that, through investigation, the status of the clothing industry in SA should improve if organizations worked together in their fight for survival and shared service related resources. A holistic approach requires that due consideration be given to improving productivity levels as a start of point. The

investigation has highlighted the experiences of some organisations allowed to point out the variety of strategies and solutions.

The framework created gives a good indication of what areas the management of organisations should concentrate on during the intervention for constructive input for improvement. As with any implementation strategy there must be a cultural change focusing on education and training to reap the benefits of success.

This should have an impact on the South African economy. In order to remain economically viable, training from the very beginning should encompass the principles of quality management and performance measurement, because wherever work is done, it should be done with a view of cost reduction and value adding.

Lastly, support from government in a "value adding" scenario through the creation of a centre of clothing excellence that would be of a consultative nature should assist organizations in establishing themselves in a competitive environment. A limited survey is currently finalized to assess the proposed framework. The results of his survey and analysis thereof is a topic for future research.

#### BIBLIOGRAPHY

- [1] T. Bell, 15 September 2006. Ensure growth saves SA's poor. The Star.
- [2] L. Blaxter, et al. 2006. *How to Research*. 3<sup>rd</sup> edition. Open University Press.
- [3] M.E. Porter, 1996, "What is strategy?", Harvard Business Review, 74, 6, 61-78.
- [4] P.T. Ward, R. Durray, 2000, "Manufacturing strategy in context: environment, competitive strategy and manufacturing strategy", Journal of Operations Management, 18, 2, 123-38.
- [5] J.W.K. Chan, N.D. Burns, 2002, "Benchmarking manufacturing planning and control (MPC) systems: an empirical study of Hong Kong supply chains", Benchmarking: An International Journal, 9, 3, 256-77.
- [6] T. Hill, 2000, *Operations Management: Strategic Context and Managerial Analysis*, Macmillan Press, Basingstoke.
- [7] L.J. Krajewski, L.P., Ritzman, 1996, *Operations Management: Strategy and Analysis*, 4th ed., Addison-Wesley, Reading, MA.
- [8] Business Intelligence Services(BIS). 2006 . I-net Bridge. Ensure growth serves SA's poor.
- [9] J. Barnes, & J. Esselaar, 2005. 'Customised Sector Programme Report: Clothing and Textiles'
- [10] J. Barnes, et al. 1998 Providing Institutional Support for International Competitiveness: Evidence from the Clothing, Automotive, Textile and Furniture Sectors in KwaZulu-Natal, Report for the KwaZulu-Natal Regional Economic Forum.
- [11] J. Barnes, (1997a) Market Gaps and Firm Performance Levels: the State of the Automotive Industry in KwaZulu-Natal, Report for the KwaZulu-Natal Industrial Restructuring Project, mimeo. Centre for Social and Development Studies, Durban: University of Natal.
- [12] J. Barnes, (1997b) Facing up to the Global Challenge: The State of KwaZulu-Natal's Automotive Components Industry, CSDS Research Report No. 11, Centre for Social and Development Studies, University of Natal, Durban.
- [13] J. Barnes, (1998) An Investigation into Middle-Management's Understanding of International Competitiveness in KwaZulu-Natal's Manufacturing Sector, CSDS Research Report No. 12, Centre for Social and Development Studies, University of Natal, Durban.
- [14] W.J. Stevenson, 2007. *Operations management*. 9<sup>th</sup> edition. McGraw Hill. US.
- [15] K. Ramdass, unpublished research doctoral material in progress, University of Johannesburg.
- [16] SA Revenue Services, 2005. Monthly trade statistics ([www.sars.gov.za](http://www.sars.gov.za)).
- [17] Statistics South Africa, 2005. Various publications, including Survey of Employment and Earnings (SEE), Labour Force Survey and Retail Sales [http://\(www.statssa.gov.za\)](http://www.statssa.gov.za).
- [18] [http://\(www.da.org.za\)](http://www.da.org.za).
- [19] <http://www.dti.gov.za/econdb>
- [20] <http://www.demarcation.org.za>
- [21] <http://www.tips.org.za/>
- [22] <http://www.eurostat.org.za>