

The Clothing Industry for Growth in South Africa

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Abstract--The South African clothing and textile industry has the potential to create jobs, but this potential has been steadily diminishing over the last ten years before 2007. In this context, the clothing industry is regarded as a powerful engine for economic and employment growth, the focus of the research in this paper. Nevertheless, the performance of the clothing industry, whether in terms of efficiency, working conditions or degree of social protection, is unstable. The industry's ability to generate sustainable and productive employment varies according to geographical locations.

In general, wages, job security, health and safety, opportunities for skills training in the smaller enterprises (< 50) compare negatively with those offered by larger enterprises (> 100). As most new jobs are in the micro and small enterprises, addressing their poor working conditions and sometimes exploitative practices constituted a mammoth task for the bargaining council (BC). Moreover, evidence indicates that improvements in working conditions and social protection are key ingredients of business efficiency and competitiveness. Sound policy and regulatory environments, with the existence of collaborative structures are crucial for achieving a fair balance between enterprise development and workers well-being.

Issues affecting the SA clothing industry are evaluated in some depth. Furthermore a strategic framework and its implications for developing the clothing and textile industry are addressed.

I. INTRODUCTION AND RESEARCH METHODOLOGY

The methodology adopted in the research to highlight some of the issues affecting the SA clothing industry includes a review of secondary data including existing literature and documents on the industry from Clofed, Texfed, relevant research reports from the DTI, NEPAD, and journal articles such as in the International Journal of Clothing Science and Technology and Operations Management. Some primary data was also obtained via structured interviews and discussions with organizational staff and management of some clothing firms in the Kwa-Zulu Natal area in SA [7].

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 formalized the concept of competitive priorities into four different types namely, price; flexibility; quality and dependability.

Ward et al [22] identified five different dimensions namely price; quality; dependability; product flexibility; and volume flexibility.

Chan et al [6] 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 [12] 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 [14] 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. ISSUES AFFECTING THE SA CLOTHING INDUSTRY

The experiences of the clothing industry are not that unique to SA. The experiences of the Australian clothing and textile industry are for instance very similar to SA. The clothing industry in SA was privileged before 1994 because the clothing and textile market was protected by government. As South Africa rejoined the global economy after 1994, it faced escalating competition from both the domestic and international markets [8]. The current issues affecting the industry, among others are the following:

Import tariff structures rose to protect in-house material inputs. The tariff penalised organisations that sourced inputs from foreign markets. The cost of raw material is a critical component in the clothing and textile supply chain. The impact of competitive prices is a detrimental factor in the survival of the industry [4].

The value chain within the industry is characterised by working within "silos." The limited communication and independency of organisations stifled information sharing in the clothing and textile industry in SA [2].

Organisations use government incentives, such as duty credit certificates (DCCs) for exporting their products which assisted in offsetting the costs of production. However, many organisations are not enlightened about the DTI incentives as the process is cumbersome [25].

Organisations experimented with different ways of improving productivity but failed to implement fundamental methodology of performance measurement. Organisations moved parts of their manufacturing plants to locations such as Isithebe, Qwa-Qwa, Ladysmith, Newcastle, Lesotho, Swaziland and so forth. Other organisations focused their efforts on fashion product lines, introducing information

management systems, and making contacts with markets abroad for cost effective input materials [4].

Both the management and the workforce require critical skills thinking that would empower the workforce in totality to make decisions for the benefit of the organisation. A skilled workforce that is empowered to make decisions in a teamwork setting would be able to provide innovative ideas, thereby improving productivity in the organisation [3].

Niche opportunities are being missed by the clothing and textile industry as clothing exporters focused their attention on product development to maintain customer allegiance [1].

The application of technological innovations is important to maintain the competitiveness of the South African clothing and textile organisations with public-private partnerships.

Back to basics. It was observed that 75% of the cut, make trim (CMT) organisations were not applying the fundamentals of operations management such as performance management, garment costing, productivity calculations, work-study principles and so forth [2].

III. TRENDS IN THE SA CLOTHING INDUSTRY

A. South Africa's labour policy

Trade and labour liberalisation had not gone together. With the SA government's focus on supremacy of a free market, employers in the clothing and textile industry are resistant with the continuous escalation of wage rates that are exerted from major stakeholders, the workforce, the union and the bargaining council. The inflexible South African labour legislation has major implications on human resources in the industry. The high labour costs pressurised several SA organisations to relocate to neighbouring countries, where labour costs were cheaper [25].

B. Minimum wage legislation

The determination of wage rates has a major impact on cost structures on organisations. This is especially so when the various cost implications, namely fixed costs, variable costs, location of production facilities and systems of production differ significantly. Clothing manufacturers in South Africa remunerated an average wage of R12.50 per hour (R500.00) per week for a machinist in an urban location [3]. This makes it virtually impractical for South African machinists to compete with manufacturers in Hebei province in China who pay R5.00 per hour (R200) per week to machinists [15].

C. Statutory labour regulations

Section 16 of the Basic Conditions of Employment Act of 1997 provided legislation regarding a wage premium for overtime work and work done on Sundays, which impact labour costs. South African organisations are required to remunerate employees 1,5 times more the normal hourly wage for overtime work or work done on Saturdays. Sunday remuneration is double the standard hourly wage rate. The rest of the clothing and textile manufacturers around the world do not apply similar remuneration structures and China is no different [15].

D. Business procedures

South African law formulated procedures regarding the establishing of businesses. There is a major time factor in the completion of various legal documents. The Democratic Alliance mentioned that the legal process in connection with the restructuring of the workforce takes approximately three months. These are some of the issues that prevent the establishment of the private sector industries [25].

E. Declining value

[4] mentioned that the clothing sector performed poorly. The researcher quotes from Barnes, "By comparing the average of the indicators for the period 1994-8 with the average for the period 1999-2003, it was clear that the sector's performance deteriorated. In particular, there was deterioration in real value added at basic prices (10.4%), real-exports (4.4%), employment (0.6%), output per employee (11.9%), remuneration per employee (6.8%) and gross mark-up (7.8%). Interestingly, both exports and employment increased (by 1.8% and 1.1% per annum respectively) from 1994 to 1998, but declined (by 8.0% and 1.1%) from 1999 to 2003, while real value added declined consistently over the two periods. Real output per employee declined from R67,935 to R60,716 between the two periods, whilst remuneration per employee also fell (from R18,935 to R17,224)."

F. Employment trends

Employment in the clothing and textile industry is unsteady. It fell by 18.8%, from 124 687 employees in 1993 to 101 234 by Sept 2004 – a loss of 23453 jobs. It is important to note that official statistics is likely to underestimate total clothing industry employment as informal, micro and home industries tend to be excluded. It was estimated that total clothing and textile employment to be 158,879 by end 2005 [4].

Employees of the clothing and textile industry experience problems in finding suitable employment. Some of these employees formed closed corporations and excelled in their ventures.

G. Closures of clothing organisations

Clothing and textile organisations in South Africa that are unable to cope with the changes in industry sought closure as a resolution. According to the [5] approximately thirty clothing and textiles companies closed since July 2002. Many of these organisations sought legal advice on the process of liquidation. Closures are wide ranging, from textile manufacturers that produce standardised products to clothing manufacturers who focus on the fashion trends of the industry. Chinese imports proved to be intimidating force for the entire clothing value chain.

H. Performance of the industry

The clothing industry in SA is performing in the region of 85% labour efficiency. Capital expenditure on new assets averaged approximately 1.4% of sales [19]. With clothing manufacture being labour intensive it is important to advance

through the investment in capital requirement and technological innovations to overcome the competitive nature of the industry. Exports decreased, while imports increased. Labour efficiency of the SA clothing operators is approximately on par with the United Kingdom, European Union and the United States but it is the application of technology, working culture and productivity levels that are a matter of concern [1]

Other aspects that influence the clothing and textile industry into the next decade include issues such as mechanisation and automation, research and development, expertise and skills base, quality orientation, and above all, the eradication of import quotas. The DTI recently embarked on negotiations and finalised an agreement with China to limit imports of clothing and textiles into South Africa [26]. Other factors influencing the decline in the industry include the following:

- an inability to adjust to the change in the industry;
- the lack of effective performance management and leadership qualities;
- inefficiencies in all department of the industry;
- top heavy structures;
- family-owned businesses which were operated conservatively with low investment and a lack of managerial qualities;
- lack of knowledge, skills and training strategies in the industry;

- lack of strategic thinking and positioning;
- pressurised industry with poor labour relations;
- working in "silos";
- lack of efficient communication between departments and organisations;
- internal politics marked by an "apartheid mentality" [11].

IV. STRATEGIC FRAMEWORK FOR IMPROVEMENT

There are many challenges facing the clothing and textile industry in the world, and SA is no exception. Competition from both the domestic and international markets is crippling both the clothing and textile industries. However, with a reservoir of experience and expertise within in the industry, it could re-establish itself as a forceful industry with an ability to challenge competitors both domestically and internationally through a focus on added value, exceptional quality and the effective application of all resources through technological application. This led to the formulation of the framework for clothing manufacture[2].

Table1 reflects the composition of the companies surveyed in the SA clothing industry. The final results of the survey are being implemented in the thesis of Ramdass [17] and were not available at the time of producing this paper. Preliminary indications however indicate apposite response to the suggested strategic framework.

TABLE 1 : SAMPLE PROFILE OF SURVEYED COMPANIES

CUT, MAKE, TRIM (CMT) PRODUCTION (how much of CMT production was involved)			
Production	No of companies	Percentage	Total
CMT	85	58	146
Own designs	61	42	146

PRODUCT RANGE (what was the range of products made)			
Type of garments	No of companies	Percentage	Sample size
Trousers	29	20	146
Ladies outerwear	58	40	146
Formal wear	41	28	146
Leisure wear	18	12	146

PRODUCTION SYSTEMS (what production systems were used)			
Production system	No of companies	Percentage	Sample size
Overhead rail	4	3	146
Bundle system	144	97	146

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, as well as relevant literature, the recommendations for productivity improvement are summed up as follows:

- (1) Apply work study 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.[6]

- (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 [9]
- (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.[17]

These notions all reflect as part of the strategic management drive in figure 1.

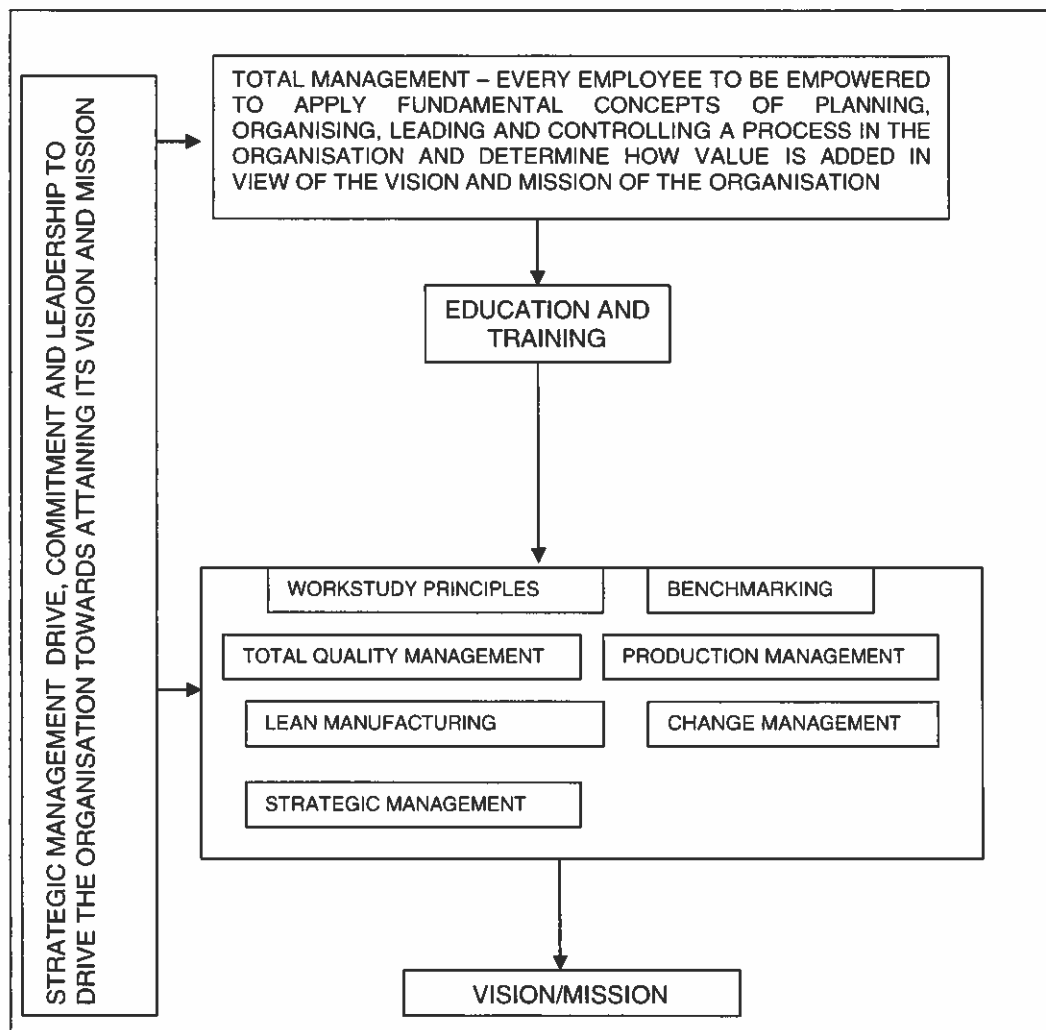


Fig. 1 – The framework for developing a competitive clothing and textile industry developed by K Ramdass [17]

Further elements of the framework presented in Fig.1 include:

A. Lean manufacturing

The remaining issues focus on aspects that are considered vital in clothing manufacture and an important part of the framework.

Lean production refers to the elimination of waste in all forms. This includes defects requiring rework, unnecessary process steps, and unnecessary movement of people and materials, waiting time, excess inventory and over production. It focuses on the identification of non-value-added activities with a view of elimination. A simple definition is "getting more from less." [9]

Lean production is facilitated by a focus on measurement of activities and continuous improvement of processes, multi-skilled team of workers, mechanisation and automation, efficient flow of materials, rapid setup and changeover, just-in-time delivery and scheduling, worker empowerment to act as required, supplier partnerships and preventive maintenance [10].

B. Optimise team efforts

Team-work can be found throughout the organisation, in manufacturing cells, quality circles, problem solving teams', self managed teams, project teams and so forth. This creates an internal customer relationship which breaks down barriers between departments. The focus is on the fulfilment of customer requirements and optimisation of processes. Teamwork is an important means of achieving organisational goals [10].

C. JIT production and delivery

The just-in-time philosophy implies the delivery of any part in the necessary quantity, at the right time to the right place. Just-in-time delivery is a key element in the development of lean production in many companies [13].

A few important changes are necessary to reach this degree of flexibility. For example, set-up time reduction also contributes to the reduction of lead times. One of the implications of just-in-time production and delivery is the reduction of lot sizes because it contributes to the reduction inventories and lead times [14].

D. Integration of suppliers

Ramdass [17] mentions that clothing manufacturers can derive benefits from buyer-supplier relationships. One of the eight principles of the ISO 9001 quality management systems standard is to develop supplier relationships that would improve the competitiveness of the clothing industry by reducing input material costs.

The suppliers can play a significant role in the customer's components design. The main advantage to the customer from the supplier's involvement in component design is that it may help to shorten prototype development times, and

therefore to reduce costs and gain competitive advantage in the market.

When the suppliers are not involved in component design, the manufacturer has to invest extra time and resources to solve any problem their suppliers will encounter when manufacturing a part they have not designed. On the other hand, the supplier has more time to provide for production problems and to innovate [6]. Finally, another result of supplier involvement is the reduction in the number of suppliers and the increase in length-contracts for the main components; this greater stability in the contracts allows the suppliers to reduce lot production sizes and to increase the frequency of deliveries [1].

E. Flexible information systems

Lean production implies a decentralisation of responsibilities to production line workers and a decrease of the hierarchic levels of the company. The efficient operation of a lean organisation requires the diffusion of information to all levels [23]. The aim is to deliver timely and useful information down to the production line.

The content of that information must be as much strategic as operational. The strategic information type deals, for example, with the company's production plans or sales forecast, while the operational information may be related to the factory's productivity or quality performance. In the same way, the production information system should allow the operation of the different factory sections or groups of machines to integrate between them and with the production planning department [20].

F. Quality management

Quality is the perceived value of the product. Two different aspects of quality must be identified in order to manage quality: (1) perception of quality of a product relative to other similar products offered in the market, and (2) conformance of a product to an organisation quality standard. In the first context, retail buyers and consumers evaluate quality of goods offered in the market. In the second instance products are judged as acceptable or unacceptable according to defined quality standards.

Product variation is normal but must be controlled to fall within product tolerances. One hundred percent inspection is the norm in the clothing industry. Organisations need to continuously upgrade their quality control procedures to be more competitive in the market [9].

G. Link productivity to pay

Unions can make a positive contribution to productivity improvement by understanding the problems faced by the industry. By carefully analysing what the risks are and how these could be managed and protected in more innovative ways, greater flexibility would allow firms to become a much more globally competitive. Both workers and organisations would be better off, both in earnings and ability to survive for

longer. Unions and organisations learn to collaborate better on areas of common interest [18].

H. Firectory of support institutions

The benefit will be a source (and wider selection) of experts that can be used by industry to solve technical, factory, production and marketing problems.

I. Establish research and development/innovation forum across value chain

Joint research and development across the value chain identifies new opportunities, access greater funding from government and results in improved competitiveness.

Review the Duty Credit Certificate (DCCS) Scheme as it is being abused by organisations which have less negative impact on total pipeline competitiveness [18].

J. Facilitate formation of industry clusters

Industry would gain by working together on issues of mutual interest in areas such as:

- The sharing facilities and equipment that may be deemed expensive or difficult to obtain.
- Bulk purchasing of material inputs from SA textile mills that would decrease the cost of inputs (joint negotiations).
- The development of joint marketing drives that would attract customer interest.
- The strategic development of joint education and training initiatives that would enhance skills development.
- The sharing of large orders and their fulfilment which would reduce delivery time.
- The initiation of joint research and development initiatives that would enhance the competitive position of the organisation
- The sharing of services such as work-study officers, mechanics, accountants, and any other overhead services that could add value to organisations and reduce overhead costs.
- The creation of market power by working together on the building of infrastructure, regulations, and so forth [10].

IV. 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 [16].

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 [17].

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[19].

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 [21].

G. Technology

The organisation 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 [24].

V. CONCLUSION

In order to survive in the clothing and textile industry in South Africa and achieve manufacturing excellence, the proposed framework moves from a visionary perspective through a number of supporting elements to establish a strategic framework that would provide impetus in gaining competitive advantage.

The creation of this framework would provide the clothing industry in South Africa with a "survival toolkit." The framework provides a practical approach that can be implemented without major financial implications and is strongly recommended for implementation. Performance figures indicate that the companies that implemented work-study principles have approximately doubled their output performance and significantly differentiated itself from its

competitors by key improvements in quality, cost and delivery.

The philosophy of total management empowers all employees to manage their processes with a view to accomplish organisational mission and vision through education and training and the adoption of process improvement techniques of work-study, total quality management and so forth. A strategic management drive with commitment from the leadership to encapsulate the adoption of improvement techniques with a focus on gaining competitive advantage. The framework in figure summarises the strategic drive and commitment that leadership needs to be acknowledge in the implementation of improvement initiatives in the clothing industry. This could be accomplished through education and training and the empowerment of employees to manage their processes thereby initiating the concept of total management.

REFERENCES

- [1] Adewole, A.; "Developing a strategic framework for the efficient optimization of information in the supply chains of the UK clothing manufacture industry," *Supply chain management: An international Journal*, vol. 10, no. 5., Emerald Group Publishing Ltd.,2005.
- [2] Audet, D.; "Structural adjustment in textiles and clothing in the post ATC trading environment," *OECD. Trade policy working paper No.4.* Organisation and economic co-operation and development.2004.
- [3] Basdeo,S. Clothing manufacturer, Durban,2006.
- [4] Barnes, J et al. "An analysis of the MIDP's contribution to the success of the South African automotive industry – Policy lessons for the clothing, textile and paper and paper products industry." NPI Research Report,26/06/2004.
- [5] Bell.T.; "Clothing chains wail over quotas is hypocrisy," *SA Media. The Star.* 15 Sept.2006.
- [6] Chan, J.W.K., Burns, N.D.; "Benchmarking manufacturing planning and control (MPC) systems: an empirical study of Hong Kong supply chains", *Benchmarking: An International Journal*, vol. 9, no. 3, pp 256-77, 2002.
- [7] Cooper, DR and Schindler, P. ; *Business Research Methods.* McGraw-Hill. New York,2006.
- [8] CLOFED ; *CLOFED Handbook 2000/1.* Clothing Federation of South Africa,2000.
- [9] Evans, JR.; *Total Quality – management, organization and strategy*, 4th edition. Thomson. New York, 2005.
- [10] Edwards, L.; "Globalisation and the skill bias of occupational employment in South Africa," *South African Journal of Economics*, vol. 69, no. 1,pp 40-71,2001.
- [11] Esset, A. ; "The impact of trade liberalisation on workers in the textile industry. Ecumenical Service for Socio-Economic Transformation, *Economic Policy Institute/ KHIB Women's Centre.*,January,2003.
- [12] Hill, T.; *Operations Management: Strategic Context and Managerial Analysis*, Macmillan Press, Basingstoke,2000.
- [13] Hines, P.; "Purchasing for lean production: the new strategic agenda", *International Journal of Purchasing and Materials Management*, vol. 32 no.1, pp.2-10, 1996 .
- [14] Krajewski, L.J., Ritzman, L.P.; *Operations Management: Strategy and Analysis*, 4th ed., Addison-Wesley, Reading, MA.1996.
- [15] Nel, PS et al.; *Human resources management*, 6th edition, Oxford University Press. Cape Town.2004
- [16] Ng, K.C. and Hung I.W.; "A model for global manufacturing excellence," *International Journal of Productivity and Performance Management (previously Work Study)*, vol. 50, no.2, 2001.
- [17] Ramdass, K.; Unpublished doctoral thesis in progress ,University of Johannesburg, South Africa, 2007.

- [18] Ralis ; "Observation and Results from the Rapid Appraisal of Local Innovation Systems (RALIS) exercise conducted in the Clothing and Textile Sectors of the Western Cape, South Africa", *Mesopartner: Local Economic Delivery*, 2004.
- [19] Robbins, G et al. ; "Firms at the crossroads: The Newcastle-Madadeni clothing sector and recommendations on policy responses," *An initiative of the KZN DEDT and Newcastle municipality*, 2004 .
- [20] Robbins, S.P. and Decenzo, D.A.; *Fundamentals of management – Essential concepts and application*,. 5th edition. Prentice Hall. New York. 2005
- [21] The clothing industry news. (*Clofed*). *Newsletter 65-75*, 2000.
- [22] Ward, P.T., Durray, R.; "Manufacturing strategy in context: environment, competitive strategy and manufacturing strategy", *Journal of Operations Management*, vol. 18, no. 2, pp 123-38, 2000.
- [23] Womack, J, Jones, D., *Lean Thinking: Banish Waste and Create Wealth in your Corporation*, Simon & Schuster, New York, NY, 1996.
- [24] Weitz, P.L. and Levy, M. ; *Retailing Management*, McGraw-Hill. New York. 2004.
- [25] <http://www.da.org.za> , 2008.
- [26] <http://www.dfa.gov.za> . Mamoepa, R. Minister Dlamini Zuma to hold discussions with Chinese counterpart, 2007

DATABASES