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NON-TECHNOLOGY FEATURES FACING MANAGERS IN DEVELOPING COUNTRIES IN THE INTERNATIONAL MARKET IN TEXTILES AND CLOTHING IN THE LIGHT OF GLOBALIZATION

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Non-technology features facing Managers in Developing Countries in the International Market in Textiles and Clothing In light of Globalisation.

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I INTRODUCTION

The manufacture and export of clothing and associated products of fibre and textiles, has been the driving force of industrialisation in developing countries. Many of them are now at a stage in their development where their production capacities are greater than their markets. Since 1995 there has been a marked decline from clothing manufacture in developed countries who are outsourcing production from developing countries.

Technology in the past 20 years has progressed to a stage where products can be manufactured to a consistent quality standard in a shorter time using low level labour skills. Many of these improvements have reduced the number of workers in the industry in developed countries and the time required to satisfy the needs of the market. This is especially so of developed countries who, due to high costs of manufacture and competition, seek to outsource their needs from developing countries.

The application of new technologies has had a profound impact on developing countries, not only upon the number of labour employed, but also upon the type of skills training needs of both management and workers.

Companies in developed countries are sourcing products from developing countries to reduce costs. Therefore, there comes a time when costs escalate to a level where a company is no longer competitive in the marketplace.

What are they looking for:

- Products - of a consistent quality
- Materials - quality of fabric and finish
- Production - capacity to manufacture a greater degree of fashion garments
- Market needs - quick response to customer demands
- Delivery - the ability to met delivery schedules
- Price - that is competitive

Performance indicators in a country are reflected in their import and export trade balances; these are related to the monetary value produced per worker employed and give an indication of their performance in relation to other countries.

While developing countries are increasing their labour force, developed countries are reducing. To remain 'competitive' enterprises must be more efficient in the way they 'manage' their business using improved management techniques and utilising the 'resources' of the business more effectively.

II Challenges facing the Textile and Clothing Industry in the 2000's

A Clothing Industry R&TD

While the main commercial driving force in the 1990s was research and technology development (R&TD) particularly in the area of machines plant and equipment, more and more emphasis has been directed to improving the skills of managers for the 2000s. Machine manufacturers are still inventing new machines to reduce process times but this will require high capital investment.

One might even say that the technology bubble is about to burst. The search for improved product design, new fabrics, improved quality, greater manufacturing flexibility, quick response service to customer needs as well as new management techniques and methods of motivating the labour force are now 'key' to the success of all enterprises.

It is therefore very important that governments and enterprises in developing countries plan for the future by formulating firm strategies for the continued growth of their clothing and textile industry.

B Market Change

Most markets are now competitive and as such manufacturers need to improve their competitiveness in terms of output, production costs and product quality. These new markets will require products of a consistent quality and improved distribution service.

The market now puts more emphasis on innovative product design, fabrics, quality, quick response and service. These are not new ideas to the industry; they have been given a fresh impetus and accent by world changes and the awareness of the needs of the consumer.

The growing number of product styles and season collections are increasing, with shorter lead times from design to sampling, manufacturing to delivery. This means more efficient practices, methods of manufacturing, management controls, training practices and response times from the manufacturer to the retailer.

The internet and commerce in developed countries is having an impact on their marketing and sales, this is an area where exports of developing countries can achieve greater exposure to European markets.

On the other hand the private sector such as in Egypt, Jordan and Turkey are becoming more efficient and competitive in the international market. Public sector companies employ large numbers of workers and are at a stage where they should be re-organised so that they and not the private sector set the 'standards' of quality.

Public and Private sectors must work together to improve their overall performance for the future of their country.

Some manufacturers appear not to be concerned with *the finish of the fabric*, especially if the fabric is for products for local and regional markets. They appear to be more concerned with the fabric width variations. Many problems encountered in developing countries are created by the enterprises themselves, in that few enterprises 'measure' or 'test' the quality of the fabric or batch fabric widths.

This does not always apply to situations where the fabric is imported especially for a product, where the customer supplies the fabric.

Very few know about *needle technology*, needle damage and its effect on garment seams. Internationally recognised standards set by machine and needle suppliers appear to have been lost in the technical transfer. The lack of skilled QC (Quality Control) staff has a significant effect on the final product quality and marketability of the product. Many QC's do not know or cannot recognise 'needle damage', or if the correct needle size is being used for the fabric being sewn.

Quality management is performed on an adhoc basis, and in many cases carried out by the owners. Many owners will state that they have 'zero' defects/returns and while this may on the surface appear to be the case, when you look closer you will find excessive rework time and the acceptance for lower prices not to return faulty goods as being the reason why.

Some enterprises see the Quality Management function as an extra cost, as opposed to a benefit to the organisation. What many do not perceive is that it is the 'quality' that sells the product.

Many developing countries have no formal sampling procedures, either for raw material purchases or garment sampling. This is especially so when enterprises manufacture their own products. Very little sewing and/or washing tests are carried out on local or imported fabrics to determine shrinkage percentages and/or the effects of steam on the product during the manufacturing process.

With the shift from 'mass' production of standard products using low level skills and high technology towards the manufacture of specialised products using multi-skills and universal multipurpose machines, manufacturing attitudes have to change to meet consumer demands enterprises must also have more flexibility and diversity to survive. This also means 'sampling' products earlier to meet the demands for 'change' through the 'four' seasons, Summer, Autumn, Winter, and Spring.

Enterprises have to ensure that they not only have the design sample manufactured to the 'quality standard' but the costing of that sample under manufacturing conditions. Consumers require their products 'on time' to suit their end and beginning of each season and manufacturers have to ensure that these 'times' are met. This means that all fabric sourcing, purchasing and delivery must be planned into the manufacturing process and co-ordinated to meets the customer requirements. *This also applies to customer supplied fabrics.*

Many developing countries want ISO registration, because they have been told that, not only is it a marketing tool, but unless they have this 'magical' registration they will be unable to supply the international market.

Manufacturing layouts vary from enterprise to enterprise, as a general rule they are determined by a number of factors:

(i) Space and shape of building available

The building shape and size should be utilised to obtain maximum output capacity. At the same time the layout must have sufficient space so that the working conditions are safe and not hazardous. Filling a room full of machines does not ensure increases in productivity; in fact it has the reverse effect. Consideration must always be given to, space between machines, space at the workplace, lighting, heating, ventilation etc.

(ii)Type of materials handling systems

The type of materials handling system will depend on the product and quantity being manufactured, the weight of the product and the distance it travels through the manufacturing process. Materials handling systems are designed to reduce 'handling', when you consider that up-to 80% of a process can be handling and 20% actual process, materials handling is a very important issue.

(iii) Product and quantity being manufactured

Manufacturing layouts and especially the workplace layouts must be designed to ensure that product quality is manufactured to a 'consistent' standard. Dirty floors, poor lighting, bad layouts and handling systems all affect performance and the quality of the final product.

(iv) Type of machines

Machine layouts should be (wherever possible) 'flexible' as opposed to 'fixed' so that products can be manufactured with the least amount of materials handling and movement through the process. Machines should be laid out so that good workflows are obtained.

Where manufacturers use different machines such as, Pffaf, Singer, Juki, Brother, Rimoldi, Union Special etc., they have to have specially trained mechanics and a large spare parts store for all machines. It is, therefore, important that these machines are regularly serviced (preferably using a formal plant maintenance programme).

Material handling systems (Outside the Manufacturing Process)

- Progressive bundles (Large Mobile Bins) - generally used in tee-shirt manufacture
- Manual conveyors (Bins) - straight line production
- Single garment manufacture (Bins) - line production
- Overhead systems (Manual and Automatic) - single and multiple units

Material handling systems (Inside the manufacturing Process)

- Workplace Engineering (Guides and Attachments) - swing guides, templates, cutters
- Extended Worktops - worktops for long seams and heavy fabrics
- Seating - comfortable chairs (preferably swivel) to assist the worker
- Lighting - adequate overhead and local lighting to eliminate shadows

The absence of formal 'time standards' effectively means that machine and labour resources cannot be planned on a formal basis and, therefore, product costs and/or profit margins cannot be quantified with any degree of accuracy. Many cannot be competitive due to their high costs of manufacture.

G Management requirements to Quick Response

In the 1970's when UK orders for bulk production were diminishing, companies were looking for ways of supplying their customer orders quicker and at the same time reducing their stock levels. Just in Time or Quick Response was born, to suit the needs of the customer for none bulk production.

It meant that manufacturers had to have systems and labour skills in place to enable the manufacturer to respond to market changes. Manufacturers and suppliers had to work closer together to meet shorter delivery dates to the customer for 'quick response' to work. Manufacturers obtained smaller production run orders from their customers and these were planned into the production programme. The manufacturer laid down firm orders with the supplier to be called off when required for the production programme.

Many developed countries now use 'quick response' techniques to satisfy their customer demands and are organised to respond rapidly to 'market changes'. This means that the organisation and management structure is set up to respond to the organisation and customer needs.

Quick response requirements;

(a) Production planning

Planning smaller orders by product style (model) material quantities, /colour and size ratios, improved modes of transport and quicker delivery schedules.

(b) Purchasing suppliers

Defining purchasing quantities (minimum and maximum purchases) lead times, from order to receipt prices, discounts and payment terms, transport and delivery dates.

(c) Quality

Formal quality control procedures, quality audits, examination and testing procedures

(d) Production Engineering

Establishing new methods, times and costs for all product variations, workforce planning, workplace engineering, work flows and layouts.

(e) Workers

Redefining worker skills, leading to a multi-skilled workforce, team working, and productivity and group incentive schemes.

(ii) Reviewing the organisations long-term plan will identify areas where the management process needs to be modified to meet future customer demands.

(iii) All tasks within the management process should be reviewed to see if the 'change' could result in a more efficient management structure. Each manager task being quantified in terms of skill, loyalty and ability. All potential changes to be quantified in terms of 'cost' and 'time'.

Quick response initiatives can result in changes being required to both the management structure/practices and to the process itself. Objectives must be clearly defined, sufficient resources of people and money allocated, risks associated with 'change' managed and monitored.

Changes to meet 'quick response' cannot be achieved overnight, they must be implemented on a phased basis to ensure that the 'change' works. Too many enterprises introduce 'total change' into their organisation without identifying, costing and monitoring the effect of total 'change' on their business. These fail because of the negative effect it has on the management and workers and hence lowering performances, leading to the organisation blaming the managers for the failure.

In many cases the redesign of the process is often prompted by a crisis, e.g. failure to meet delivery dates, bottlenecks in the manufacturing process, high levels of absentees, high levels of stock etc. Management checklists provide an appropriate way to bring about change. In common with all checklists these are some of the Do's and Don'ts

DO

- Take time at the beginning of setting up objectives, benchmarks and their implementation
- Ensure as far as possible, access to required resources
- Give someone with the necessary skills the responsibility of managing change

DON'T

- Allow small additional changes to arise without assessing their implications
- Forget to build in 'quality' audits
- Lose sight of 'time' and 'cost' targets

As with any project, a successful outcome is more likely with formal planning, considering the 'what if' scenario. There has to be correct management procedures and documentation that has full traceability with someone in complete control.

Organisations who are not geared to 'quick response' will find it difficult to sustain both existing and new markets.

I New Approach and Impact on Future Growth

Private sector enterprises in many developing countries are introducing a new approach to export promotion through the setting up of export syndicates, similar to co-operatives, where a group of private sector enterprises form a company to sell their product range to the international market. Each contribute a sum of money into a fund, thereby reducing their marketing costs and batching their products together as a range, thereby increasing their export potential.

One such company was recently set up in Syria with approximately 40 companies. Other countries such as Jordan have set up finishing companies in a free zone, where garments are part manufactured in a developed country and the final assembly carried out in the free zone. These are then re-exported at a fraction of the cost even allowing for transport and shipment costs. This practice has been used in Israel for many years and has only recently been used in developing countries.

Some countries manufacture garments without buttons and labels and ship them in bulk to finishing company in the customer's country. These finishing companies examine, clean, button, label, press and pack the finished product, which are stored then delivered to the customer. This means that all products arrive to the customer in pristine condition.

Countries such as Tanzania, India and Israel having been using this approach to finishing for many years, thereby reducing finishing costs at source, including pressing; it can eliminate poor and sometimes expensive packaging materials and reduces shipment costs.

Some organisations in countries such as Italy, cut all the component parts of a garment and have them sewn in manufacturing companies in developing countries.

Developed countries have the technology and skills to produce innovative designs, computerised drawing, patterns and markers, many of which are now supplying developing countries with the technical know-how through the use of modem transmissions and international experts.

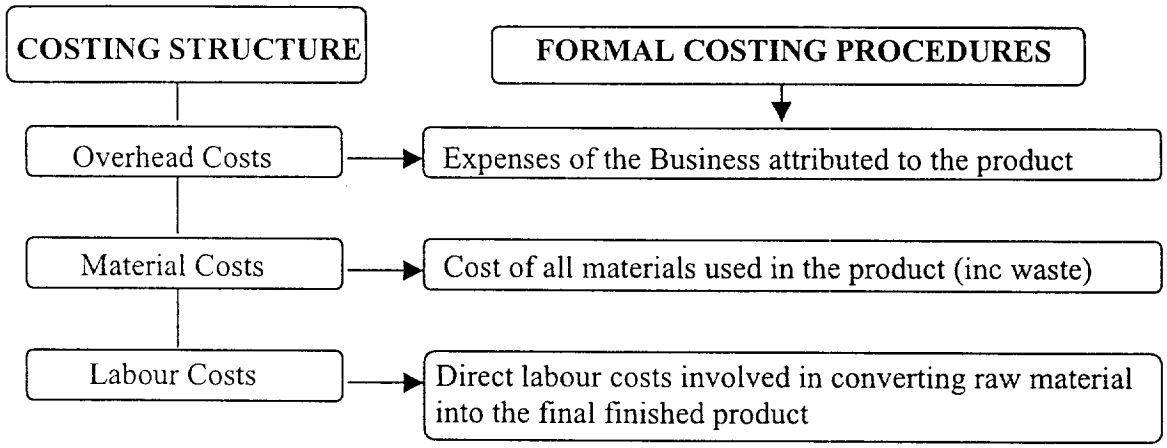
The introduction of CAD/CAM technology in developing countries was the first impact in their clothing technology; however, surveys in Egypt, Tanzania, Ethiopia and Syria show that insufficient training and pattern grading skills were transferred, to enable these users to use the technology efficiently. This is partly due to the lack of commitment by the purchasers.

Many companies assume that once they have purchased CAD/CAM technology it will solve all their problems, forgetting that training is an integral part of the system. Training individuals with the right skills and aptitude is therefore, very important. The feeling is that once they are trained employees will leave and set up their own business or work for a competitor, but if they want to survive, this is a risk they have to take.

A number of organisations use computer-generated designs, storey boards patterns and digitised markers, for their overseas manufacturers. Markers are sent via a modem to the manufacturing enterprise who using the same computer software downloads the information directly onto a plotter. This produces ready-made markers in the correct ratios and sizes required by the client. Countries such as; UK, Italy, Turkey, Malta, Bulgaria, Greece, Cyprus and Morocco have been using this system for a number of years, mostly on a CMT (Cut Make and Trim) basis.

(b) Costing Policies and practices

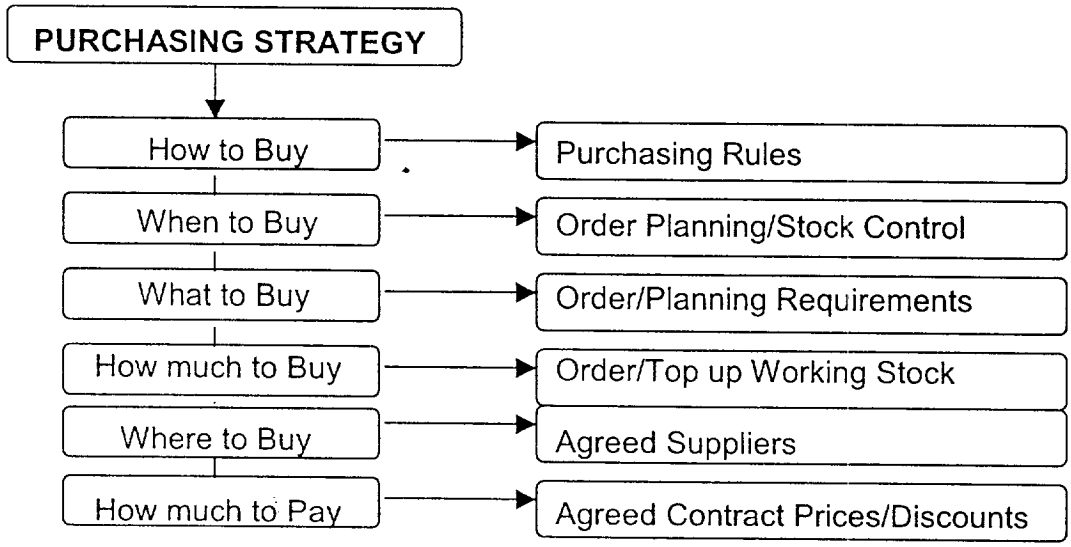
Setting up cost centres in the organisation so that all cost can be monitored. E.g. the introduction of a formal standard costing and monitoring system to estimate and quantify the costs of output and the profit/loss on each product manufactured. Setting up budgets and monitoring these against all costs of materials, labour and overhead expenses of running the business.



Overhead Costs are normally expressed as a percentage (%) related to the 'time' taken to produce a product; it also includes 'indirect labour costs'. Common cost centres would be Sales & Marketing, Establishment, Administration, Remuneration and Finance.

(c) Purchasing and stock control

In order to carry out the procurement of purchases in the most effective manner, one has to evaluate ALL options and try to answer the following:



This applies to both LOCAL and INTERNATIONAL purchasing elements

(f) Market Research and Development

One has to decide what type of market research and development strategies must be implemented, linked to resource levels, and what importance do the following factors play in the company:

- Marketing Strategy - Product Fashion/Material Trends
- Market Intelligence - Future Trends
- Market Research - Niche Markets/Supply Sources
- Market Supply - Location/Mode of Transportation
- Promotion/Advertising - Company Literature

(g) Company Policies

All aspects of the business must be set up on a professional basis, monitored and controlled if that business is to survive.

- Business Planning - Organisation and Utilisation of Resources
- Sales and Marketing - Product Mix and services
- Costing - Finance and Pricing Issues
- Production Capacities - Output Capabilities/Performance
- Purchasing/Stock Control - Raw Material Issues
- HRL and Recruitment - Quick Response/Multi-Skills
- Quality - Quality Statement

The introduction of more formal methods of training, management systems and controls will generate greater levels of performance and contribute to reduced costs of manufacture.

This means that manufacturers have to ensure that they have constant market intelligence and information on what fashion trends are required for each market. Their sales and marketing policy should reflect the targets and objectives of the company and an action process for change.

Advertising and promotional policies will depend on the product range and size of the organisation. However, all organisations should have the basic materials to assist in the sales of their products. While local market materials may-be satisfactory, exporting requires intense marketing exposure such as participating in fashion fairs. The degree of materials required will depend on the volume of the market penetration and the size of the sales and marketing budget available.

- **Business Planning**

Business planning is based on a 'strategic plan' for 'corporate objectives'. These objectives are planned to ensure the stability and growth of the organisation. To achieve these 'corporate objectives', budgets/targets have to be made to ensure that these objectives are met. All corporate objectives are based on 'sales' and the 'cost of those sales, the 'sales' being broken down into product groups/styles/models and a 'forecast' of how those sales are to be achieved. They could also be broken down into sectors, e.g. local, regional and international sales.

An organisation might supply both local and regional markets and decide that their 'corporate objective' for future growth lies in the export to the international market. To achieve these objectives may mean sourcing new products and materials or sourcing new markets for their existing products. This could also mean new skills and techniques would be required to enable the organisation achieve these 'corporate objectives'.

Long-term plans/budgets have to be designed and a structure set out to implement these changes. The nature of the product(s) and the type of manufacturing processes used will influence the shape of the structure.

Business management has become increasingly more complex, with more highly specialised production processes and marketing practices. In many areas they become more capital intensive and require improved financial structures to enable organisations to keep pace with world globalisation. Obviously the basic objective of most organisations is to survive in a competitive market.

All companies should have an organisation chart, listing the links between each department and the responsibilities of each individual (job description) This ensures that everyone in the organisation knows who to report to, their specific areas of responsibility and how the information/communication flows from one department to another. When considering the optimum management structure, the organisation should ensure:

(i) consistency of quality of product/service
(ii)adhere to agreed corporate objectives and standards
(iii) cost effective methods of monitoring their performance

In order to achieve these it needs to;

(i) ensure that control procedures within the organisation stay within agreed boundaries (budgets - products and regions etc.)
(ii)establish good information flows between all departments
(iii) establish good information flows on customer service, market conditions and an awareness of competitor activities.

- **Sector Strengths and Weaknesses in Developing Countries**

STRENGTHS

- Low manpower costs
- Entrepreneurial spirit
- Low cost energy
- Own production facilities
- Geographical location

WEAKNESSES

- No marketing strategy
- No professional training strategy- Human Resource Development
- Insufficient market information
- Lack of Quality (QC) systems and procedures
- Lack of product development

- **Strategic Change**

There are a number of areas within the sector where 'change' is required if it is to improve its productive output and competitiveness. While some companies can manage 'change' successfully, most require some form of assistance so that they are able to 'change'.

Change can be the driving force that perpetuates success and growth, with every change presenting new opportunities to increase efficiency or to build the business. Areas that should be considered are:

- Total quality management
- Business process re-engineering
- Restructuring

In most cases changes are related to market demands, new technologies, swings in the economic cycles, global economy and in some case a dramatic increase of new competitors.

- **Strategic Success**

If we define the components of a strategy as;

- what we want to do
- what the organisation wants to be
- where we want to go

Then the tactics for building a framework for the sector is to understand its position in a changing marketplace. Moving forward with a sense of integrated purpose by focusing on the 'key' issues of both customers and markets.

Sourcing new customers and markets requires a great deal of planning and information before one can consider exporting. Those enterprises with a strong manufacturing base can, therefore, have greater market opportunities.

Health and Safety issues together with environmental issues are written into many countries legislation, governing the importation of textile products. For example, EU member states have different legislation to burning properties of textiles and the types of dyestuffs used in the fabric. These types of issues have to be considered by any potential exporter who wishes to supply their products to the international market.

Most organisations in developed countries only consider medium to large organisations employing in excess of 50 employees as having the ability to produce sufficient products in the required quantities and quality to satisfy their needs. This is because they consider them as having the resources and the technical abilities to supply them with a 'consistent' flow and service.

While establishing small markets is a starting point, organisations must plan ahead so that their resources and capabilities are fully utilised. Market intelligence on a regular basis is therefore 'key' to future export growth. Market trends, fashions, product development, niche market opportunities have to be explored. Internet marketing facilities must be explored for future development.

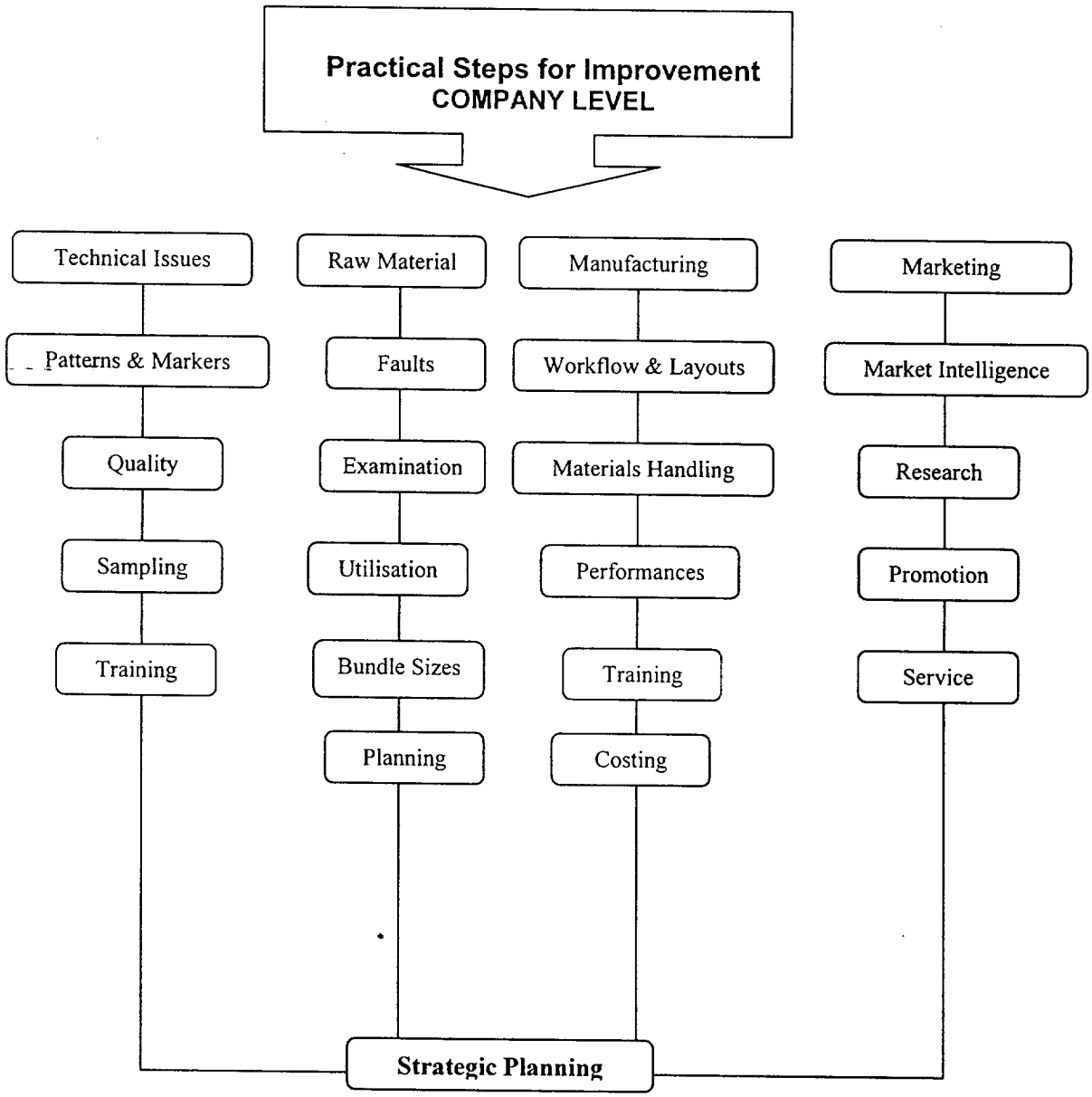
For example; denim jeans, a garment that has been with us for many years, used both as work-wear and fashion-wear appears to be loosing its appeal with the younger generation, who are now wearing more and more casual sportswear instead of jeans.

Developing countries are however, still making jeans and although this might well satisfy their local markets, international market trends are changing.

The volume and value of products manufactured in developing countries has increased over the last 10 years, many are increasing their local market share and reducing the amount of exports.

ANNEX

Practical Steps for Future Improvement



Practical Steps for Improvement - Company Level

Highlights some of the problems experienced at company level and areas that might be considered by individual companies to assist themselves in solving those problems.

3. RAW MATERIAL UTILISATION

- Poor cutting methods
- Poor methods employed in marker making
- Too many plies laid in the laying process
- High bundle sizes

Areas to consider:

- Contract marker making service
- Establishing optimum lay depths
- Improved pattern/grading facilities
- Improved methods of fabric laying/spreading

Leading to:

- Reduction in marker making time
- Improving cutting quality
- Improved garment shapes
- Reduction in raw material costs

4. RAW MATERIAL PLANNING

- Purchasing against customer orders
- Production planning and control
- Materials Handling
- Controlling raw material waste

Areas to consider:

- J.I.T principles from purchase to delivery
- Planning the resources of material lead times
- Stock control systems
- Fabric batching

Leading to:

- Improved cash-flows
- Reduction in raw material stocks
- Accurate stock records and materials control
- Improved cutting efficiency

7. MANUFACTURING PROBLEMS

- Recruitment and retention of employees
- Inputs and final outputs
- Resource planning
- Management training

Areas to consider:

- Formal Recruitment and Training plan
- Production planning and control systems
- Managing the resources of the business
- Production Engineering and QC systems

Leading to:

- Improved training methods and practices
- Increased productivity
- Improved utilisation of machine and labour resources
- Professional management practices

8. PRODUCT DEVELOPMENT

- Little or no product innovation, copies not originals
- Lack of Pattern making and grading facilities
- High levels of raw material waste due to manual methods and techniques used
- Inconsistent sizes within each size range

Areas to consider:

- The creation of design agencies or qualified designers
- Computerised pattern grading from outside agencies
- Computerised markers
- Improved size charts, QC procedures and Training

Leading to:

- Up-to-date designs for local and international markets
- Reduction in raw material usages and improved product quality
- Reduction in non-productive time and costs
- Consistent size and quality

11. LOW PERFORMANCES

- ❑ Lack of formal standard manufacturing times
- ❑ Lack of line balancing
- ❑ Poor work-flows
- ❑ Excessive materials handling at the needle point

Areas to consider:

- ❑ Timing each worker at each operation
- ❑ Balancing operation times for each style
- ❑ Reducing bundle sizes

- ❑ Engineering each work-station

Leading to:

- ❑ Improved work-flows
- ❑ Increased output
- ❑ Reduction in W.I.P. (Work in Progress)
- ❑ Reduction in worker fatigue, improved performance

12. COST MANAGEMENT

- ❑ Absence of formal costing procedures
- ❑ Intermittent cost monitoring
- ❑ Low level of return on capital investment
- ❑ High costs of manufacture

Areas to consider:

- ❑ Formal standard costing systems and procedures
- ❑ Regular monitoring of all costs, product by product
- ❑ Improved management procedures
- ❑ Reduction in materials handling and non-productive time

Leading to:

- ❑ Accurate costs of manufacture
- ❑ Defining products that make a loss/profit
- ❑ Reduced costs of manufacture
- ❑ Reduced material, labour and overhead costs

15. Company Level – SELF HELP

Most companies require some form of assistance; the degree of assistance is dependent on the number of problems and the type of assistance required. The sample areas outline some of the basic problems experienced by companies. By considering alternatives, one can see possible short and sometimes long-term solutions.

In any manufacturing environment garments must be engineered to suit the resources of labour skill and machines available, and by utilising these resources more efficiently companies will become more cost effective.

CHECK LIST TO CONSIDER:

1- Engineering the workplace at each operation to reduce materials handling and worker fatigue, thereby contributing to productivity improvements.

2 - Reducing bundle sizes to aid better workflow, W.I.P levels and improving throughput times

3 - Balance each operation by machines and skills available to reduce manufacturing times.

4 - Monitor output from every operation every hour or two hours to ensure that the production is flowing and that estimated targets are being achieved.

5 - Improve your examination techniques by the introduction of inline Quality Control checks, monitor those who produce bad quality and take the necessary action to reduce defects. It may mean re-training workers or re-assigning them to other styles (models).

13. SALES and MARKETING

- Market information
- Promotion materials and techniques
- Market research (including product trends)
- Customer links and requirements in Design, delivery, cost and quality

Areas to consider:

- Marketing information centres – newsletters to industry
- Design of promotion materials to International standards
- Product development and innovation
- Buyer visits, exhibitions and study tours

Leading to:

- Improved market intelligence and information service
- Promotion of Syrian products to the International Market
- The supply of products and styles that the customer wants
- Increased export sales

14. STRATEGIC PLANNING

- Lack of formal strategic plans
- No formal marketing objectives and strategy
- Lack of communication
- Lack of product planning and purchasing strategies

Areas to consider:

- Introduction of a corporate strategy
- Introduction of a purchasing and planning strategy
- Design of a sales and marketing strategy
- Product development and market trends

Leading to:

- A greater awareness of customer needs
- A more formal management structure
- Improved sales and costs
- Improved competitor awareness

9. MACHINE and LABOUR RESOURCES

- Under utilisation of Machines and Labour
- Inconsistent quality standards
- Low levels of output and incentives
- Lack of planned maintenance

Areas to consider:

- Management training in resource planning
- Formal training and QC systems
- Increased wage levels and incentive scheme introduction
- Planned maintenance programmes

Leading to:

- Increased output and cost reduction

- Consistent quality
- Reduction in absentees and labour turnover
- Reduction in machine breakdown and production bottlenecks

10. HUMAN RESOURCE DEVELOPMENT

- Informal training/no training programmes
- Lack of skilled management
- No formal training documentation
- No training/Recruitment plan

Areas to consider:

- Introduction of formal, Induction, basic and Advanced training procedures
- Training managers in resource management
- Formal documentation to determine skill levels and costs
- Formal recruitment and training plan for multi-skilled training

Leading to:

- Consistent quality and output and cost reductions
- Professional management of company resources
- Forecasting skill requirements for style changes and expansion
- Improved productive output and customer service

5. TECHNICAL PROBLEMS

- Excessive materials handling
- Poor storage facilities
- Poor work-flows and layouts
- Un-trained management and supervision

Areas to consider:

- Improved materials handling systems
- Improved storage facilities
- Model lines
- In-house and external training programmes

Leading to:

- Reduction in non-productive time
- Reduction in search and select time
- Reduction in operator fatigue
- Improvement in productive output

6. PRODUCT QUALITY - Management

- Sampling procedures
- Measuring/Testing/Examination procedures
- Quality management
- Quality systems and procedures

Areas to consider:

- Formal sampling procedures from design to sealed sample stage
- Material examination on delivery
- Implementation of quality management training
- The design and implementation of formal systems and procedures

Leading to:

- Improved product quality and manufacturing methods
- Reduction in fabric faults
- Improving quality management and systems
- Improving the overall product quality

1. RAW MATERIAL SUPPLY

- Monopoly in fabric supply
- Cost of materials purchased
- Minimum order Quantity
- Response times

Areas to consider:

- Closer working relationship between Supplier and Manufacturer
- Improved payment terms between Supplier and Manufacturer
- Joint/Alliances with other manufacturers
- Improved collection of payment and methods used

Leading to:

- A reduction in Lead Times from point of order to delivery
- Improved service to the Customer
- Reduction in non-productive time
- Improved cash-flow

2. RAW MATERIAL FAULTS

- Holes, Drawn threads, Slubs
- Dirty fabric, Stains
- Badly rolled fabric
- Fabric width variations

Areas to consider:

- Pre-examination of all goods-in
- Improved packaging and materials handling
- Re-rolling fabric or return to supplier
- Batching like fabric widths prior to cutting

Leading to:

- Reduction in fabric laying and cutting time
- Reduction in materials handling time
- Improvement in fabric quality
- Improved fabric utilisation

CONCLUSION

The importance of emerging non-technology issues and trends that influence international competitiveness especially in developing countries is seen not as a challenge but as a prerequisite to the survival of the industry as a whole. The changes in market trends and the purchasing power of individuals continues to evolve where 'quality' and 'delivery of service' are 'key' elements. Retailers and manufacturers working closer together to service the demand.

The one singular issue that this paper shows is that insufficient formal training and technology transfer takes place in developing countries. Formal training procedures and practices implemented into the business will assist in the improvement of the productive output, quality and costs of manufacturing at both Company and Sector level.

Formal induction, basic and advanced training programmes contribute to reductions in absenteeism and labour turnover. These problems will always be present in a manufacturing environment, however, experience has shown that formal training while not eliminating the problem assists in reducing the problem.

The second major issue is the lack of market information and marketing techniques. More research and development is required to explore 'niche' markets. Market research determines what the market requires in terms of fashion, style and trends. In some cases new markets can be found for existing products. Manufacturers can, through good design and product innovation contributes to fashion changes through the use of local fabrics and design technology. More and more developing countries are linking with large organisations on 'joint ventures'. Marks and Spencer of the UK have in recent years set up such a venture in Egypt.

Developing countries must realise their full potentials if they are to become more competitive in the international market. This means they have to be more professional in the way they manage the resources of their business and the activities of that business to manage the 'changes' necessary to survive and sustain future growth.

Joint ventures and partnerships may assist some companies and while many see these as vehicles for increased profits and future growth, they are not the panacea to solve all their problems. Governments and enterprises have to consider policy implications and strategies that affect their imports and exports and the future growth of their countries, if they are to be competitive in the international market and at the same time their local and regional markets.

The German Frauenhofer Institute has recently published the results of a survey involving 2300 experts on "how they saw the industry developing in the next 25 years". Hear are some of their results:

- By the year 2010 there will be a shortage of skilled labour
- One third of the population (in Europe) will be older than 60 years
- Generic technology will allow a threefold increase in cotton production
- Easy dyeable and comfortable to wear synthetic fibres will be available

These forecasts certainly offer opportunities and challenges for the future.

This means those organisations, or the people working in them have to:

- be flexible so as to adapt to changing environments (fashion changes)
- reject standard conventions by thinking and acting creatively
- involve everyone in the organisation because no-one holds the Monopoly on good ideas
- question existing practices to bring about strategic change

Taking an organisation down a different path or direction means adopting 'change' where new ideas should be encouraged and tested, working towards the development of a better future through strategic thinking.

Common factor checklist:

The following check list outlines factors that have to be considered:

- Re-invent new methods of attracting and retaining customers
- Question standard conventions and expand outside the normal operating standards
- Involve everyone and develop new strategies
- Avoid stagnation by trying out 'changes'
- Do things differently from your competitors
- Accept that strategies do not always work in strict cycles, look to the long term
- Be prepared to invest money, time and resources to achieve goals

I Future Market Trends and Information

Market research and development is 'key' to the success of the business. Market research determines what the market requires in terms of fashion, style, colour and trends. Fashion trends change season to season and not all countries have the same fashions, a new fashion for one country is an old fashion for another.

Developing countries compare themselves with traditional markets as opposed to developing 'opportunities', new ideas and innovation for new markets The problem lies in the area of 'communication', or the lack of it. Whilst strategic planning should lead to visible improvements in the way a company operates and ultimately improvements in productive output and customer service., there can be times when these perceived improvements are not apparent in the short term.

Manufacturers and suppliers have to improve their communication and working strategies to meet the demand of the consumer. Strategic planning relies on 'team-work', developing policies and strategies with the whole management team in the organisation and these policies and strategies being monitored and in some cases revised to achieve the strategic objectives set out.

Competition within the EU (European Union) and other countries is very competitive and potential exporters must be aware of this competition if they are to export successfully. To this end manufacturers must ensure that they have a market for their products. This can only be achieved by market research and intelligence information on each market.

The control and utilisation of all purchases must be monitored and costed on a formal basis to ensure that all costs are recovered and accounted for. Minimum and maximum order quantities must conform to the productive output of the business; otherwise the cash flow of the business will be effected.

This is built into the purchasing policy of a company and has to be strictly controlled on a regular basis. The purchase of 'inputs' affects the 'cash flow' of the business.

All aspects of the business must be set up on a professional basis, monitored and controlled if that business is to survive. The production and planning of the resources is, therefore, 'key' to its survival.

- **Strategic Planning**

Strategic planning involves the setting of objectives and matching those objectives to the organisation's strengths and opportunities that arise. Leading to a full analysis of the organisations, strengths, weaknesses, opportunities and threats. In other words a SWOT analysis.

Whilst strategic planning should lead to visible improvements in the way the company operates and ultimately improvements in productive output and customer service, there can be times when these perceived improvements are not apparent in the short term.

Strategic planning relies on 'team-work'. In other words, developing policies and strategies with the whole management team in the organisation, these policies and strategies being monitored and in some cases revised to achieve the strategic objectives set out. They can very rarely succeed with one-man one vote policy.

- **Strategic Checklist**

  - Self Audit
  - Choosing key people
  - Preparing for change
  - Defining key issues

Companies have to determine their sources of information on the practice and implementation of management principles and techniques in areas such as:

  - Strategy and planning
  - Human resource management
  - Marketing
  - Finance
  - Production and operations

- **Sector Level**

At the sector level both in the 'short' and 'long' term, change is necessary if the sector performance is to improve to a level where they are competitive.

H Strategic and Business Planning Issues

There are a number of strategic and planning issues that have to be considered for the sustainability and growth of the garment and textile industry. Primarily one has to start with the Company level before one can consider the Sector level.

(a) Company Level

- **Professional Management Training**

One of the key issues is an understanding of what training needs are required to ensure that companies establish 'benchmarks' for the development of all their staff. Key to this is the involvement of senior management and the recognition that 'change' is necessary if objectives are to be met.

There is a lack of professional management training for all management functions at Company level. This means that existing management skills are not being up-dated to keep up with modern day technology and techniques. This requires a formal training strategy for future development of the business on a planned basis.

Training areas that need to be addressed:

- Production management
- Vocational training
- Quality management

- **Costing Policy and Practices**

The costing of all products manufactured has to be carried out on a formal basis if a company is to make profit contributions and to be competitive in all markets. While costing practices and procedures vary company to company, sales and marketing decisions cannot be accurately forecasted if costs are not costed and monitored.

Companies have to monitor the costs of running the business on a regular basis to ensure that their costs of manufacture do not exceed the selling price of their products.

Methods of costing and pricing have to be built into the pricing policy of the company and reviewed on a regular basis. Sales and marketing decisions cannot be accurately forecasted if products are not costed and monitored correctly.

- **Marketing**

Market research and product development is the 'key' to the success of the business. Market research determines what the market requires in terms of fashion, style and trends. In some cases new markets can be found for existing products but this tends to be for a limited period.

Fashion trends change season to season and manufacturers have to be kept up-to-date on these trends if they are to remain in business. Manufacturers can, through good design and product innovations contribute to fashion changes using local fabrics and design technology.

(d) Purchasing and Supply Strategy

One has to decide in what ways the purchasing and supply strategies are linked to resource levels and what importance the following factors play in the company:

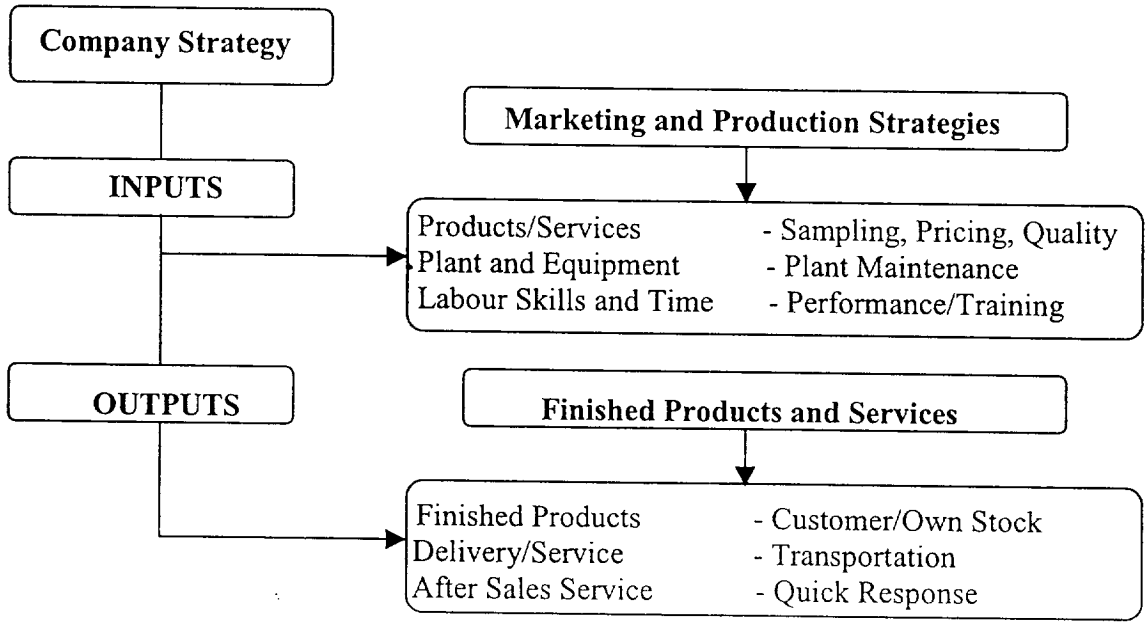
- Purchasing - who, what, why, how, when do we purchase
- Supply - who, how, what suppliers do we use
- Price - what price and discounts
- Quality - what and how do we measure
- Delivery lead times - what, when and how do we calculate lead times
- Continuity of supply - how do we get supply continuity
- After sales service - what, why, how do we service the customer
- Transport reliability - what, when, how can we improve transport reliability
- Payment conditions - what, when and how do we pay

This means that the company has to define the conditions and methods for:

- Sourcing Policy - where do we source our supplies
- Supplier appraisal - how do we appraise the supplier
- Supplier relationships - what type of relationship should we have
- Purchase methods - what criteria do we use
- Inspection techniques - what type of techniques do we require

(e) Sales and marketing

One has to decide what sales and marketing strategies must be implemented, linked to resource levels and what importance the following factors play in the company:



Developing countries spend a great deal of time 'copying' as opposed to product innovation and design; this shows that there is vital shortage of 'skilled' designers.

Advances in communications will assist developing countries of the future, by supplying all the technical know-how, size charts, specifications, two dimensional graphics and 3D images to anywhere in the world.

Manufacturing areas such as: fabric design and manufacture, dyeing and finishing, pattern making, cutting and sewing practices, pressing and finishing, require improved 'skills' and techniques if they are to competitive.

This does not necessarily mean high capital investment in plant and equipment but investing in people skills. Especially management skills and the motivation of worker skills. The transference of these skills must not be a 'one off' procedure but, ongoing if enterprises are to survive and grow to meet global demands on a long-term basis.

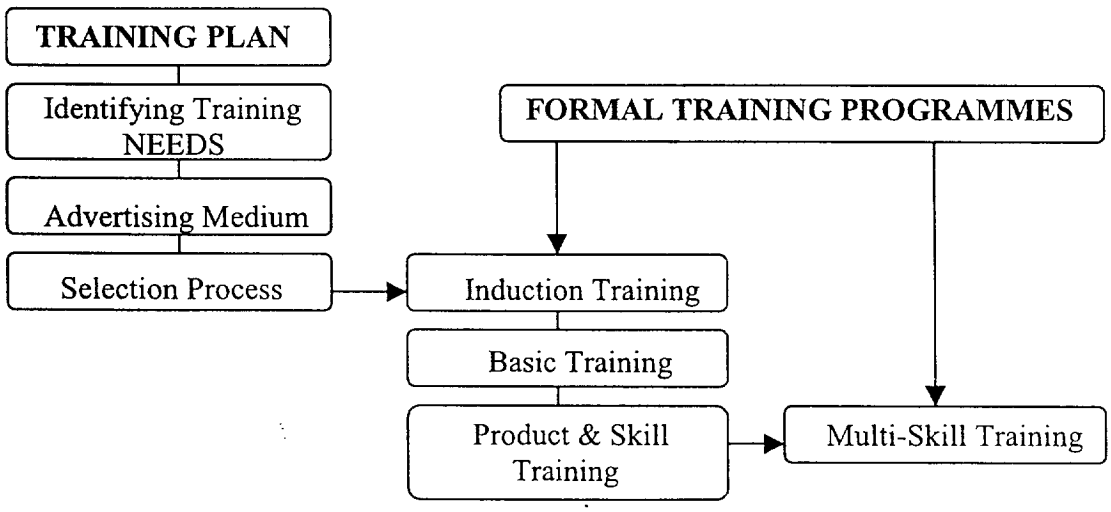
The lack of management skills and formal strategic planning is the cause of many failures in this industry and although the future might include the introduction of more advances in CIM (Computer Integrated Manufacture) where manufacturers are linked to world markets, it is not the panacea that solves all problems.

Future growth of the industry in developing countries will rely on firm strategies for every area of the business. This means a certain amount of restructuring and business process re-engineering has to take place to suit future growth strategies.

This will cover areas such as;

(a) Formal recruitment and training programmes

An understanding of what training needs are required to ensure that an enterprise establishes 'benchmarks' for the development of all their staff. Key to this is the involvement of senior management and the recognition that 'change' is necessary if objectives are to be met.



Planning the training and recruitment of staff in line with sales and marketing forecasts. The training being carried out on a formal basis, starting with selecting the right people for the job.

H Quick Response - Marketing

In order to remain competitive and survive, manufacturing enterprises must be geared to react to consumer demand quicker; this is known as 'quick response'. In most cases this may well mean the end of bulk manufacture as we used to know it and replaced with smaller orders of variable styles, colour, fabrics and sizes.

The products being manufactured are delivered to the customer quicker, to achieve this end we must also search for more efficient ways of packaging and delivering the goods to the customer against set manufacturing and delivery dates.

Marketing departments have to be organised so that market information on fashion trends and quantities are obtained on a regular basis. Quick response to customer requirements means that manufacturers have to seek new methods and skills to respond to these demands.

In any quick response situation manufacturers have to have systems in place so that they have the capabilities to sample, cost, manufacture and deliver the required goods in the correct quality and quantity, ratios, sizes and colours on request.

This means that manufacturers have to form closer relationships with their fabric suppliers for this 'just-in-time' principle to work with manufacturers planning ahead with fabric suppliers, calling off fabric requirements as and when needed.

This brings another 'element' into the equation, in that there is a likelihood that fabric prices will be more expensive, (including trimmings, thread and labels associated with the product) because these suppliers have to supply shorter runs thereby increasing the costs of manufacture.

One saving grace is that under normal 'quick response' situations, manufacturers and fabric suppliers are paid quicker, thus reducing the cost of borrowing money and interest charges that normally go with payment terms. These payment terms have to be agreed before fabric is purchased.

More innovations such as home shopping, where individuals use their computers (via the Internet) to order goods from stores, require stock levels that meet the sales demand. Where stock is not available manufacturers must have the ability to supply out-of-stock products at short notice. Product costs and servicing must be considered in all contracts.

While this is practical in developed countries due to their proximity to the customer and the various modes of delivery systems, which offer, next day service, it is not always practical when the products are manufactured in another country. Differences in 'time zones', customs, modes of delivery, make this sort of service very impractical. It could be applied if the market was local or regional.

This then poses the question, what market should you supply? On a financial level one could say that the local and regional markets are the best option, on a political level one might say that one should supply the international market.

Quick response has no set time limits; in other words the supply time could be 1 to 15 days. Quick response means that manufacturers must be 'quick' to recognise market opportunities and 'respond' to those opportunities in the shortest possible 'time'. The 'time' is negotiated between the manufacturer and the retailer/customer. It also means that in a 're-ordering' situation, manufacturers must be set up to meet the customer demands.

(f) Management

Reorganisation of management systems, methods and techniques. In some cases a redistribution of management skills, such as, sales, planning, performance monitoring, methods of calculating product prices and reorganisation of manufacturing systems.

One problem all too often found in developing countries is that managers pay lip service to verbal instructions or agrees even when they secretly disagree. Part of the problem is due to their lack of skills and/or not understanding what is required (poor communication). Some have insufficient confidence in their own abilities while others are not prepared to 'change' their existing management style.

Management is sometimes linked to culture especially the challenge of developing the organisations and cultural needs when entering new markets and servicing those markets on a just-in-time basis.

(vii) Change for Growth

Change is necessary for future growth; the major obstacle to overcome when introducing new management practices (changes) is simply the resistance to the word 'change'. For many it represents another word for 'control'.

The introduction of good management practices can lead to significant reductions in time-to-market, lowering the operating costs of the business and improved customer value.

Change Steps:

Step 1	Review existing performance against existing and future expectations, listing the opportunities for improvement.
Step 2	Existing management practices should be redesigned to achieve specific performance targets.
Step 3	All aspects of the management structure should be examined to enable the introduction of new practices.
Step 4	All 'changes' should be planned and new targets set.
Step 5	Management responsibilities should be clearly defined. In this way future opportunities and/or threats can be dealt with before they become a crisis.

Potential management changes for future improvement can be quantified by examining the following: -

(i) Areas of under-performance against current targets; this highlights areas where the existing management process is failing to meet the organisation and customer requirements.

F International Time Standards

All machine manufacturers have 'times' and 'standards' for their machines and while these are useful they should be used as guidelines ONLY. This is because all manufacturing companies have different layouts, handling systems, skill levels, product variation and fabric quality.

International time standards are based on 'averages' and while these can be used to assess the 'average' performance of a company, there will always be a variation +/- on these standards. Many machine manufacturers have their own production engineering department, who are able to calculate machine output to a given performance level from their machines, taking into account the skill levels available.

Examples of Average Standards;

Basic Tee-Shirt	Mens Denim Jeans	Mens Shirt	Basic Mens Trouser
3.50 to 4.50 mins	18.00 to 22.00 mins	17.00 to 22 mins	24.00 to 26.00 mins

Companies who manufacture products within 10% -20% of these times stand a better chance of making 'profit contributions' than those who take 50% - 100% longer than these times.

International standards are produced from 'average' times taken in like product companies. Each company will have established their own 'time standards' which have been calculated by time study and/or synthetic data, considering factors such as, material, machine speed, skill and performance required to produce a given seam (s) profile etc., the working conditions under which the operation has to be performed, the quality standard required and the handling system and work-aids/attachments used.

Manufacturing times vary by country and location, depending on the type and quantity of products, machines, layout, materials handling and labour skills used in the manufacturing process. The complexity of the product and the quality of raw materials used play a major role in the finished product

Examples of Average times in minutes (Syria and UK)

(A-B and C) are locations in Syria

Category	A.	B	C	Average	UK
tee-shirt	6.9 min	10.0 min	13.0 min	9.97min	**4.5 min**
Jeans	68.2min	76.4min	68.2min	70.93min	**18.0min**
Shirt	24.8min	41.6min	25.9min	30.77min	**22.0min**
Trouser	40.8min	39.9min	33.4min	38.03min	**26.0min**

Source for Target Times; Bellow Machine Company Leeds UK

The above chart shows that manufacturing times vary from location to location. If we compared a 'basic tee shirt' with no printing or pockets, then one can see that there are wide cycle time variations.

Many enterprises in developing countries appear to have little information on 'international' time standards to compare with their own manufacturing times.

ISO registration only means that, the enterprise has in place systems, methods and practices to ensure that the quality standard produced is 'consistent'. This means that if an enterprise manufactures 'rubbish' then that 'rubbish' will be consistent. In other words it does not mean that a product or service is 'first class' it only means that the degree of variation from their agreed standard is within a small acceptable tolerance.

Some enterprises in developed countries that have gone down the road of ISO have, after a short while, withdrawn from registration, since the cost of maintaining the system and registration was considered to be too high. ISO have modified the registration levels to take into account costs of audits and level of registration, which is far more acceptable. As a marketing tool ISO is a factor that one has to consider, it is not a 'pre-requisite' for marketing and exporting products.

E Manufacturing Systems and Methodologies

While many manufacturing systems have been designed and implemented successfully, such as team working using integrated sewing units based on the 'just in time' principle, many enterprises especially small to medium size enterprises have not been able to afford this technology, as it requires a high level of capital to set up and requires a multi-skilled team which usually consists of 8 to 12 people, having the necessary skills to perform all operations in the sewing process.

The methodology used in many developing countries has been *to 'de-skill' all manufacturing operations and use little or no training*. By producing in large bundles (sometimes as many as 250 units per bundle) the management thinking is that, they require little or no management/supervisor skills because their workers have plenty of work and it will supervise itself. The owner carries out all planning and decisions relating to the manufacturing.

Experience has shown that de-skilling operations reduces training periods and can be used to greatest effect in multi - skill training, especially in an environment where short runs and frequent style changes are required. Reducing bundle sizes improves throughput times; WIP (Work in Progress) improves quality, reduces the number of mistakes and re-work in the manufacturing process. Tests have shown that reducing bundle sizes can increase output by up-to 100% in many cases. *This was proved in a number of Syrian companies during my recent mission to Syria.*

Materials handling at the workplace and through the manufacturing process is 'key' to the efficiency of an enterprise, and has a profound impact on the cost of production and the performance of individual workers. Many enterprises in developing countries do not concern themselves with materials handling, due to the fact that labour rates are relatively low. What they fail to realise is that their process times are long and in many cases the cost of manufacture higher than developed countries. This is why many are unable to export their products at a competitive price.

C Management

Many developing countries do not have 'marketing strategies' and assume that orders will come to them. As a general rule output is based on 'orders' and delivery dates when these dates become critical, employees work extra hours to satisfy the needs of the company

It can be seen in the small to medium size enterprises that management skills are primarily based on the experience of the owner/manager and that a great deal of assistance is required to improve their manufacturing base through formal training, workshops and seminars.

Very few managers have been trained or keep up-to-date with new techniques/practices that is generated through the introduction of new technology. Most enterprises have no formal training/technology transfer strategies, because they are too busy chasing orders - short term fixes as opposed to long term survival and planned growth.

Material management and materials utilisation is poor due to the fact that many have no formal training and/or experience of calculating raw material utilisation/waste percentages and materials losses during the cutting process. Stock ratios in many cases exceed output, small to medium size enterprises tend to have insufficient stock to satisfy their production needs. This shows a lack of formal stock control and purchasing procedures and systems to monitor the raw material purchases and utilisation efficiency. To include areas such as:

- Time standards - lead times, planning and process times
- Purchasing and Stock Control - lack of formalised systems
- Waste Percentages - variations due to lack of skills and formal systems
- Skills Matrix - list of all employee skills, capabilities and requirements

D Quality & Standards

Quality includes materials and labour, the type of processing required and the systems, methods and practices required to ensure that the product is manufactured to a 'consistent' quality standard. To include:

- Fabric wash tests (shrinkage and colour fastness tests)
- Material quality audits (weight tests, light box testing for colour batching)
- Cutting quality (panel profiles against standard pattern)
- Fusing (adherence, pressure, time, heat tests)
- Sewing (through the manufacturing process, materials handling, guides and attachments)
- Pressing (finished product against agreed sample, glazing, pressure impressions)
- Finished goods (stock audit for fault analysis, measurements, thread ends etc)
- Systems (to monitor quality of product and systems, random sampling)

Quality starts *with yarn and thread processing*, the *production of fabric and the printing, dying and finishing* quality. While many developing countries have good local grown cotton and wool quality, most of the best quality is exported in the form of finished yarn or grey fabric.

This causes problems for local manufacturers, who in many cases are forced to re-process locally purchased yarn, thereby increasing their costs of manufacture. Some form of balance has to be achieved to allow local manufacturers more opportunity to purchase first grade quality at realistic prices. In some developing countries the cost of cotton to local manufacturers is higher than the quoted world market price.

This paper sets out to describe the current impact of non-technology features and trends that have been affected by the introduction of new technology and the trends for the future. It also goes on to describe areas where the sectors and organisations in developing countries have to change to be more competitive in the way they manage their business in the light of globalisation and world market trends.

Utilising the resources of Labour, Material and Technology in the conversion process, by;

(i) 'optimising' resources to make 'profit' contributions
(ii) remaining 'competitive' in local, regional and international markets
(iii) sustaining the future growth of the business and the industry

Improving:

- management techniques - skills
- raw material purchase , usage and supply - raw material quality, price and durability
- labour costs and performance - through improved training methods

With new technology, new skills have to be learnt, LE - Skills (Local and Export Skills) to ensure that enterprises 'optimise' their investment in technology and non-technology issues. The success of this depends on the management and labour skills available and how they are utilised by;

- learning new skills - to transfer skills and techniques, learn new methods
- improved performance monitoring - to identify skill deficiencies
- producing shorter cycle times - to be more competitive

Standards of 'quality' produced for local, regional and international markets vary, in that there appears to be three 'quality' levels, one for each market. With world fashion changes, consumer pattern behaviour shows that products for local and regional market consumers are now demanding improved quality products, this is especially so of the younger teenage generation who prefer to buy imported goods for their style, fit and finish. This has an effect on the local manufacturers sales and the countries balance of imports/exports.

The market for 'dumping' sub-standard goods is shrinking and manufacturers have to improve their standards if they are to remain in business, using existing technology and skills.

This paper also goes on to describe in greater detail the current state of the art areas in manufacturing, management, organisation and information technology systems, and the non-technologies that facilitate many of the changes as well as the possible impact on their own manufacturing base. It examines the extent to which developing countries need to respond to the demands of consumers and retailers in forming firm strategies for greater diversity, flexibility, response time and the effect on the sector and individual organisations.