



..... to build their competitiveness and capabilities as well as to improve their understanding of the technological progresses, SMI/Es must be resourceful and play the role of a learning organisation other than merely a manufacturing/ assembling house.

SMI/Es that have built or are ready for partnerships have more opportunities for growth as they are/will be exposed to the rapid developments in the global market, .....

*(Continued from page 1)*

then they will probably have a better vision of themselves as well as better financial management.

#### Resourceful

In order to build their competitiveness and capabilities as well as to improve their understanding of the technological advancement, SMI/Es must be resourceful and play the role of a learning organisation other than merely a manufacturing/assembling house.

#### Implications

As much as most SMI/Es would like to form strategic alliances and joint ventures with foreign companies to acquire technology, market access, management know-how and sometimes, financial support, there is room for improvement for most of the SMI/Es before they can meet the requisites or be ready for partnerships. This explains the reason why many SMI/Es have not built any strategic alliances or partnerships with foreign companies. It is not merely a matter of their reluctance to share information and know-how or to divest their equity to the foreign partners.

SMI/Es that are unprepared for partnerships and strategic alliances tend to lose out to SMI/Es that are partnership ready. SMI/Es that have built or are ready for partnerships have more opportunities for growth as they are/will be exposed to the rapid developments in the global market, be it in terms of technology, market and product knowledge, logistics or even market sentiments.

#### **Private Sector Needs from the Government**

Both the SMI/Es as well as the larger companies require assistance from the government in order to develop into global companies. This assistance comes in many forms and while some of them are general and applicable to all industries, some are more relevant to the SMI/Es.

#### Simplify and Expedite Administrative Procedures

Large companies, particularly the MNCs/LSIs tend to compare Malaysia's administrative procedures to its neighbouring advanced countries like Singapore. A common complaint is the long and tedious approval procedure required by the government. While the government has provided adequate incentives and programmes for the industries, companies are finding it rather tedious to comply with the procedures and requirements that have been imposed on them.

#### Subsidise Licensed Software Purchases for SMI/Es

The recent crack down on software piracy might have affected the SMI/Es, which do not have the resources to purchase the various types of software used in production and administrative processes. Although the Technology Acquisition Fund (TAF) allows for the purchase of the Enterprise Resource Planning (ERP) system, there is still a need for more support to promote and motivate the SMI/Es to possess their own legal software. As such, there is a need for the government to subsidise licensed software purchases by the SMI/Es. This would encourage them to not only adopt ICT but also to automate their production processes.

#### Special Tax Incentives

To encourage further linkages between the MNCs/LSIs and the SMI/Es, companies are requesting more tax incentives. These include capital reinvestment, tax holiday for high value-added industries, and double tax deduction on R&D.

On the other hand, it should be noted that there are already incentives in place for MNCs/LSIs – suppliers/vendors, including SMI/Es linkage under the Industrial Linkage

*(Continued on page 3)*

*(Continued from page 2)*

Programme (ILP). This programme provides single deduction on tax for the MNCs/LSIs while Pioneer Status is granted for the vendors/suppliers that meet the criteria for the programme. Presently, the MNCs/LSIs, which already have the Pioneer Status, High-Tech Incentives or Incentives for National Strategic Industries are not interested in signing up for such programmes although they are sourcing locally and developing the local vendors/suppliers. As such, the local vendors/suppliers, especially the SMI/Es do not stand to benefit much from the ILP.

#### Catalytic Role in Providing Logistic and Educational Infrastructure

The government should also play a catalytic role in providing infrastructural support to the population as well as the business and industrial community. The provision of world-class logistics and educational infrastructure is very important in assisting the industry, particularly the local SMI/Es to compete in the global market.

#### Partnerships in Creating Meso Institutions

It is important to have tripartite partnership to create meso institutions for skills development as well as global supplier programmes. The government has an important role in facilitating such partnership while the academia and the industry will have important roles in providing the courses and supply of workers as well as the latest know-how in the industry.

#### **Contributions from the Private Sector**

The private sector, namely the MNCs/LSIs also contribute to the efforts to link MNCs/LSIs and SMI/Es. Through local sourcing and linking with the local SMI/Es in terms of acquiring services from them, the MNCs/LSIs contribute to the following:

#### Access to MNCs/LSIs Expertise

SMI/Es that are supplying or providing supporting services to the MNCs/LSIs will have greater access to the MNCs/LSIs innovation centres as well as their engineers and consultants. Access to these capabilities would enable local SMI/Es to enhance their know-how and capabilities, thus providing them greater opportunity to compete in the global market.

#### Assignment of MNCs/LSIs staff to SMI/Es

It is a norm that the MNCs/LSIs assign their technical and professional staff to the SMI/Es that are supporting or supplying them. This would enable transfer of technical know-how to the SMI/Es, thus preparing them for greater challenges in innovation and technological changes.

#### Upgrading Process

Many of the MNCs/LSIs assist their dedicated suppliers at all stages right from the plant layout phase and gradually moving towards upgrading of technological capabilities in terms of design capability, flexible manufacturing as well as ISO certifications. Although not all local SMI/Es are fortunate enough to benefit from such assistance, it is imperative that vendors/suppliers that have been developed through such means carry out this tradition of developing more vendors/suppliers.

#### Other Modes of Skills Upgrading

Most of the MNCs/LSIs support the efforts of the skills training centres. A classic example is the support given by the MNCs/LSIs to the Penang Skills Development Centre (PSDC), which was established based on a tripartite agreement between the government, industry and academia. By supporting such training and skills upgrading pro-

*(Continued on page 4)*

The government should also play a catalytic role in providing infrastructural support .....

SMI/Es that are supplying or providing supporting services to the MNCs/LSIs will have greater access to the MNCs/LSIs innovation centres as well as their engineers and consultants ..... providing them greater opportunity to compete in the global market.

The business association with the MNCs/LSIs also generates awareness among SMI/Es on the availability of support scheme, incentives and training programmes as well as facilitates business-to-business and business-to-consumers transactions.

*(Continued from page 3)*

grammes, the MNCs/LSIs are actually facilitating greater access to their training programmes. In addition to such support, the MNCs/LSIs also participate in the adoption, mentoring and coaching programmes such as the Global Supplier Programme, which is jointly promoted by the PSDC and the Small- and Medium Industry Development Corporation (SMIDEC). Such programmes are aimed at upgrading the technical and management capabilities of the SMI/Es. In addition to participating in training programmes, the MNCs/LSIs also render technical resources and leadership skills to the skills training centres. This is evident in the case of PSDC.

Assessment, Review and Benchmarking

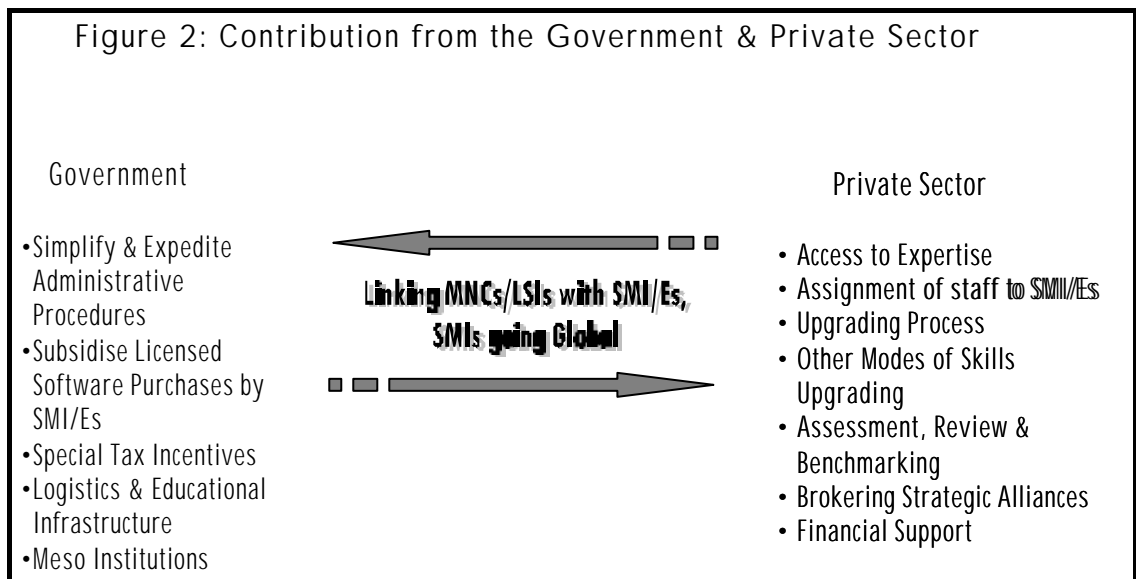
To keep abreast with the rapid development in technology, MNCs/LSIs constantly carry out assessment, review and benchmarking exercises. By doing so, the MNCs/LSIs update themselves with the latest technology as well as market trends. SMI/Es are less capable of conducting such activities, as by the nature of their low cost structure, they have lower resource capabilities. The MNCs/LSIs normally share their knowledge particularly on market trends with their dedicated vendors/suppliers, which also include SMI/Es. By doing so, the SMI/Es could update themselves with the latest trends in the global market.

Brokering Strategic Alliances

As customers, the MNCs/LSIs also help to broker strategic alliances or carry out business matching for their vendors/suppliers. It is quite common for local vendors/suppliers to land themselves with overseas projects due to the recommendations of their MNCs/LSIs customers locally. Such support given to the local vendors/suppliers, including SMI/Es allow the SMI/Es to go global.

The business association with the MNCs/LSIs also generates awareness among SMI/Es on the availability of support schemes, incentives and training programmes as well as facilitates business-to-business and business-to-consumers transactions.

Figure 2: Contribution from the Government & Private Sector



Financial Support

Lastly, some MNCs/LSIs also provide financial support or assist the SMI/Es in applying for bank loans. Most SMI/Es, especially new start-ups lack collateral and track record to qualify for bank loans and the MNCs/LSIs render their support by

*(Continued on page 5)*



providing machinery & equipment, consigned materials as well as orders.

### Strategies for Growing Competitive SMI/Es

The strategies to build competitive SMI/Es are based on three basic approaches, namely the measures taken by the government, the MNCs/LSIs and the SMI/Es respectively. The government and the MNCs/LSIs will play the role of facilitating the growth of the SMI/Es while the SMI/Es have a big role to play in improving and upgrading themselves.

#### Provision of Basic Foundations by the Government

The government can facilitate the growth of competitive SMI/Es by providing the basic foundation for the SMI/Es. These foundations, which can help the SMI/Es to meet the requirements of the MNCs/LSIs include education and logistics infrastructure as well as a strong institutional framework.

#### Provision of Assistance by the MNCs/LSIs

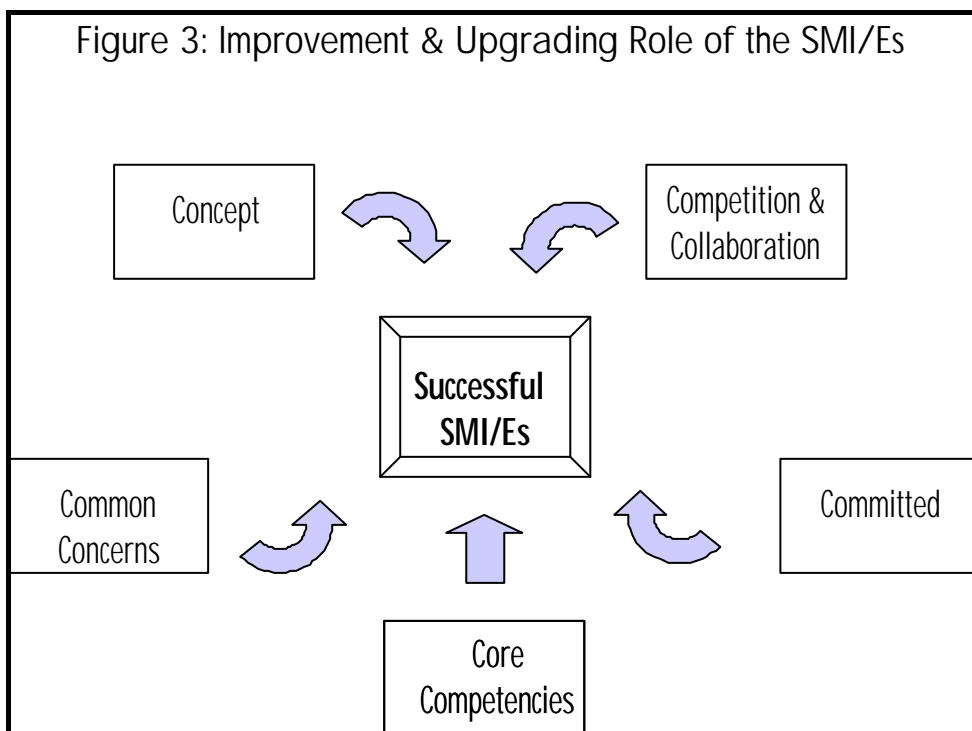
The MNCs/LSIs can help to develop the SMI/Es as has been proven by Intel, Motorola and Osram (previously Siemens) in Penang. The MNCs/LSI can assist by providing assistance in terms of machinery & equipment, technology, training, orders as well as by seconding senior technical staff to manage the SMI/Es.

#### Improvement and Upgrading by the SMI/Es

Most importantly the SMI/Es must be enthusiastic enough to help themselves and have the will to succeed. As such, they must understand the total concept of their business; understand that there are common concerns among the industry, including SMI/Es and also strive to overcome those concerns; be capable of competing in the global market and willing to collaborate for the betterment of their business; must be fully committed and be focused on their core competencies or niche areas. ***§ Anna Ong***

The strategies to build competitive SMI/Es are based on three basic approaches ...  
..... the government, the MNCs/LSIs and the SMI/Es.....

..... SMI/Es must be enthusiastic enough to help themselves and have the will to succeed.



## eBusiness: Competitive Advantage in the Textile & Apparel Industry

Market Conditions:  
⇒ Prices are Down  
⇒ Less Profits  
⇒ More Competition

Much has been said about e-commerce and the need to adopt and adapt to new technologies so as to stay competitive in an ever increasingly interconnected world.

The thrust is to increase efficiency through better management of the supply chain. Dr. Harry Lee, Managing Director of TAL Apparel Limited, Hong Kong noted in a recent forum that current market conditions are forcing local companies to "think out of the box and do something different."

Among the points raised by Dr Lee pertained to:

### *I. Market Conditions*

**Prices are Down.** One of these market conditions is that of deflating retail prices. Prices of Basic apparel items sold in major stores, such as JC Penny, Gap and Marks & Spencers have either remained flat or declined in the last ten years. This is an important trend to note as retail prices determine the prices manufacturers may charge for their products.

**Less Profits.** Moreover, the margin of profit is ever decreasing. While in the 70s and 80s, a bad year would entail a 10% or so profit on sales; currently, a good year only means low single digit profits, while a bad year would probably see the company go into the red.

**More Competition.** Lastly, the traditional manufacturers are facing more and more competition from other areas, such as Latin America and the Caribbean. While East Asia growth has been relatively flat, the Caribbean has been increasing at around 30% compounded.

### *II. Efficient Supply Chain Management*

Malaysian companies need to reduce their costs so as to compete with the lowest cost countries. This can be done by increase efficiencies, specifically in the management of the supply chain, with the goal of offering consumers "what they want, when they want it, and at a lower price than today's."

There are several facets of traditional supply chain which can be improved upon. These include long cycle times, usually lasting up to 4-6 months; high inventories; lost sales, due to possible higher than expected

demand; and non-value added processes, such as the repetition of actions that should only be done once.

By incorporating a fully computerized supply chain management system, TAL Apparel, Dr. Lee's company, was able to better manage and reduce inventories, reduce cycle times, cut out non-value added processes, as well as generate forecasts of market demand, so as to further reduce inventories by manufacturing more of a certain color or make, while less of others.

### *III. Innovative Processes*

One of the processes adopted by TAL Apparel is the Rapid Replenishment process. In this system, orders are received weekly automatically through the computerized system. With the computerized system, efficiency in increased, as non-value added processes such as paperwork and departmental red tape is reduced to a minimum, and orders need no longer rely on the postal system. This cuts the cycle time from 4-6 months to about a month and inventory is reduced from 5-6 months to 6-8 weeks, providing a saving of up to 5% on the cost of business.

Another method, called the Pick-Pack method was also implemented, and the Pick Pack Method replaces all the activities of the head office in the Traditional Supply Chain with a fully computerized system called the X-Dock. In this system, each store's requirements are automatically determined and processed accordingly. Customers' warehouses are bypassed for a saving in warehouse handling, and reorders are processed, sent, and received in 3-4 weeks.

Another feature of the Pick-Pack process is the "Fire Truck mode," where 24 pieces can be manufactured and shipped in 4 hours. This provides for quick replenishment in emergency cases. An Advanced Shipping Notice feature is also incorporated into this system, whereby vendors are automatically notified when their inventories need to be replenished. Lastly, to improve inventory tracking and management, UCC-128 standard labeling is also incorporated into this system. All of this adds a further

*(Continued on page 7)*

Innovative Processes:  
◇Rapid Replenishment Process  
◇Pick-Pack Method  
◇Vendor Managed Inventory

(Continued from page 6)

5% saving of FOB due to lower interest and warehouse handling.

In addition to the above, a Vendor Managed Inventory (VMI) system is also implemented to further reduce inventories and increase efficiency. The main feature of the VMI is that certain representative stores are first shipped an initial stock. The sales of such stock are then monitored for about 2 weeks, after which, planning and forecasting for further replenishment may be made. As these stores are representative of the whole, the replenishment scheme for the initial model scheme may then be extended to the rest of the stores, while the whole scheme is continuously monitored and adjusted according to sales data. Through the VMI, inventory levels are further reduced, and also 'stock-outs', or situations in which an outlet runs out of stock of a certain color/make/etc are also reduced. As a result, inventories are kept low, and sales are increased, as the chance of popular makes and colors being sold out are reduced.

Through implementing all of these processes, manufacturers will be able to experience total savings of around 10-15% of FOB. Also, such processes are not limited to

basic items, but can also be extended to fashion items, as different styles and fashions may be continuously introduced and monitored, and the consumer will be able to pick and choose, while the manufacturer will be able to monitor the data and produce more of what is popular, and less of what is not.

#### Conclusion

The popular concepts of the division between the old and new economies are misleading at best. It is not so much the shift to high-tech industries, but more the way IT is able to improve the efficiency of the economy, especially the 'old economy' firms. If properly implemented, IT and the Internet has the ability to increase efficiency in almost everything we do today, from design to marketing to accounting, across all sectors of the economy. More specific to the textile industry, the implementation of processes such as those outlined above, will increase the competitiveness of firms and enable them to compete in an ever increasingly interconnected and competitive world.

**§ Terence Too**

Popular concepts of the division between the old and new economies are misleading at best. It is not so much the shift to high-tech industries, but more the way IT is able to improve the efficiency of the economy, especially the 'old economy' firms.

(Continued from page 8)

*In community development, the technologies may include:*

- Rainwater harvesting
- Constructed wetlands for water treatment
- Water treatment system
- Integrated farming systems
- Energy efficient stoves
- Micro-hydroelectric power generation systems

#### *Socio-Economic Environmental Principles and Values*

The choice of the tools, techniques and technologies must be guided by social objectives and principles of sustainable development.

Social objectives may require

- Full participation of all sectors of community
- Participation by women

Environmental sustainability is the key to sustainable development, such as

- Resource conservation
- Prevention of pollution

In Malaysia, APO initiated a Demonstration Farm Project (DFP) in Cameron Highlands in 1997. The DFP applied the GP methodology in organic

farming. Before the implementation of organic farming, the farm used conventional farming methods, such as using massive applications of pesticides and poor quality chemical fertilizers. In organic farming only the organic fertilizer mixture was used. For pest control, pheromone and yellow strikers were used to trap insects. It was observed that organic farming reduced environmental pollution substantially and the yield improved. Unfortunately this DEP was only a one-year trial project. It was discontinued due to certain management problems.

In Penang, the Socio-Economic & Environmental Research Institute (SERI), working in collaboration with National Productivity Corporation (NPC) and APO, is currently negotiating with two factories to use the GP methodology to solve the problem of foul smell emanating from the factories and to improve their waste management systems. It is hoped that they can be used as demonstration projects in order to encourage other factories with similar problems to adopt the GP principles in improving the quality of the environment, and at the time to increase productivity and profit margins. **Lee Shok Mee**

## Green Productivity Benefits Both The Environment And The Economy

The Green Productivity (GP) programme is being actively promoted by the Asian Productivity Organization (APO) for industrial production and economic growth in the Asian region. The primary objective of ... GP program is to seek improvement of the environment in a way that is integrated with productivity as a mean to achieve sustainable development.

The Green Productivity (GP) programme is being actively promoted by the Asian Productivity Organization (APO) for industrial production and economic growth in the Asian region. The primary objective of the APO's GP program is to seek improvement of the environment in a way that is integrated with productivity as a mean to achieve sustainable development. GP is generally understood to be the production of goods and services in an environmentally friendly manner. To apply GP in the actual work place, APO has put forward a working definition of GP as "a strategy for enhancing productivity and environmental performance for overall socio-economic development. It is the application of appropriate tools, techniques, technologies and management systems to produce environmentally compatible goods and services".

APO has developed a specific methodology to achieve productivity improvement and protect the environment at the same time. The methodology comprises three basic components, i.e.

- (1) the step-by-step problem solving framework,
- (2) using the tools, techniques and technologies in problem-solving, and
- (3) using the social, economic and environmental principles and values to guide the choice of tools, techniques and technologies.

### *Problem-solving framework*

It consists of a number of logical steps in the form of a cycle. These steps are:

1. Identification of the problem
2. Analysis of the problem
3. Identification of the root causes of the problem
4. Listing down all possible options on solving the problem
5. Evaluating the feasibility of the options
6. Preparation of the implementation plan of selected options
7. Implementation of the plan
8. Monitoring and evaluating the implementation
9. Incorporating the successful results as part of normal practice
10. Identify the next problem

Then the cycle is repeated. However the

actual number of steps need not to be the same in every case.

### *Tools, Techniques and Technologies*

These may be derived from any discipline as long as they can contribute to solving the problems.

#### *1. Tools*

They may be

- Brainstorming
- Fishbone/cause-effect diagram
- Pareto diagram (to determine the most important causes)
- Eco-mapping
- Process flow chart
- Material and energy balance

#### *2 Techniques*

They may include

- Recycle, re-use and recovery
- Waste prevention
- Waste management
- Segregation of waste streams
- Conservation of resources and energy
- Good housekeeping
- Product improvement

### **3 Technologies**

The technologies used depend on the production sectors concerned.

*For the manufacturing, the technologies may be*

- Input material substitution
- Improved manufacturing process
- Improved operating procedures
- Reuse and recycling
- Energy and water conservation
- Design of environmental friendly products

*For agriculture, the technologies include:*

- Improved seed technology
- Pest management technologies
- Fertilizer application technology
- Biogas production of animal wastes
- Composting of organic matter

*(Continued on page 7)*