# Business Reach

# How business leaders view the WTO agreements for Information Technology

Few industries drive the pace of social and economic change as fast as information technology. World Trade Organisation Agreements on Information Technology and Basic Telecommunications Services, conducted in the 1990s, aim to liberalise these areas in order to spur economic growth in the twenty first century.

ITC surveyed over 600 business and government leaders in developed and developing countries for their reactions to these agreements. Market opportunities and challenges for developing countries are highlighted in this article, adapted from the ITC publication, *Trade in Information Technology Products and the WTO Agreements.*

Information technology exports in 1997 exceeded the combined world trade in agriculture, automobiles and textiles - fast work for an industry that was barely on the map 20 years ago.

The information technology industry can be divided into three main sectors:

*High technology* High-end computers, water technology for semiconductors, large digital switches, software products, chip components and complex fabrication facilities.

*Mass-production* PCs, terminal equipment, modems, components, semiconductor assembly, data communications equipment.

*Skills-intensive human resources* R & D; software applications and services; repair, maintenance, installation, commissioning.

Information technology exports are predominantly in: electronic data processing goods (37%); semiconductors (20%) and other components (20%); and telecommunications (10.6%).

## A lucrative market

In 1997, world exports of information technology products totalled US$ 681 billion, while imports were valued at US$ 618 billion. In 1998, the global market for hardware products falling within the scope of the WTO Information Technology Agreement was valued at an estimated US$ 1,096 billion. The market is expanding rapidly, with the computer industry in the forefront, and the markets for computer software and hardware also rising quickly. Semi-conductors, telecommunications equipment, and semiconductor manufacturing equipment present sizeable market opportunities.

## Market leaders

The main exporters are the European Union (EU), the United States of America and Japan. The EU and the United States are also leading importers. Japan, the Republic of Korea, Singapore, Hong Kong (Special Administrative Region of China), Malaysia, Mexico and Thailand are net exporters, while the EU, Canada and the United States are net importers.

The United States, Japan and EU hold more than 80% of the global market and a major share in world production and exports. Companies from these countries/areas dominate the information technology market in semiconductors, telecommunications, computer hardware and software, as well as in semiconductor manufacturing equipment.

Developing countries that have emerged as significant players in international trade for information technology products are all from South-East Asia: Singapore, China, Malaysia, the Philippines, the Republic of Korea, Thailand, Hong Kong (Special Administrative Region of China) and Taiwan Province (China).

Transnational corporations (TNCs) hold a large share of the markets, production and investment in this knowledge-intensive sector. Of the leading 100 TNCs in 1997, 22 were in the electronics sector. Among these, eight originated in the United States and EU respectively, and six in Japan. Companies based in the United States dominate the sectors for high-end computers, semiconductors, telecommunications, computer software, and semiconductor manufacturing equipment.

Globalization of the industry has led to the gradual elimination of wholesalers. Large TNCs, which dominate production, have their own marketing organizations, strategic business alliances and authorized distributors. The role of super-markets, mail-order houses, system integrators and electronic commerce via the Internet is increasing in this intensely competitive market.

## Opportunities for developing countries

Both manufacturing and skill-intensive sectors will continue relocating to cost-effective locations. While developed countries are likely to maintain core competencies in high-technology areas, developing countries may find opportunities in outsourcing and skills-intensive sectors such as research and development (R&D), software applications and services, repair, maintenance, installation, commissioning and producing components. Many Asian countries have already geared themselves to take advantage of mass production opportunities. The industry is knowledge-intensive and characterized by rapid obsolescence. Product life cycles are short, in some cases less than a year.

Companies from the United States, Japan, EU, and some of the more advanced developing countries hold the technological advantage, having invested heavily in research and development, with the major companies spending about 8% of their turnover on R&D. Leading companies also maintain technical superiority through strategic acquisitions or mergers of companies or technologies, thus increasing their competitiveness.

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However, the global market for information technology products offers export opportunities for developing countries in the following sectors: computer software, contract manufacturing (hardware), telecommunications, semiconductors and emerging technologies. These opportunities are analyzed briefly below.

**Computer software.** The computer software market is expected to expand very rapidly, and now takes roughly 48% of the overall IT market. The industry is technology intensive, and requires highly skilled human resources which is in short supply the world over.

High-speed data communications links have opened up opportunities for the offshore development of software. These make it possible to use skilled human resources wherever they are available and to share computer resources located in different time zones around the globe. India, Ireland, Pakistan and the Philippines have taken initiatives to foster their software industries in order to capture a larger share of the global software market.

**Contract manufacturing in electronics.** The market for contract manufacturing is growing faster than the market for the entire electronics sector. In the United States, the contract manufacturing market is flexible. In Japan, firms believe in captive manufacturing developments, with procurement of components and subassemblies mainly from identified suppliers. In Europe, firms such as Siemens, Alcatel, Ericsson and Philips are developing contract manufacturing arrangements in Asia to cut costs and to become more competitive. In the Republic of Korea, companies are setting up assembly-oriented production in countries with lower wages such as India, Pakistan and Thailand.

**Telecommunications.** Many developing countries are liberalizing their telecommunications sector. They have a large market for conventional telecommunications infrastructure as well as for mobile telephones and value-added services.

The basic telecommunications services sector will provide major market opportunities. It will require the large-scale deployment of switching, transmission and terminal equipment, and the infrastructure for cellular communications. It will also provide a ready market for skilled technical personnel.

- ***Semiconductors*** - The sector for semiconductors is one of the fastest growing, with the technology lead being held by the United States and Japan. Developing countries have attracted large semiconductors assembly plants for the final phases of the production process, such as packaging and bonding. The scope for value-addition is tremendous.
- ***Emerging applications*** - The Internet has opened up opportunities in electronic commerce, electronic data interchange, electronic government and managed network applications. Java-based software applications are making their presence felt in almost all operating systems. Open-system architecture is gradually replacing traditional proprietary systems, leading to the creation of applications which can run on different platforms. This will lead to improved computer penetration across the globe, creating new opportunities for the supply of hardware as well as the development of software applications and solutions.

## Relevant WTO Agreements

The WTO system, which emerged from the Uruguay Round of trade negotiations conducted between 1986 and 1994, comprise three main legal instruments, all of which have a bearing on the information technology sector: the General Agreement on Tariff and Trade (GATT 1994) which lays down multilateral rules applicable to trade in goods; the General Agreement on Trade in Services (GATS), which establishes a framework for liberalizing trade in services; and the Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS), which lays down uniform standards for intellectual property rights.

Several of the GATT 1994 Agreements are especially relevant for this industry. These include the Agreement on Technical Barriers to Trade (certification aspects), as well as Agreements on Customs Valuation, Subsidies and Countervailing Measures, Anti-dumping and the Agreement on Government Procurement. The TRIPS Agreement is very relevant for the computer software and semiconductor sectors, and the Agreement on Trade-Related Investment Measures (TRIMs) for manufacturing activities, telecommunications, services and balanced trade development. Since the conclusion of the Uruguay Round, two industry-specific Agreements were signed after negotiation in the Council on Trade in Services: the Agreement on Basic Telecommunications Services (BTA) and the Information Technology Agreement (ITA). BTA and ITA are important because they signal a move towards multilateral rather than bilateral accords in the info-communication industry. They also fix current national reforms, making it more difficult to reverse market access concessions.

## Agreement on Basic Telecommunications Services

Signed in February 1998, BTA aims to liberalize trade in basic telecommunications services and to enable countries to take advantage of technology by opening up domestic markets to foreign competition. BTA is expected to lead to greater digitalization, and should encourage the development of cellular mobile telephone services, low earth-orbit satellite communication and value-added services, such as video conferencing, video phones and multi-media applications. (The Agreement is in the Fourth Protocol to GATS.)

Existing national carriers will be less undermined by the opening of markets than most observers have expected, notes Ben Petrazzini of the International Telecommunications Union. Although their market shares will shrink, their market size will grow, leading to healthy revenues and profits. Overall employment in competitive segments of the market will rise. These conclusions, however, are drawn from the experience of companies which in most cases faced local limited competition. The impact on a market fully open to foreign entry is unclear.

For consumers, benefits will be significant. Prices for long-distance and international services will inevitably drop, bringing down the cost of local production and trade-related activities. However, the prices of local services are most likely to rise, to the detriment of residential consumers. A decline in the prices of services and a subsequent fall in the prices of hardware should stimulate demand for both services and equipment, with all the positive consequences that this has for both industries and national economies. The opening of markets to foreign entry by service providers and equipment suppliers has its dark side, adds Mr. Petrazzini.

For several developing countries that are attempting to support the growth of local info-communication service providers, the prospects of opening markets to large firms are not encouraging. Some local equipment suppliers will survive competition and expand their operations beyond the local markets, but a considerable number will be absorbed by larger firms or go out of business.

## Agreement on Information Technology Products.

ITA went into effect in March 1997. It provides for participants to eliminate customs duties and other duties and charges on information technology products by the year 2000, on a most favoured-nation (MFN) basis. By eliminating tariffs, an estimated US $ 50-100 billion could be saved annually, while the market for ITA products will be opened up.

## Business Views

ITC interviewed over 600 business and government leaders for their opinions on the WTO Agreements from business and public-sector representatives in China, Germany, India, Japan, Malaysia, Pakistan, the Philippines, the Republic of Korea, Singapore, Thailand and the United Kingdom. These views have been tested and re-confirmed in subsequent ITC round tables in Armenia, the Czech Republic, India, Malaysia, Pakistan, the Philippines, Poland, the Russian Federation, Slovenia and Thailand.

Knowledge of Agreements among exporters was generally low. Traders said they had difficulty understanding the language of the Agreements and grasping their implications. Large corporations thought that they stood to gain from the Agreement; SMEs expressed fears about their growth prospects and competitiveness. They believed that they might be forced to reposition themselves as value-added service providers in system integration, customization and after-sales service. They also felt that strengthening the dialogue between business and government was much needed. Those in LDCs felt that the main benefit will be lower product costs, resulting from the integration of global markets.

*This article was adapted from the ITC publication, 'Trade in Information Technology Products and the WTO Agreements.'*

# Sunil to promote Harvest Soyameat

**Burns Philip Lanka (Pvt) Ltd recently signed an agreement with Sunil Perera, a well-known musician to promote Harvest Soyameat range of foods marketed by Burns Philip Lanka (Pvt) Ltd. Here Sunil Perera signing the contract. From left: Keshan Perra - (Accounts Executive - Minds FCB), Amar Gunatilleke - (Head of Client Service, Minds FCB), Ms. Shenika Sugathapala (Manager Consumer Products, BPL), Sunil Perera, S. M. B. Padmasiri - (Sales Manager - BPL).**