Chapter 4

E - Services
The increasing demand for Information and communications technologies (ICT) has generated major growth in communication services, which are expanding in all countries. Through e-commerce, the services industries have enjoyed an increase particularly in cross-border trade. The digitization of business processes, coupled with the universality of the Internet, has allowed companies to outsource activities and services to more cost-effective locations as well as to access new clients in foreign markets.

As a result of these changes in the global services market, an increasing number of countries, including developing ones, are directing their efforts towards expanding their services exports. Their objective is to increase export capacities in services that are increasingly in demand on the global market, and to become more competitive in exporting these services.

The role of manufactured goods exports in enhancing a country's global competitiveness has been widely acknowledged. Using trade flow analysis as a standard approach for assessing competitiveness, these studies have found that countries which have succeeded in gaining market share over a sustained time period are also gaining competitive advantage. By contrast, few studies have examined exports of commercial services as indicators of increasing competitiveness, despite the fact that services trade accounts for 20 per cent of total world trade and has grown as rapidly as merchandise trade (8.5%) over the past 15 years. In particular, the increasing use of ICT in the services sector has played an important role in enhancing international trade in services.

Studies on the impact of ICT and e-commerce on productivity growth in the United States have shown that labour productivity growth in the services sectors (measured by value added per full-time employee) has been particularly high in sectors such as wholesale and retail trade and financial and personal services. Other studies based on macroeconomic or computable general equilibrium
(CGE) models have supported the argument that e-commerce has a positive impact on productivity and growth.

Knowledge- and information-based services, such as communications, computer, financial, insurance and royalty services, are contributing an increasing share of GDP in many OECD countries: In Canada, the value added of telecommunications services increased by 19 per cent from 1998 to 1999, accounting for 2.5 per cent of total GDP, up from 1.9 per cent in 1990. In the Republic of Korea, the share of the IT industry (20 per cent of which is based on IT services) in GDP increased from 8.6 per cent (1997) to 13 per cent (2000). In the Philippines, the share of communication services (combined with transportation and storage) in GDP increased by 4.6 per cent from 1999 to 2000, to 9.9 per cent, largely due to the growing use of cellular phones and the increasing accessibility of Internet and cable services.

Traditionally, the competitiveness of a country has been identified with the performance of its exports. A country's firms and industries are considered competitive in products in which they are increasing world market share. Furthermore, countries that provide a favourable environment for companies to operate in, which allows them to develop innovations and exploit new market opportunities, also tend to be successful exporters. The dynamism and performance of exports often explain the conditions under which firms operate and the difficulties they face. As most firms are price takers in international markets, gaining market share over a sustained period of time usually requires the achievement of competitive advantage. In this sense, export performance is a good indicator of competitiveness.

Export performance can be measured in a number of ways. The 2 most common approaches and indicators for measuring export competitiveness are:

- The revealed comparative advantage (RCA) index, which measures relative export performance by country and industry or product, defined as a
country's share of world exports of a good divided by its share of total world trade; and

- Dynamism of demand, measured by changes in the world market shares (WMS) of a given product over a certain period of time; the rate of growth over alternative periods; and the rate of growth in a product's share in world exports.

Services activities contribute a major share to national output. For example, services value added contributed 71 per cent to Europe's GDP in 1999 and 67 per cent to Canada's. While these figures are globally the highest, it can safely be said that the share of services value added increased between 1990 and 1999 in all regions. In 1999, it comprised 62 per cent of GDP in Latin America, 41 per cent in East Asia and 56 per cent in Sub-Saharan Africa. Hence, services activities are an increasingly important sector for economic development and growth.

At the same time, exports of services are becoming increasingly important. Between 1990 and 2000, world trade in services grew at an annual average rate of 6.6 per cent, which almost equals the rate for merchandise trade (6.8%). Growth rates in developing countries' services exports were particularly high, accounting for 10.1 per cent over the 10-year period, compared to 9.5 per cent annual growth in merchandise trade exports. The share of services in world exports amounted to 19.6 per cent in 1999. Developing countries also account for a growing share of world trade in services. While in 1990 their share in world exports amounted to 15.7 per cent, it had increased to 21.2 per cent by 2000. Over the same period, their share in world imports increased from 20 per cent (1990) to 22.7 per cent (2000).

On the export side, in 2000, developed countries accounted for 79 per cent of world exports in services and 72 per cent of exports in goods. However, their share in both goods and services exports is shrinking as developing countries are gaining international market share. The services exports of the latter grew at an
annual average rate of more than 10 per cent between 1990 and 2000, and their 
merchandise exports at a rate of 9.5 per cent. Developed countries' exports, on 
the other hand, grew by only 5.9 per cent (merchandise exports) and 5.4 per cent 
(services exports) during the same period.

As far as imports are concerned, the developing countries' share in the 
world market is similar to their export share, 27 per cent in merchandise imports 
and 23.6 per cent in services imports. However, the developing countries' share 
has not increased as much in imports as in exports over the 10-year period; their 
annual growth rates for services imports are 7.9 per cent (compared to 10 per 
cent for exports) and for merchandise imports 8.7 per cent (compared to 9.5% for 
exports). Based on this, we can conclude that developing countries' services 
exports account for the most dynamic changes in world trade in the past 10 
years.

The main exporter of services is the United States, which accounted for 20 
per cent of the global market in 2000. It is followed by the United Kingdom, 
Germany, France and Japan, which combined account for almost half of all 
services exports. Among the developing countries, major services exporters are 
Hong Kong (China), China, the Republic of Korea, Singapore, Turkey and India. 
On the importing side, the United States, followed by Germany, Japan, the 
United Kingdom and France, dominate 44 per cent of the world market. The 
main developing country services importers are China, the Republic of Korea, 
Hong Kong (China), Saudi Arabia, Singapore and India. In fact, developing Asia 
accounts for almost two-thirds of all developing-country services exports, 
whereas Africa's share is minimal, partly due to the scant statistics available from 
the region.

Travel, transportation and other business services constitute by far the most 
important services exports and also reflect the main services exports in 
developed countries. In developing countries, travel takes the largest share of
exports, followed by other business services and transport services. The traditional distribution of services exports in the developing countries have very small market shares in the newly emerging services such as royalties and license fees, computer and information services, and financial and insurance services. Whereas they take 23 per cent of the world market in travel services. An interesting exception is the 20 per cent market share of the developing countries in communication services exports, a fairly recent development.

Exports experiencing above-average growth over a certain time period are considered "dynamic". The following services can be considered to have been dynamic at the global level during the 10-year period:

- Computer-related services (31%)
- Personal, cultural and recreational services (20%)
- Communication services (15%)
- Financial services (10.6%)
- Royalties and license fees (10.4%)
- Construction services (8.8%).

At the five-year level, the same types of services can be identified as dynamic, with the exception of construction services, which experienced negative growth between 1995 and 2000. Overall, export growth slowed during the five-year period, with the exception of financial services exports, which grew at an annual rate of 13 per cent, compared to 10.6 per cent over the 10-year period.

A comparison of developing and developed countries' growth rates for different types of services exports reveals that the developing countries' services growth rates were higher than the world average for all of the dynamic services, and particularly high for three services: computer and information services (58%), personal, cultural and recreational services (53%) and financial services
(41%). It is important to keep in mind, though, that the global market shares of developing countries in computer and financial services trade are still very low (less than 3% respectively). In order to account for high growth rates resulting from a low initial base, growth rates of shares in world services exports were considered.

As a result, all of the dynamic services saw their shares in world exports increase during the 10-year period, whereas all of the non-dynamic services (i.e. those with below-average value growth rates) saw their shares in the world export market decrease. Hence, the growth rates of shares confirm the dynamic services identified based on value growth rates. They also confirm that computer-related services are by far the most dynamic export service: this sector gained 23.3 per cent market share between 1990 and 2000.

Except for construction services, all of the dynamic services are ones that can easily be provided electronically. Hence one can safely conclude that, except for insurance services and other business services, all services that can be provided electronically - so-called "e-services" - are also dynamic export services. This supports the notion that e-commerce and ICT have an important role to play in changing the pattern of international trade in services.

Which countries have a comparative advantage in the export of e-services? Which countries are gaining ground in the international markets for dynamic services? To answer the first question, the following discussion will first present a calculation of the revealed comparative advantage (RCA) index. Then, to address the second question, it will look at changes in countries' world market shares (WMS) during the five-year period to identify which countries have improved their export competitiveness in dynamic e-services. The services categories focused on include communication, financial, computer, royalties and license fees and personal, cultural and recreational services.
An RCA of greater than one indicates a region's (country's) specialization or comparative advantage in exporting a particular service. Interestingly, developing countries (as a group) have a comparative advantage in exporting communication services, whereas developed countries have a comparative advantage in all the other selected services. This also reflects the rapid growth that communication services exports have experienced in the developing countries during the 10-year period (23%).

A closer look at the five-year period reveals that in both insurance services and personal, cultural and recreational services, developing countries have an index very close to one, and in some years their RCA was even greater than one. Hence, in these services they are close to gaining comparative advantage, whereas in others, such as computer-related services and royalties, they (as a group) have no comparative advantage.

Few developing countries have a comparative advantage in more than one sector. Exceptions include Mexico (communications and personal, cultural and recreational services), Panama (financial and computer services), Ecuador (communications and personal, cultural and recreational services, but a strong negative trend), and Costa Rica (communications and computer services).

While in most of the services categories the developed countries clearly dominate, the communications services category includes many developing countries. Developing countries' exports in communications services have grown strongly during the past decade and many developing countries have specialized in the export of this service.

Another case worthwhile mentioning is that of the Eastern European countries, including Bulgaria, the Czech Republic, Hungary, Latvia, Macedonia, Romania and Slovakia, all of which appear in this most dynamic and competitive group of services exporters. Finally, it should be noted that many developing countries, while not yet having a comparative advantage in exporting e-services,
showed positive RCA growth rates during the five-year period, indicating that they are gaining comparative advantage. Some of them are likely to join the most dynamic group of e-services exporters within a few years.

While the RCA index provides information about a country's comparative advantage in exporting a certain product (and changes in the index indicate whether a country gained or lost comparative advantage), the calculation of WMS indices allows the identification of countries that have gained world market shares in the export of specific services during a certain time period.

Hence, while the RCA considers only the country's exports and its degree of specialization, the WMS places these exports in the context of the world market. An increase or decrease in WMS thus indicates whether a country is becoming more or less competitive at the global level.

A change in the WMS index as measured here does not reflect the actual percentage share of a country's export product in the world market, but only the factor by which this share has changed. In other words, a country with a very small share in world exports could have a positive or high average WMS index over the five-year period. The purpose of this exercise is not to show which countries are the main exporters but to identify those that gained market share and thus increased their competitiveness.

Most dynamic countries have been the most successful in increasing their WMS in the export of e-services and thus have become more competitive. They include many developing countries, which in particular account for 50 per cent of communications and financial services exports and about 40 per cent of royalty services exports. Also noteworthy is the dominance of the Eastern European countries, many of which have successfully increased their WMS in the export of e-services.
In communication services, both China and Morocco had rapid growth in their comparative advantage and market share indicators during the five years in question. In financial services, a small island nation - Saint Vincent and the Grenadines - succeeded in substantially increasing its competitiveness in the world market. Among computer and information services, Costa Rica is clearly the outstanding case and will be considered in more detail below. As far as royalty services exports are concerned, the case of Paraguay is special, since its indicators are largely based on the export of hydropower. In the area of personal and cultural services, Mexico has experienced the most dynamic growth in gaining competitiveness and market share.

Unlike these "rising stars", many countries fall in the middle range. They may be gaining competitiveness, characterized by positive growth of either their RCA or their WMS indices; or they may have a comparative advantage and high market share but negative trends (e.g. losing market share and competitiveness in the short to medium term). Finally, losses in market share in one product or service may be accompanied by gains in market share in other products; hence, each case needs to be interpreted individually.

Computer-related services play a key role in the development of knowledge-based services because they produce high-value-added services. Although the developed countries dominate the computer industry, some developing countries have been successful in tapping into the computer-related service market, providing software and IT-enabled services, and showing high export growth rates in these sectors. Besides their potential role in export-led growth, computer software and services also play an important economic role in facilitating growth and development in other domestic industries, which increasingly depend on software as a core component in their design, production and distribution processes.
Export-driven development strategy in Costa Rica

Costa Rica is well known for an export-driven development strategy based on the ICT sector. Exports grew exponentially during the 1990s, from $1.6 billion (1990) to $6.7 billion (1999), followed by a decrease in 2001/02. During the same period, there was a clear shift from traditional to non-traditional exports, largely based on the exports of IT-related products, which experienced annual growth rates of up to 500 per cent (1998). While "office and telecommunications equipment" accounted for only 0.1 per cent of exports in 1995, this share had increased to 41 per cent of exports by 1999. By 2001, one product category (computer parts/modular circuits) accounted for the largest share in exports (15.6%), followed by bananas (10%).

This development resulted largely from the establishment in Costa Rica of Intel, one of the world's largest producers of electronic components. The success of the Costa Rican IT industry (and the ability of the country to attract foreign investment in this sector) can be explained by a number of factors, such as the country's geographic location, its political stability, its educated workforce and its advanced infrastructure, coupled with policies that improved the telecommunications infrastructure and services, attracted foreign investment and, generally, heavily promoted the country's assets abroad.

While the development and growth of the IT-producing industry in Costa Rica is well researched, little attention has been paid thus far to another fast-growing export sector of the Costa Rican economy: exports of computer- and information-related services.

The share of computer-related services exports in Costa Rica's total services exports has increased from almost 0 to 3.2 per cent in just three years. Computer-related services exports account for an important share of total exports and have overtaken sugar exports (their share is double that of sugar exports). What
prompted this extraordinary development? One explanation can be found in the fact that the growth of the domestic IT industry and the favourable environment it brought about also led an increasing number of companies to use ICT in their business activities, moving rapidly into e-commerce, e-banking or e-tourism. In particular, the past decade saw the creation of a significant number of enterprises (small to large) offering computer-related (in particular software) services and products.

The computer-related service industry started to develop in Costa Rica in the 1980s, but really took off in the early 1990s. 30 per cent of the companies were created during the 1980s and 70 per cent during the 1990s, mainly with domestic capital. Over 80 per cent of the companies are locally owned and about half of them export their services. While initially most of the companies produced for the domestic market, beginning in 1999 they rapidly expanded into the international market.

So far, computer-related services have been dominated by software services. It has been estimated that software production has a national value added exceeding 90 per cent. The Costa Rican software production derives mainly from small and medium-sized enterprises producing tailor-made applications or providing advisory services in the area of software development for other companies.

A survey by Mata and Vartanián indicated that 88 per cent of the software companies offer tailor-made software services, 60 per cent software packages, 39 per cent software consulting and 22 per cent other services. The sector is characterized by rapid sales growth: between 1997 and 2000, 30 per cent of the companies doubled their sales. Even faster growth was predicted for the next few years: 55 per cent of the companies expect their sales to double between 2000 and 2003.
Initially, most software companies served the domestic market. As of 2000, half of the companies produced for export, but only 16 per cent (mainly the larger companies) exclusively served the export market. Only 9 per cent of the companies exported more than $1 million per year (28% exported between $100,000 and 500,000 and 53% less than $100,000),

Hence, the rapid export growth during the three-year period is likely to be based on exports by large companies. According to the survey, export growth rates accelerated between 1997 and 1999: 14 per cent of the companies increased their exports by more than 100 per cent, 26 per cent by more than 51 per cent and 45 per cent by more than 30 per cent.

The software sector is essentially a knowledge-based industry requiring highly skilled professionals, and a large pool of educated labour has allowed Costa Rican companies to successfully enter this sector. The government has played an important role in creating an educated population by continuously expanding the education system and including IT in the curriculum. This policy has been pursued actively by the government in its channelling of defence spending to education.

Costa Rica has a tradition of investing heavily in education and is currently spending 6 per cent of its GDP on education. The key factors influencing the development of the software sector are the availability of highly skilled employees, possibilities for training and capacity building, the number of IT professionals available and the legal framework in the country.

Acknowledging the sector's dynamism and growth potential, the Inter-American Development Bank (IDB) in 1999 approved a project to develop the software sector in Costa Rica. The project aims to improve the sector's competitiveness in the global market as well as make local software companies engines of economic development by helping them produce hard-currency revenue and create high-paying jobs. The project emphasizes training and
curriculum building for software technicians to improve the overall technical capabilities in the country and to enable local software producers to compete in the international market.

The project, which is ongoing, is carried out in cooperation with PROCOMER (Promotora del Comercio Exterior de Costa Rica), CAPROSOFT (Cámara de Productores de Software) and CENAT (Centro de Alta Tecnología), each of which contributes financially to the project and participate actively in it.

Given the small size of the domestic market, Costa Rican software companies aim at the export market. The advantages enjoyed by Costa Rica in comparison with other Latin American countries also developing their software sector include a pool of low-cost skilled IT workers and current trade agreements in the North American market.

Nevertheless, software exporters face a number of challenges in their efforts to increase their software services and exports, such as growing competition in the global market, the unavailability of export financing and the lack of an existing structure to support their clients in the export market. The expensive air travel within the region, barriers faced in foreign markets, the lack of export marketing and distribution channels and the migration from proprietary systems to open platforms are further obstacles mentioned by software exporters.

**Business processes outsourcing in India**

The Indian software sector has been studied extensively because of its breathtaking growth during the past decade. Exports of software and related services have increased from less than $500 million (1994/95) to almost $8 billion (2001/02). Between 1999/00 and 2001/02, exports grew from $3.9 billion to $6.2 billion, an increase of almost 60 per cent. Software exports now comprise more than 16 per cent of India's total exports. A revised version of an often-cited NASSCOM-McKinsey study estimates that IT services exports will reach $77
billion by 2008, contributing 10 per cent to the country's GDP (up from 2% in 2002) and 30 per cent of all foreign exchange (up from 8%) and creating four million new (direct and indirect) jobs.

These figures comprise both software services and IT-enabled services—increasingly called business process outsourcing (BPO) - such as those related to customer interaction centers, back-office operations, revenue accounting, data entry and transcription services or GIS (geographic information system) services. Revenues are expected to reach $1.5 billion by the end of 2002. IT-enabled services exports grew at over 45 per cent annually in 1999 and 2000 and 70 per cent annually during 2001 and 2002. The number of jobs created by this sector is expected to increase from 107,000 (2001-02) to 1.1 million (2008), generating revenues of $21 - 24 billion.

Overshadowed by the exponentially growing software sector during the 1990s, BPO in India received little attention from researchers or the business community until the start of the new millennium. It has now become the new buzzword, reflecting this sector's great potential for creating new business opportunities and suggesting that the sector will grow quickly in the short to medium term.

BPO refers to outsourcing (often, but not necessarily, by big multinational companies) of business processes and functions in the areas of administration, finance, human resources, distribution logistics, manufacturing services, sales, marketing and customer care to locations that can provide these services at a lower cost through highspeed data communication links, which guarantee timely delivery of the data and services.

BPO often involves large-scale data processing (such as that required by banks, insurance companies and airlines) - for example, in revenue accounting and payroll processing. These IT-intensive outsourced tasks range from routine business processes to strategic tasks directly affecting revenues. As a result of the
improved global telecommunications infrastructure, companies now have the choice to outsource their business processes to service providers located (almost) anywhere in the world. This allows management to focus on building core business activities and cut back spending on office facilities and computer systems.

While BPO is clearly a cost-driven process, the potential to continuously improve processes as well as service levels is an additional reason for outsourcing. Projections for the BPO market are extremely high: it is expected to grow from less than $300 billion (2001) to close to $1 trillion by 2007. Today, distribution and logistics take the largest share of the market (29%), followed by human resources (24%) and payment services (16%). According to a survey by Forrester (2002) with 57 Global 3,500 firms, more than 50 per cent of the companies reported spending more than $1 million annually on BPO. Forrester predicts that the BPO market in the United States will increase annually by 70 per cent (2000-6). Even if these figures are exaggerated, there is undoubtedly huge business potential in the BPO market.

India is planning to capture a significant share of the BPO world market by 2007-08. However, the Indian BPO sector is still in its initial stages, often capturing outsourced overflow work from international BPO service providers rather than receiving direct contracts. Many of the large BPO providers are foreign affiliates working from India (such as GE, Dell or American Express) and staffed and managed by Indians. According to NASSCOM, the IT industry’s national association, there are currently 204 Indian companies providing IT-enabled services. Most of them focus on financial, telecommunications and manufacturing services. The latest NASSCOM-McKinsey report cited earlier suggests that the banking and insurance sectors are likely to provide the greatest opportunities in offshore BPO, followed by the telecommunications, retail, utilities, automotive, computer and pharmaceuticals sectors.
India is building heavily on its already well-established software and IT-enabled service industries. The initial phase of IT-enabled services in India was dominated by customer contact centers (e.g. call centers) and transaction-intensive services (e.g. back-office operations and data processing, medical transcriptions, content development and administration). These services are considered to be lower in the value chain than more specialized services like research and development (R&D) or customized business services. Like the latter, BPO is viewed as being higher in the value chain, since it involves the complete management of a process.

Indian companies are planning to develop the quality of their BPO services by applying a new business framework created by Carnegie Mellon University (CMU) of the United States. This so-called eServices Capability Model (escm) employs best practices for measuring and improving the value of outsourcing relationships, such as increased productivity, reduced cycle time, decreased transaction costs and improved time to the market. CMU also provides certification of service providers' capabilities and performance, which assures clients of high quality and reduced risk when they do business with a certified provider.

Companies based in the United States or Europe increasingly look to India in their efforts to outsource part of their software development to more cost-effective locations. NASSCOM estimates that during the period 2000-2001, one in four of the global majors outsourced its key software development to India; they also report that 82 per cent of United States companies rank India as their first choice for software out-sourcing.

The reputation built over the past decade is one key reason why companies look to India for BPO. Other advantages include the large pool of English-speaking IT and engineering graduates, which the Government is augmenting by taking steps, such as establishing Indian Institutes of Technology in various
cities, to triple the number of engineering students by 2008. Furthermore, India's time zone vis-à-vis the United States encourages BPO with the latter as it allows, for example, companies based on the United States East Coast to provide customer services 24 hours a day.

The potential for India to become a hub for IT-enabled services (particularly BPO) has been recognized by the Indian Government and NASSCOM, both of which have started a dialogue aimed at defining and creating a favourable environment for each segment of the IT-enabled services sector. These efforts include actions in the areas of tax exemption, telecommunications infrastructure, financial assistance for start-ups, establishment of a venture capital (VC) fund, training and the promotion of entrepreneurship and teleworking for women in the IT-enabled sector.

Business based on outsourcing is highly dependent on the volatility of foreign markets. As Indian BPO exporters are largely focused on the United States market, a downturn in their main export market could negatively affect their business. For example, in the software sector (which is equally dependent on the United States market), the Nasdaq crash led to cuts in IT investment, which directly affected Indian programmers and led to an oversupply of IT professionals in India. Fortunately, IT-enabled services were less affected by the recession in the United States because they are the indispensable back-office processes of brick-and-mortar companies. By contrast, the slow-down of the United States economy has prompted an increasing number of companies to outsource to India to maintain their margins.

New market entrants such as China and the Philippines may pose serious competition to Indian BPO providers within a few years' time. In particular, if the BPO business model is based primarily on cost advantage and low labour cost, it can be easily replicated elsewhere, leading to a constant decrease in profit margins. Therefore, Indian companies have a great interest in working
continuously to develop more sophisticated, specialized and higher-value-added BPO services to safeguard their current leadership position in the world market. This will require specialists not only in the IT and engineering professions but also in other areas such as medicine, law, accountancy, statistics and human resource management.

International telephony was deregulated on 1 April 2002, and since then prices have dropped significantly, favouring IT-enabled services such as call centres. However, to respond to the needs of the emerging BPO sector, deregulation should go further and allow interconnectivity between networks and different Internet service providers, the establishment of international gateways by the IT-enabling industry and deregulation of international bandwidth to allow companies to buy high-capacity cable and satellite connectivity at competitive prices.