REALISING THE DEVELOPMENT POTENTIAL OF NORTH-SOUTH BUSINESS PROCESS OUTSOURCING: THE CASE OF FIJI

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ABSTRACT

Business process outsourcing (BPO) - outsourcing of information systems, data processing services, and other IT-enabled business services - represents a huge development opportunity for the South, and many developing countries or regions have targeted development of delivery capability of entry-level IT-enabled business services (ITEBS) as a strategic priority. IT-enabled business services are increasingly footloose and can be attracted on the basis of the cost advantages, infrastructure, or amenities provided by a location, depending on the segment in question. Geographic concentrations of such services can drive demand for improved IT infrastructure, technical training, and specialised services from local suppliers.

This chapter examines the options available to Fiji for participating in the international trade in IT-enabled business services and business process outsourcing. The chapter describes the segments of IT-enabled business services in terms of their skill level and the value they add, and discusses current trends in the international trade in business services, with particular emphasis on North-South ITEBS outsourcing. The chapter also identifies conditions that low-income countries must create in order to develop entry-level ITEBS export capability. In this context, Fiji's potential to develop or attract such services

[1] Authorship listed in alphabetical order. This is a revised version of Davis et al. (2002).

delivery capability is analysed, including its labour cost, linguistic, geographic, educational, and other location advantages, as well as telecommunication infrastructure quality and cost disadvantages. The analysis covers a number of IT service industry projects recently initiated both by the Fiji Government and private sector enterprises. The chapter concludes with a critical review of the domestic regulatory environment affecting IT-enabled services development and with recommendations aimed at nurturing development of ITEBS export capability in Fiji.

1. INTRODUCTION

Global trade in IT-enabled services (ITES) is expanding rapidly as connectivity decreases the transaction and communication costs among firms. Chief among these services are IT-enabled business services (ITEBS) – services that are used internally by firms to produce a final good or service for customers. Lower-skill ITEBS, such as keyboarding, text entry, transcription, data processing and contact centres can be located successfully in low-income countries, provided that infrastructure standards and other conditions of service quality are met. India is the undisputed leader in business process outsourcing, but other countries with major outsourcing capability include Canada, China, the Czech Republic, Hungary, Ireland, Israel, Mexico, the Philippines, Poland, Russia, and South Africa. Belarus, Caribbean states, Egypt, Ukraine, Bangladesh, Cuba, Ghana, Senegal, and quite a few others, including Fiji, are developing outsourcing capability or have announced their intention to do so (Rundell, 2003; UNCTAD, 2003). Highly knowledge-intensive business services (such as R&D and engineering, software development, content production, or highly reliable applications hosting) have been traditionally located in or near major metropolitan areas in developed countries, but they are increasingly footloose and now can be found in locations with pools of highly skilled workers and appropriate infrastructure and amenities.

This chapter discusses the options available to a developing country, Fiji, to participate in the exploding international trade in IT-enabled business services. The authors first analyse global trends in tradable IT-enabled services, focusing especially on the migration of the entry-level portion of ITEBS from developed to developing countries. Then they identify the technological, human resource, political, and business-regulatory conditions that developing countries must create or be endowed with in order to be providers of outsourced ITEBS. Based on this identification of conditions, Fiji's potential for the development of ITEBS is analysed and policy recommendations put forward.

The chapter is based on an extensive review of current literature and reports dealing with ITES and export development, and draws upon several individual country cases reported recently. As one of the authors has been involved in advising the Fiji Government on the service sector development, the chapter calls upon this author's intimate knowledge of the Fiji business environment and Fiji Government's strategies and policies.

2. TRENDS IN SERVICES: DISAGGREGATION, IT-ENABLEMENT AND TRADE

The service sector encompasses transportation, travel, communication, construction, insurance and financial services, computer and information services, royalties and licence fees, government services, personal and recreational services, and other business services. The rapid growth of international trade in services is a significant feature of contemporary economic development. UNCTAD estimates that world trade in services grew at an annual rate of 6.6% between 1990 and 2000. Developing countries' share of international trade in services grew at 10.1%, and their share of service exports increased from 15.7% to 21.2% between 1990 and 2000, representing income of more than $300B (UNCTAD, 2002). The fastest growth in internationally traded services occurred in computer and information services (ibid.).

The General Agreement on Trade in Services (GATS) recognises four modes of service delivery: 1) supply across borders (as when services are delivered remotely); 2) consumption abroad (as when customers travel from abroad to consume services delivered locally); 3) commercial presence (as when the service provider establishes a physical presence in an export market); and 4) travel by natural persons to an export market to deliver services (UNCTAD, 1998). Generally speaking, ITEBS (mode 1) are tending to substitute for other modes of service delivery, enabling the development of markets for these services to proceed faster than policy-enabled liberalisation of service trade in other modes.

Driving the expansion of tradable services are advances in information and communication technologies (ICTs). Traditionally services were regarded as non-transferable and non-storable, requiring joint production between producer and consumer. In other words, services were essentially non-tradable. However, the diffusion of ICTs within the business sector lowers the costs of transacting, communicating, and coordinating among business units, making it possible to disaggregate or un-bundle the production and consumption of

information-intensive service activities. This "blows to bits" value chains and induces the emergence of markets for services[2].

Specialised slivers of value production can be delivered remotely from places that provide suitable infrastructure and personnel at suitable cost (Quinn, 1992; Apte and Mason, 1995; Casson and Wadeson, 1998; Evans and Wurster, 2000; Wymbs, 2000). Unbundling or disaggregation of information-intensive services can separate production from consumption and permit previously non-tradable services to be actively traded regionally and internationally. Services can be remotely produced and delivered when they do not require manipulation of physical objects or close interaction with the customer and when they are data-intensive (Apte and Mason, 1995; Miozzo and Soete, 2000).

Demand for outsourced services is soaring, spurred by opportunities to reduce the costs of production. The economic slowdown in industrialised countries has increased the incentives to outsource non-core activities in order to obtain greater efficiencies (Corbett, 2001b). Overall, global outsourcing of manufacturing and services doubled in value to approximately one trillion dollars between 1997 and 2000, with North America, Europe, and Asia accounting for 94% of the outsourcing market (Corbett, 2001a). The fastest growing areas of outsourcing are in business process or back office functions such as human resource administration, media management, information technology, customer care, and marketing (Corbett, 1999). The value of business process outsourcing (BPO) is expected to be between $122B in 2003 and $240 in 2005 (CyberAtlas 2003).

Outsourcing and procurement have become strategic issues for the firm, which must determine which steps of the value-adding process it will produce internally and which kinds of business relationships it must maintain with suppliers of essential and commodity inputs. Services may be insourced or outsourced from a single location, from multiple domestic locations, or from multiple global locations (Apte and Mason, 1995). Global multi-location insourcing and global outsourcing are the two development paths open to new entrants in the ITEBS business[3]. Many firms are establishing wholly-owned subsidiaries in lower-cost regions that take advantage of labour costs, financial incentives, and in some cases pools of highly specialised workers to provide skilled back-office services such as claims processing, R&D, or logistics management. For example, GE Capital India is the largest ITBES provider

[2] This process is also referred to as "splintering" or "disembodiment" of services from goods production (Miozzo and Soete, 2001).

in India with 10,000 employees. It provides accounting, claims processing, credit evaluation, and other services to 80 GE branches around the world (Elsham, 2001). Global outsourcing occurs when firms make arm's length purchases of remotely-delivered services. Countries that want to enter the ITEBS business need to consider ways to attract service-providing subsidiaries through foreign direct investment as well as ways to develop or attract service exporters.

IT-enabled business services can be classified into three kinds of activities: administrative, customer services, and technical, and into three levels of skill- and knowledge-intensity – low, medium, and high (McMaster and McGregor, 1999). The resulting taxonomy, shown in Appendix 1, provides a view of the ranges of service activities that can be offered at the three levels of complexity. The simplest tasks are routine data entry, customer service, and clerical activities. Intermediate services include ones requiring some judgement or unscripted interaction on the part of workers: secretarial work, application or claim processing, management of records, transcription of specialised documents, and some kinds of website design and management. High-end ITEBS include remote delivery of professional services, dispute resolution, and complex technical or creative work such as software development, technical writing, animation, or remotely delivered educational or health services. Specialised markets are rapidly developing for low-skill services such as data processing and customer service delivery as well as for critical knowledge-intensive business service activities such as R&D and engineering design (Quinn, 2000). When business processes are of a strategic nature, firms prefer to outsource to "captive service farms" rather than to third-party service providers in an arm's-length relationship (Aron and Singh, 2002).

The use of information and communication technologies to make services tradable over long distances provides a new opening in an international economy that only a few years ago seemed to offer few development options to poor countries (Primo Braga, 1996). Export of services provides the principal opportunity for "development after industrialisation" (Kobrin, 1999). Low-skilled keyboarding, text entry, data processing, transcription, translation, secretarial services, insurance claim processing, and customer interaction services are increasingly located in areas with lower labour costs and acceptable infrastructure in offshore information processing centres in Mexico, the Caribbean, Taiwan, the Philippines, India, and China. Lower-cost regions in economically developed areas such as Ireland and

[3] Global multi-location in-sourcing is a form of intra-firm trade that is not reflected in ITES export statistics. Along with franchising it is the predominant form of service internationalization (Miozzo and Soete, 2001).

New Brunswick join countries such as India with pools of highly competent technical workers to compete for remotely-delivered knowledge-intensive business services such as engineering and design services, animation, data conversion, database development, accounting and auditing, distance education, network management, applications hosting, software development, and online health service delivery.

3. Factors Conditioning the Development of IT-enabled Service Industries in Low-income Countries

Low-end IT-enabled business services have been targeted as a strategic priority by many developing countries or regions. ITEBS are increasingly footloose, and any country with an appropriate telecommunications infrastructure and suitably qualified labour can compete for them. Entry barriers are relatively low: investment requirements are not great, the services are labour-intensive, cycle times are short, and many kinds of ITEBS do not require high levels of technical expertise. Therefore competition is intense. Here we briefly review the factors that condition the ability of a country to supply ITEBS exports.

Migration of business services to low-income countries is driven first and foremost by the lower costs of critical human resource inputs. Labour shortages in the North and labour costs in developing countries are the principal reasons that U.S. firms outsource their IT work (Carmel and Agarwal, 2000). Labour is often the single largest cost component of a service activity, representing up to eighty percent of the cost of a contact centre, for example. The cost savings for professional services supplied from a low-income country can be substantial. Qualified accountants in India are paid $3,000 per annum compared to $35,000 in the United States. Western companies such as GE Capital Services, British Airways and American Express are reported to have saved 40-50% of operational costs by shifting their customer interaction centres to India (Anonymous, 2001b). However, in addition to the cost savings that translate into shareholder value, executives of firms that outsource business processes or back office functions consider that outsourcing yields improved service quality and freedom to focus on core competencies (Management Trends in Outsourcing, 2001).

Linguistic ability is the second most important factor in the ability to compete as an ITEBS provider. Many customer services require knowledge of English. Countries that possess disciplined and literate workers able to work in or with English have a competitive advantage, at least in many of the lower-skilled service segments. This is one reason why certain Asian countries are best positioned to take advantage of the current outsourcing boom

(Corbett, 1999). Two other key factors are the cost and quality of the national telecommunications infrastructure and the skill sets available in the local labour supply.

Quality of telecommunications infrastructure and the connectivity speed and costs constitute the third most critical factor in developing successful ITEBS. As ITEBS are traded over long distance, they are very sensitive to the speed and costs of transacting and communicating. Access to high speed Internet connections and the costs of Internet services are of particular importance to ITEBS providers.

The fourth most important factor is the regulatory environment affecting the development of ITEBS. International rules of trade in services are sensitive to ongoing negotiations concerning movement of persons, definitions of subsidies, government procurement practices, taxes and regulations on electronic commerce, and market access. The elements of a national regulatory environment that affect the development of tradable ITEBS include "cyber laws" regarding digital signatures, information privacy, encryption, intellectual property; labour laws permitting contingent, twenty-four hour labour employment; regulations affecting the availability, cost, and quality of telecommunications services; taxation laws; and domestic, inward, and outward investment policies. Investors in ITEBS prefer to establish ventures in countries that offer:

- Transparent, consistent and predictable commercial laws and business environment,
- Sound macroeconomic management of the economy, with low inflation and relatively stable foreign exchange rates as well as easy repatriation of profits and capital,
- Safety and security of persons and property,
- Protection of property rights and enforcement of contracts, and
- Political and economic stability (Duncan et al., 1999).

Private investment is also adversely affected by unpredictable changes in government policies that are perceived to have a negative effect on the profitability of investment (Serven, 1997; Burnetti et al., 1997a, 1997b). Burnetti et al.(1997b) surveyed 3,600 enterprises in 69 countries to assess the critical factors that influenced private investment. Firms are deterred from investing in long-term business ventures if they cannot be sure which business regulations will apply in the future or how they will be interpreted by

government officials. Also foreign investors need to be certain that the law courts will enforce contracts and protect their property rights. The investors' perception of the degree of political stability, predictability of judicial enforcement, and corruption are closely linked with investment (ibid.).

Even if firms enjoy a cost advantage to supply ITEBS internationally and operate in a favourable regulatory environment, they may not realise the potential for becoming competitive providers of such services. The key enablers of competitiveness are less the cost and regulatory environment than service quality, marketing capability, and credibility (Riddle, 2000). Firms must establish and maintain their credibility as service providers. They can do this by maintaining service quality and by using websites as proxies for quality. Firms must develop visibility and recognition, including possible national branding for service quality. They must learn to adopt culturally appropriate behaviour for customers, including meeting self-service and satisfaction expectations of customers, which may involve empowering staff in ways that are culturally unfamiliar (ibid.). They must have the administrative skills and infrastructure capability to bid on contracts, purchase, and receive and make payments in ways that customers prefer. National export promotion policies must provide services for exporters, including website promotion, business education, and electronic directories (ibid.). National SME-support policies must accelerate e-business enablement and ensure SME service exporters can have recourse to an effective local technical supplier industry.

Service quality has become a major issue in outsourcing and a likely major differentiator between successful and unsuccessful service exporters. Dun & Bradstreet estimates that between 20% and 25% of outsourcing relationships fail in any two-year period and that fully half of the relationships fail within five years (Dun & Bradstreet, 2000). The most important causes of outsourcing failure are the outsourcing supplier's lack of understanding of the customer's requirements, unexpectedly high costs, and poor service (ibid.). In such conditions, supplier accreditation is likely to assume increasing importance. Researchers at Carnegie-Mellon (Hyder et al., 2001) have released an eServices Capability model that provides ITEBS outsourcing service providers a set of practices and standards designed to enable them to manage outsourcing relationships. The model covers the pre-contract, contract, and post-contract phases of the relationship and addresses organisational management, personnel, service design and delivery, technological infrastructure, and organisational knowledge issues (ibid.).

Although demand for ITEBS is booming, several factors on the horizon could reduce or alter the composition of demand for these services. Since demand for cost efficiencies drives the development of many outsourced ITEBS, technological advances that substitute for low-skilled labour may reduce the need for some kinds of services. For example, smart products and optical recognition may reduce the need for data keyboarding, and voice recognition and artificial intelligence technologies may reduce the need for low-skilled customer service representatives. The differentiation of customer services along a scale from routine to high touch/high quality has led to the option of "near-sourcing" high grade customer contact services in Canada, where the labour force is literate, disciplined, and affordable (McCracken, 2003). Finally, the development of intelligent systems will allow firms to selectively route tasks on the basis of cost, opportunity, or skill, resulting in virtual service networks in which individual service providers can be located practically anywhere. In the North, an ample contingent workforce may be found for these jobs among younger people who have not been able to enter a career track in stable institutions, among older people with insufficient retirement income, or even among prisoners. Policymakers may find it appealing to offer incentives to locate virtual jobs in lagging regions within the national or regional economy. Furthermore, data security concerns may make it risky to locate ITEBS outside a national or regional perimeter. Thus future opportunities to deliver ITEBS may not be as straightforward as they presently seem.

3.1 Fiji's Potential in the Development of the IT-enabled Service Industries

Taking the above research findings into consideration, how does the Republic of Fiji Islands fare as a potential locale for placing outsourced IT-enabled business services?

Fiji is a small island economy in the South Pacific that promotes itself to international tourists as a tropical paradise of beautiful sun-drenched islands with white sandy beaches and swaying coconut trees, and with some of the best coral reefs and marine life in the world. It has population of 790,000 and it comprises 332 islands with a land area of 18,333 sq km. The current GDP per capita is about US$1200 per annum, and the country is characterised by a high level of food security (Asian Development Bank, 2000). Fiji's economy is dominated by the services sector that accounts for 70% of employment and income. The sugar industry is Fiji's single most important export earner, followed closely by tourism (ibid.). The emergence of a substantial garment industry in the 1990s, and more recently a mineral water industry, have helped diversity the economy and have proved the economy's ability to successfully nurture the development of new sectors. In the context of outsourcing ITEBS, it

is also worth noting that Fiji is located on a time zone 12 hours ahead of GMT, thus making the country's location ideal for "overnight" processing of data sent from Europe and North America.

Below we assess Fiji's potential for becoming a successful exporter of outsourced and insourced ITEBS. In accordance with the findings of the preceding section, we focus first on labour costs, linguistic ability and the educational levels of the Fiji population, as well as the cost and quality of the national telecommunications infrastructure, as the most important factors conditioning the development of ITEBS industries. Then we assess political and business-regulatory environment of foreign investment in general, and ITEBS specific regulatory environment in particular.

The lower wage cost is the major factor that makes Fiji an attractive choice for ITEBS firms. Table 1 presents comparative wage rates for semi-skilled IT workers in 5 countries, including Fiji. Two of them, Australia and New Zealand, are primary target markets for outsourcing ITEBS from Fiji, and the remaining three, Singapore, Fiji and India, can be considered as competing providers of these outsourced services. Fiji's wage rates are around one-fifth of those in Australia and New Zealand. Both countries' IT-services firms can obtain substantial cost reductions by locating their services in Fiji. At the same time, Fiji's wage rates are comparable to those of its main competitor - India - that has been successful in developing ITEBS exports.

Another key condition of attracting outsourced ITEBS pertains to the English language capabilities, education levels and requisite IT skills of the work force. Fiji has both strengths and weaknesses in these areas. It has an English speaking, generally well-educated population, but at the same time it suffers from the lack of adequate IT-skills among students and graduates.

Table 1. Comparative Wage Rates for Semi-Skilled IT Workers

Country	F$ per hour
Australia	15-20
New Zealand	10-15
Singapore	4-8
Fiji	2-4
India	2-3

Source: TARPnz Strategic Methods Limited, 2001, p. 13.

English has become the official language in Fiji for state transactions and inter-communal exchange, as well as for business. This is in spite of the fact that the 1997 Constitution recognises that Fiji is a multilingual state with the main languages (Fijian, Hindi and English) being equal in terms of status, use and function. The reality is that in a multiethnic Fiji, there is a need for a *lingua franca* and this need is perfectly filled by English (Fiji Islands Education Commission, 2000). English is also the language of education used at all the three levels of education - primary, secondary and tertiary[4].

Fiji ranks favourably among its main potential competitors in ITEBS industries in terms of literacy levels of its population. Fiji's literacy rate of about 93 % is higher than that of India (57%), China (84%), Dominican Republic (84%) and Mexico (91%), and is only slightly lower than that of the Philippines (95%) (UNESCO, 2002). The country also ranks favourably when the education index, prepared for the UNDP Human Development Report, is used as a measure of educational attainments[5]. Of the 24 small nation states included in the UNDP Human Development Report (UNDP, 1999), Fiji's education index placed the country at the top of the group (6th place). Overall, the population of Fiji achieved an educational attainment index of 0.88, which is higher than the average for the developing countries as a whole, and higher than the indices for South East Asia (0.67) and the Pacific (0.8). Based on the above figures, one can conclude that Fiji is better positioned than most of its main competitors in terms of the availability of well-educated employees required by ITEBS firms.

[4] English is formally used as the instruction language from the fourth year of the primary school on. However, many primary schools use it as the instruction language from year one (Fiji Islands Education Commission, 2000).

[5] The index is calculated on the basis of a country's combined primary, secondary and tertiary education enrolment levels along with its literacy rates.

Although general education levels of Fiji's work force may be adequate, for IT-enabled business services such general levels, although indispensable, are often not sufficient. What is increasingly sought by IT firms is a computer-literate work force. In developed countries, major efforts are being made to fully computerise teaching and administration in secondary schools and to introduce computers extensively at primary education level. In developing countries, on the other hand, such efforts are rare, although there are noticeable exceptions. In Malaysia, for example, the "Smart Schools" initiative is aimed directly at producing a highly computer-literate generation of school leavers during this decade (TARPnz Strategic Methods Limited, 2001). In Fiji, such initiatives are lacking, mostly due to a shortage of funds, equipment, qualified teaching staff, and materials. As a result, very few secondary school leavers are computer literate and therefore only a small minority of secondary school graduates are expected to attain tertiary-level computing-related qualifications.

The quality and costs of telecommunication services is the third most important factor conditioning the development of ITEBS in low-income countries. In this area, Fiji has major weaknesses. A Discussion Paper published by the Pacific Islands Forum Secretariat in 2000 (Pacific Islands Forum Secretariat, 2000) points to high cost of Internet access in Fiji, especially for high volume (business) users, as compared to the Internet costs in developed countries. Although the situation has improved since 2000, costs of Internet access in Fiji are still considerably higher than in neighbouring developed countries; they are almost three times as high as the equivalent access costs in New Zealand and nearly two times as high as in Australia (ITU, 2003). However, in comparison to other Pacific Island countries, for which ITU has recently collected data, Fiji's rates are not high (see Table 2). Also, Fiji has some of the better telecommunications infrastructure and educational facilities in the region.

Table 2. Summary of Prices for Internet Access in Selected Countries of the Pacific

August 2003

Country	Total Internet access price including telephone usage charge, 20 hours of use, US$
Fiji	**31.74**
French Polynesia	69.29
Marshall Islands	20.00
New Caledonia	80.34
Papua New Guinea	20.00
Samoa	42.97
Solomon Islands	91.15
Tonga	45.45
Vanuatu	46.70
Average	**49.74**

Source: ITU (2003).

Internet access costs in Fiji could be lower if not for the paternalistic and statist approach on the part of the Fiji Government to the management of the telecommunications sector. The Government protects the monopoly position of telecommunication service providers in spite of the lack of any credible international evidence that monopoly firms are capable of providing such services in an efficient and competitive way. As a result, Fiji has only one Internet service provider, Telecom Fiji[6].

On the positive side, a mention should be made of the high bandwidth capacity of the Southern Cross fibre-optic cable, which was launched in November 2000. The cable, linking Fiji directly to Australia, New Zealand and the U.S., has given Fiji the fast and reliable connection to the Internet that ITEBS need. In practical terms, it provides the carrying capacity for much increased level of telecommunications traffic, needed, for example, for multiple call centres and high volume data transfers. The Southern Cross cable places Fiji, at least potentially, on a par with any other competing location globally. However, its full potential and impact is yet to be utilised through building the associated in-country infrastructure, enabling access to the Cable capacity from various parts of the country. The

[6] Five new licenses have allegedly been granted to ISPs; however, they will all be dependent on one company, FINTEL, for providing access to Internet connectivity.

most urgent (and already underway) is the laying of a fibre-optic cable connecting the Southern Cross cable's Suva exchange to the western districts of Viti Levu, where most ITEBS are expected to be located.

Generally speaking, Fiji has a market friendly business environment, sound macroeconomic policies, low inflation, and a relatively stable foreign exchange rate. It is, for example, noteworthy that in spite of the attempted coup in May 2000 and the subsequent political crisis and economic difficulties stemming from the trade embargo imposed by Fiji's major trading partners, the Fiji Government has managed to maintain the value of the Fiji dollar vis-à-vis major currencies.

Fiji also has a modern set of commercial contract laws that are enforced by the judiciary. It offers safety and security of persons and property, and enforcement of commercial contracts. At the same time, Fiji is notorious for ethnic tensions between its two major ethnic groups - Fijians and Indo-Fijians - that from time to time culminate in the form of major political crises. As a result, the country has had two effective and one attempted *coups d'état* in its recent history. However, after the general elections held in August 2001, the country has enjoyed democracy and political stability.

In terms of foreign investment, Fiji has mainly attracted investment from family owned companies from Australia and New Zealand. A recent survey by the Fiji Islands Trade and Investment Bureau (FTIB) has found that the majority of investors over the last decade have been owners/managers who are seeking a relaxed island lifestyle in an unpolluted, healthy environment with good quality schools, hospitals and a modern regional university with satellite network to 12 countries.

In its Web page, FTIB advertises the following advantages that Fiji offers to potential investors:

- Easy repatriation of capital and profits.
- An adaptable, productive, industrially disciplined and English speaking labour force with low wage rates.
- An attractive package of financial and other incentive schemes including a 13-year tax holiday and total freedom from import duties.
- Reasonable air and sea links with overseas markets
- Sophisticated telecommunication links with the rest of the world

- A well developed infrastructure, including electricity, water supplies and internal communications
- Availability of factory land and buildings at reasonable rates.
- Well-developed banking and financing institutions providing full ongoing financial services.
- Under the Foreign Investment Act 1999, the FTIB issues business certificates to all new proposals within 15 days of receiving complete proposals.

In spite of this encouraging advertisement, foreign investors' impression of the real situation is far from being rosy. Notably, "red tape" and bureaucracy are rated highly among obstacles to doing business in Fiji. Even if the FTIB issues a Foreign Investment Certificate promptly, a foreign investor is subsequently faced with a daunting task of obtaining numerous approvals from various authorities. Some of these approvals may take months or years to obtain. For example, it is reported that it typically takes about a year to obtain approvals from the Lands and Survey Department; some potential investors are reported to have gone bankrupt because of the delay (Asian Development Bank, 2000). Other obstacles pointed to by foreign investors include restrictive immigration requirements and procedures, a lack of clear accountability, responsibility and urgency among government agencies, and a low level of competence and efficiency among the staff handling foreign investment cases (TARPnz Strategic Methods Limited, 2001). In order to facilitate the development and smooth functioning of ITEBS, the host country needs to put in place a regulatory framework that is specific to these industries, including various e-commerce laws or "cyber-laws" (cf. GIPI 2002). Fiji does not currently have a detailed legislative framework facilitating a smooth operation and protection of ITEBS. Notably, there is a lack of laws protecting personal privacy in the use of information, which means that client or competitive information may be at risk of unauthorised use or distribution. This will undoubtedly constitute a major deterrent, as many ITEBS deal with sensitive information. Legislation of e-commerce is underway, but the proposed "White Paper on Electronic Commerce" is criticised as being inadequate in regulating such specific issues as electronic filling of documents, recognising electronic records for subsequent references, accepting electronic documents as legally binding, and the requirements for using a secure electronic signature (TARPnz Strategic Methods Limited,

2001). The Government's approach seems to be that the initial ITEBS establishing in Fiji will generate a need to regulate specific e-commerce issues.

Nevertheless, the Fiji Government has recognised the potential for the development of the IT-enabled business services and is keen to quickly establish a niche in this rapidly expanding market. The Government considers that Australia and New Zealand are most likely to be the main markets of ITEBS because of their closeness to Fiji. FTIB has already approved four major projects in this industry; however, the implementation of these projects has been delayed due to the lack of confidence of the part of the investors. Fiji simply does not have an established reputation as a destination for ITEBS investments. One of these projects involves the construction of a 105 seat, 24-hour call centre to service overseas clients, as a joint venture between the Fiji International Telecommunications Limited (FINTEL) and an overseas company. The joint venture will employ 400 staff. Another 500 seat call centre is being considered by a large foreign investor[7]. Apart from call centres, a project that has attracted a lot of attention in Fiji is the proposed development of an audio-visual industry, for which the Fiji Audio Visual Commission (FAVC) has been established. As a starter, the "Studio City Zone" has been set up in Yaqara, on the northern shores of the main island of Viti Levu. The 2200-hectare Studio City is a tax free zone for business and individuals. It is designed to attract investors in filmmaking, tourist resorts, residential housing, retail, and audio-visual education fields (FAVC, undated).

4. Recent Fiji Back Office Developments

Since 2001 the Fiji Islands Trade and Investment Bureau (FTIB) has been lobbying the Fiji Government to allocate resources to establish an information technology park and also to fund a more aggressive targeted marketing campaign to establish Fiji as a new location for back offices IT services.

By November 2003 the results of a modestly funded FTIB marketing effort are bearing fruit. Several pioneering firms are now in operation in the banking and credit card services, insurance claims processing and airline industry voucher processing as well as call centres for IT support services.

Quest Ltd, a subsidiary of the ANZ Bank Limited, has established a IT business centre in Suva that employed 53 full-time staff by October 2003 with expansions plans to double its employment during the coming year. It provides 24-hour on-line technical support

[7] Interview with Mr Ledua, the CEO of FINTEL, March 4, 2002.

services to 22 countries on IT systems support through its call centre in Suva. It also provides ANZ Visa Card support services and back office corporate services in finance and marketing to ANZ banks located in several of the other Pacific Island countries.

Affiliated Computer Services opened its doors on 29 October 2003, employing 60 trained staff to undertake airline voucher processing for Air New Zealand. It has rented two floors in the new Fijian Holding Limited office tower in central Suva. It also plans to expand rapidly to increase its workforce to over 120 persons within a year of commencing operations.

Computech Limited has also commenced operations in the software development industry employing more than a dozen IT professionals including skilled programmers with university IT degrees. It has a contract with a USA state government for software development work.

Other developments include Colonial Insurance that undertakes medical claims processing for Pacific Island clients, Telecom Fiji that operates a 29-seat call centre and the Westpac Bank that services its regional bank office IT network from its Suva base IT operation.

5. POLICY RECOMMENDATIONS

FTIB has found that encouraging the first few firms to enter this new industry has been slower than expected because of the lack of agglomeration economies for the first firms. Now there is a group of pioneers in the key IT industries of insurance, banking and finance and airline industry, and FTIB is confident that other firms will be attracted to Fiji. However, if this good start is to accelerate the Fiji Government must allocate more resources to an international marketing campaign by FTIB to sell Fiji as a sound location for investment in the IT-enabled business service industry.

To attract IT-enabled business services, the Government must be willing to consider and implement a range of policies specifically designed to create a regulatory environment that is conducive to the development of such services and to promote Fiji as an efficient, technology-driven and “wired” economy.

We recommend that the Government quickly put in place the appropriate policies, institutions, regulatory and legal framework to nurture the development of this new industry opportunity for Fiji. Our main recommendations are derived from our analysis of Fiji’s potential for the development of ITEBS industries. These are as follows:

1. Launch a national strategic plan and policy framework for ITEBS industry development.

The Fiji Government recognises the urgency in implementing strategies aimed at propelling the nation into the digital broadband era. It has identified IT as a potential growth sector and is currently developing a policy framework to provide guidelines for the development of the industry (Minister of Finance and National Planning, 2001). The Government knows that many other countries have already established a substantial competitive advantage in the industry and that an ITEBS industry is unlikely to develop spontaneously in Fiji without a major effort from the Government. We recommend that the Government play a major role in promoting Fiji as a profitable location for the industry. Political stability and a soundly managed economy are top of the long list of conditions necessary for successfully launching this new industry.

We recommend that the Fiji government develop a strategic plan for the industry that clearly defines the Government's role, vision, mission and specific timetable of activities to put in place the legislation, institutions and policy measures. This approach has proved valuable in other countries such as Australia and Malaysia (Ministry of Communications, Information Technology and the Arts, 1998); and MultiMedia Development Corporation, 1997).

The strategic plan should identify resources and institutions responsible for implementing the plan and the new policy measures to assist innovative small and medium sized enterprises hurdle the early obstacles and to assist fledgling local technology companies gain the management skills, marketing know-how and knowledge to safeguard their intellectual property. Fiji should adopt a proactive, investor-focused approach to attracting capital and expertise. This approach would involve the Government identifying potential overseas investors who are evaluating alternative locations and inviting them to Fiji to personally assess the attractiveness of Fiji as a location for their investment.

2. Streamline the investment and new business approval processes by implementing new measures to reduce the time lag for the various forms of approvals required by new investors.

Deleted:

As was pointed out in the preceding section, various bureaucratic hurdles faced by foreign investors during the investment approval process have a major deterrent effect on

their propensity to invest in Fiji. The Government should give high priority to implementing new measures to shorten the time that it takes for investors and eliminate unnecessary hurdles to gaining the approvals necessary for establishing a new business enterprise.

We recommend setting up an office to drive the development of the new ITEBS industry and to act as an effective one-stop super shop for IT investors. The Fiji Government has a specialised agency, the Fiji Islands Trade and Investment Bureau (FTIB), whose sole function is the promotion of trade and investment. It aims to provide investors with a "one-stop-shop" service and guide them through the complex array of approvals required for establishing new enterprises. However, as we pointed out in the preceding section, the reality is that this "one-stop-shop" works as such only for the issuance of a Foreign Investment Certificate, while numerous other approvals must be obtained from other Government departments. It makes sense for the proposed office to facilitate the whole investment process and not only its first step. It also makes sense to locate this office within FTIB. FTIB has identified the ITEBS industries as the next new industry in Fiji and jointly commissioned consultants to prepare a marketing plan to guide them in promoting the industry.

3. Promote Fiji aggressively as a preferred destination for IT-enabled services investments.

Promoting Fiji to prospective IT investors should also be a major function of the proposed FTIB office. The promotion strategy should include activities such as:

- establishing a Fiji ITEBS Industry Web Site which provides information on investment opportunities;
- developing of an international network of contacts of firms engaged in back office services and the establishment and maintenance of a data base; the data base should contain details of the leading firms in this industry;
- producing and distributing of a high quality promotional material on ITEBS industries development opportunities;
- conducting international promotional seminars on ITEBS industries development to be held in Sydney, Australia, Auckland, New Zealand, Los Angeles, U.S. and in Europe;
- identifying land and office space in the Nadi/Lautoka area suitable for ITEBS industries operations;

- developing a skills training program for ITEBS industries employees through the Fiji National Training Council;
- monitoring of software and hardware development which supports back office and call centre development;
- monitoring the development of ITEBS industry developments world-wide and providing advice to government on its development strategy.

FTIB has experience in driving the development of a new industry. It played a major role in the establishment of the garment industry that developed rapidly in the 1990s, largely as a result of a new incentive package combined with preferential trade agreements with Australia and USA. To assist foreign investors to set up production quickly, FTIB established Kalabo industrial estate comprising standard factory buildings in the capital city, Suva. It rents factory space directly to investors thus saving them from the risks and delays associated with acquiring industrial land and constructing purpose-built factories.

4. Allocate substantially more resources to support IT in schools and post-secondary IT-training courses.

Urgent action should be taken to bring IT exposure and training to secondary schools in Fiji. This will require a substantial commitment of funds for equipment and teacher training programmes. Such commitment is essential if Fiji is to make a meaningful attempt at developing a knowledge economy. It is also essential if Fiji intends to exploit the opportunities for participating in higher value ITEBS industries in the future. Fiji must address the seriously low level of access to IT in schools and homes through much more innovative approaches and strategies for capital investment in education and telecommunications services pricing. The Government, through FTIB, should also work with private training providers and ITEBS industry investors to establish preparatory training facilities and capabilities for this industry workers.

5. Enact essential “cyber-laws”.

The Government should enact a number of essential cyber-laws such as a Digital Signature Act to facilitate e-commerce by providing an avenue for legally recognised on-line

transactions, a Computer Crimes Act to penalise various activities related to the misuse of computers and unauthorised access to computer material, and other "cyber-laws". Together with progressive Intellectual Property Laws, the proposed "cyber-laws" would not only facilitate the development of ITEBS industries in Fiji but they would also allow the country to become a regional leader in implementing these laws.

6. Allow unrestricted employment of foreign knowledge workers

The current system for obtaining work permits is expensive, slow and cumbersome. It is restrictive and is a source of concern for foreign investors. We recommend that Fiji allow unrestricted employment of foreign knowledge workers to accelerate economic development.

7. Deregulate the government telecommunications monopoly to provide firms with globally competitive telecommunications tariffs

International experience clearly demonstrates that competition in telecommunication leads to lower tariffs and improved services. The Fiji Government should deregulate the telecommunications industry and encourage competition. It should not continue its current incremental approach by trying to introduce a modest degree of competition within the existing ownership structure and the existing restrictions on foreign investment in the sector. Instead, it should take a more radical approach and open the telecommunications markets to both domestic and foreign competition. Many countries have done so over the last two decades and both the service quality and operational efficiency have improved significantly. Needless to say, the consumers, both business and individual, have benefited from better quality and lower prices of telecommunications services.

8. Kick-start the new industry through joint-venture investment in call centres by Telecom Fiji and FINTEL with overseas partners.

Both FINTEL and Telecom Fiji have plans to set up call centres to service overseas and local clients. These projects will be pioneering enterprises and they will most likely be undertaken in partnership with foreign companies that are already well established in the industry. Attracting the first entrants into a new industry is always difficult because they may not achieve the agglomeration economies that are associated with a cluster of similar firms

operating in the same location. We support the plans of Telecom and FINTEL to establish the first call centres in Fiji as a strategy for pioneering the start of a potential new industry. As was mentioned in the preceding section, FINTEL plans to construct a 105 seat call centre on its land in Suva at its earth station at Vatuwaqa. The Government has also been considering the TARPnz report recommendation that an IT business park be developed specifically for IT-enabled services, as a means of engendering and sustaining new performance standards in the industry. It is envisaged that the park could be owned and operated by a joint venture consortium involving Telecom, FINTEL and private sector investors (TARPnz Strategic Methods Limited, 2001)..

9. Establish a service quality assurance scheme through a system of supplier accreditation

We recommend the establishment of a quality assurance scheme for the new industry. Such a scheme would involve the accreditation of new firms that join the industry and adherence by firms to various industry codes of conduct within the different services that provide an assurance of quality and consistency of service.

6. CONCLUSIONS

Advances in ICTs have been driving the expansion of the service sector over the last two decades and making many business services more and more tradable internationally. The diffusion of ICTs within the business sector has lowered the costs of transacting and communicating among firms, allowing specialised slivers of the value chain to be located in a widening range of locations far from the client base. This has led to global outsourcing to developing country suppliers of many IT-enabled business services by firms based in developed countries. The fastest growing areas lie in outsourcing of “back office” functions, the trend being driven mostly by the lower costs of critical HR inputs.

Migration of business services to low-income countries is driven primarily by the lower costs of labour. Developed countries’ companies may save as much as 50% of their operational costs by shifting ITEBS to developing countries. Another critical factor in attracting ITEBS is the linguistic ability of a host country’s population, as well as its education and skill levels. To compete in higher-value added segments of ITEBS, a pool of talented labour must be available. The national telecommunications infrastructure must offer acceptable levels of service in terms of cost and quality.

Meeting the above conditions is necessary but not sufficient for a country to be a preferred destination for outsourced or in-sourced ITEBS. Research points to other key enablers of competitiveness in the industry. One of them is the national regulatory environment that affects the development of tradable ITEBS, including a legal framework for electronic commerce. Another one is marketing and customer service – the service provider's ability to build its credibility by effectively promoting its services, establishing brand recognition and maintaining a high and consistent level of customer service.

Several developing countries have succeeded in attracting a substantial amount of outsourced ITEBS, and many others have the potential to follow suit. Fiji is one of the latter. This country's advantages include:

- Substantially lower wage cost structure than that of developed countries
- An English-speaking, comparatively well-educated population
- Market-friendly business environment
- Sound macroeconomic management and relatively stable currency
- Safety and security of persons and property
- Enforcement of commercial contracts
- High volume capacity telecommunication links with the world (through the Southern Cross fibre-optic cable)
- Location on a time zone 12 hours ahead of GMT
- Favourable FDI climate, allowing for easy repatriation of capital and profits

However, Fiji has also certain disadvantages, which it must overcome if is aspires to become a magnet for ITEBS industries. These include:

- A lack of strategy and policy framework for the development of ITES industries
- Overly bureaucratic and time consuming new business approval process
- Insufficient IT exposure and training of secondary school students
- A lack of "cyber-laws"
- Restrictive foreign workers employment regulations
- Protected telecommunications markets and the resultant high costs of services, including Internet access

- A lack of successful ventures (so far) in the ITEBS sector and a lack of quality assurance of the services delivered by the sector
- Insufficient promotion of Fiji as an ITEBS investment destination
- Susceptibility to political instability

The favourable conditions Fiji possesses with respect to ITEBS can only be fully exploited if these disadvantages are eliminated or minimised. Therefore, we put forward a number of policy recommendations that address the above-listed disadvantages. The recommended measures include:

- Launching a national strategic plan and policy framework for ITEBS industry development
- Streamlining the investment and new business approval process
- Allocating more resources to support IT training in schools
- Enacting essential "cyber-laws"
- Allowing unrestricted employment of foreign knowledge workers
- Deregulating the telecommunications markets
- Kick-starting the new industry through joint ventures with overseas partners
- Establishing a service quality assurance scheme

We conclude that the country has considerable potential to become a magnet for IT-enabled business services outsourced and in-sourced by companies from specifically targeted developed regions. We recognise however that the ITEBS industries are unlikely to develop spontaneously in Fiji. The Government will need to play a major role in overcoming Fiji's disadvantages, in promoting Fiji as an ideal location for these industries, and in ensuring continued political stability.

REFERENCES

Anonymous (2001a) Management Trends in Outsourcing, Outsource2India.com, http://www.outsource2india.com/why_outsource/articles/management_trends.asp

Anonymous (2001b) Back Office to the World, *The Economist*, 359, 8220, 59. May 5th.

Apte, U. and Mason, R.O. (1995) Global Disaggregation of Information-intensive Services. *Management Science*, 41, 7, 1250-1262.

Aron, R. and Singh, J. (2002) IT-enabled Strategic Outsourcing. Knowledge-Intensive Firms, Information Work and the Extended Organizational Form. http://knowledge.wharton.upenn.edu/PDFs/1071.pdf

Asian Development Bank (2000) Republic of Fiji Islands 1999 Economic Report, Manila: Philippines.

Burnetti, A., Kisunko, G. and Weder, B. (1997a) Credibility of Rules and Economic Growth: Evidence from a Worldwide Survey of the Private Sector. *Policy Research Working Paper* 1760; Washington, DC: World Bank.

Burnetti, A., Kisunko, G. and Weder, B. (1997b) Institutional Obstacles to Doing Business. Region by Region Results from a Worldwide Survey of the Private Sector. *Policy Research Working Paper* 1759; Washington, DC: World Bank.

Carmel, E. and Agarwal, R. (2000) Offshore Sourcing of Information Technology Work by America's Largest Firms. *Technical Report*, Kogod School, American University, Washington D.C..

Casson, M., and Wadeson, N. (1998) Communication Costs and the Boundaries of the Firm, *International Journal of the Economics of Business*, **5**, 1, 5-27.

Corbett, M.A. and Associates (1999) Outsourcing Set to Explode in Asia, http://www.firmbuilder.com/articles/19/42/407/.

Corbett, M.A. and Associates (2001a) Outsourcing's Global Marketplace, http://www.firmbuilder.com/articles/19/42/408/.

Corbett, M.A. and Associates (2001b) Taking the Pulse of Outsourcing - Data and Analysis from the 2001 Outsourcing World Summit, http://www.firmbuilder.com/articles/19/42/676/.

CyberAtlas (2003) BPO Market to Reach $122B in 2003, http://www.internetnews.com/stats/article.php/2220371.

Davis, C.H., McMaster, J. and Nowak, J. (2002) IT-Enabled Services as Development Drivers in Low-Income Countries: the Case of Fiji, *Electronic Journal on Information Systems in Developing Countries*, 9, 4, 1-18.

Duncan, R., Suthbertson, S. and Bosworth, M. (1999) Pursuing Economic Reform in the Pacific. Asian Development Bank.

Dunn and Bradstreet (2000) Barometer of Global Outsourcing – The Millennium Outlook. http://www.dnbcollections.com/.

Elsham, R. (2001) GE Capital Shows India's IT-enabled Service Might. Yahoo Finance http://biz.yahoo.com/rf/011204/bom94182_4.html, December 4.

Evans, P. and Wurster, T.H. (2000) *Blown to Bits: How the New Economics of Information Transforms Strategy*, Cambridge, Mass: Harvard Business School Press.

FAVC (undated) *An Era of Great Opportunities*. Fiji Audio Visual Commission. Promotional Brochure. Suva, Fiji Islands.

Fiji Islands Education Commission (2000) *Learning Together: Directions for Education in the Fiji Islands*. Government of Fiji (Ministry of Education), November.

GIPI (2002) The Keys to the Back Office: Building a Legal and Policy Framework to Attract IT-Enabled Outsourcing. Washington, D.C.: Global Internet Policy Initiative.

Hyder, E., Kumar, B., Mahendra, V., Siegel, J. Gupta, R. Mahaboob, H. and Subramanian, P. (2001) *The Capability Model for IT-Enabled Service Providers*. Vol. 1: Overview. Vol. 2: Practice Descriptions. Pittsburgh: School of Computer Science, Carnegie Mellon University.

ITU (2003) *World Telecommunication Development Report, 2003*. International Telecommunication Union. http://www.itu.int/ITU-D/ict/publications/wtdr_03/index.html.

Kobrin, S.J. (1999) Development After Industrialization: Poor Countries in an Electronically Integrated Global Economy. In Hood, N. and Young, S. (eds.) *The Globalization of Multinational Enterprise Activity and Economic Development*. Chapter 6. London: Macmillan.

McCracken, J. (2003) Canada, the High Touch/High Quality Call Center Outsourcing Option. *BPO Outsourcing Journal*, October. http://www.bpo-outsourcing-journal.com/issues/oct2003/canada.html

McMaster, J. and McGregor, A. (1999) *The Fiji Service Sector: Opportunities for Growth*. A Consulting Report Prepared for the Ministry of Commerce, Fiji Government. Suva: Fiji Islands.

Minister of Finance and National Planning (2001) *2002 Government Budget Address*. Suva: Fiji Islands, November.

Ministry of Communications, Information Technology and the Arts (1998) *A Strategic Framework for the Information Economy: Identifying Priorities for Action*. Canberra: Australia.

Miozzo, M. and Soete, L. (2001) Internationalization of Services: a Technological Perspective. *Technological Forecasting and Social Change*, 67, 2&3, 159-185.

MultiMedia Development Corporation (1997) *Multimedia Super Corridor: Unlocking the Full Potential of the Information Age*. Malaysia: Cyberjaya.

NASSCOM-McKinsey (1999) Highlights of the NASSCOM-McKinsey Study Report 1999. National Association of Software and Service Companies (India), December. http://wwwca.customerasset.com/papers/Outsourcing%20to%20India%20-%20A%20NASSCOM-%20McKinsey%20study.pdf

Pacific Islands Forum Secretariat (2000) *Internet Access, Prices and Development*. Pacific Islands Forum Secretariat Discussion Paper 20, Suva, Fiji Islands, October.

Primo Braga, C. (1996) The Impact of the Internationalization of Services on Developing Countries. *Finance and Development*, 33, 1, 34-37.

Quinn, J.B. (1992) *Intelligent Enterprise*. New York: Free Press.

Quinn, J.B. (2000) Outsourcing Innovation: the New Engine of Growth, *Sloan Management Review*, 41, 4, 13-28.

Riddle, D. (2000) *Export Development in the Digital Economy. A Focus on Business and Professional Services*, http://www.intracen.org/execforum/docs/ef2000/db2rdl.htm.

Rundell, J. (2003) Offshore Outsourcing, Presentation at *Sourcing Interest Group - Australian Regional Meeting*, 28 August.

Serven, L. (1997) Uncertainty, Instability, and Irreversible Investment: Theory, Evidence, and Lessons from Africa. *Policy Research Working Paper* 1722.Washington, DC: World Bank.

TARPnz Strategic Methods Limited (2001) *A Policy Framework for Developing IT Enabled Industries in Fiji*. A Consulting Report for the Fiji Government.

UNCTAD (1998) Scope for Expanding Exports of Developing Countries in Specific Services Sectors Through All GATS Modes of Supply, Taking Into Account Their Interrelationship, the Role of Information Technology and of New Business Practices. United Nations Conference on Trade and Development, note by Secretariat, document TD/B/COM.1/21, 24 July.

UNCTAD (2002) E-Commerce and Development. Report 2002. New York: United Nations Conference on Trade and Development.

UNCTAD (2003) Business Process Outsourcing Services for Economic Development. Chapter 5 in *E-Commerce and Development. Report 2003*. New York and Geneva: United Nations Conference on Trade and Development, document UNCTAD/SIDTE/ECB/2003/1.

UNDP (1999) Human Development Report. United Nations Development Program.

UNESCO (2002) Indicators on literacy. United Nations Educational, Scientific and Cultural Organization http://www.un.org/Depts/unsd/social/literacy.htm.

Wymbs, C. (2000) How e-Commerce is Transforming and Internationalizing Service Industries, *Journal of Services Marketing*, 14, 6, 463-478.

Appendix 1. Types of IT-enabled Business Services

Skill level and knowledge intensity	Administrative	Customer service	Technical
Low	Data entry; clerical	Call centre; routine queries; order taking; direct mail order processing	Transcription; indexing and abstracting
Intermediate	Secretarial; data capture and processing; mailing lists; credit card application processing	Account queries; after sales support; insurance claim processing, processing of warranty card and claims	Website design and management; medical records management; medical transcription
High	Accounting; payroll; electronic publishing; facilities management; management consultancy; legal services	Problem and dispute resolution	Software development; R&D; application hosting; technical writing; computer aided design; tele-medicine; engineering design; education; animation

Source: Adapted from McMaster and McGregor (1999)