India: ICT SECTOR

Prepared by Trade Council India, New Delhi

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Abstract:

India’s IT sector has been instrumental in putting India on the global map. There are a number of opportunities for firms to capture new markets largely untapped so far. The industry will see the emergence of new verticals such as public sector and healthcare due to aging populations, customer segments such as individual consumers due to increased connectivity and geographies due to economic growth. There is also likely to be greater demand for new offerings such as energy efficiency solutions and mobile applications in accordance with the shifts in customer needs. It will, however, become imperative for providers to raise productivity and innovate beyond labor-centric service models to capture new markets successfully.
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1. INTRODUCTION

In 2013 the revenue of the Indian ICT sector was valued at USD 108 billion and it is expected to reach the USD 225 billion landmark by 2020. The industry performance this year demonstrated the sector’s ability to innovate and deliver differently, in order to maintain the growth trajectory.

More importantly, companies are investing in building platforms and customized solutions to drive future growth opportunities. The industry is expanding into new geographies and verticals, where the growth is 1.4 times higher than in the mature markets. The emergence of a vibrant start-up product ecosystem creating solutions for India and the world has also enhanced the opportunity for India. Today, India is the preferred place to outsource engineering according to a major consulting company and companies start to offshore full product responsibility.

2. INDUSTRY

The IT sector has helped transform India’s image to a global IT player and been a driver of higher education. The industry is expected to reach a revenue of USD 225 billion in 2020. Today, the revenue of the sector is USD 108 billion. The distribution between the sub-sectors is that telecom services accounts for 44 % of revenue, IT services accounts for 24 %, devices are responsible for 17 % of the revenue, while enterprise software only accounts for 7 % of total revenue but has the highest growth rate of 6.8 %. In 2013, the overall spending grew with 4.2 %. However, it is expected the growth will decline to 3.8 % in 2014. The IT sector contributed with 8% of the GDP in India, a significant increase from 1.2% in 1998.

Through time the ICT sector has employed more than 10 million people. Today, the sector is estimated to employ 3 million, while indirect job creation is estimated at 8.9 million. Last year, the sector created 160,000 new jobs in India.

India is a key player in the global ICT world. India’s total IT industry (including hardware) share in the global market stands at 7 per cent. In the IT segment the share is 4 per cent while in the ITeS space the share is 2 per cent. India’s IT and BPO sector exports are expected to grow by 12-14 per cent in FY14 to touch USD 84 billion - USD 87 billion. In 2012-13, it is estimated that IT exports reached 75 billion which was a 10% increase.

Overall, export revenues (including Hardware) is estimated to reach USD 76.1 billion in FY2013 growing by more than 13,4 percent; Domestic revenues (including Hardware) is at about USD 31.7 billion, growing by over 9 percent. And there is expected to be an increase in the forth-coming years, as this sector has seen the emergence of full service players offering traditional services like application development and maintenance to testing, infrastructure, consulting and system integration, as also niche providers offering end-to-end services in particular verticals or customer segments. This sector is now focusing on moving further up the value chain by positively impacting business outcomes and customer revenues, which should have a positive impact on exports.
Table: India IT Sector - Historical Data & Forecasts (US$mn Unless Otherwise Stated)

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<tbody>
<tr>
<td>IT Market</td>
<td>13,254</td>
<td>15,639</td>
<td>18,141</td>
<td>20,681</td>
<td>23,577</td>
<td>28,292</td>
<td>33,667</td>
<td>40,064</td>
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<tr>
<td>IT Market as % GDP</td>
<td>1.0%</td>
<td>1.0%</td>
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<tr>
<td>Hardware (Computer market sales) (US$mn)</td>
<td>6,680</td>
<td>7,726</td>
<td>8,794</td>
<td>9,808</td>
<td>10,934</td>
<td>12,823</td>
<td>14,906</td>
<td>17,318</td>
</tr>
<tr>
<td>Services (US$mn)</td>
<td>5,010</td>
<td>6,037</td>
<td>7,148</td>
<td>8,314</td>
<td>9,666</td>
<td>11,826</td>
<td>14,342</td>
<td>17,388</td>
</tr>
<tr>
<td>Software (US$mn)</td>
<td>1,564</td>
<td>1,877</td>
<td>2,200</td>
<td>2,559</td>
<td>2,977</td>
<td>3,643</td>
<td>4,419</td>
<td>5,359</td>
</tr>
<tr>
<td>PCs (including notebooks) (US$mn)</td>
<td>5,344</td>
<td>6,258</td>
<td>7,141</td>
<td>8,043</td>
<td>9,053</td>
<td>10,618</td>
<td>12,342</td>
<td>14,339</td>
</tr>
<tr>
<td>Servers (US$mn)</td>
<td>601</td>
<td>695</td>
<td>791</td>
<td>883</td>
<td>984</td>
<td>1,154</td>
<td>1,342</td>
<td>1,559</td>
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Source: BMI. ITU (Internet and broadband penetration).

The ER&D, OSPD and software product segments generated a market value of USD 17.6 billion in FY2013 and almost 80% is exported. ER&D firms are increasingly developing capabilities that enable them to participate across all stages of ER&D, thereby delivering high-end services to customers. Disruptive technologies - cloud, mobility, social media and big data/analytics - are playing a significant role in driving growth of OSPD and software products.

Indian ICT value proposition:
Even in the face of stiff competition from other locations, India retains its position as the world's leading global sourcing destination for IT-BPO. Today more than 60 countries are serviced by India and the export was USD 17.8 billion in FY2013. India's value proposition rests on its five pillars of strength:

- Continued focus on optimal cost efficiency
- Unparalleled human capital
- Unique customer centricity
- Scalable and secure environment
- Supportive ecosystem

IT hardware industry in India:
The IT hardware industry plays a big role in providing products and solutions to aid the Indian growth story. It has the potential to leapfrog India to next generation of technology adoption and holds immense transformational potential for various industry verticals.

<table>
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<tr>
<th>Industry Vertical</th>
<th>Present state</th>
<th>Future potential</th>
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<tbody>
<tr>
<td>Access</td>
<td>No digital connectivity</td>
<td>Wireless connectivity</td>
</tr>
<tr>
<td>Education</td>
<td>Limited equipment</td>
<td>Digital classrooms</td>
</tr>
<tr>
<td>Healthcare</td>
<td>Accessibility and cost</td>
<td>Telemedicine reduces cost, improves access</td>
</tr>
<tr>
<td>Digitization</td>
<td>Analogue to Digital</td>
<td>Electronic society, Unique ID</td>
</tr>
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</table>
While India has the fastest growing Hardware market, the absolute size of the market is still small when compared to leading countries such as China and Japan in Asia Pacific.

3. KEY DRIVERS

As the macro-economic uncertainties in the developed countries continue and volatility becomes the new normal, the Indian IT industry is at an advantage for being young. Disruptive technologies coupled with a strong focus on building expertise and changing business models will be among the key drivers of growth.

The Indian market in 2013 saw a touch of caution although the overall mood will remain optimistic. While growth in the major markets of Europe and U.S. remains uncertain, significant domestic demand coupled with demand from new groups of small and medium customers in international markets will continue to drive growth. This growth is estimated to average a CAGR of 12-14 percent over the next decade taking the market to an overall size of USD 225 billion by 2020.

In terms of technology, the Indian IT industry is currently at the helm of its technology revolution with the confluence of cloud, social media, Big Data and analytics. “Earlier, technology was helping businesses transform. Today, technology is leading business transformation,”

The long-term potential of India's IT market can be understood as less than 5% of population in India own a computer (about one-fifth of the level in China), meaning particular potential in the lower end product range. Significantly, 45% of India's population is under 25, which should boost PC and IT usage. Mindful of increasing global vendor interest, a number of federal and local government initiatives have been designed to attract investment. Therefore, despite the current demand slowdown, India should confirm its potential as a key emerging market over the forecast period.

However, realisation of this long-term growth potential depends on fundamental drivers such as raising India's low computer penetration, rising incomes, falling computer prices and the government's ambitions to connect the vast rural areas to the outside world. The popularity of the new wave of low-cost PCs and netbooks has largely been restricted to urban and semi-urban areas.

There are a number of barriers including regional imbalances, low incomes and a flawed legal regime for patent protection. Measures to encourage the domestic hardware sector have so far had mixed results, and the important BPO sector faces a strong challenge from other markets including China. The current global economic crisis has exacerbated some of these challenges. However, the government is expected to continue its focus on developing internet connectivity in rural areas. The continued development of e-government services will also act as a driver for PC adoption in smaller towns.

Further there are other growth drivers of the Indian IT hardware ecosystem:

- Growth in per capita income and corporate spend on hardware: Today, there are 250 million people in the middle class and it is expected to grow
rapidly. Transformation of IT hardware from an aspiration to a utilitarian need has made these products more affordable for people.

- Government focus on digital education: Various state governments in the country, like Tamil Nadu and Uttar Pradesh, have mandated laptops for all school children. This is driving a massive spike in the demand for laptops and other computer hardware.

- Increasing spending from IT services industry: IT and ITES industries continue to drive the demand for the IT equipment. With Indian firms adopting automation, the demand for IT equipment is increasing.

- Need for innovative products at low cost: Innovative low cost products like the Aakash tablet are also driving demand from both consumers as well as the government.

Recently, there has been positive development within three subsectors in India; national e-governance, cloud computing and cybersecurity.

Out of 191 countries, India is ranked 86th for e-government, according to a recent UN Global E-Governance Readiness report. Key priorities identified include, above all, the creation of a core common infrastructure that can be shared by all departments of central and state governments. About 25 mission projects were identified according to the national e-government action plan for implementation at the central and state levels. The government envisages the promotion of e-government on a massive scale, with a focus on improving service delivery to citizens and businesses, implemented in a phased manner.

In November 2012 it was announced that the Indian government plans to invest US$200 million in developing the country's defences against cyber threats and malware attacks. The money will be spent between 2012 and 2016 as authorities endeavour to improve the security of India's technology infrastructure. The government hopes to implement a set of security regulations in order to improve trust in the country's IT offerings, including regular security assessments.

In February 2012 the UK and India signed a cybersecurity pact. The pact will see the two nations share information and intelligence regarding emerging cyber threats. It will also see the formation of a joint task force, which will see British experts advising the Indian authorities on how to best protect data stored on servers in India.

In January 2013, the Indian authorities drew up a series of proposals to clamp down on illegal hacking operations. The authorities are seeking to raise awareness of the security risks involved with online activity by requiring hardware vendors attach a brochure outlining the dangers to all USB drives, mobiles and desktops sold. The announcement comes as part a rising awareness of cyber security issues after the Indian government was hit by an email hack in December 2012 hat saw 10,000 government and military emails hacked, making it one of the largest cyber-attacks in Indian history.
In February 2013 the MCIT published its GI Cloud Adoption and Implementation Roadmap, with the aim of creating a government private cloud environment available for use by central and state government departments, districts and municipalities to accelerate ICT service improvements. The initiative follows disappointing progress with the National e-Governance Plan (NeGP), created in May 2006, which it was hoped would make e-government services available in a timely and cost efficient manner. However, the government identified a lack of expertise within individual departments to handle procurement and application development, and as such is now designing plans for a private government cloud.

The government reported that under the NeGP there has been significant progress made, but at a slower level than hoped. Achievements so far include:

- **Under Central Government**: National datacentres operational in Delhi, Hyderabad and Pune. Another under construction in Bhubaneswar.
- **State Governments**: State datacentres operational in nineteen states, with five more under construction. However, in only nine of these states has infrastructure utilisation reached 50%. The most widely adopted applications include commercial tax, e-Procurement, Bhoomi, mandi board.
- Efforts are under way to enable state datacentres to adopt virtualisation and cloud computing. The Maharashtra datacentre is highlighted as being at an advance stage of cloud adoption.
- Significant progress has been made in networking. State wide area networks are operational in 30 states, and in 10-15 states this is supplemented by the integration of the national knowledge network. The National Optical Fibre Network is scheduled to be completed by 2014-2015.

The government's vision for the GI cloud is to build on these investments made and the national and state level. It plans architecture of discrete cloud computing environments spread across multiple locations, building on existing or augmented infrastructure that will follow common protocols, guidelines and standards that are set by central government. This will ultimately mean multiple private cloud environments, but using same standards, at the national and state levels - and as such will not require a single service provider or vendor. Central platform standardisation means vendors can compete for any element of the procurement process.

Cloud services it hopes will be GI cloud will be able to provide include:

**Infrastructure-as-a-Service**
- Compute; storage; network; disaster recovery; backup; virtual desktop; virtual private clouds.

**Platform-as-a-Service**
- Platform for application, portal development and testing; platform for application or portal hosting; database-as-a-service; collaboration platforms.

**Software-as-a-Service**
• Email; productivity suites; ERP; CRM; BI and analytics; collaboration; identity and assess management; survey and common central services ie payment gateway, mobile gateway, PKI.

4. OPPORTUNITIES FOR DANISH COMPANIES

Select core segments expected to drive an increasing share of future growth are as mentioned below and provides new avenues of growth opportunity.

• Custom Application Development & Management (CADM)
• Engineering, Research and Development (ER&D)
• IT consulting
• IS outsourcing
• Software testing
• Knowledge services

Other opportunity in emerging verticals driven by increased acceptance to global sourcing are as:

• Government
• Healthcare
• Energy & Utilities
• Media

Further opportunities for Danish companies can also be as:

• Opportunity of over $100 billion across IT-Services, BPO and Engineering Services.
• Access to large pool of technical manpower at a competitive cost.
• Sustain the traditional innovation leadership across sectors and improve speed to market.
• Collaboration to enlarge footprint in the promising Indian market for Danish region products.
• Leverage the better security and IP scenario as compared to other offshoring destinations.
• Opportunity to leverage the strong cultural, trade and historical affinity with India.

5. CHALLENGES FOR DANISH COMPANIES

Challenges of Indian ICT industry are:

• Inadequate infrastructure interrupting growth: Lack of power, land acquisitions issues and poor transport links restrict hardware manufacturing firms
• Tax issues: When compared to low cost destinations such as China and Taiwan, India’s current tax structure makes the final product less competitive
• Limited preferential access for local firms: As of now there are no preferential laws or incentives in place which enforce usage of domestic products to some extent.

Some challenges for Danish companies include:
• Complicated rules and regulations
• Local presence in terms of personnel/office desirable
• Bureaucracy
• Decision making process slow
• Hierarchical organization
• Tender based process and lowers price a criteria

6. CONCLUSION AND RECOMMENDATIONS

With governments reviewing priorities, reforming internal processes, and investing in technology to increase efficiency of operations and better serve their constituents - across all sizes and types, there is expected to be an increased spending on Information and Communications Technology (ICT). The government constitutes a significant portion of the opportunity for technology product and service providers. Governments globally are expected to focus on investments in public sector and healthcare. The public sector is likely to outsource and globally source more given the greater need for low-cost services to cater to aging populations (e.g., social security, pension services, medical care) and demanding consumers (e.g., demand for online citizen services). Thus in total there are the bright prospects of companies with in this sector.

There will be opportunities for firms to capture new markets largely untapped so far. The industry will see the emergence of new verticals such as public sector and healthcare due to aging populations, customer segments such as individual consumers due to increased connectivity and geographies such as India and China due to economic growth. There is also likely to be greater demand for new offerings such as energy efficiency solutions and mobile applications in accordance with the shifts in customer needs. It will, however, become imperative for providers to raise productivity and innovate beyond labour-centric service models to capture new markets successfully. The industry could also witness increased global sourcing under the pressure of costs and shrinking talent pools.
7. **Contact**

**Trade Council in India**
Embassy of Denmark, India:
11 Golf Links
110003 New Delhi
Tel: +91-11-4209 0700
Fax: +91-11-2460 2019
Email: delamb@um.dk
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