Labor Market and Skills Gap in the ICT Sector in Bangladesh: An Exploratory Study

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Outline of Discussion

• Importance of the ICT Sector in the economy
• Current state of the IT sector
• Employment Status and Labor demand
• Analysis of skills gap
• Competencies of IT Professionals
• IT Education and Training
• Way Forward
Why ICT Sector is promising for Bangladesh?

- Gartner (2010) identified Bangladesh as one of the top 30 emerging outsourcing destinations
- Better internet connectivity with 2\textsuperscript{nd} submarine cable network
- Above 90\% have mobile phone
- Electricity access is now to about 80\% of the population
- 160 million population with 62\% of total population belong to 15-62 age group: Strong Demographic Dividend potential
- 25\% of total population belong to 15-29 age group people
- Literacy rate is about 70\%
- About 90 Universities provide IT degrees—about 10000 IT graduates every year
Countries like Japan, the ASEAN 4 and now South Asian economies, start off manufacturing nondurable consumer goods like apparel and then progress to durable consumer goods, and then capital goods of higher value.

Source: Gladys Lopez-Acevedo and Raymond Robertson, “Stitches to Riches”, 2016
Current State of the ICT Sector...

- About 2000 software firms (997 firms are registered with BASIS),
- About 2000 Internet Service Provider firms
- 282 licensed call centers
- 8 mobile phone operators,
- 37 IIG (International Internet gateway Service),
- 4 NTTNs (Nationwide Telecommunication Transmission Network) firms,
- 12 PSTN (Public Switched Telephone Network)
- 65 VSAT,
- 26 Interconnection Exchange (ICX) Services and
- 2500 hardware sales and servicing centers
Current State of the ICT Sector...

- Current Market Size for ICT services: about US$2 billion (US$1 billion-local market; US$ 1 billion export)—target is US$5 billion by 2021
- About 30% firms are exporting
- About 0.22 million people are employed
- CAGR of IT/ITES export is about 37%
- The USA remains the top destination of software exports, followed by UK, Canada, Australia, Denmark, etc. (BASIS, 2017)
- More than 30000 freelancer IT professionals
# Employment in the IT sector

<table>
<thead>
<tr>
<th>Sector and Subsectors</th>
<th>Total employment (current)</th>
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<tbody>
<tr>
<td>Software</td>
<td></td>
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<tr>
<td>- Software firms</td>
<td>35,000</td>
</tr>
<tr>
<td>- Freelance</td>
<td>30,000</td>
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<tr>
<td>- Other private, public and NGOs</td>
<td>50,000</td>
</tr>
<tr>
<td>ISPs</td>
<td>50,000</td>
</tr>
<tr>
<td>Call centers and BPO centers</td>
<td>30,000</td>
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<tr>
<td>Hardware (IT professionals)</td>
<td>2500</td>
</tr>
<tr>
<td>Others (NTTN, PSTN, IIG etc.)</td>
<td>20,000</td>
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<tr>
<td>Total</td>
<td>2,17,500</td>
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</tbody>
</table>
IT Professionals in sub-sectors

- Software Eng/Programmer (60%) (IT)
- Network/Hardware Engineer (50%) (ISP)
- BPO operators/Technicians (80%) (Call Center)
Skill Level

• Ecommerce/GIS/GPS/Web/data: more than 60% are highly skilled
• ERP: 50% are highly skilled
• E-governance and mobile-based applications: about 30% are highly skilled
• Semi-skilled professionals are engaged in Graphics and Mobile phone applications.
• For ISP and call/BPO centers, majority of the staffs are skilled (about 60%).
• For hardware assembling and repairing services, majority of staffs are reportedly highly skilled (67%) and one-third are just skilled.
Educational Qualifications

- Except managers and graphic designers, all other IT professionals have Bachelors and/or Masters Degrees.
- Most of them have Engineering degrees (CSC/CSE/EEE/SE/ETE),
- About 20% have non-engineering bachelor’s degrees but undertook various industry certification trainings.
Training Facilities

• About 67% of the firms offer apprenticeship/internship facilities for fresh graduates,
• The duration of training ranges between 3 to 6 months
• “On the job” training is required for almost all newly recruited staffs.
• About 75% of the IT staff undertook training from external training institutes,
• About 25% of the employees receive training from firms’ own training institutes.
Skills Gap Analysis

• **Availability**: 60% are available and shortage is 40%

• **Quality**: In existing pool, 60% are highly qualified and the rest 40% less qualified

• **Supply-Demand Mismatch**: Though 10000 IT graduates enter job market every year, most of them are not ready

• Lack of soft skills; Lack of updated curriculum, lack of industry-academia linkages, low quality training are the reasons
Projected IT Labor Demand

• We make projections for 2016-2025
• Total demand for IT professionals will stand at 0.44 million in 2025—double
• Demand for managers, system analyst will be triple by 2025
• Current demand for training comes from 0.055 million, which is projected 0.15 million by 2025
Conclusions and Recommendations (contd..)

• The core strength of the Bangladesh’s ICT sector is the abundance of human capital with intellectual aptitudes.

• The main challenge is to train them and prepare them as per the need of the industry.

• Huge investments are needed for skill development.

• The current pace of producing IT graduates is not enough to meet the emerging IT labor demand.

• Every year 20000 IT graduates need to be produced.
Conclusions and Recommendations (contd.)

• Both quality and quantity need to be enhanced for IT graduates
• Unified and standardized IT curriculum need to be developed
• Industry-academia linkages need to be established
• IT institutes need to take consideration of emerging thrust of the ICT sector
THANK YOU