ICT sector in Vietnam
Opportunities and Challenges in 2020
Spire Research and Consulting
11 Dec 2019
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Vietnam-Market Fundamentals
Vietnam—the fastest growing economy in S.E Asian

GDP Growth by Sector (2018)

- Manufacturing: 12.6%
- Construction: 9.1%
- Services: 6.9%
- Agriculture: 3.7%
FDIs are a major driver for growth in the Manufacturing sector

FDI’s have been flowing into Vietnam to make it the new manufacturing hub in Asia -

- Low costs skilled labor
- Alternatives to China’s protective environment
Vietnam - Digital Landscape
Facts about Vietnam’s Digital Economy

- Average download speeds: 9.5MBPS
- Mobile subscribers: 128 million
- 4th Fastest speed in ASEAN
- 70th in the world
- Businesses with a website: 9 million
- IT industry revenues: $US 67.6 billion
- Total IT exports: $US 60.8 billion
- Telecommunications industry turnover: $US 6.2 billion
- IT graduates: 305,607
- Businesses in the ICT sector: 24,501
- Employed in IT: 780,925

139% penetration (73% unique user penetration)

Growing at 16-18%

But internet based economy growing at 40%

Cost competitive and skilled, but HR resources not able to keep up with growth
Facts about Vietnam’s Digital Economy - Digital Consumers

Ecommerce is forecasted to grow at 13.8% (2019-2023)
Facts about Vietnam’s Digital Economy - Business Customers

ICT Expenditure (USD Mil)

- 2015: 5475
- 2016: 5920
- 2017: 6400
- 2018: 6500

ICT Expenditure 2017

- Hardware: 89%
- Software: 4%
- Services: 7%
Facts about Vietnam’s Digital Economy - Business Customers

**Online Presence**
- 44% created website
- 47% updated daily

**Software Used**
- 88% used financial accounting software
- 55% used HR software

**Purchasing Behavior**
- 84% received order via emails
- 49% received order via social network sites & 36% from website

**Online sales channels**
- 45% praised the effectiveness of trading via social networks
- 32% highly appreciated sales channel via business websites

**Use of Digital Contracts**
- 61% used e-signature
- 27% used e-contract

**G-2-B Services**
- 75% used online public services
- Mostly for tax registration
Vietnam - Emerging e-Conomy
Vietnam’s digital economy comprises of 4 parts:

1. Smart cities
2. E-Government Initiatives
3. Industry 4.0 and Agriculture 4.0
4. IT skills development
Binh Duong licensed the Internet Service Supply Project of Japan’s NTT Group with a registered capital of US $171 million.

Dong Nai province licensed a US $60.18 million investment capital hike of Japan’s Fujitsu Vietnam Computer Products Company.

HCMC has been developing a smart city plan since 2017. 270 Hectare Smart City being developed close to Hanoi, by Vietnamese developer BRG Group and Japan’s Sumitomo Corp. Total investment - USD 4.2 Bil. Project duration - 2020-20208.

Da Nang plans a USD 91.3 Mil project to convert it into a smart city.

Dong Nai province licensed a US $60.18 million investment capital hike of Japan’s Fujitsu Vietnam Computer Products Company. HCMC has been developing a smart city plan since 2017.

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Vietnam aims to develop smart cities across the country with a vision towards 2025-2030.

Priority Areas

- E-government
- Smart traffic systems
- Smart power grids
- Smart water management systems
- Environment and manage waste
The e-government initiative is a critical part of Vietnam’s national reform and regional competitiveness.

The government has passed numerous resolutions to develop a plan through 2019-2020 with a vision towards 2025. The focus areas are:

**Building innovation eco-systems through further funding of scientific and research infrastructure** - e.g., the national innovation center has been announced in Hanoi. The center will be home to 40 large technology companies, as well as 150 startups and SMEs and 15 venture investment funds.

**Regulatory reform** - to ease digitization in the government and remove hurdles & encourage local business to adopt technology. E.g., The government has signed a MOU for information exchange and technology transfer with the government of Korea. Similar relations are also being considered with Singapore, Russia and Indonesia.

**Strengthening technological skills amongst all levels of the country** - e.g., Google and the Ministry of Industry and Trade (MoIT) established a strategic relationship on August 15, 2019 aiming to provide digital skills training for 500,000 employees of small and medium-sized enterprises (SMEs).

**Developing ICT infrastructure** - Issuing more licenses for 3G and 4G networks across all provinces and focusing on wireless rather than fixed line channels.
<table>
<thead>
<tr>
<th>Theme</th>
<th>Digital Government Readiness</th>
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<tbody>
<tr>
<td>Civic Engagement: Capacity of the civil society and general public to engage with the government</td>
<td>High</td>
</tr>
<tr>
<td>Funding: Direct and in direct availability of resources to ensure digitalization and open data</td>
<td>High</td>
</tr>
<tr>
<td>Technology and Infrastructure: Capacity and ICT skill among officials and intermediaries.</td>
<td>High</td>
</tr>
<tr>
<td>Leadership and governance: Political will and structures within the government to allow and promote digitalization</td>
<td>High</td>
</tr>
<tr>
<td>Data driven: The government’s ability to collect, store, analyze, and share data using emerging technologies. Availability of ability to compile central and unified public data.</td>
<td>High</td>
</tr>
<tr>
<td>Cybersecurity, privacy and resilience: Systems, technologies and regulations to protect data (especially personal data)</td>
<td>High</td>
</tr>
<tr>
<td>Business process change: Availability and Strength of “Change champions”. Leaders or committees who can drive adoption and the changes that come with it.</td>
<td>Low</td>
</tr>
<tr>
<td>Capabilities, culture and skills: Degree of know how and understanding across all parts of the government and its contractors</td>
<td>Low</td>
</tr>
<tr>
<td>Shared infrastructure: Level of Digital platforms and services, standards and interoperability, which form the building blocks</td>
<td>Low</td>
</tr>
<tr>
<td>Political and Legal Framework: Robust laws that govern how public sector, citizens and the civil service can share and use data</td>
<td>Low</td>
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</tbody>
</table>
Vietnam - Preparing for Industry 4.0

Several Market forces are pushing Vietnam into industry 4.0. The government realizes this and is currently working on national strategy for Industry 4.0 lead by the ministry of Investments and Planning.
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- **Infrastructure / Connectivity**
  - Vietnam currently has the one of the fastest internet speeds in ASEAN, and investing in 4G, while experimenting with 5G (6% by 2025)
  - E-commerce sector is growing at the rate of 35%
  - Cloud computing is growing at 65% (one of the fastest in ASEAN)
  - Manufacturing is the fastest growing sector and it is increasingly becoming a manufacturing hub, as investments move from China to ASEAN

- **Investments**
  - Manufacturing sector also attracts the highest growing FDI, largely from high tech and electronics companies

- **Human Resources / Skills**
  - CPTPP and EUVNFTA free trade agreements will improve co-operation and investments in the digitalizing the agricultural sector- to drive sustainable farming and aquaculture

- **Governance / Regulations**
  - E-government and pro-digitalization regulations (eg. Data localization)
  - Government is focused on encouraging high value added sectors and has various incentives for high end manufacturing

**National Strategy for Industry 4.0**
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**Targets / Expectations**

- 2025: All administrative agencies would provide level-4 online public services via technology
- 2025: 100% online payments for public services
- 2025: Fiber optic and mobile broadband internets (4G and 5G) would cover all communes. 100% internet penetration
- 2030: Raise Vietnam’s GDP by $28.5 billion to $62.1 billion, equivalent to a rise of 7 to 16%
- 2030: Planned R&D in artificial intelligence, block chain, 3D printing, cloud computing, Internet of things, cybersecurity, and clean energy
- 2030: Smart city plans by local governments

**Agriculture 4.0 Goals include:**

- USD 4.4 Mil credit package for clean agriculture, and up to 60% support for setting up a plant in Vietnam
- Plans for **200** hi-tech agricultural businesses + **10** hi-tech agricultural zones

**Priority Sectors**

- Public administration, and Civil services
- Healthcare,
- Education,
- Manufacturing (particularly leather, textile),
- Food processing,
- Aquaculture and Agriculture,
- Transportation and logistics,
- Information and communication,
- Finance-banking (e-payments).
Need for Skills development

Several Market forces are pushing Vietnam into industry 4.0. The government realizes this and is currently working on national strategy for Industry 4.0 lead by the ministry of Investments and Planning.

<table>
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<tr>
<th>Year</th>
<th>Demand</th>
<th>HR Shortage</th>
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<tbody>
<tr>
<td>2019</td>
<td>350,000</td>
<td>90,000</td>
</tr>
<tr>
<td>2020</td>
<td>400,000</td>
<td>100,000</td>
</tr>
<tr>
<td>2021</td>
<td>500,000</td>
<td>190,000</td>
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30% can work immediately
70% requires additional training
Conclusion
5 Opportunity Areas in Vietnam - 2020 to 2025

1. Fintech
Low credit-card penetration (31%) and a booming e-commerce sector will drive the need for alternative payment mechanisms.

2. Cybersecurity
While all other signs are positive, Cybersecurity is the single largest threat to the sector. Vietnam is currently the 3rd largest home for botnets after India and China. In 2018, over 60 Mil computers were infected with malicious codes. The public and private sector are increasingly making security a priority.

3. E-commerce
E-commerce grew by 30% in 2018. 70% of e-commerce is concentrated in Hanoi and HCMC, and there is huge potential in Tier 2 cities and rural areas.

4. Artificial Intelligence / IOT / Cloud
The digital economy is expected to grow from USD 9 Bil in 2018 to 30 Bil in 2025. Vietnam is the fastest growing market for cloud computing, growing more than 50% annually since 2015. E-government and industry 4.0 will continue to drive the demand for these elements.

5. Agriculture 4.0
EUVNFTA and CPTPP will drive investments in agriculture. The government is also driving this with supportive investment policies.

6. Edtech & Skills Development
With international companies and standards flooding the countries via FDI, there is need to bridge the skills gap. Edtech will be the bridge between the university graduates and the needs of corporates. 2018, saw an investment of USD 55 Mil in this sector.
Key Risks and impediments to Vietnam’s ICT Sector

Bureaucracy and regulatory Delays
While the current government recognizes the need for the digital reformation, the laws and mechanisms are still lacking. Getting an optimal regulatory structure may take time, although the signs are still encouraging.

Cyber Security Risks
Cyber Security is the largest risk faced by Vietnam’s ICT sector. If not addressed by a strict regulatory environment and high local skills, this may turn investors away.

Skills storage
Despite the demand for skilled labor, 38% of the Vietnam’s workforce is unskilled. Vietnam will face a shortage of 1,000,000 IT skilled staff by 2020, leading to vulnerabilities, especially in cybersecurity.

Digital Disruption
Among all the ASEAN, markets Vietnam faces one of the largest risks or disruptive job losses due to digitization. According to the ILO, 70% of wage workers in Vietnam are at risk of loosing their jobs due to automations and digitization.