Reaping the digital dividends: Key issues, challenges and potential for the Malaysian economy

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Outline

Malaysia’s digital economy

Digital dividends, issues and challenges

Potential of geospatial information or digital maps

Concluding observations
Malaysia’s digital economy
Key milestones

1972
• Establishment of electronics FTZ in Penang transformed the country into a global electronics manufacturing hub

1996
• Creation of Multimedia Super Corridor (MSC)

2017 & 2018
• 2017: First in the world to establish a Digital Free Trade Zone (DFTZ)
• 2018: Launch of Industry4WRD: National Policy on Industry 4.0

Ranked 6th in electronic integrated circuits exports valued at USD45.8 bn or 6.4% share in world exports in 2018

National initiative to accelerate ICT and shift to a knowledge-driven economy; 3,241 active MSC-status companies at Feb-2018

Collaboration with Alibaba to create eFulfillment hub, Satellite services hub for e-Commerce and eServices hub. Launch of Industry 4.0
Size & growth rate

ICT GDP (value added) is forecast to rise by 8.2% annually from RM106 bn in 2015 to RM226 bn in 2020 and by 8.5% per annum to RM340 bn in 2025.

Its share to GDP is projected to rise from 13.1% in 2015 to 14.3% in 2020 and 17.3% in 2025.


Note: Malaysia’s Department of Statistics uses a broader definition of ICT particularly the inclusion of ICT manufacturing and wholesale and retail trade compared to OECD definition. According to the World Bank, Malaysia’s ICT share to GDP would be reduced from 13.1% to 9.7% in 2015 based on OECD classification.
Digital (ICT) jobs

How does total ICT employment compare with other sectors?

What is the total ICT employment & breakdown by ICT segments?

Total employed in ICT sector: 1.092 million; Share of total employment: 7.6%

Source: Department of Statistics Malaysia, ICT Satellite Account 2017
Connectivity
Malaysia is among the most connected upper middle income countries

80.1% of individuals using internet in 2017
134 cellular subs per 100 people in 2017

Source: International Telecommunications Union, 2019; World Bank’s World Development Indicators database
Digital adoption

Malaysia ranks highly among ASEAN ex-Singapore and upper middle income nations

Digital Adoption Index, 2016

GNI per capita (USD in current prices)

Highest 1.00
80.00
60.00
40.00
20.00
Lowest 0.00
1,005
3,955
12,235

Low income
Lower middle
Upper middle
High income

Source: Digital Adoption Index (DAI) developed by The World Bank as part of the World Development Report 2016: Digital Dividends
However, Malaysia’s DAI business sub-index is below peers & global average.
Digital dividends, issues & challenges
How digital technologies promote development

3 key areas of development impact

INCLUSION
- Search and information
- Automation and coordination
- Scale economies and platforms

EFFICIENCY

INNOVATION

Mechanisms and markets

INNOVATION
- Platforms

INCLUSION
- Sellers
  - On-demand/sharing economy
  - Matching platforms
  - E-commerce and digital payments

EFFICIENCY
- Buyers
  - Riders, guests, and small businesses
  - Employers, airlines and hotels, investors, and consumers
  - Customers and recipients (money)

Drivers, hosts, and freelancers
Job seekers, travelers, entrepreneurs, and artists
Traders and senders (money)

Source: WDR 2016 team.
Uneven ICT adoption in Malaysia particularly low web presence of firms in most sectors

ICT usage in selected sectors, 2017

Survey covered 1,081 industries & 57,194 establishments

Source: Usage of ICT and e-Commerce by Establishment 2018, Department of Statistics Malaysia
### State of internet usage in selected sectors

<table>
<thead>
<tr>
<th>Activity</th>
<th>Professional, scientific &amp; technical</th>
<th>Real Estate</th>
<th>All sectors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sending or receiving e-mail</td>
<td>93.0%</td>
<td>93.0%</td>
<td>92.1%</td>
</tr>
<tr>
<td>Telephoning over the internet</td>
<td>25.8%</td>
<td>25.8%</td>
<td>24.5%</td>
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<tr>
<td>Posting information or instant messaging</td>
<td>14.6%</td>
<td>14.6%</td>
<td>13.3%</td>
</tr>
<tr>
<td>Getting information about goods or services</td>
<td>12.1%</td>
<td>12.1%</td>
<td>11.2%</td>
</tr>
<tr>
<td>Interacting with government services</td>
<td>43.2%</td>
<td>43.2%</td>
<td>41.5%</td>
</tr>
<tr>
<td>Getting information from government services</td>
<td>56.7%</td>
<td>56.7%</td>
<td>54.4%</td>
</tr>
<tr>
<td>Accessing other financial services</td>
<td>29.6%</td>
<td>29.6%</td>
<td>28.0%</td>
</tr>
<tr>
<td>Internet banking</td>
<td>66.3%</td>
<td>66.3%</td>
<td>64.0%</td>
</tr>
<tr>
<td>Delivering products online</td>
<td>32.9%</td>
<td>32.9%</td>
<td>31.3%</td>
</tr>
<tr>
<td>Providing customer services</td>
<td>22.1%</td>
<td>22.1%</td>
<td>20.4%</td>
</tr>
<tr>
<td>Internal or external recruitment</td>
<td>15.3%</td>
<td>15.3%</td>
<td>14.1%</td>
</tr>
<tr>
<td>Staff training (e-learning application)</td>
<td>8.9%</td>
<td>8.9%</td>
<td>8.2%</td>
</tr>
<tr>
<td>Others</td>
<td>19.0%</td>
<td>19.0%</td>
<td>17.7%</td>
</tr>
</tbody>
</table>

Source: Usage of ICT and e-Commerce by Establishment 2018, Department of Statistics Malaysia

Areas where e-commerce and digitalisation can raise productivity and service quality of real estate and professional services providers.
Key issues and challenges

Global - general
- Digital divide
- Cyber security
- Privacy & openness
- Business disruption & job displacement

Malaysia - specific
- Low innovation capacity
- Low digital readiness of SMEs
- Small talent pool & digital eco-system
- Affordability & cost competitiveness of broadband
Digital risks

**Digital threats**

- Unequal access & sharing
- Market disruptions
- Natural monopolies
- Cyber security, social ills & state/corporate control

**Negative outcomes**

- Widen inequality of income, employment and education
- Job displacements and high social costs for workers & entrepreneurs who lack digital know-how
- Concentration of market power in big firms; inhibit future innovations
- Rising cyber crimes, censorship and invasion of privacy
Necessary conditions to reap digital dividends

Digital foundation
- Infrastructure & technological investment
- Public private partnerships
- Effective regulations

Analog foundation
- Conducive business climate
- Investment in health & education
- Good governance

Sustainable national growth
- Inclusion
- Innovation
- Efficiency
- Individual well-being
- Higher income
- Better services
- More jobs

Sustainable national growth
Unlocking the potential of digital technologies

More inclusive growth through wider market access for entrepreneurs

- Climbing the digital role ladder

Digital entrepreneurs & business owners

Digital producers, creators & innovators

Computer, internet & mobile users

Use of sophisticated technologies such as secure servers, enterprise network, inventory management, big data, analytics and e-commerce

Lower business cost and improve efficiency

- Encourage innovation and scale economies

New digital products & services, eg. geospatial information

Enabling environment:
- appropriate licensing mechanisms to conduct pilot projects,
- clarity of rules & regulations
- awareness about the potential of these technologies
Potential of geospatial information or digital maps
Value of geospatial services

Include tangible and hard-to-measure intangible benefits

**Consumer benefits**
- Commuting efficiency
- Fuel efficiency
- Personal safety
- Purchasing efficiency

**Business benefits**
- New products and services
- Productivity benefits for other sectors
- Sales growth
- Tourist spending

**Societal benefits**
- Job creation
- Traffic congestion
- Civic engagement
- Urban planning
- Public health
- Safety & emergency response
- Disaster preparation
- Environmental and wildlife preservation
- Knowledge creation and human capital development

Include tangible and hard-to-measure intangible benefits
Consumer usage of digital maps

Navigation while/before driving
- Discover businesses, places or services heard about in an unfamiliar area: 62%
- Discover businesses, places or service in local area: 54%
- Discover businesses, places or services in an unfamiliar area: 46%
- Discover businesses, places or services in a local area: 40%
- Discover businesses, places or services in an unfamiliar area: 34%

Navigation while/before walking
- Discover businesses, places or services in a local area: 40%

Navigation while/before getting on public transport
- Find additional information about businesses, services or places: 37%
- Discover new businesses, places or services in local area: 35%
- Discover new businesses, places or services in an unfamiliar area: 34%
- Educate about geography, architecture, and other topics: 26%
- Engage with a business (e.g. book a class, call a business, order food, etc): 20%
- Book and use a ridesharing service: 13%

Source: Survey of Digital Map users; AlphaBeta analysis

Estimated benefits for Malaysia amounted to RM4.4 bn or about 0.3% of GDP per year.
Geo-spatial educational tools & social networks

- Education (eg. Google Earth) - 32%
- Social networking (eg. Foursquare) - 29%
- Transport (eg. Grab) - 24%
- Travel & hospitality (eg. Airbnb, Expedia) - 24%
- Entertainment & games (eg. Pokemon Go) - 23%
- Delivery (eg. Food Panda, Deliveroo) - 21%
- Fitness (eg. Runtastic, Strava) - 21%
- Real estate services (eg. property listings) - 19%
- Online dating (eg. Tinder) - 17%

Source: Survey of Digital Map users; AlphaBeta analysis
Geospatial benefits to business

Logistics

Customer analytics

New business models

Production efficiency

Commercial location planning

Environmental planning & management

Network design & management

Global geo-spatial businesses generated business income estimated at USD400 bn; if Malaysia captures a share similar to E&E, it amounts to RM45.4 bn or 3.3% if 2017 GDP
Developing geo-spatial potential

Academia and social groups can enhance efficiency of education, health and social services

- Increase academic programmes to produce more graduates trained in geo-spatial data sciences
- Encourage industry-university collaboration in applied geo-spatial research

Firms can increase value and efficiency, attract customers and boost sales

- Raise awareness among firms and encourage investment in digital technologies
- Employ innovative schemes to accelerate digital adoption such as innovation vouchers

Government can support the development, sharing and use of geospatial data

- Implement a national Spatial Data Infrastructure initiative to coordinate and spur geospatial industry
- Provide enabling framework to make geospatial content readily available


Concluding observations
Untapped digital potential: Given its high digital adoption ranking, there is tremendous scope and opportunities for Malaysia to harness its digital potential to accelerate economic growth.

Digital infrastructure and data: Policymakers and businesses need to recognise that infrastructure in the digital economy includes not only broadband networks but also data, including geo-spatial data.

Data sharing framework: We need to encourage investments in data, data-sharing, and remove barriers to data flows that impede innovation, integration and value chain creation.

Focus on SMEs: Provide support for SMEs which face barriers to adoption of digital technology and data-driven innovations.

Digital HR development: Address inadequate capabilities and competencies and skills shortages particularly data, ICT and e-commerce specialists, scientists, researchers and technologists.
Thank you

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