

# Digital Economy Plans: Comparing Malaysia and China

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## Introduction

The digital economy can be defined as “economic output derived solely or primarily from digital technologies with a business model based on digital goods or services”<sup>1</sup>.

Governments around the world have recognised the digital economy as a strategic growth area and are making concerted efforts to develop digital infrastructure and competencies in order to maximise the potential value of the digital economy.

In this article, we compare highlighted digital economy ambitions of Malaysia and China using each country’s most recent digital economy plan.

**Views** are short opinion pieces by the author(s) to encourage the exchange of ideas on current issues. They may not necessarily represent the official views of KRI. All errors remain the authors’ own.

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<sup>1</sup> Bukht and Heeks (2017)

## Overview of Malaysia's and China's digital economy plans

It must be noted that Malaysia's and China's digital economies cannot be directly compared due to vast differences in population size, historical pathways and global economic positioning. China is much further along in terms of both its digital economy planning and implementation. This is, in part, due to successful implementation of preceding digital economy plans, such as Internet Plus (released in 2015), the Robotics Industry Development Plan (2016) and the Three-year Guidance for Internet Plus Artificial Intelligence Plan (2016). It is with their respective contexts in mind that we compare Malaysia's and China's digital economy plans.

China released its most recent five-year digital economy plan on 12<sup>th</sup> December 2021<sup>2</sup>. This plan contains 30 strategies, including optimising digital infrastructure, prioritising the use of data, accelerating digital industrialisation, making digital public services more inclusive, and strengthening governance, monitoring and cybersecurity.

Released on 19<sup>th</sup> of February 2021, Malaysia's MyDigital Economy Blueprint (DEB)<sup>3</sup> is a 10-year blueprint spanning from 2021 to 2030. It represents the government's aspirations to transform Malaysia into a regional digital economy leader. The blueprint outlines three objectives, six thrusts, 22 strategies, and 76 national and sectoral initiatives to achieve its goals. The six thrusts are "driv[ing] digital transformation in the public sector, boost[ing] economic competitiveness through digitalisation, build[ing] enabling digital infrastructure, build[ing] agile and competent digital talent, creat[ing] an inclusive digital society, and build[ing] a trusted, secure and ethical digital environment"<sup>4</sup>.

This blueprint is the latest of several plans intended to expand Malaysia's digital economy, such as the eRezeki and eUsahawan initiatives (released in 2015), the National eCommerce Strategic Roadmap (first released in 2016, and updated to v2.0 in 2021) and Malaysia's Digital Free Trade Zone (launched in 2017).

## The growth of Malaysia's and China's digital economies

Malaysia's digital economy, particularly the e-commerce sector, had been growing even before the pandemic. Figure 1 shows the contribution of e-commerce to Malaysia's GDP in absolute and relative terms from 2016 to 2020<sup>5</sup>. In 2020, likely due to pandemic movement controls, e-commerce contributed around RM163 billion (11.5%) to the nation's overall GDP<sup>6</sup>. In the fourth quartile of 2021, e-commerce income reached a total of RM290.3 billion<sup>7</sup>.

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<sup>2</sup> Government of China (2021)

<sup>3</sup> EPU (2021)

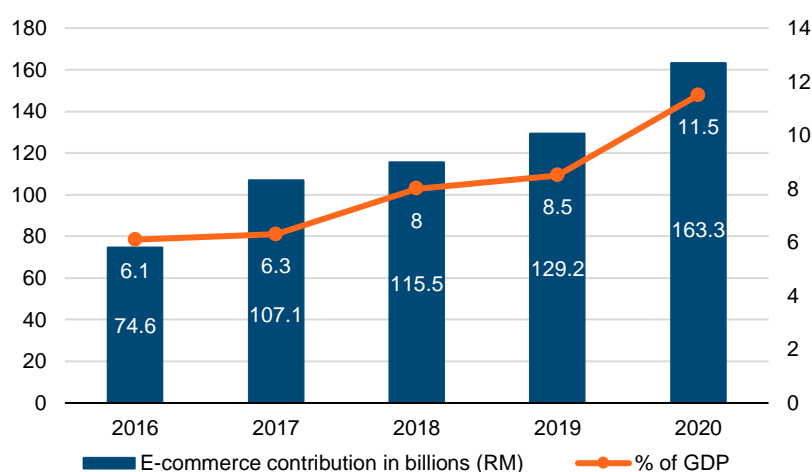
<sup>4</sup> Ibid.

<sup>5</sup> DOSM (2017); DOSM (2018); DOSM (2019); DOSM (2021)

<sup>6</sup> DOSM (2021)

<sup>7</sup> DOSM (2022)

**Figure 1: Value added of e-commerce (RM) and contribution of e-commerce to the GDP (%), 2016 – 2020**



Source: Authors' visualisation based on DOSM 2017, 2018, 2019, 2021

In China, the added value of core digital economy industries, including big data, cloud computing and the industrial internet, accounted for 7.8% of the GDP in 2020, and the government aims to increase this to 10% in 2025<sup>8</sup>. E-commerce transactions amounted to CNY37.2 trillion in 2020 (approximately MYR24.7 trillion) and are expected to reach approximately CNY46 trillion (approximately MYR30.5 trillion) in 2025. Broadband subscribers and industrial internet platform application rates are also expected to increase by 2025, as summarised in Table 1.

**Table 1: The main indicators of digital economy development in China's five year plan**

Description	2020	2025
<b>The value-added of core industries in the digital economy as a proportion of GDP (%)</b>	7.8	10.0
<b>E-commerce transaction scale (trillion yuan)</b>	37.2	46.0
<b>Broadband subscribers (10,000)</b>	640.0	6,000.0
<b>Industrial Internet platform application penetration rate (%)</b>	14.7	45.0

Source: Adapted from Government of China (2021)

## China's priorities...

Three key areas feature prominently in China's digital economy plans – data, cloud computing and the industrial internet. While Malaysia's DEB does include data, cloud computing and the Fourth Industrial Revolution (4IR), it bears repeating that China's plans are much further along in terms of how to incorporate these technologies into existing systems and infrastructure.

<sup>8</sup> Government of China (2021)

China's initiatives emphasise the economic value of data, having declared data a factor of production<sup>9</sup>. Its strategies for developing the digital economy include the creation of a data marketplace, a shift towards cloud computing and the development of an industrial internet.

### Building a data marketplace

China's digital economy plans are centred around data. The government is building a data marketplace with the intention of establishing a pricing system for data driven by market forces<sup>10</sup>. This marketplace may even include the exchange of data of private corporations, both local and international<sup>11</sup>.

However, this raises questions of data governance. In 2021, China passed two laws governing data: the Personal Information Protection Law<sup>12</sup> and the Data Security Law<sup>13</sup>. The impact of these laws on Chinese data processing has yet to be determined. As seen elsewhere in the world, misuse of personal data can violate the rights and privacy of consumers, and threaten national security.

Recently, Myanmar approved the sale of Norwegian-based telecommunications provider Telenor's business in Myanmar to M1 Group, a Lebanese investment firm with links to Myanmar's military government<sup>14</sup>. This sale will involve the transfer of the personal data of 18 million users, an alleged breach of the European Union's General Data Protection Regulation (GDPR) that could put individuals opposing the military government at risk of retribution<sup>15</sup>.

China's approach to trading data as a commodity seems intent on establishing a market pricing mechanism for such data with less concern for its potential social cost. It remains to be seen how this sort of data marketplace will change the way data is governed.

### Turning to cloud computing

China's cloud computing strategy includes plans to build a centralised cloud-computing system powered by regional hubs. Energy-efficient data processors and data centres are intended to pivot China's manufacturing industry from simply producing goods to producing and analysing data.

China's government is expected to spend over CNY400 billion (MYR 266 billion) per year over the next five years to build eight national computing hubs and ten national data centres across the country<sup>16</sup>. Three of the hubs will be in the east while the remaining five will be in the west. By expanding west, China indicates its commitment to national development without concentrating its data centres in the already well-developed east.

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<sup>9</sup> Chen (2022)

<sup>10</sup> Government of China (2021)

<sup>11</sup> Yin (2021)

<sup>12</sup> The National People's Congress of the People Republic of China (2021)

<sup>13</sup> 'Data Security Law of the People's Republic of China' (2021)

<sup>14</sup> Telenor Group (2022)

<sup>15</sup> Li (2022)

<sup>16</sup> Jin (2022)

However, it is unclear how national data will be distributed across these hubs, or if each hub acts as a backup for another. While the plan outlines strategic infrastructure improvements, green and sustainable data centres, and cross-regional edge computing, it says little about cybersecurity and redundancy plans to protect all the data being processed.

### Developing an Industrial Internet of Things

The industrial internet of things (IIoT) has been defined as "the network of intelligent and highly connected industrial components that are deployed to achieve high production rate with reduced operational costs through real-time monitoring, efficient management and controlling of industrial processes, assets and operational time"<sup>17</sup>. It combines sensors, instruments, and machines to improve industrial and manufacturing efficiency. For example, IIoT can be used to inspect manufacturing components, manage inventory and predict equipment maintenance.

As stated in its digital economy plan, China aims to have applications on its 5G-enabled IIoT rise from 14.7% in 2020 to 45% by 2025. The use of artificial intelligence and robotics in industrial settings should not only improve efficiency and productivity but also generate data for further research and development. This would allow China to integrate industrialisation and information technology on a large scale, for example with innovations such as automated energy management.

### ...compared to Malaysia's

Malaysia harbours ambitions to advance its use of data, cloud computing and the industrial internet, as can be seen not only in the DEB but also in its National Fourth Industrial Revolution (4IR) Policy and its plans to develop a National Robotics Roadmap.

The development strategy begins with a goal of storing 80% of government data online by 2022. As recent events relating to the MySejahtera app and ownership of its data have shown<sup>18</sup>, this requires clear data regulations to be implemented, including a review and an update of the Personal Data Protection Act (PDPA), as stipulated in the DEB. Personal data owned by the government needs to be properly governed and public-private partnerships need clear regulations regarding data ownership, access and use.

The DEB also includes plans to build digital competencies among local data centre companies to provide cloud-computing services. US-based Microsoft announced its "first datacentre region" in Malaysia in 2021<sup>19</sup> but it is unclear how this will enable local companies to develop their competencies to provide similar services.

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<sup>17</sup> Khan et al. (2020)

<sup>18</sup> Boo (2022)

<sup>19</sup> Microsoft (2021)

Given the delays in 5G rollout in Malaysia<sup>20</sup> and the low take-up of 4IR readiness assessments by small and medium enterprises in Malaysia<sup>21</sup>, the nation's plans for automated industry and advanced robotics remain aspirational for now. Priority must first be given to establishing high-quality connectivity on reliable infrastructure, especially in manufacturing zones.

## Conclusion

The digital economy is a key growth area for Malaysia and China. Both countries have drawn up digital economy plans to develop this economy in a way that benefits all of society across different sectors and industries. Although the two countries are not directly comparable due to differences in land area, population and competitive advantage, their digital economy ambitions share some similarities in terms of scope, if not scale.

Being further along in the implementation process, China is able to develop more substantive and comprehensive sector-specific digital transformation policies than Malaysia. For example, China is developing rural industries by building a multi-input data analytics system to facilitate targeted agricultural management and services in rural areas<sup>22</sup>.

It should also be noted that the digital economy is “part of a bigger digital transformation happening globally, a transformation that necessarily includes social well-being and human rights as well as economic development and growth”<sup>23</sup>. As KRI has noted in its book *#NetworkedNation*, improving meaningful internet access and digital competencies at the levels of both households and firms is key to all-of-society digital transformation<sup>24</sup>.

Both Malaysia and China state their intentions to improve data governance and ensure that digital transformation is inclusive so that no one is left behind, but the proof of the pudding is in the eating.

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<sup>20</sup> The Star (2022)

<sup>21</sup> The Star (2021)

<sup>22</sup> Aisyah (2021)

<sup>23</sup> Gong (2021)

<sup>24</sup> KRI (2021)



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