



KEMENTERIAN EKONOMI
JABATAN PERANGKAAAN MALAYSIA

MALAYSIA DIGITAL ECONOMY 2024

Announcement

The Department of Statistics Malaysia (DOSM) has launched OpenDOSM NextGen as a medium that provides catalogue data and visualisations to facilitate users' analysis and can be accessed through <https://open.dosm.gov.my>.

The Government of Malaysia has declared National Statistics Day (MyStats Day) on October 20th. MyStats Day theme is "Statistics is the Essence of Life". DOSM commemorates its 75th Diamond Jubilee in 2024.

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PREFACE

This publication of Malaysia Digital Economy 2024 is a compilation of statistics from published reports by Department namely the Economic Census 2023 Usage of ICT and E-Commerce by Establishment (ICTEC), Economic Census 2023 Information and Communication Services, ICT Use and Access by Individuals and Households Survey Report (ICTHS) 2023, Information and Communication Technology Satellite Account (ICTSA) 2023, and Quarterly Services Statistics (QSS). This publication provides statistics on digital economy to meet the needs of government agencies, economists, academicians, private sectors and individuals for planning and formulating policies, economic analysis, projection and assist in business development planning.

Malaysia Digital Economy 2024 uses guidelines from Manual for the Production of Statistics on the Digital Economy 2024, United Nations Conference on Trade and Development (UNCTAD), Digital Economy Outlook 2024, Organisation for Economic Co-operation and Development (OECD), Digital Economy Report 2024 (UNCTAD), Internet Economy Outlook 2012 (OECD) and Guide to Measuring the Information Society 2011 (OECD). Economic sectors in Malaysia are classified under the Malaysia Standard Industrial Classification (MSIC) 2008 Ver. 1.0, in accordance with the International Standard Classification of All Economic Activities (ISIC), Revision 4, 2008.

This publication includes the overview of Malaysia digitalisation and followed by six chapters related to the performance of ICT, Information and Communication Services sector, insight of e-commerce, access & usage of ICT, other facts on Malaysia Digital Economy and New Industrial Master Plan. Technical notes, tables and other indicators are provided at the end of this publication to assist users to understand the published statistics.

The Department gratefully acknowledges the co-operation rendered by all parties who have contributed directly and indirectly in making this publication a success. Every feedback and suggestions towards improving future publication is highly appreciated.

DATO' SRI DR. MOHD UZIR MAHIDIN

Chief Statistician Malaysia

December 2024

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MAIN STATISTICS

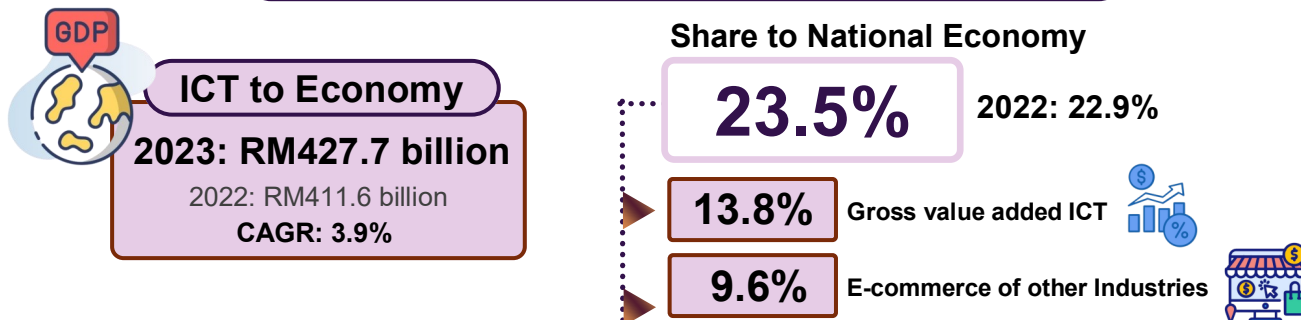


MAIN FINDINGS

MALAYSIA DIGITAL ECONOMY 2024

PERFORMANCE OF DIGITAL ECONOMY

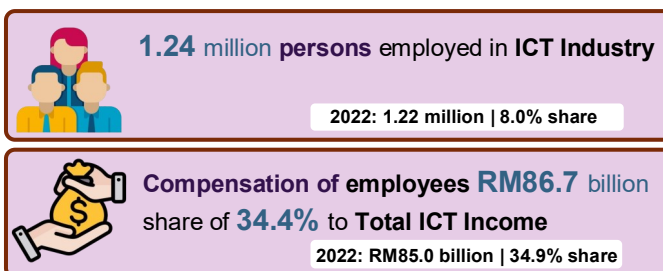
1. CONTRIBUTION OF ICT TO GDP IN 2023



2. IMPORT & EXPORT, 2023



3. EMPLOYMENT & COMPENSATION, 2023



PERFORMANCE OF E-COMMERCE

4. CONTRIBUTION OF E-COMMERCE TO GDP, 2023



5. QUARTERLY E-COMMERCE INCOME BY ESTABLISHMENT

	2022				2023				2024		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3
RM billion	270.8	280.5	281.4	294.1	298.9	287.4	296.6	299.1	300.5	309.8	307.9
QoQ (%)	-4.2	3.6	0.3	4.5	1.6	-3.8	3.2	0.8	0.5	3.1	-0.6
YoY (%)	9.2	7.7	3.6	4.1	10.4	2.5	5.4	1.7	0.5	7.8	3.8

2022	2023
RM1,126.9 billion CAGR: 6.0%	RM1,182.0 billion CAGR: 4.9%

Note.

CAGR - Compound annual growth rate
 GDP - Gross domestic product
 MSMEs - Micro, Small and Medium Enterprises

Q - Quarter
 QoQ - Percentage change quarter-on-quarter
 YoY - Percentage change year-on-year

Source: Malaysia Digital Economy, 2024
 Department of Statistics Malaysia (DOSM)

MAIN FINDINGS MALAYSIA DIGITAL ECONOMY 2024

PERFORMANCE OF DIGITAL ECONOMY

6. PRINCIPAL STATISTICS OF ICT SERVICES

Number of Establishments

2022:
18,903
establishments
2015:
8,008
establishments
CAGR: 13.1%

Value of Gross Output

2022: RM190.1 billion
2015: RM124.6 billion
CAGR: 6.2%



Value of Intermediate Input

2022: RM87.5 billion
2015: RM62.0 billion
CAGR: 5.0%



Value Added

2022: RM102.7 billion
2015: RM62.6 billion
CAGR: 7.3%



Number of Persons Engaged

2022: 250,509 persons
2015: 203,017 persons
CAGR: 3.0%



Salaries & Wages

2022: RM19.3 billion
2015: RM11.7 billion
CAGR: 7.5%



Value of Fixed Assets

2022: RM114.0 billion
2015: RM82.8 billion
CAGR: 4.7%



USAGE BY ESTABLISHMENTS & INDIVIDUALS

7. USAGE OF COMPUTER

8. USAGE OF INTERNET



ESTABLISHMENT

95.9%

2015: 73.5%

93.3%

2015: 61.5%



INDIVIDUAL

80.4%

2022: 80.2%

97.7%

2022: 97.4%



URBAN AREA

86.0%

2022: 85.7%

98.6%

2022: 98.3%



RURAL AREA

63.6%

2022: 63.1%

95.0%

2022: 94.5%

9. 4G AND 5G COVERAGE



2023: 97.1%
2022: 96.9%

Percentage of population
 covered by at least
LTE / WIMAX mobile



2023: 80.2%
2022: 47.1%

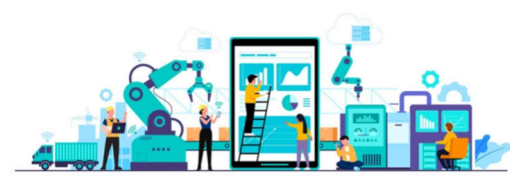
Percentage of population
 covered by at least
5G mobile networks

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OVERVIEW OF THE MALAYSIA'S DIGITAL ECONOMY



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OVERVIEW OF THE MALAYSIA'S DIGITAL ECONOMY

DIGITAL ECONOMY LANDSCAPE IN MALAYSIA 1996-2024

Malaysia's digital economy has undergone transformative growth from its early stages in 1996 to becoming a significant driver of the nation's economic development. This evolution reflects the nation's dedication to leveraging technology for economic and social advancement.

The foundation was established in 1996 with the launch of the Multimedia Super Corridor (MSC Malaysia), which positioned Malaysia as a regional hub for technology and innovation. Over the years, MSC has stimulated investments in technological infrastructure, attracting global IT companies and fostering the development of local digital enterprises. This effort also introduced robust incentives for businesses to adopt and innovate in digital technologies by providing incentives like tax breaks and grants, the MSC attracted both local and international players to develop Malaysia into a knowledge-based economy.

During the second phase (2016-2021), Malaysia concentrated on adopting Industry 4.0 and expediting the digital economy. This period was marked by notable governmental initiatives, including the National E-Commerce Strategic Roadmap (NESR) and the establishment of the Digital Free Trade Zone (DFTZ) in 2017. These programs aimed to enhance the nation's e-commerce capabilities, particularly for MSMEs (Micro, Small, and Medium Enterprises), and integrate them into the global digital economy.

The focus on Industrial Revolution 4.0 in 2018 indicated the nation's objective to shift from conventional industries to technologically advanced, high-value sectors. The government aimed to elevate Malaysia's position in the global digital economy, ensuring its competitiveness in emerging sectors such as artificial intelligence, data analytics, and robotics. In accordance with New Industrial Master Plan (NIMP) 2030, these initiatives also aim to incorporate digital solutions into conventional industries, improving productivity and ensuring Malaysia's industrial competitiveness in the global market.



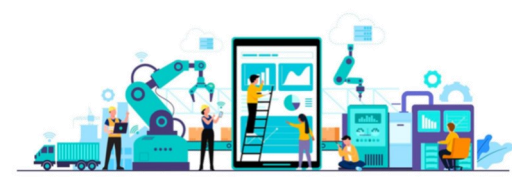


In 2020, the COVID-19 pandemic has significantly accelerated the growth of e-commerce, which has been a significant pillar of the digital economy. Government initiatives, including grants and training programs for MSMEs, have enabled many businesses to embrace e-commerce and digital marketing. Additionally, fintech solutions have revolutionised financial services, enabling mobile payment platforms and digital banking to provide seamless and accessible transactions for Malaysians in both urban and rural areas. This period saw the refinement of the NESR 2.0 roadmap, which focused on increasing e-commerce exports, integrating more MSMEs into digital platforms, and improving the average revenue per user (ARPU).

In 2022, Malaysia rebranded the MSC to Malaysia Digital (MD) to strengthen the country's commitment to becoming a digitally-driven economy. The initiative aims to create a more sustainable digital economy by focusing on enhancing infrastructure, providing digital skills training, and encouraging investment in high-growth digital sectors. Malaysia's digital economy contributed 23.2% to the nation's GDP, reflecting its growing significance in driving economic growth. The government has set an ambitious target to raise this contribution to 25% by 2025.

The digital economy of Malaysia has reached a new phase of maturity. The nationwide deployment of 5G technology is nearing completion (September 2024: 82.0% coverage by at least 5G mobile networks), significantly enhancing connectivity infrastructure to support innovations in industries such as smart manufacturing, healthcare, and logistics. Additionally, MSMEs are increasingly adopting digital solutions, spurred by government initiatives like the MSME Digitalisation Grant and tax incentives for technology adoption. Programs such as the JENDELA initiative are mitigating the digital divide by expanding high-speed internet access to rural and underserved communities, fostering greater digital inclusion.





E-commerce remains a central driver of Malaysia's digital economy, with marketplaces and platforms introducing AI-driven personalisation and optimising logistics operations to meet growing consumer demand. Meanwhile, the rise in digital transactions has required improved cybersecurity measures, with stricter data protection regulations and programs to promote cyber literacy among businesses and consumers.

The landscape of Malaysia's digital economy is marked by continual evolution, with each phase contributing to a more connected and technologically advanced nation. From the inception of the MSC to the more recent strategic initiatives such as MD, NESR, and NIMP, the country is positioning itself as a leader in the ASEAN region and a key player in the global digital economy.



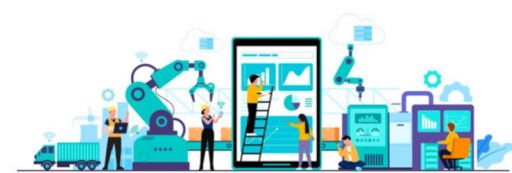
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PERFORMANCE OF INFORMATION AND COMMUNICATION TECHNOLOGY (ICT)

CHAPTER 1



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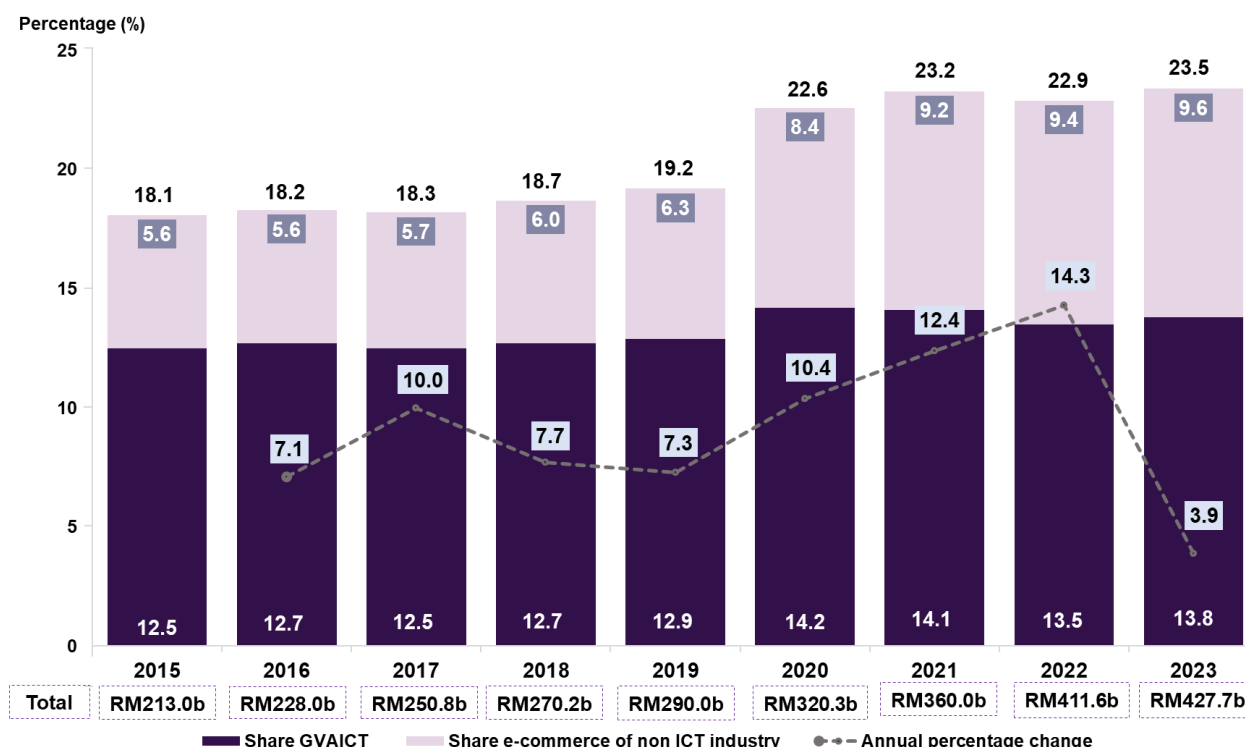
1. PERFORMANCE OF INFORMATION AND COMMUNICATION TECHNOLOGY (ICT)

This chapter provides details on information encompassing Information and Communication Technology (ICT) satellite accounts and components for the digital economy. Information and Communication Technology Satellite Account (ICTSA) 2023 provides statistics on Information and Communication Technology (ICT) industry and non ICT industries that produce the ICT products, the supply and use of ICT products, exports & imports of ICT products, income components and employment in the ICT industry. The Gross Value Added of ICT Industry (GVAICT) and e-commerce which is one of the digital economy components also included in this publication. These statistics are presented by ICT related industries and products at current prices.

1.1 CONTRIBUTION OF ICT TO THE ECONOMY

ICT and e-commerce contributed 23.5 per cent to Malaysia's economy with a value of RM427.7 billion in 2023. The performance was driven by the GVAICT at 13.8 per cent and e-commerce from non ICT industries, 9.6 per cent. The ICT and e-commerce recorded a moderate growth of 3.9 per cent as compared to 14.3 per cent in the previous year as in Figure 1.1.

Figure 1.1: ICT Contribution to the Economy, 2015 - 2023



Note.

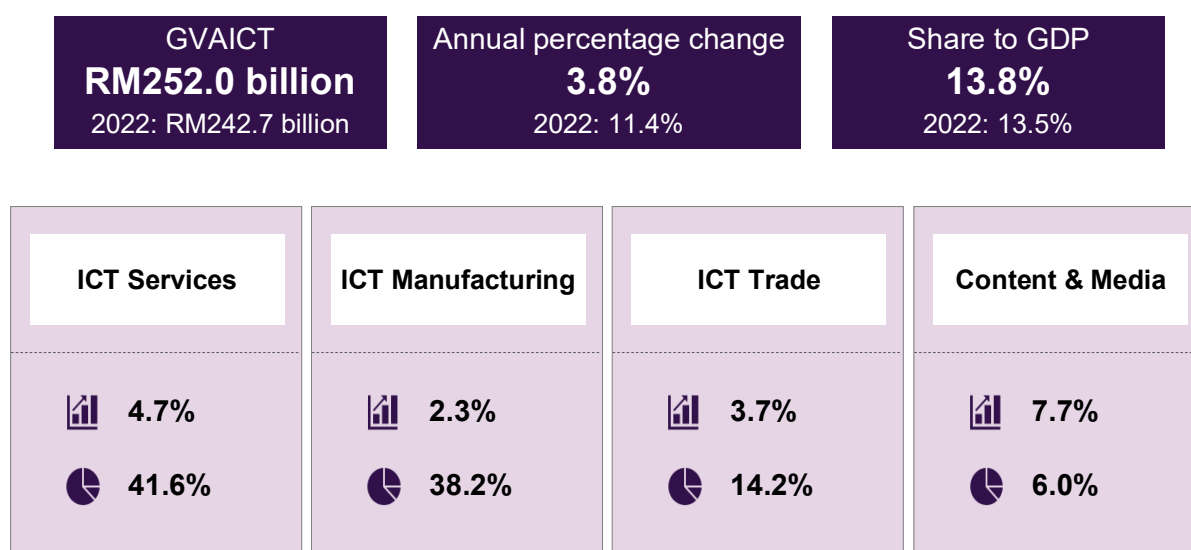
Source: Information and Communication Technology Satellite Account 2023



1.2 PERFORMANCE OF ICT INDUSTRY

GVAICT recorded RM252.0 billion with a growth of 3.8 per cent as compared to 11.4 per cent in the previous year. The ICT industry was supported by ICT services with a share of 41.6 per cent. This was followed by ICT manufacturing (38.2%), ICT trade (14.2%) and content & media (6.0%) as shown in **Figure 1.2**.

Figure 1.2: Gross Value Added of ICT Industry, 2022 & 2023



1.3 GROSS VALUE ADDED OF E-COMMERCE

The Gross Value Added of e-commerce recorded RM248.2 billion, increase at slower rate of 3.7 per cent in 2023 as compared to 19.2 per cent in the previous year. Hence, e-commerce contributed 13.6 per cent to the economy. Manufacturing sector remained the main contributor with 51.8 per cent in terms of e-commerce by sectors, followed by the Services sector at 45.2 per cent as shown in **Figure 1.3**.

Note.

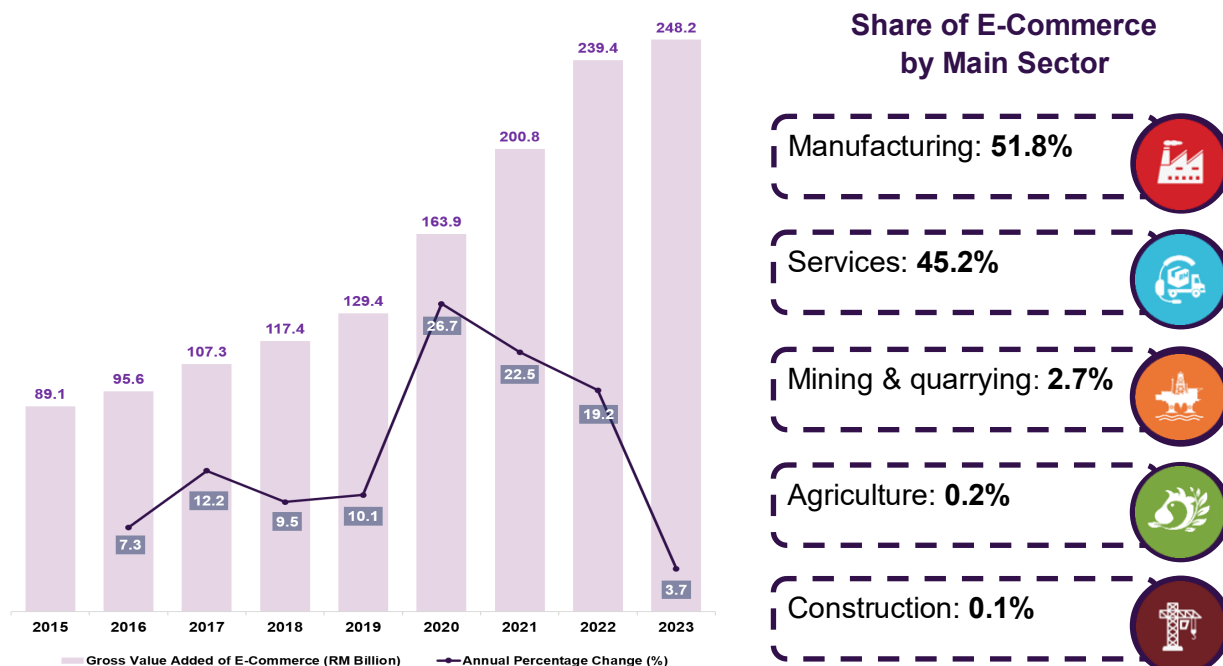
Annual percentage change

Percentage share

Source: Information and Communication Technology Satellite Account



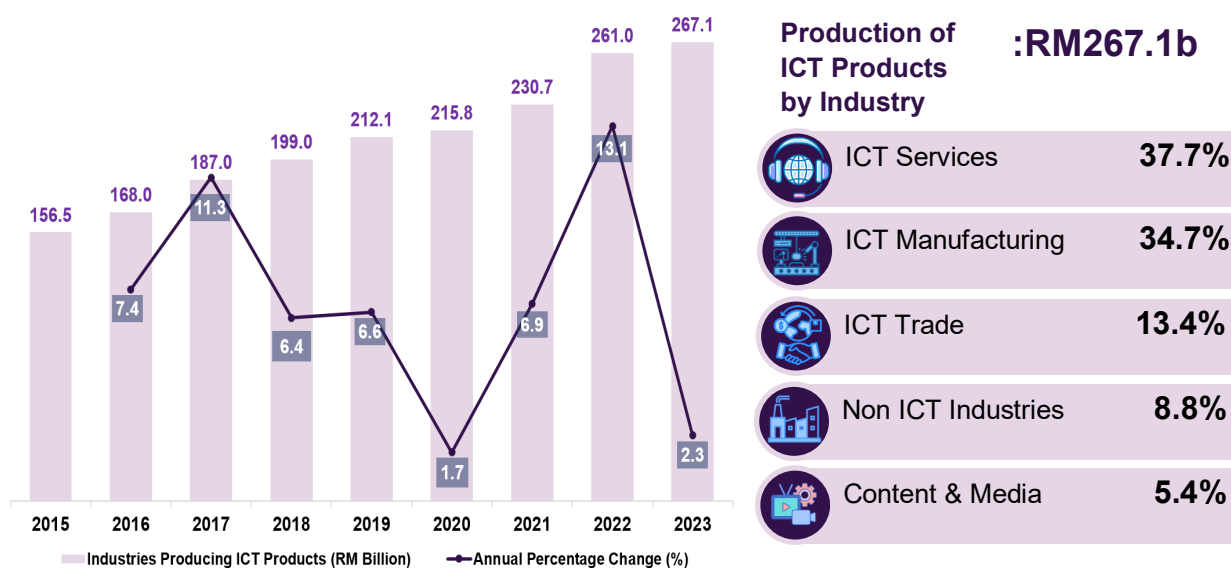
Figure 1.3: Gross Value Added of E-Commerce, 2015 - 2023



1.4 PRODUCTION OF ICT PRODUCTS BY INDUSTRY

The production of ICT products grew at a slower pace of 2.3 per cent (2022: 13.1%) with a value of RM267.1 billion in 2023. The production of ICT products was dominated by ICT services with a share of 37.7 per cent followed by ICT manufacturing (34.7%) and ICT trade (13.4%) as **Figure 1.4**.

Figure 1.4: ICT Industry and Non ICT Industries that Produce ICT Products, 2015 - 2023



Note.

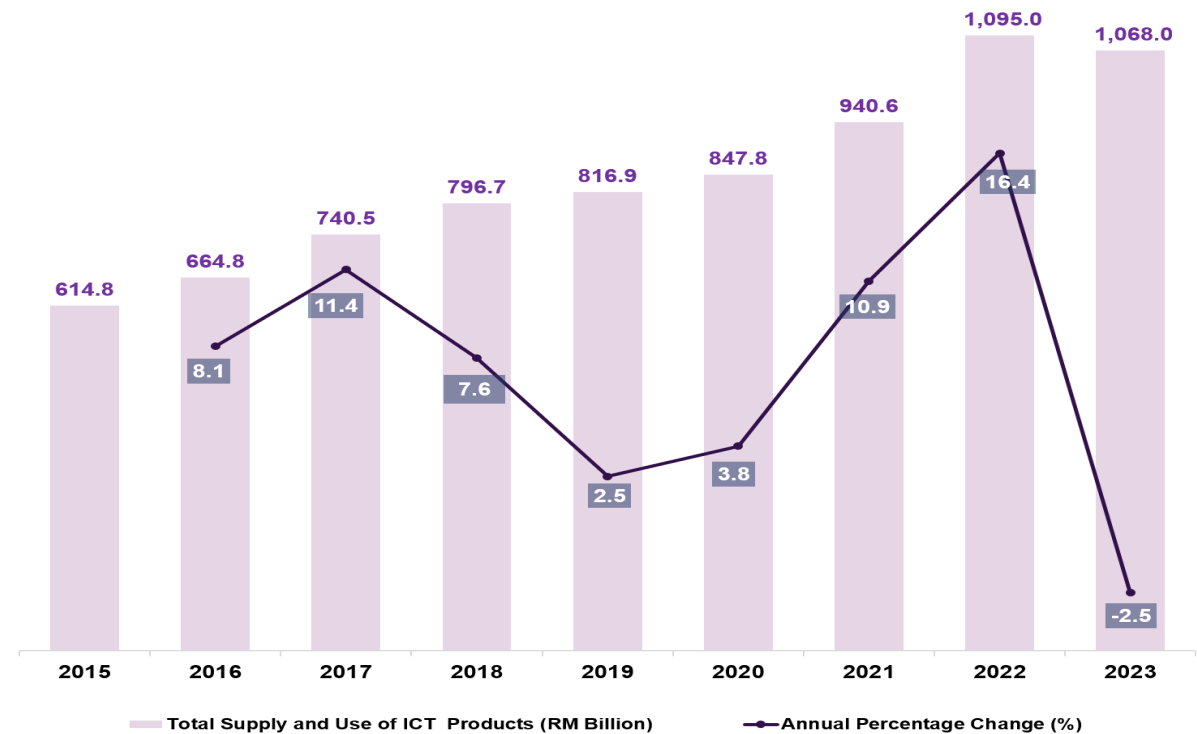
Source: Information and Communication Technology Satellite Account 2023



1.5 SUPPLY AND USE OF ICT PRODUCTS

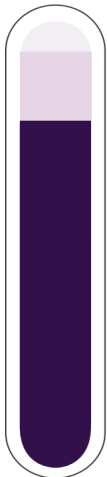
The supply and use of ICT products recorded a decline of 2.5 per cent to RM1.07 trillion in 2023. Domestic production dominated the supply of ICT products with a share of 74.0 per cent followed by imports of ICT products (25.3%). Meanwhile, the intermediate use to ICT products accounted for 44.4 per cent and exports of ICT products, 40.3 per cent of the total use (Figure 1.5).

Figure 1.5: Supply and Use of ICT Products, 2015-2023



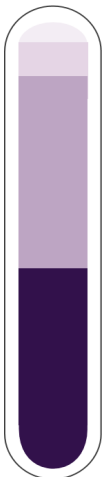
Share (%)

Supply



Taxes less	0.7%
Imports	25.3%
Domestic production	74.0%

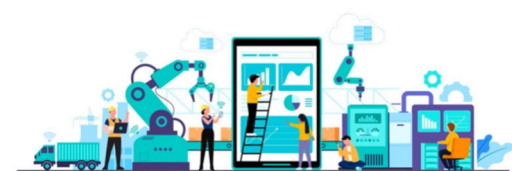
Use



Gross capital formation	4.4%
Final consumption expenditure	10.9%
Exports	40.3%
Intermediate use	44.4%

Note.

Source: Information and Communication Technology Satellite Account 2023



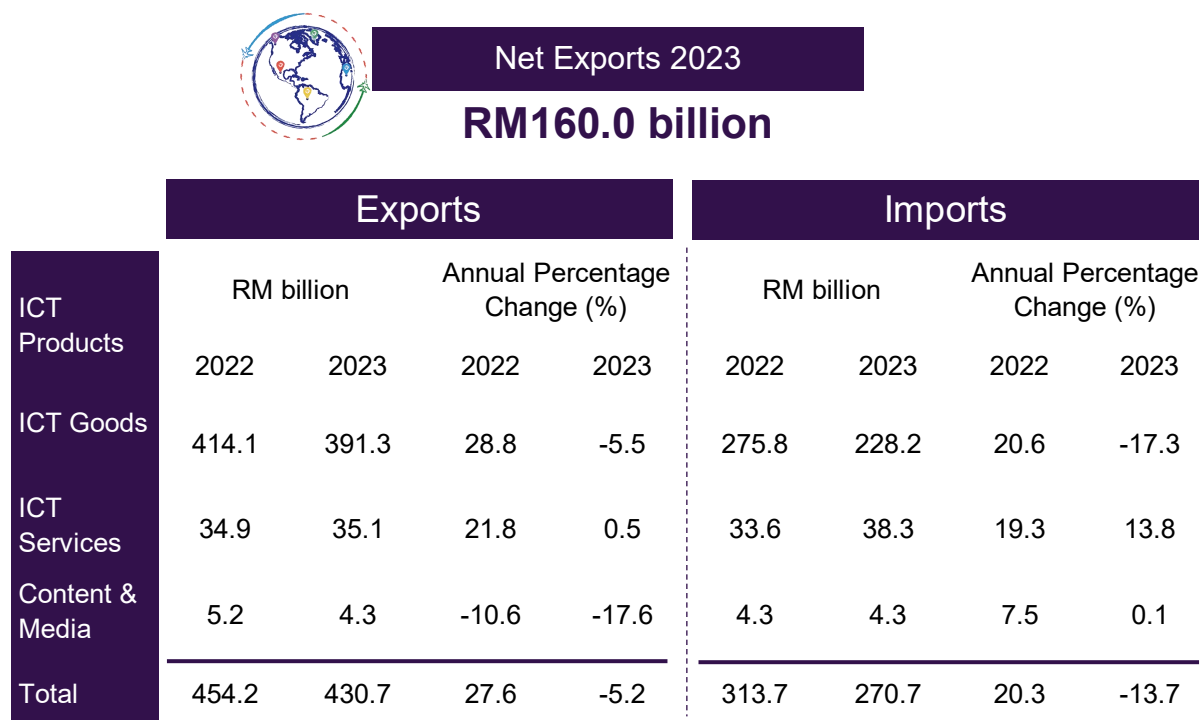
1.6 EXPORTS AND IMPORTS OF ICT PRODUCTS

Exports of ICT products recorded a value of RM430.7 billion showing a decline of 5.2 per cent compared to 27.6 per cent in the 2022. The decline was influenced by the exports of ICT goods which recorded a drop of 5.5 per cent. Exports of ICT products contributed 34.5 per cent of the total Malaysia's exports.

Imports of ICT products amounted to RM270.7 billion reflecting a decrease of 13.7 per cent, compared to 20.3 per cent in the previous year. The decline was influenced by a decrease in ICT goods by 17.3 per cent. Imports of ICT products accounted for 23.4 per cent of the total imports in 2023.

Overall, net exports of ICT products recorded a surplus with a value of RM160.0 billion in 2023 as illustrated in **Figure 1.6**.

Figure 1.6: Exports and Imports of ICT Products, 2022 & 2023



1.7 INCOME COMPONENTS OF ICT INDUSTRY

Income in the ICT industry grew moderated to 3.8 per cent (2022: 11.4%) reaching a value of RM252.0 billion. The compensation of employee contributed 34.4 per cent to the overall ICT industry amounted to RM86.7 billion in 2023. Meanwhile, gross operating surplus contributed 63.0 per cent and taxes less subsidies on production and imports, 2.6 per cent as shown in **Figure 1.7**.

Note.

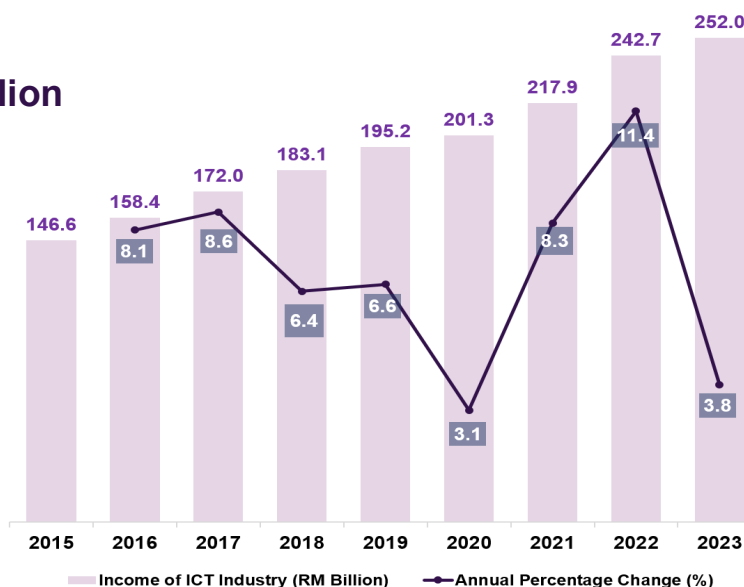
Source: Information and Communication Technology Satellite Account 2023



Figure 1.7: Income Components of ICT Industry, 2015 - 2023

Income of ICT Industry : RM252.0 billion

Gross operating surplus	63.0%
Compensation of employees	34.4%
Taxes less subsidies on production and imports	2.6%

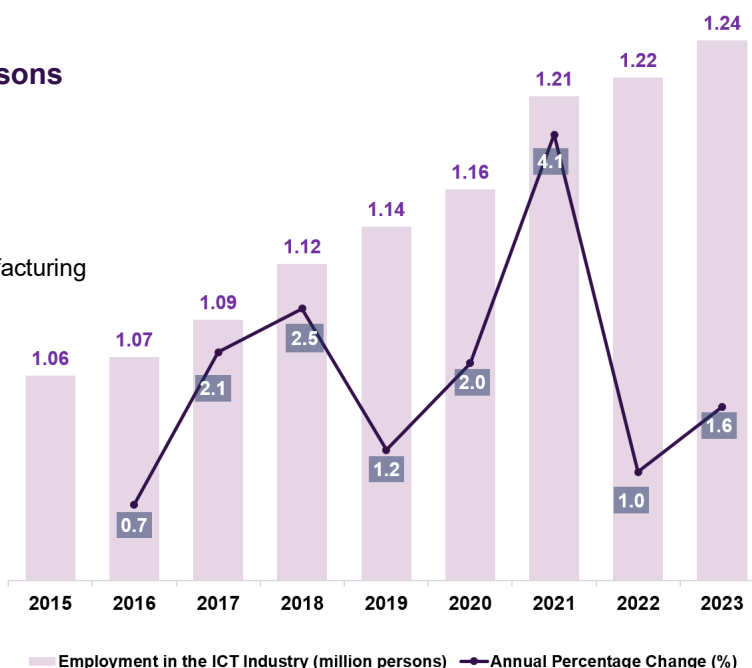
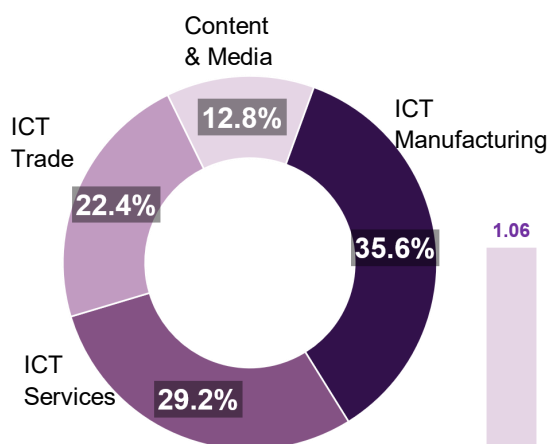


1.8 EMPLOYMENT IN THE ICT INDUSTRY

Employment in the ICT industry grew by 1.6 per cent to 1.24 million persons in 2023 which contributed 7.8 per cent to total employment in Malaysia. The contribution was dominated by ICT manufacturing with the share of 35.6 per cent followed by the ICT services at 29.2 per cent and the ICT trade at 22.4 per cent as demonstrated in **Figure 1.8**.

Figure 1.8: Employment in the ICT Industry, 2015 - 2023

Employment in the ICT industry : 1.24 million persons



Note.

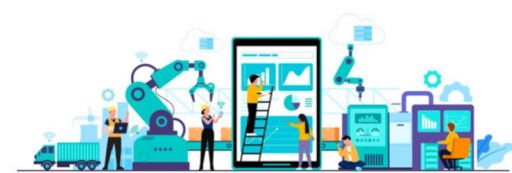
Source: Information and Communication Technology Satellite Account 2023

INFORMATION AND COMMUNICATION SERVICES SECTOR

CHAPTER 2



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2. INFORMATION AND COMMUNICATION SERVICES SECTOR

This report presents statistics on the Information and Communication Services that was compiled based on Economic Census 2023 for the reference year 2022. Information and Communication Services comprises the activity of publishing; motion picture, video and television programme production, sound recording and music publishing; programming and broadcasting; telecommunications services; computer programming, consultancy & related activities and information services.

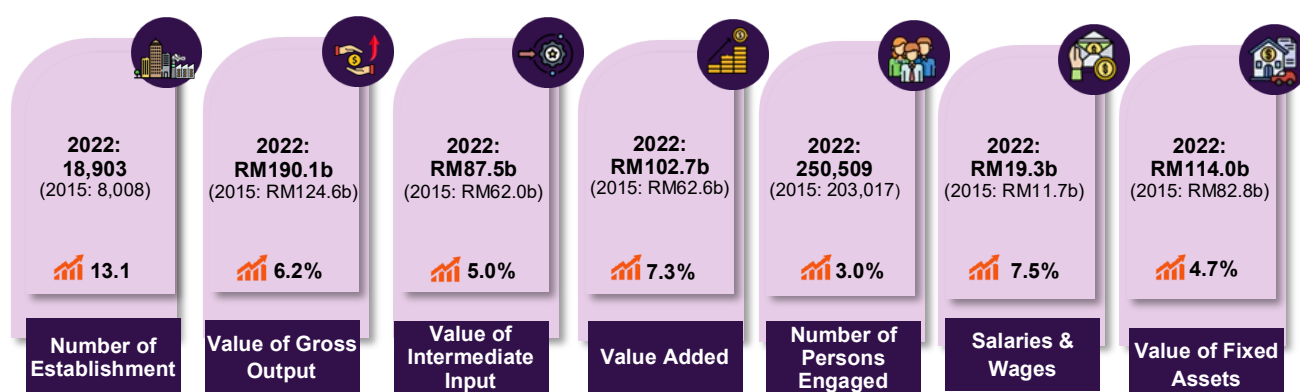
2.1 PERFORMANCE OF INFORMATION AND COMMUNICATION SERVICES

Overall, the main statistics for the Information and Communication Services in 2022 showed an increase as compared to 2015. There were 18,903 establishments operating in this subsector in 2022, with an annual growth rate of 13.1 per cent as against 2015 (8,008 establishments).

In 2022, the gross output amounted to RM190.1 billion, an increase of RM65.5 billion compared to 2015, with an annual growth rate of 6.2 per cent. Concurrently, intermediate input also increased by RM25.5 billion to reach RM87.5 billion, recording an annual growth rate of 5.0 per cent. This resulted in value added of RM102.7 billion in 2022 (2015: RM62.6 billion).

The number of persons engaged were 250,509 persons compared to 203,017 persons in 2015, representing an annual growth rate of 3.0 per cent. In line with the increment, total salaries & wages in 2022 grew by 7.5 per cent to RM19.3 billion (2015: RM11.7 billion). Meanwhile, the fixed assets owned by establishments in the Information and Communication Services amounted to RM114.0 billion in 2022 (2015: RM82.8 billion), with an annual growth rate of 4.7 per cent (Figure 2.1).

Figure 2.1: Principal Statistics for Information and Communication Services, 2015 and 2022



Note.

b billion

CAGR : 2022/2015

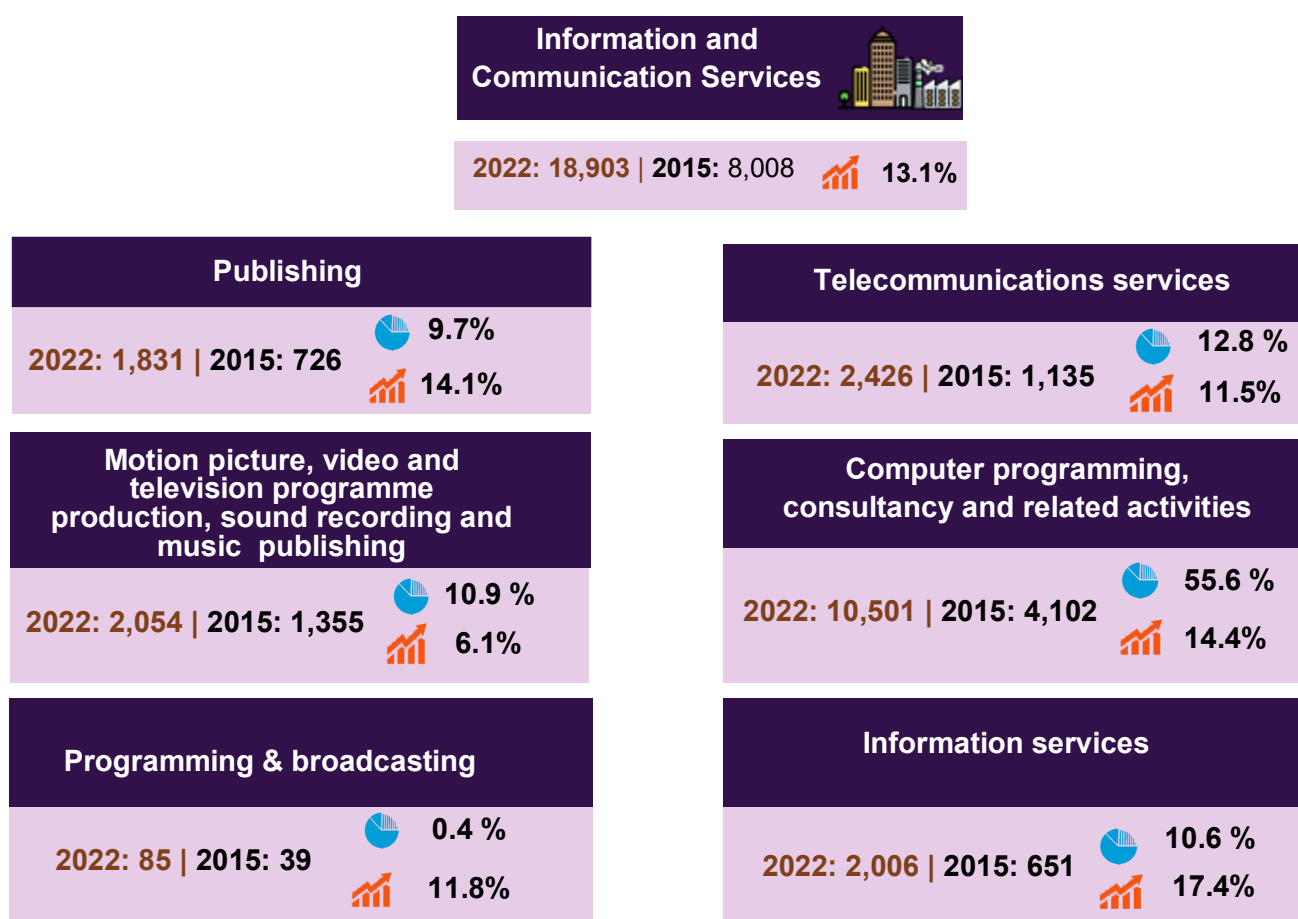
Source: Economic Census 2023 - Information and Communication Services



2.2 NUMBER OF ESTABLISHMENTS

The number of establishments operating in Information and Communication Services was 18,903 establishments in 2022 compared to 8,008 establishments in 2015, increased by 10,895 establishments with an annual growth rate of 13.1 per cent. Computer programming, consultancy and related activities recorded the highest number of establishments of 10,501 with a share of 55.6 per cent (**Figure 2.2**). This was followed by telecommunications services (2,426 establishments; share: 12.8%) and motion picture, video and television programme production, sound recording and music publishing activities (2,054 establishments; share: 10.9%).

Figure 2.2: Number of Establishments for Information and Communication Services by Activity, 2015 and 2022

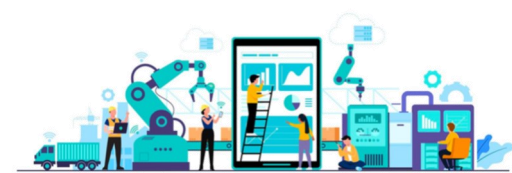


Note.

% Share

CAGR : 2022/2015

Source: Economic Census 2023 - Information and Communication Services

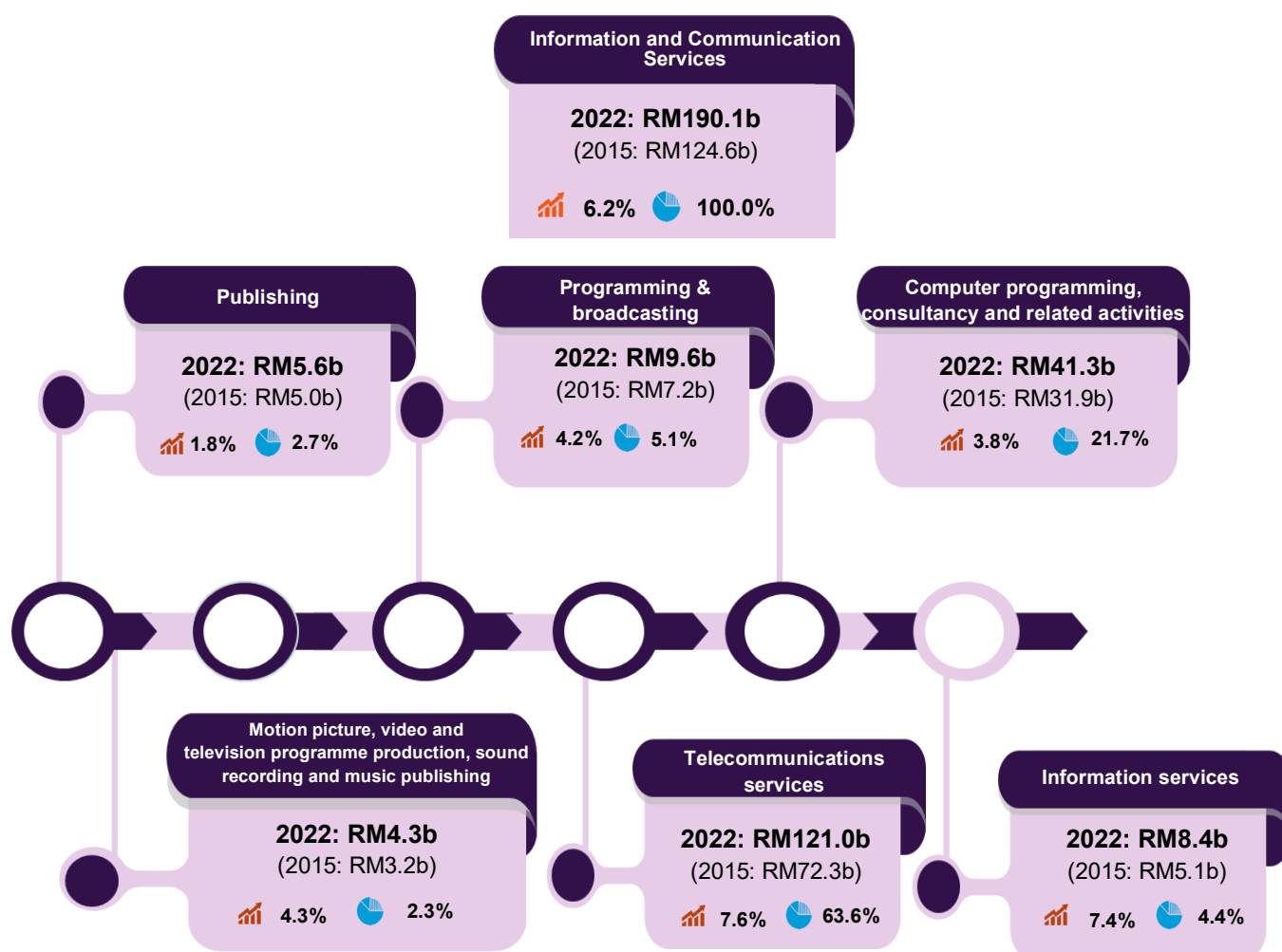


2.3 VALUE OF GROSS OUTPUT

The Information and Communication Services experienced tremendous expansion, generating a gross output of RM190.1 billion in 2022, an increase from RM124.6 billion in 2015, with annual growth rate of 6.2 per cent. The telecommunications services drove this expansion, increased by 7.6 per cent to RM121.0 billion from RM72.3 billion in 2015. Additionally, the information services recorded a significant annual growth rate of 7.4 per cent, reaching RM8.4 billion in 2022.

Telecommunications services accounted for 63.6 per cent of the total gross output. Computer programming, consultancy and related activities contributed 21.7 per cent of the total output. Together, these two activities constitute 85.3 per cent of the total gross output of the Information and Communication Services, demonstrating their essential significance in generating growth and contributing to Malaysia's economy (**Figure 2.3**). These changes illustrate the ongoing transition towards a more digital and high-value economy.

Figure 2.3: Value of Gross Output for Information and Communication Services by Activity, 2015 and 2022



Note.

% Share

CAGR : 2022/2015

Source: Economic Census 2023 - Information and Communication Services

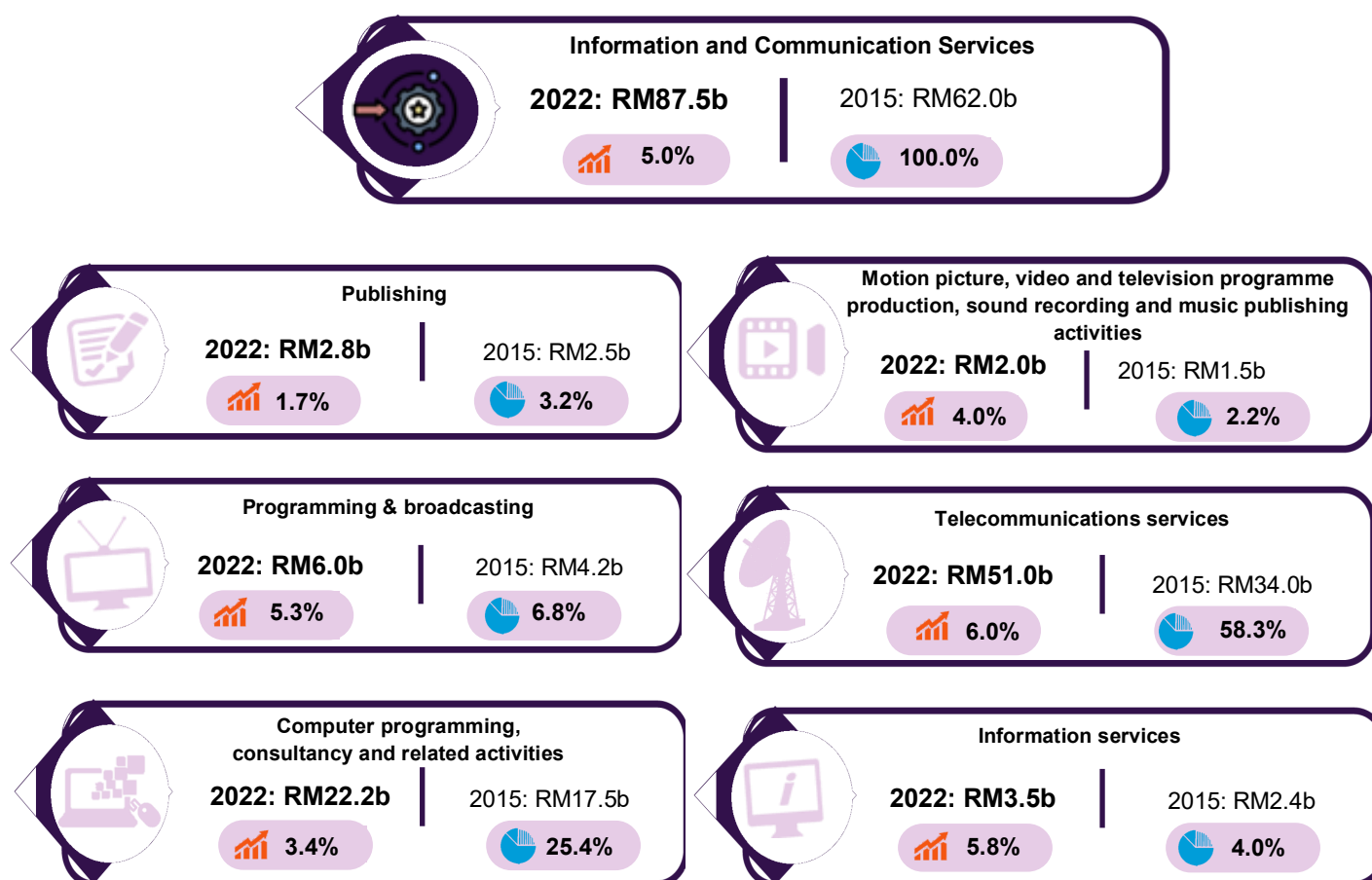


2.4 VALUE OF INTERMEDIATE INPUT

The intermediate input for the Information and Communication Services rose by 5.0 per cent in 2022, to RM87.5 billion from RM62.0 billion in 2015. Telecommunications services accounted for the majority of the rise, increased 6.0 per cent to RM51.0 billion from RM34.0 billion in 2015. Furthermore, computer programming, consulting and related activities experienced a significant annual growth rate of 3.4 per cent, eaching RM22.2 billion in 2022.

Telecommunications services generated 58.3 per cent share of the total intermediate input, followed by computer programming, consulting and related activities which comprised 25.4 per cent. Both activities accounted for 83.7 per cent of the total intermediate input for the Information and Communication Services, demonstrating their importance to the services's overall growth and contribution (Figure 2.4).

Figure 2.4: Value of Intermediate Input for Information and Communication Services by Activity, 2015 and 2022

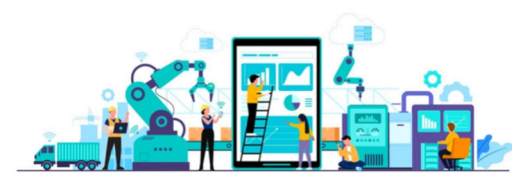


Note.

% Share

CAGR : 2022/2015

Source: Economic Census 2023 - Information and Communication Services

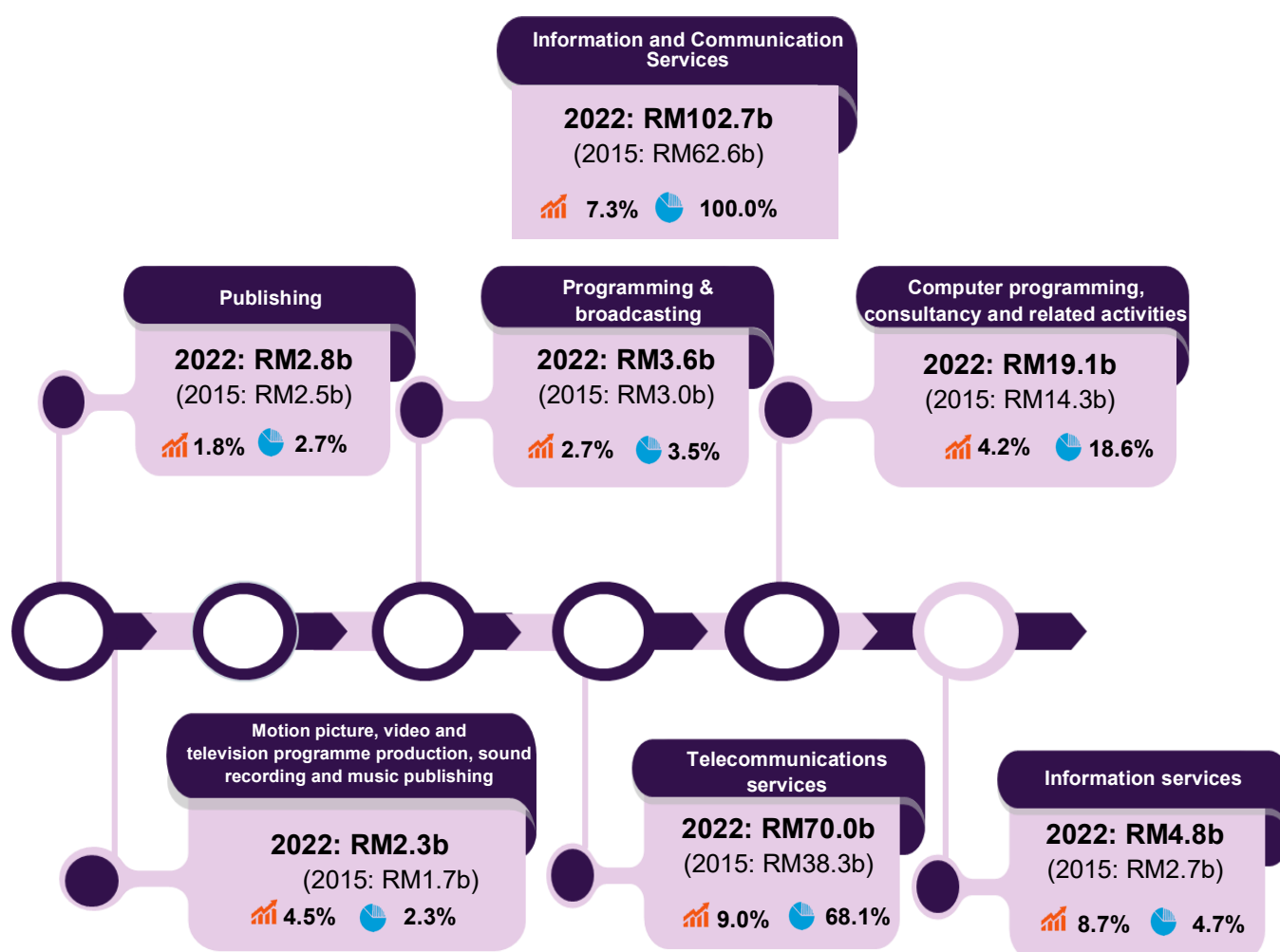


2.5 VALUE ADDED

In relation to Information and Communication Services, in Malaysia has experienced robust growth, gross output RM190.1 billion, This indicates a growing demand for these services, which drives the demand for reaching intermediate inputs, totaling RM87.5 billion. The value added in this services amounted to RM102.7 billion (2015: RM62.6 billion) with an annual growth rate of 7.3 per cent. This growth was mainly contributed by the telecommunication services, which registered an annual growth rate of 9.0 per cent to RM70.0 billion, compared to RM38.3 billion in 2015. This was followed by computer programming, consultancy and related activities which showed a significant annual growth rate of 4.2 per cent, amounting to RM19.1 billion in 2022 (**Figure 2.5**).

The telecommunication services recorded the highest value added amounting to RM70.0 billion with a percentage share of 68.1 per cent (2015: RM38.3 billion). This was followed by computer programming, consultancy and related activities (RM19.1 billion; share: 18.6%) and information services activities (RM4.8 billion; share: 4.7%).

Figure 2.5: Value of Added for Information and Communication Services by Activity, 2015 and 2022



Note.

% Share

CAGR : 2022/2015

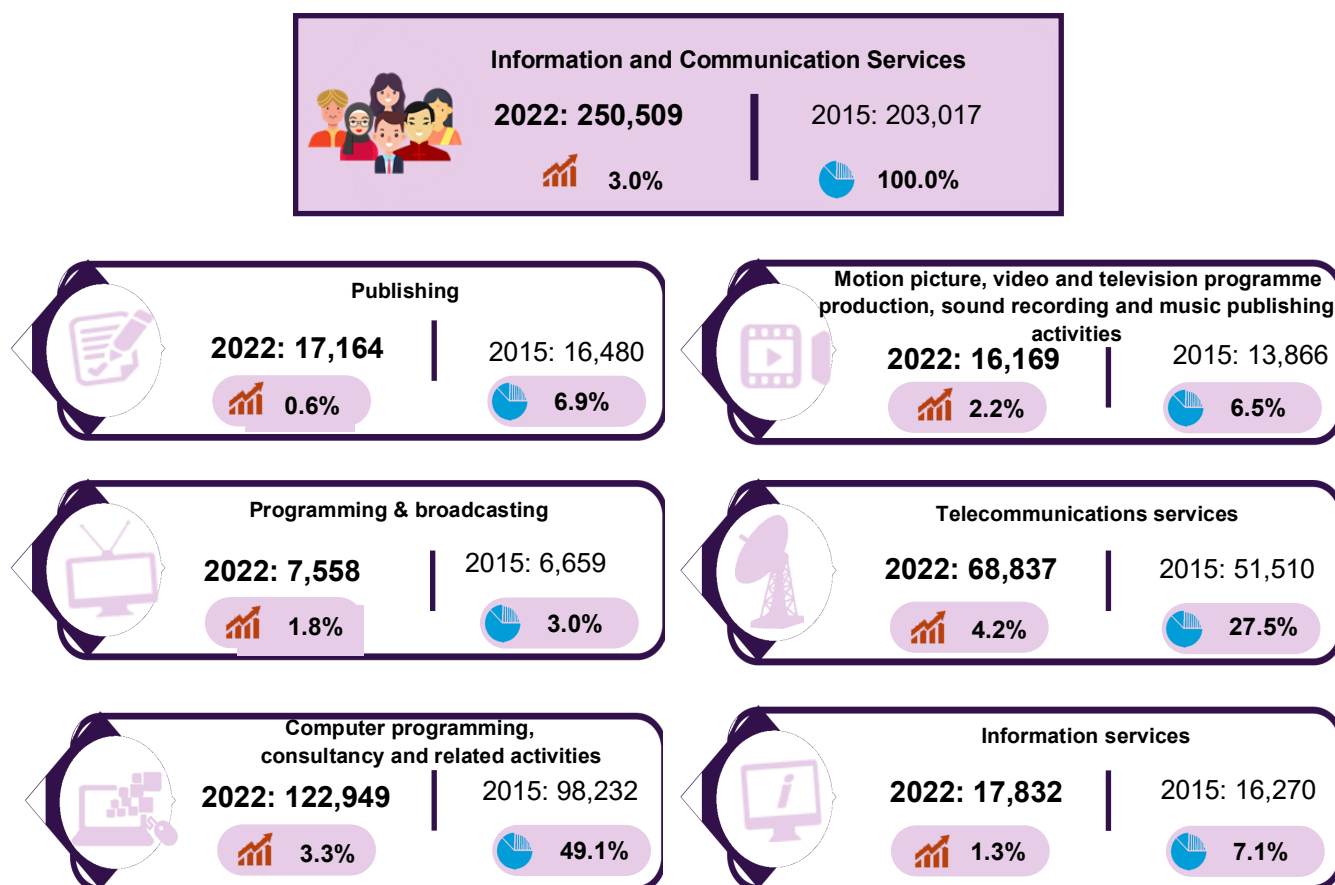
Source: Economic Census 2023 - Information and Communication Services



2.6 NUMBER OF PERSONS ENGAGED

In 2022, the number of persons engaged in Information and Communication Services were 250,509 persons compared to 203,017 persons in 2015, to representing an annual growth rate of 3.0 per cent. Computer programming, consultancy & related activities engaged the highest number of persons, to record 122,949 persons contributing 49.1 per cent. This was followed by telecommunications services (68,837 persons; share: 27.5%) and information services activities (17,832 persons; share: 7.1%) as depicted in **Figure 2.6**.

Figure 2.6: Number of Persons Engaged for Information and Communication Services by Category, 2015 and 2022



Note.

% Share

CAGR : 2022/2015

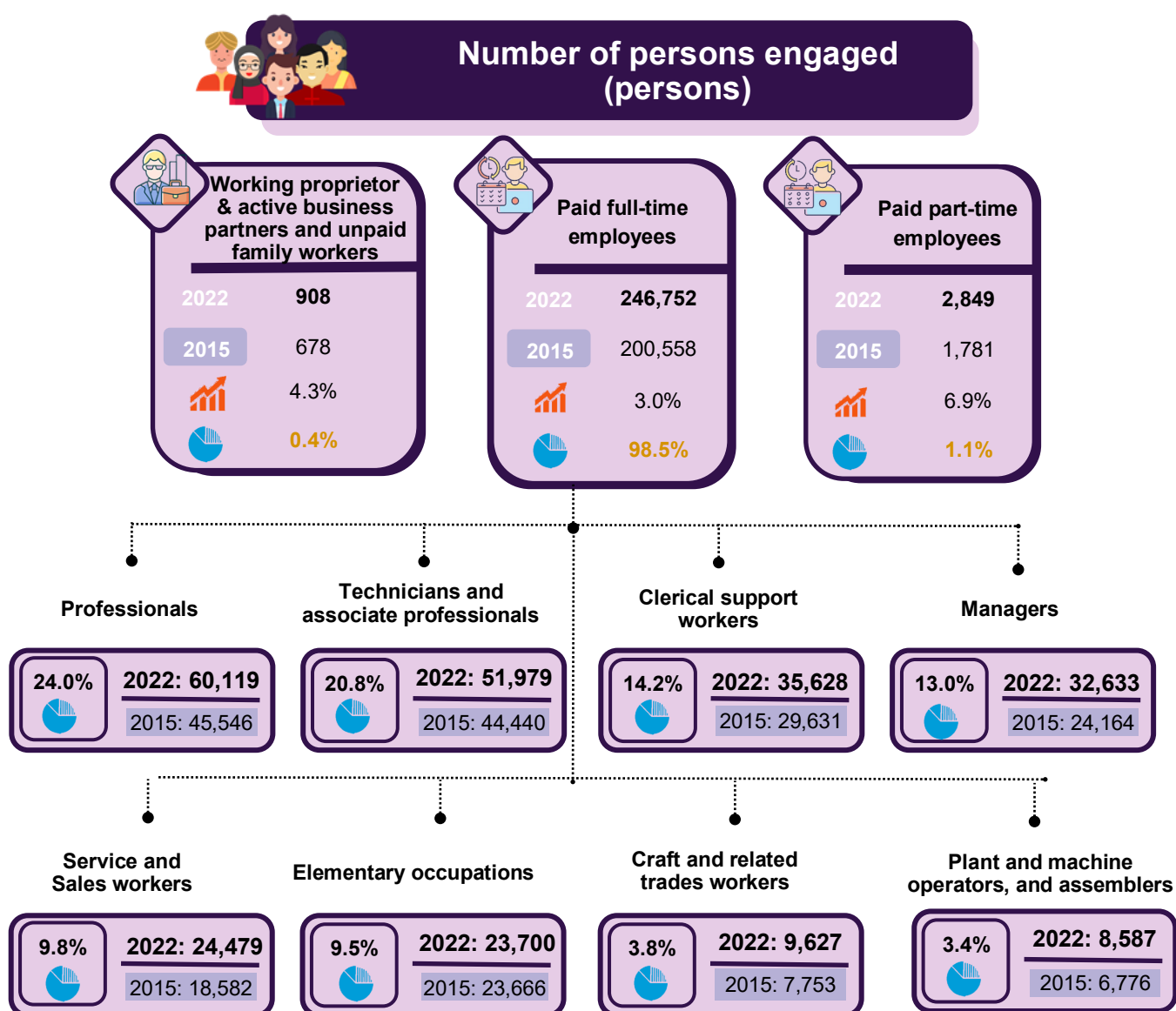
Source: Economic Census 2023 - Information and Communication Services



2.6.1 NUMBER OF PERSONS ENGAGED BY CATEGORY OF WORKERS

Overall, Information and Communication Services was predominantly composed of paid full-time employees recording a total of 246,752 persons or 98.5 per cent (2015: 200,558 persons). This was followed by paid part-time employees comprising 1.1 per cent or equivalent to 2,849 persons. The remaining were working owners & unpaid family workers (908 persons; share: 0.4%). For full-time paid employees, Professionals constituted the largest group with 60,119 persons (share 24.0%), followed by technicians and associate professionals (51,979 persons; 20.8%) and clerical support workers (35,628 persons; share: 14.2%) as shown in **Figure 2.7**.

Figure 2.7: Number of Persons Engaged for Information and Communication Services by Category of Workers, 2015 and 2022



Note.

% Share

CAGR : 2022/2015

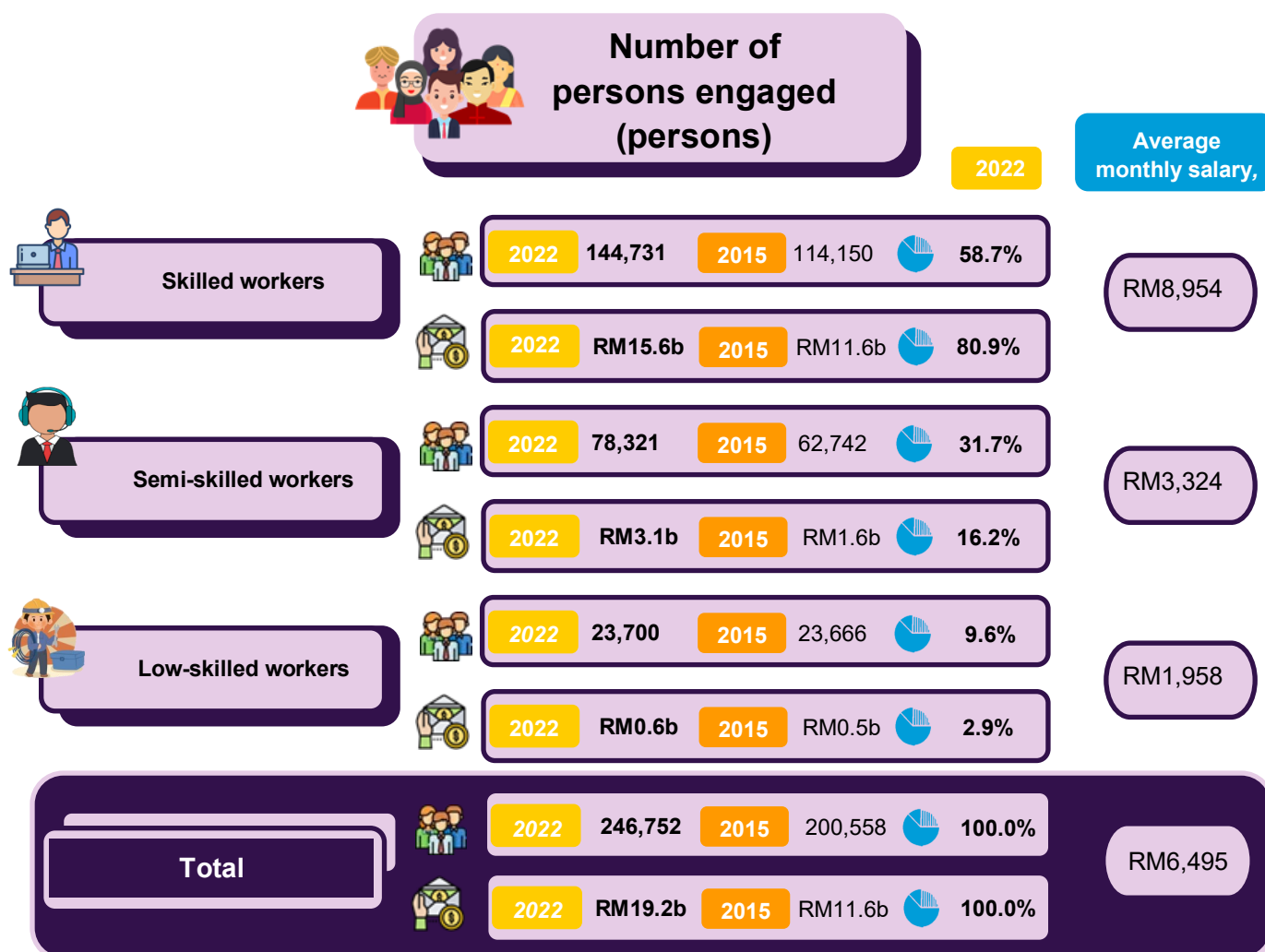
Source: Economic Census 2023 - Information and Communication Services

2.6.2 NUMBER OF PERSONS ENGAGED BY CATEGORY OF SKILLS

The employment landscape was predominantly by skilled workers, made up 58.7 per cent of the total with 246,752 persons engaged in 2022. This was followed by semi-skilled workers comprising 31.7 per cent with 78,321 persons, while low-skilled workers represented 9.6 per cent with 23,700 persons. In terms of salaries & wages, skilled workers topped the chart with RM15.6 billion (share: 80.9%), followed by semi-skilled workers at RM3.1 billion (share: 16.2%), and low-skilled workers at RM0.6 billion (share: 2.9%).

Skilled workers recorded an average monthly salary of RM8,954 while semi-skilled workers and low-skilled workers received average monthly salary of RM3,324 and RM1,958, respectively as depicted in **Figure 2.8**.

Figure 2.8: Number of Persons Engaged for Information and Communication Services by Category of Skills, 2015 and 2022



Note.

% Share

Source: Economic Census 2023 - Information and Communication Services

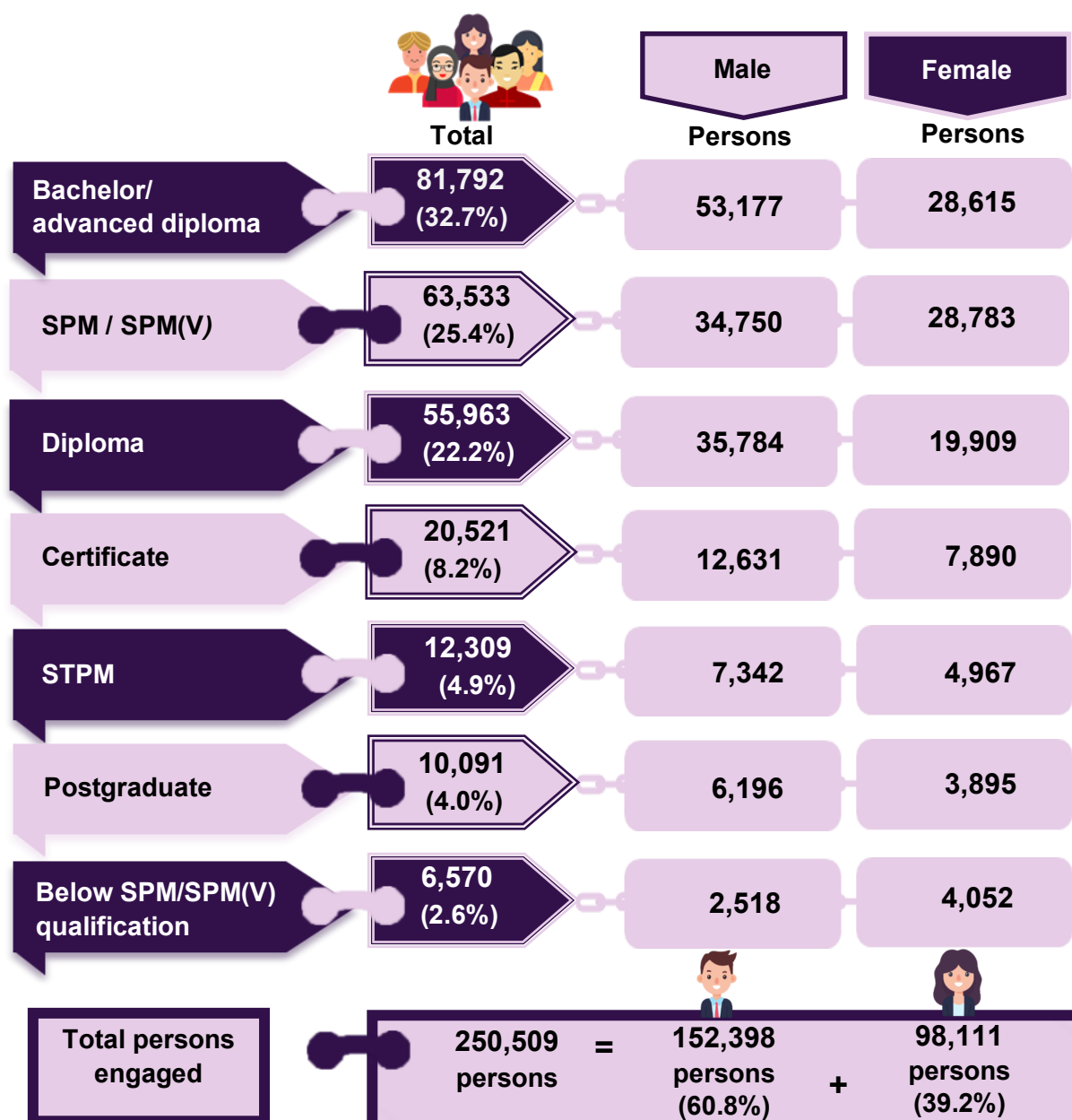


2.6.3 NUMBER OF PERSONS ENGAGED BY HIGHEST CERTIFICATE OBTAINED

The majority of employees in the Information and Communication Services obtained Bachelor/ advanced diploma, totaling 81,792 persons or 32.7 per cent of the workers in this services (2015: 69,041 persons). This was followed by SPM/ SPM (V) with 63,533 persons (share: 25.4%), and Diploma with 55,963 persons with a percentage share of 22.2 per cent (2015: 43,475 persons) as illustrated in **Figure 2.9**.

In terms of gender, males were the largest contributor, representing 60.8 per cent or 152,398 persons, whereas females contributed 39.2 per cent with 98,111 persons.

Figure 2.9: Category of Qualification in Information and Communication Services, 2022



Note.

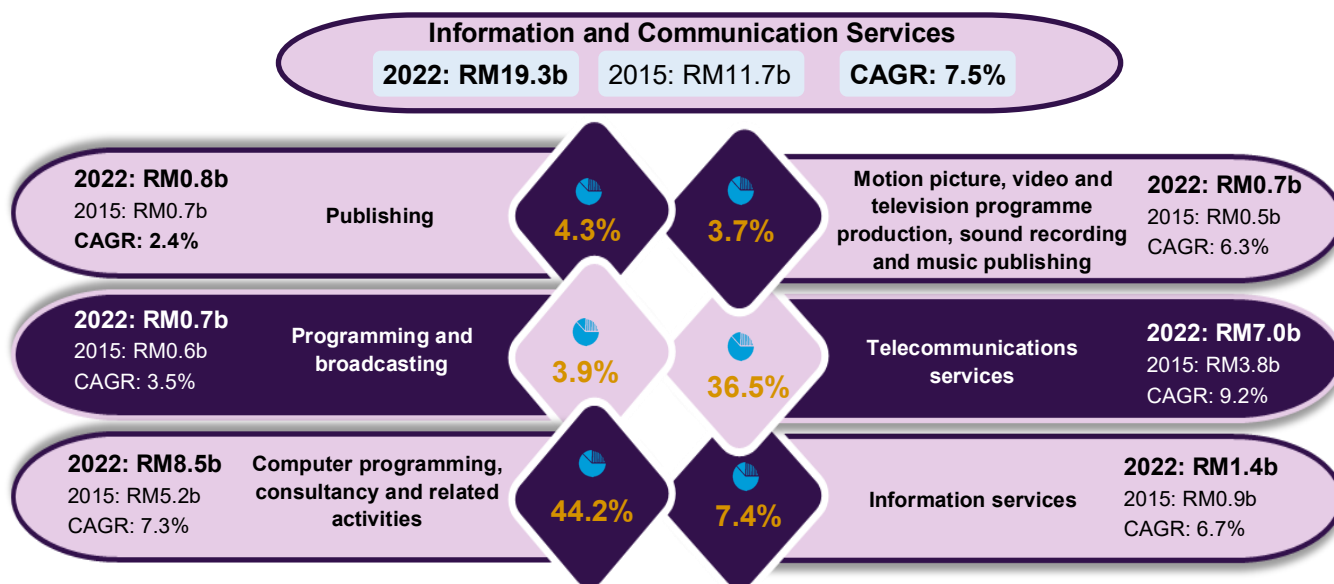
Source: Economic Census 2023 - Information and Communication Services



2.7 SALARIES & WAGES

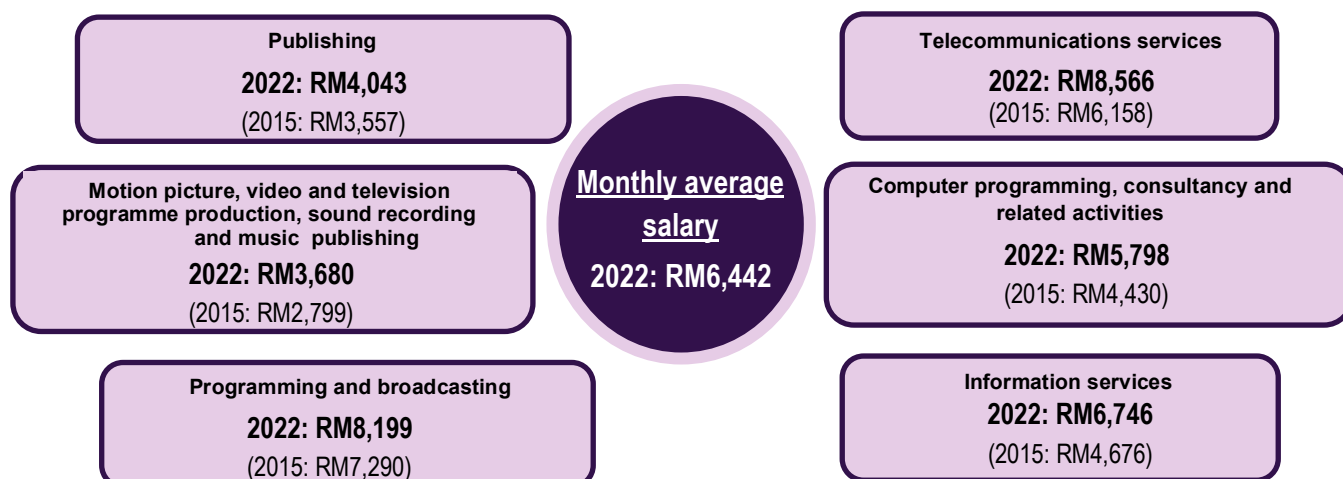
Total salaries & wages in 2022 were RM19.3 billion compared to RM11.7 billion in 2015, registering an annual growth rate of 7.5 per cent (**Figure 2.10**). Computer programming, consultancy and related activities recorded the highest salaries & wages at RM8.5 billion with percentage share of 44.2 per cent, followed by telecommunications services (RM7.0 billion; share: 36.5%) and information services activities (RM1.4 billion; share: 7.4%).

Figure 2.10: Salaries & Wages for Information and Communication Services by Activity, 2015 and 2022



Average monthly salary of Information and Communication Services recorded RM6,442 compared to RM4,802 in 2015 (**Figure 2.11**). The highest average monthly salary was recorded in telecommunications services with RM8,566, followed by programming & broadcasting (RM 8,199) and information services (RM6,746).

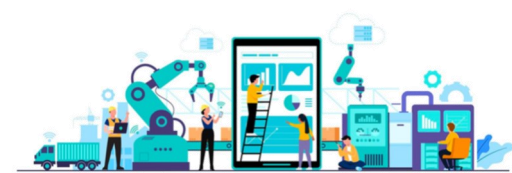
Figure 2.11: Average Monthly Salary for Information and Communication Services by Activity, 2015 and 2022



Note.

% Share

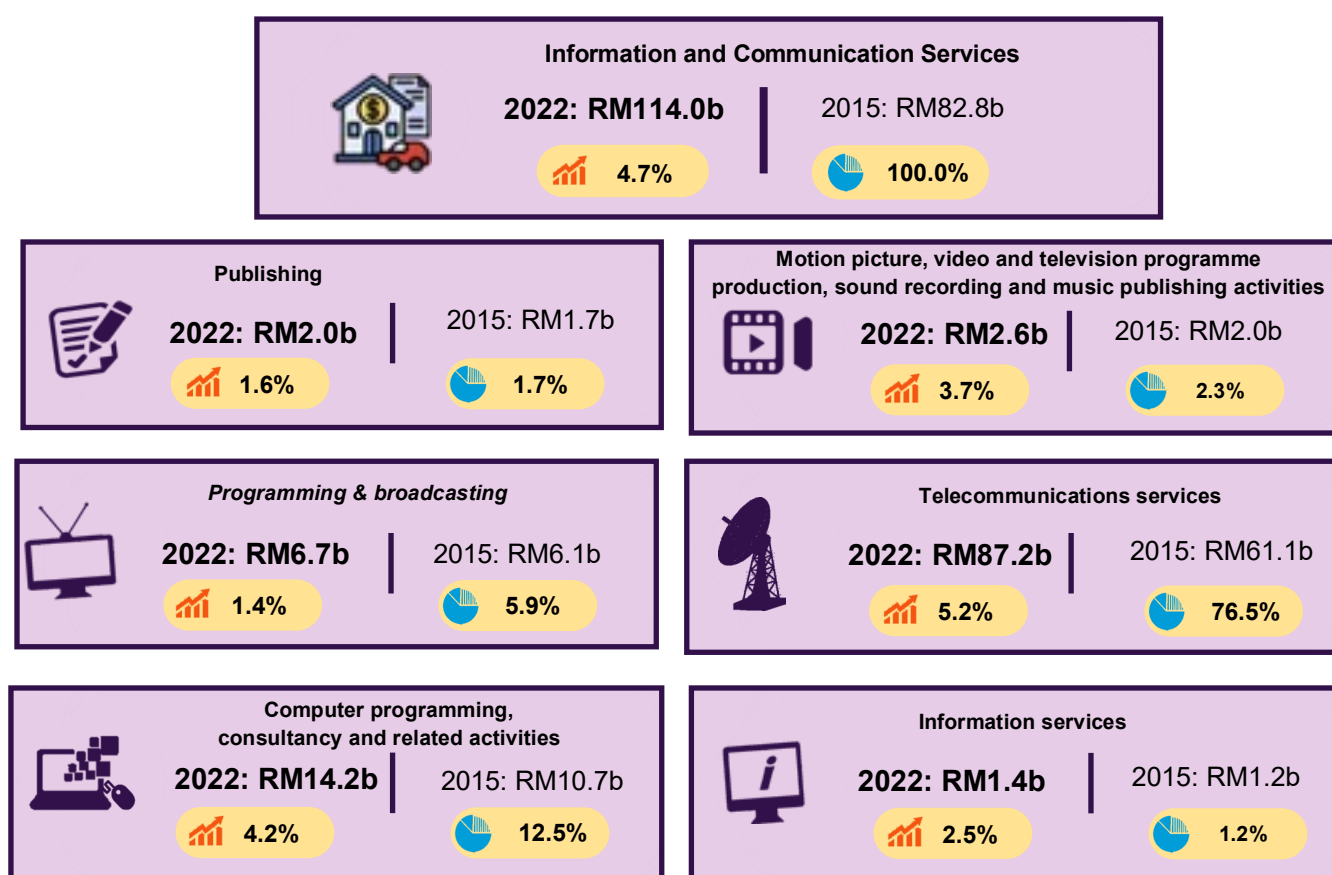
Source: Economic Census 2023 - Information and Communication Services



2.8 VALUE OF FIXED ASSETS

Overall, value of fixed assets in the Communication and Services showed an increase of 4.7 per cent annually to register RM114.0 billion in 2022 compared to RM82.8 billion in 2015. The main contributor was telecommunication services which recorded the highest fixed asset value amounting to RM87.2 billion in 2022 as compared to RM61.1 billion in 2015. This was followed by computer programming, consultancy and related activities (RM14.2 billion; share: 12.5%) and programming & broadcasting (RM6.7 billion; share: 5.9%) as presented in **Figure 2.12**.

Figure 2.12: Value of Fixed assets for Information and Communication Services by Activity, 2015 and 2022



Note.

% Share

CAGR : 2022/2015

Source: Economic Census 2023 - Information and Communication Services



2.9 PERFORMANCE BY STATE

In terms of number of establishments, Selangor recorded the highest number of establishments with 8,331 achieving an annual growth rate of 10.9 per cent (**Figure 2.17**). This was followed by W.P. Kuala Lumpur (7,092 establishments; CAGR: 14.5%) and Pulau Pinang (878 establishments; CAGR: 12.8%).

W.P. Kuala Lumpur registered the highest contribution in terms of gross output of RM124.2 billion with an annual growth rate of 6.1 per cent, followed by Selangor (RM57.2 billion; CAGR: 6.8%) and Pulau Pinang (RM5.2 billion; CAGR: 5.1%). In consistent with the gross output performance, W.P. Kuala Lumpur also contributed the highest value added at RM68.5 billion, recording an annual growth rate of 4.5 per cent, followed by Selangor (RM30.0 billion; CAGR: 6.3%) and Pulau Pinang (RM2.5 billion; CAGR: 4.4%).

The highest number of persons engaged in these services were in W.P. Kuala Lumpur with 126,191 persons, recorded an annual growth rate of 3.5 per cent, followed by Selangor (101,048 persons; CAGR: 2.8%) and Pulau Pinang (11,560 persons; CAGR: 0.8%). During the same period, the highest salaries & wages were also recorded by W.P. Kuala Lumpur at RM10.5 billion (CAGR: 8.0%), followed by Selangor and Pulau Pinang with RM8.0 billion (CAGR: 7.2%) and RM0.4 billion (CAGR: 2.3%), respectively. Meanwhile, the largest fixed assets held by establishment in the Information and Communication Services sector in 2022 was in W.P. Kuala Lumpur at RM84.0 billion with an annual growth rate of 5.3 per cent, followed by Selangor RM21.4 billion (CAGR: 2.9%) and Pulau Pinang RM5.1 billion (CAGR: 2.4%).

Note.

Source: Economic Census 2023 - Information and Communication Services



Figure 2.17: Number of Establishments, Value of Gross Output, Value of Intermediate Input, Value Added, Number of Persons Engaged, Salaries & Wages and Fixed Assets for Information and Communication Services by States, 2022

	NUMBER OF ESTABLISHMENTS	VALUE OF GROSS OUTPUT (RM Million)	VALUE OF INTERMEDIATE INPUT (RM Million)	VALUE ADDED (RM Million)	NUMBER OF PERSONS ENGAGED (Person)	SALARIES & WAGES (RM Million)	VALUE OF FIXED ASSETS (RM Million)
Johor	824 (16.3%)	916.7 (4.9%)	467.0 (4.9%)	449.7 (4.9%)	3,771 (2.1%)	119.6 (4.0%)	864.3 (8.2%)
Kedah	168 (17.6%)	109.2 (3.9%)	58.5 (3.2%)	50.7 (4.8%)	538 (1.3%)	17.7 (3.2%)	42.7 (2.1%)
Kelantan	41 (19.2%)	5.4 (7.6%)	3.1 (7.0%)	2.3 (8.5%)	74 (7.7%)	1.3 (8.5%)	0.5 (5.5%)
Melaka	217 (13.9%)	176.1 (5.5%)	85.0 (4.6%)	91.1 (6.5%)	709 (4.2%)	17.2 (7.0%)	73.5 (4.0%)
Negeri Sembilan	197 (25.1%)	169.8 (2.7%)	86.6 (2.6%)	83.2 (2.8%)	499 (1.8%)	19.3 (4.1%)	58.6 (2.7%)
Pahang	76 (15.9%)	202.2 (9.1%)	66.5 (9.0%)	135.8 (9.1%)	349 (5.3%)	8.8 (3.4%)	562.6 (9.3%)
Pulau Pinang	878 (12.8%)	5,245.4 (5.1%)	2,731.9 (4.4%)	2,513.5 (6.1%)	11,560 (0.8%)	375.3 (2.3%)	5,102.8 (2.4%)
Perak	350 (14.2%)	423.5 (3.5%)	254.4 (3.6%)	169.1 (3.3%)	1,156 (2.3%)	43.6 (3.9%)	120.9 (1.3%)
Perlis	20 (16.2%)	3.0 (5.0%)	1.7 (4.1%)	1.3 (6.3%)	48 (6.0%)	1.2 (7.2%)	1.6 (2.6%)
Selangor	8,331 (10.9%)	57,212.2 (6.8%)	27,246.1 (6.3%)	29,966.2 (7.2%)	101,048 (2.8%)	8,037.5 (7.2%)	21,447.5 (2.9%)
Terengganu	79 (28.0%)	25.2 (6.5%)	12.3 (6.2%)	12.8 (6.8%)	232 (2.8%)	7.6 (7.0%)	13.0 (5.0%)
Sabah	268 (23.0%)	276.5 (2.9%)	160.2 (2.8%)	116.2 (3.0%)	1,138 (2.4%)	30.5 (3.6%)	238.8 (3.2%)
Sarawak	316 (19.1%)	1,004.5 (3.4%)	485.0 (2.9%)	519.5 (3.9%)	2,9114 (3.0%)	117.0 (8.7%)	1,457.5 (5.0%)
W.P. Kuala Lumpur	7,092 (14.5%)	124,248.4 (6.1%)	55,753.1 (4.5%)	68,495.2 (7.5%)	126,191 (3.5%)	10,488.5 (8.0%)	83,995.2 (5.3%)
W.P. Labuan	13 (18.3%)	3.8 (4.8%)	1.0 (4.2%)	2.8 (5.1%)	19 (5.6%)	0.4 (4.9%)	0.5 (8.1%)
W.P. Putrajaya	33 (14.2%)	89.6 (8.8%)	49.1 (8.7%)	40.5 (8.9%)	266 (3.4%)	10.7 (5.9%)	39.3 (2.6%)
Malaysia	18,903 (13.1%)	190,111.5 (6.2%)	87,461.6 (5.0%)	102,649.9 (7.3%)	250,509 (3.0%)	19,296.0 (7.5%)	114,019.2 (4.7%)

Note.

CAGR : 2022/2015

Source: Economic Census 2023 - Information and Communication Services

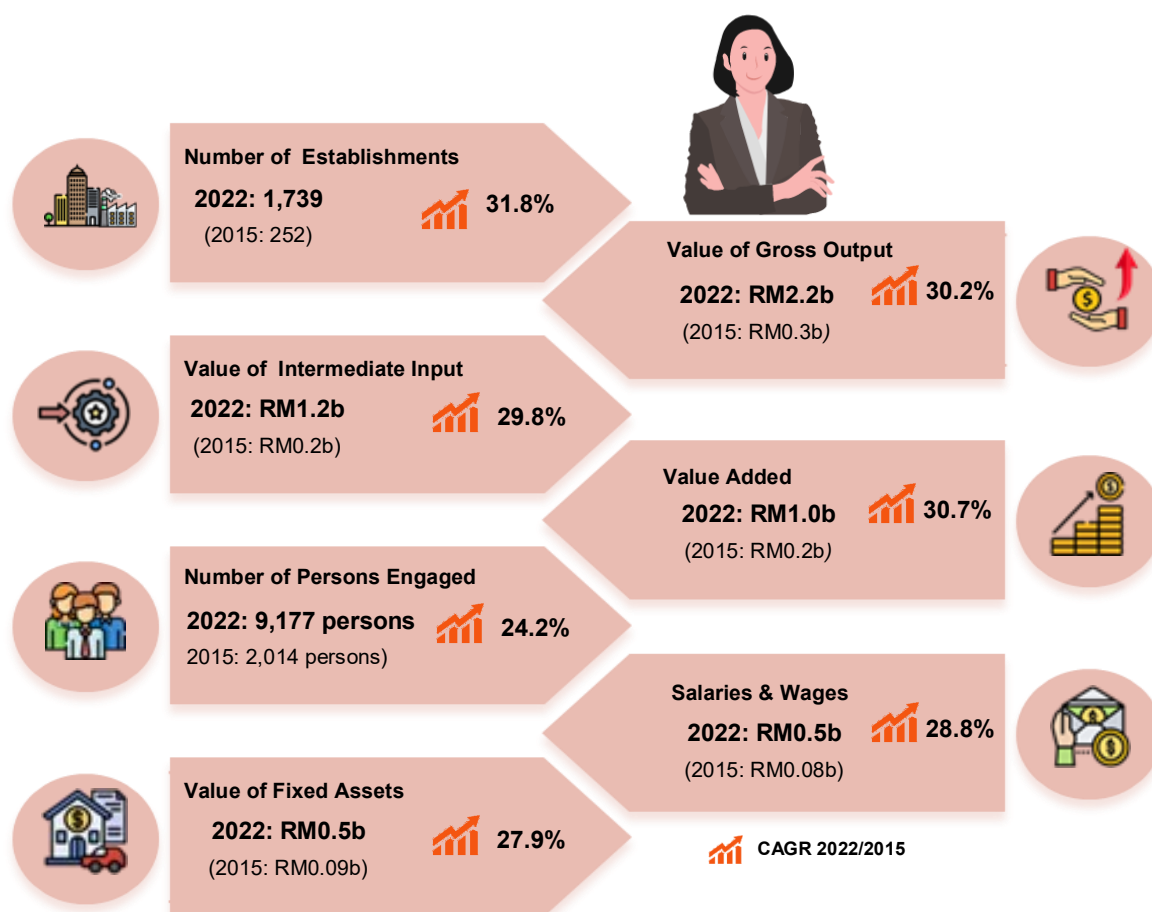


2.10 WOMEN-OWNED ESTABLISHMENTS

There were 1,739 women-owned establishments in Information and Communication Services in 2022, as compared to 252 establishments in 2015, reflecting an annual growth rate of 31.8 per cent (**Figure 2.13**). These women-owned establishments generated a gross output of RM2.2 billion with an annual growth rate of 30.2 per cent. Intermediate input also increased to RM1.2 billion, which grew annually by 29.8 per cent. This resulted in value added of RM1.0 billion (2015: RM0.2 billion).

Additionally, the number of persons engaged for women-owned establishments were 9,177 persons, surged 24.2 per cent annually. As for salaries & wages, it posted RM0.5 billion with an annual growth rate of 28.8 per cent (2015: RM0.08 billion). The value of fixed assets in this services showed an increase of 27.9 per cent annually from RM0.09 billion in 2015 to RM0.5 billion in 2022.

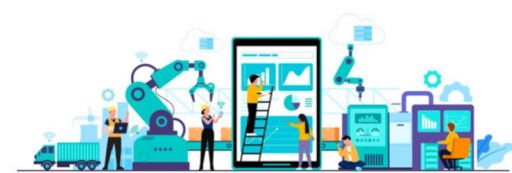
Figure 2.13: Principal Statistics of Women-owned Establishments for Information and Communication Services, 2015 and 2022



Note.

CAGR : 2022/2015

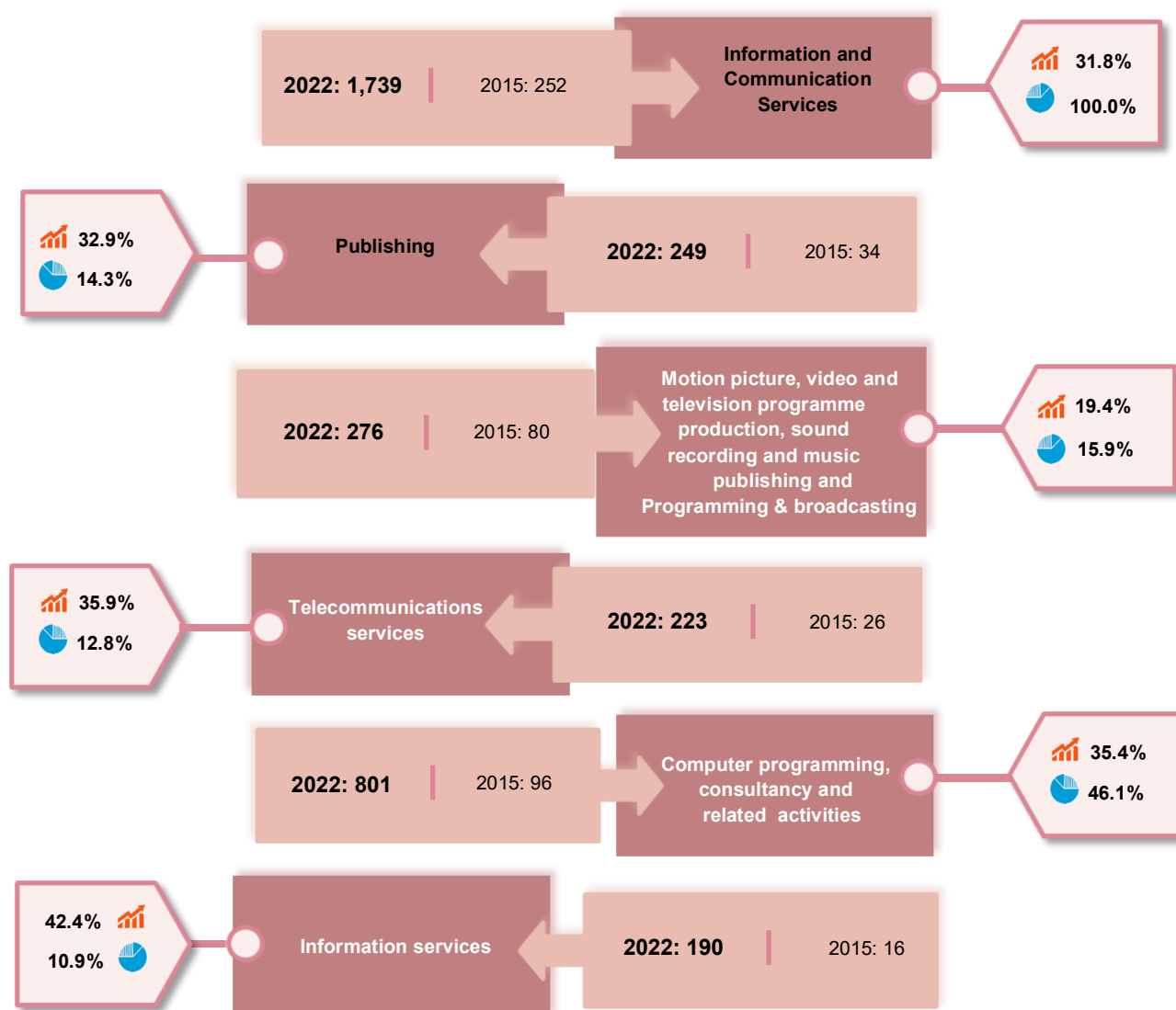
Source: Economic Census 2023 - Information and Communication Services



2.10.1. WOMEN-OWNED ESTABLISHMENTS BY ACTIVITY

In 2022, there were 1,739 women-owned establishments in Information and Communication Services, an increase from 252 in 2015, representing a 31.8 per cent an annual growth rate as shown in **Figure 2.14**. This was accounted for 9.2 per cent of the total establishments in this services. The highest number of women-owned establishments was recorded in computer programming, consultancy and related activities with 801 establishments, followed by motion picture, video and television programme production, sound recording and music publishing and programming & broadcasting (276 establishments) and publishing (249 establishments).

Figure 2.14: Number of Women-owned Establishments for Information and Communication Services by Activity, 2015 and 2022



Note.

% Share

CAGR : 2022/2015

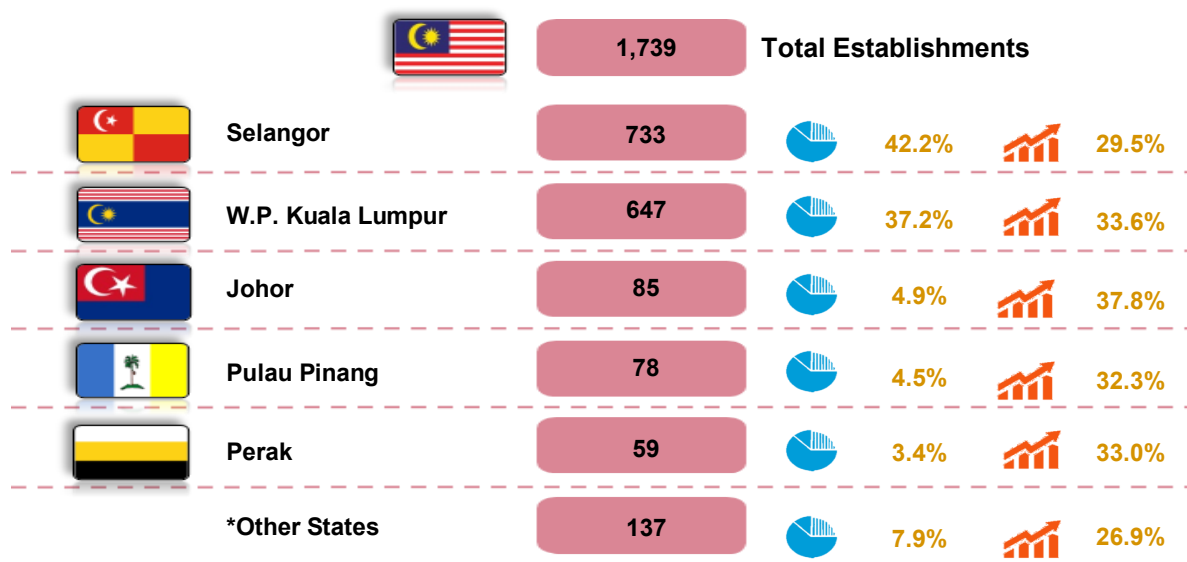
Source: Economic Census 2023 - Information and Communication Services



2.10.2. WOMEN-OWNED ESTABLISHMENTS BY STATE

The highest number of establishments recorded in Selangor amounted to 733 establishments, with annual growth rate of 29.5 per cent (share: 42.2%). This was followed by W.P. Kuala Lumpur with 647 establishments (share: 37.2%) and Johor 85 establishments (share: 4.9%). These three states contribute 84.3 per cent of total women-owned establishments in Information and Communication Services as depicted in **Figure 2.15**.

Figure 2.15: Women-owned Establishments for Information and Communication Services by State, 2022



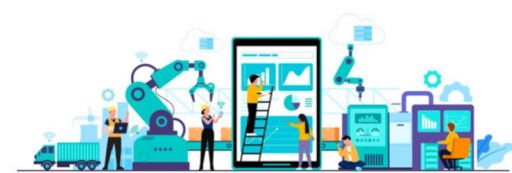
Note.

 % Share

 **CAGR** : 2022/2015

* Other States refer to Kedah, Kelantan, Melaka, Negeri Sembilan, Pahang, Perlis, Terengganu, Sabah, Sarawak, W.P. Labuan and W.P Putrajaya

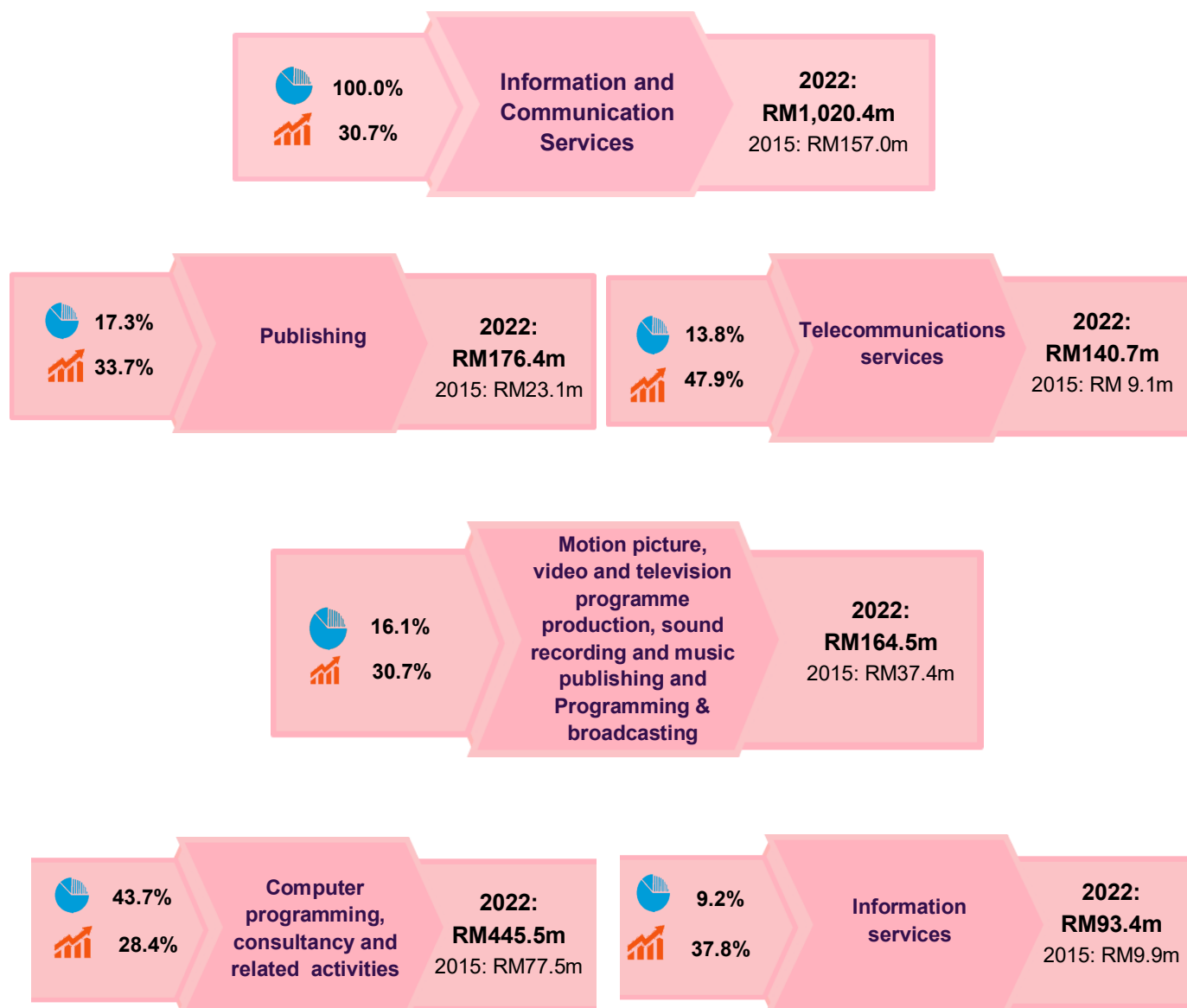
Source: Economic Census 2023 - Information and Communication Services



2.10.3 VALUE ADDED OF WOMEN-OWNED ESTABLISHMENTS BY ACTIVITY

The total value added for women-owned establishments in Information and Communication Services amounted to RM1,020.4 million as compared to RM157.0 million in 2015, reflecting an annual growth rate of 30.7 per cent. Computer programming, consultancy and related activities was the major contributor for value added, amounted to RM445.5 million with percentage share of 43.7 per cent. This was followed by publishing activities (RM176.4m; share: 17.3%) and motion picture, video and television programme production, sound recording and music publishing and programming & broadcasting (RM164.5m; share: 16.1%) as shown in **Figure 2.16**.

Figure 2.16: Value Added of Women-owned Establishments for Information and Communication Services by Activity, 2015 and 2022



Note.

% Share

CAGR : 2022/2015

Source: Economic Census 2023 - Information and Communication Services

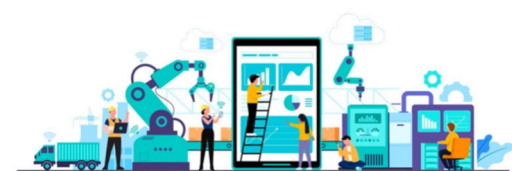
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INSIGHT OF E-COMMERCE

CHAPTER 3



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3. INSIGHTS OF E-COMMERCE

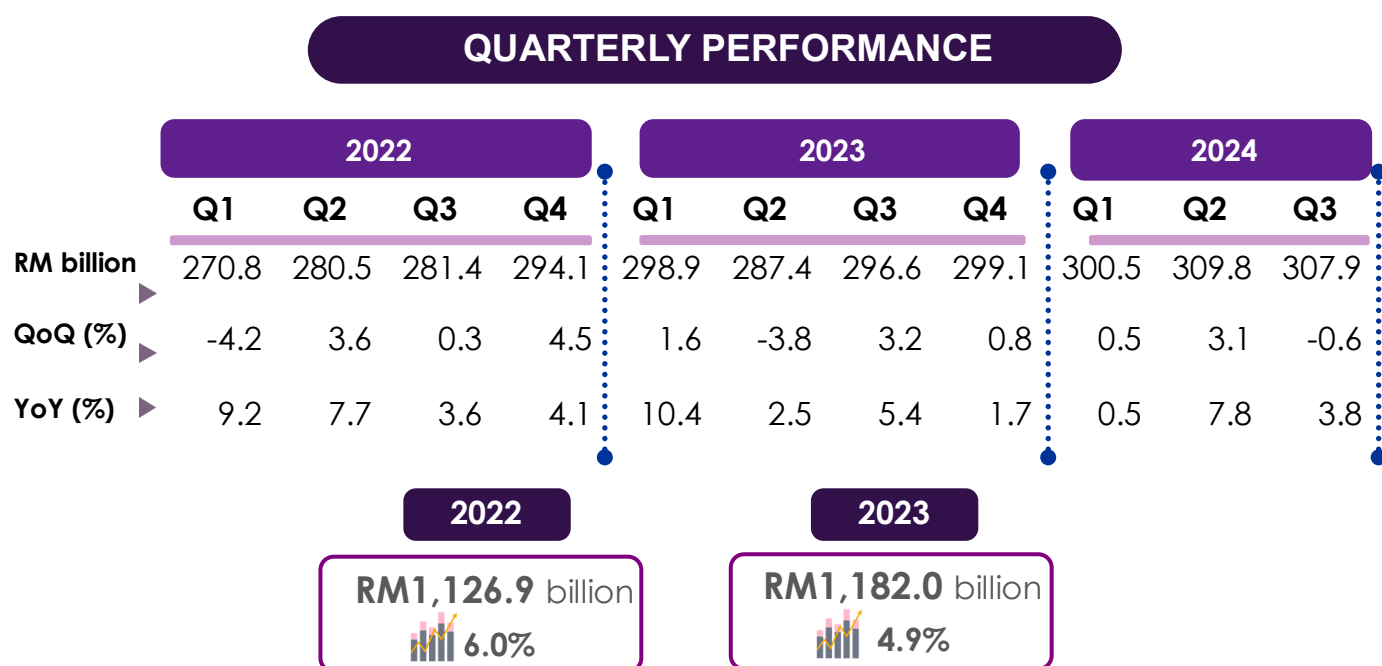
In general, e-commerce is a medium or platform of buying or selling goods and services over the internet. Nowadays, e-commerce has commonly used throughout entire economics activities in Malaysia. In this chapter, statistics on the performance of e-commerce by establishments in Malaysia will be described in terms of quarterly income, index of retail sale and overall findings of e-commerce for the year 2022.

3.1 QUARTERLY PERFORMANCE OF E-COMMERCE INCOME BY ESTABLISHMENTS

Malaysia's e-commerce income by establishment recorded a growth of 3.8 per cent year-on-year in the third quarter of 2024, to reach RM307.9 billion. This was primarily driven by Manufacturing and Services sectors. In the previous year, e-commerce income for 2023 amounted to RM1.2 trillion, rose 4.9 per cent growth compared to the previous year.

On quarterly basis, the first quarter of 2024 recorded an income of RM300.5 billion, which increased to RM309.8 billion in the second quarter. The upward trend continued, with e-commerce income registering RM307.9 billion in the third quarter of 2024 as illustrated in **Figure 3.1**.

Figure 3.1: Quarterly E-Commerce Income by Establishments, Q1 2022 - Q3 2024



Note.



Annual growth rate

QoQ Percentage change quarter-on-quarter

YoY Percentage change year-on-year

Source: Quarterly Services Statistics, Third Quarter 2024



3.2 INDEX OF RETAIL SALE OVER THE INTERNET

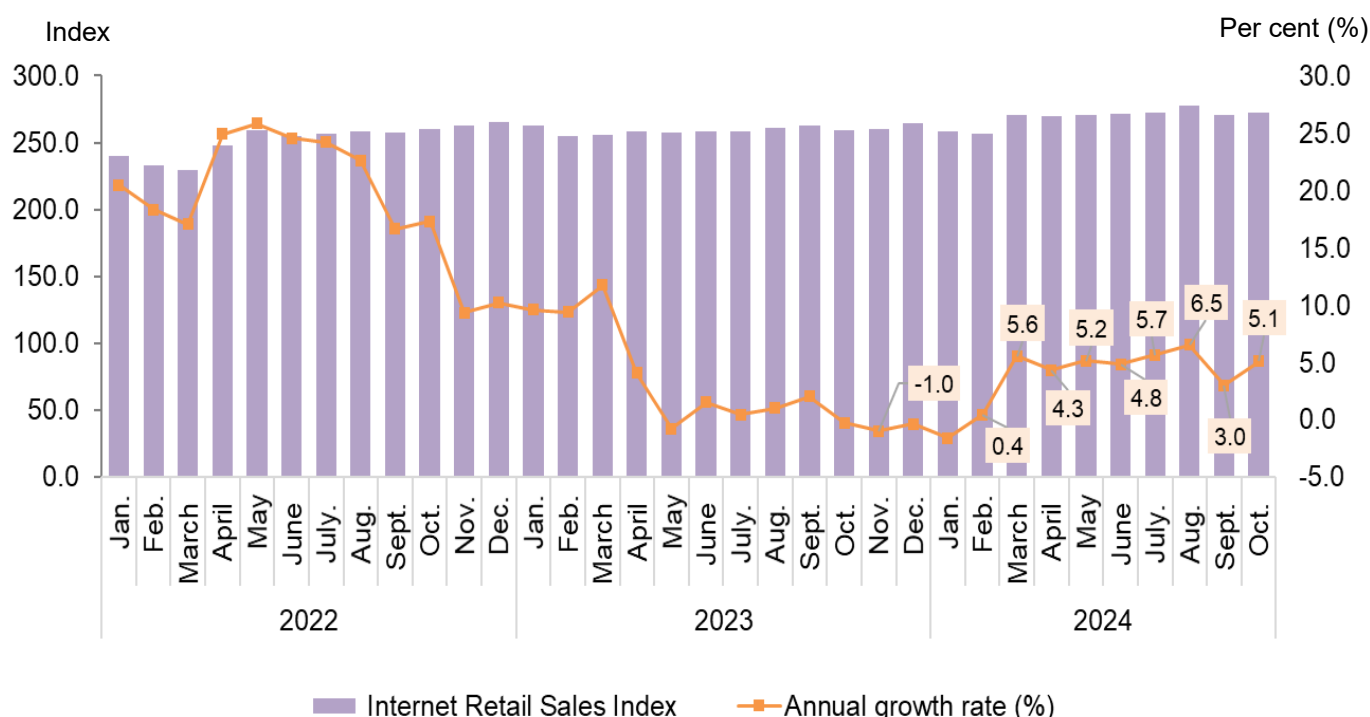
Wholesale trade can be defined as the resale (sale without transformation) of new and used goods to retailers; industrial, commercial institutional or professional users; or to other wholesalers; or selling merchandise to such persons or companies. Meanwhile, retail trade refers to the resale (sale without transformation) of new and used goods to the general public for personal or household consumption or utilisation.

For the index of retail sales over the internet, the index confirmed their steady growth in October, with the retail sales index rising by 5.1 per cent year-on-year, up from 3.0 per cent in September as shown in **Figure 3.2**.

Adjusted for seasonal variations, the index saw 0.5 per cent increase month-on-month, reflecting sustained demand in the digital marketplace.

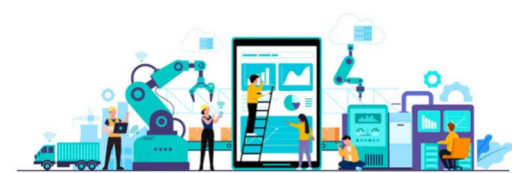
Figure 3.2: Index of Retail Sale Over the Internet, January 2022 - October 2024

INDEX OF RETAIL SALE OVER THE INTERNET



Note.

Source: Press Statement Performance of Wholesale & Retail Trade, October 2024

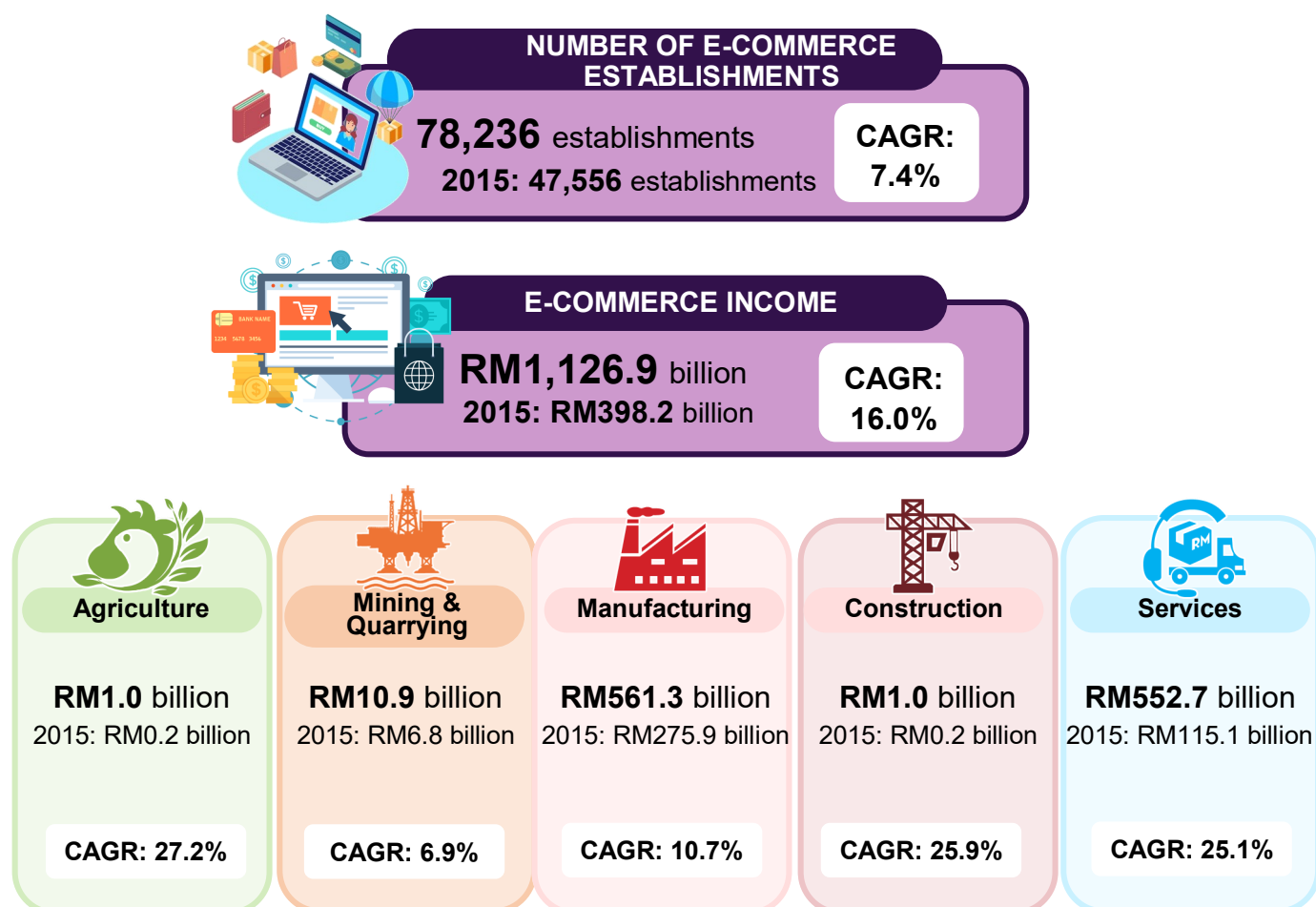


3.3 PERFORMANCE OF E-COMMERCE

3.3.1 E-COMMERCE INCOME BY SECTOR

A total of 78,236 establishments engaged in e-commerce transactions were recorded, from the overall 1,091,867 establishments in 2022 (2015: 47,556 establishments). Income from e-commerce transactions in Malaysia reached RM1,126.9 billion in 2022, compared to RM398.2 billion in 2015 with an annual growth rate of 16.0 per cent. Manufacturing sector is the primary contributor amounting to RM561.3 billion, with an annual growth rate of 10.7 per cent. This was followed by Services sector with RM552.7 billion (CAGR: 25.1%) and Mining & quarrying with RM10.9 billion (CAGR: 6.9%), as shown in **Figure 3.3**.

Figure 3.3: E-Commerce Income, 2015 and 2022



Note.

CAGR - Compound annual growth rate

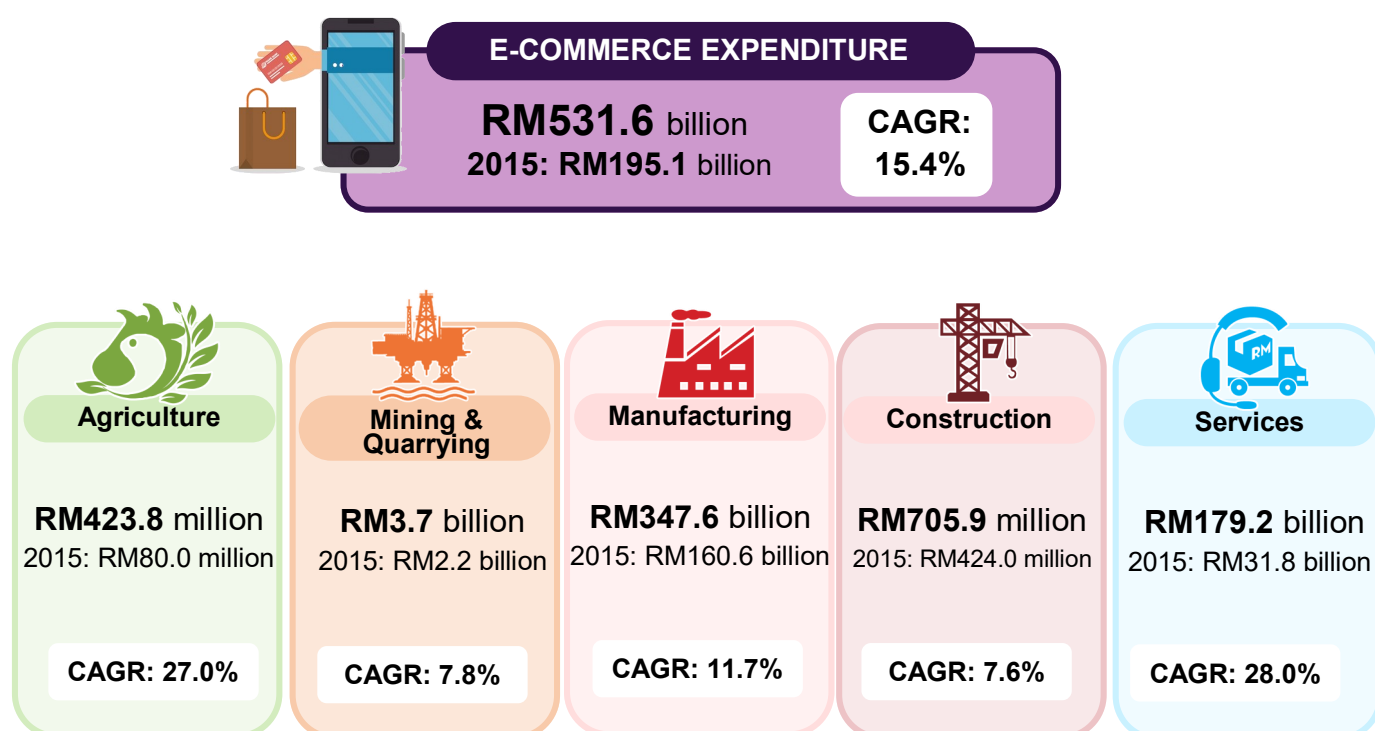
Source: Economic Census 2023 - Usage of ICT and E-Commerce by Establishment



3.3.2 E-COMMERCE EXPENDITURE BY SECTOR

Expenditure recorded from e-commerce transactions in 2022 amounted to RM531.6 billion, an increase from RM195.1 billion in 2015, with an annual growth rate of 15.4 per cent. Manufacturing sector is the primary contributor, with RM347.6 billion and an annual growth rate of 11.7 per cent. This was followed by Services sector with a value of RM179.2 billion (CAGR: 28.0%), and Mining & quarrying sector with RM3.7 billion (CAGR: 7.8%), respectively, as shown in **Figure 3.4**.

Figure 3.4: Expenditure from E-Commerce, 2015 and 2022



Note.

(%) - Percentage share

CAGR - Compound annual growth rate

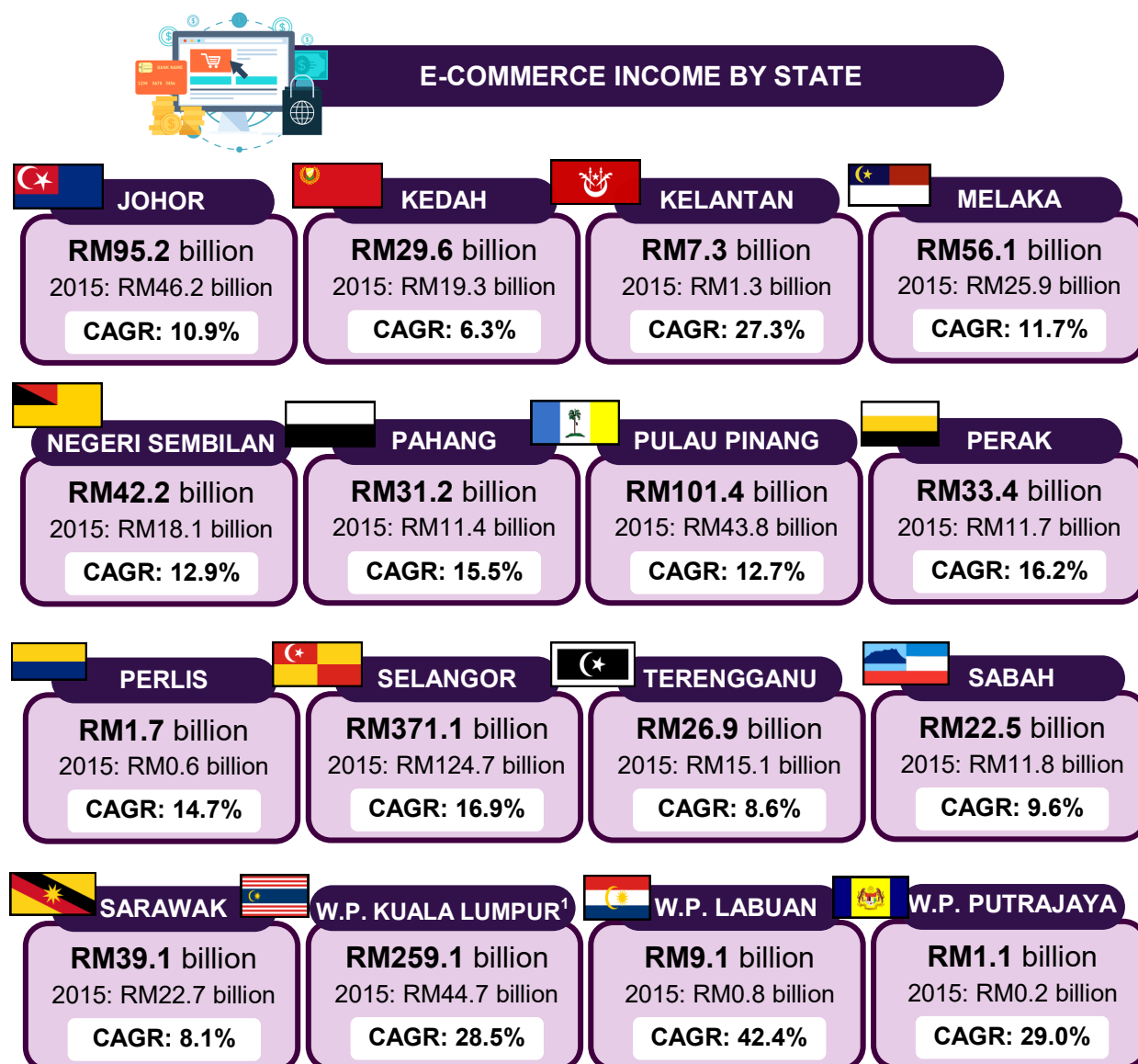
Source: Economic Census 2023 - Usage of ICT and E-Commerce by Establishment



3.3.3 E-COMMERCE INCOME BY STATE

Figure 3.5 illustrates e-commerce income by state. Selangor recorded the highest income from e-commerce transactions, totalling RM371.1 billion, with an annual growth rate of 16.9 per cent. W. P. Kuala Lumpur ranks second with RM259.1 billion (CAGR: 28.5%), while Pulau Pinang recorded RM101.4 billion (CAGR: 12.7%) as the third highest.

Figure 3.5: E-Commerce Income by State, 2015 and 2022



Note.

CAGR - Compound annual growth rate

¹ Include SUPRA

Supra - Covers production activities that beyond the centre of predominant economic interest for any state

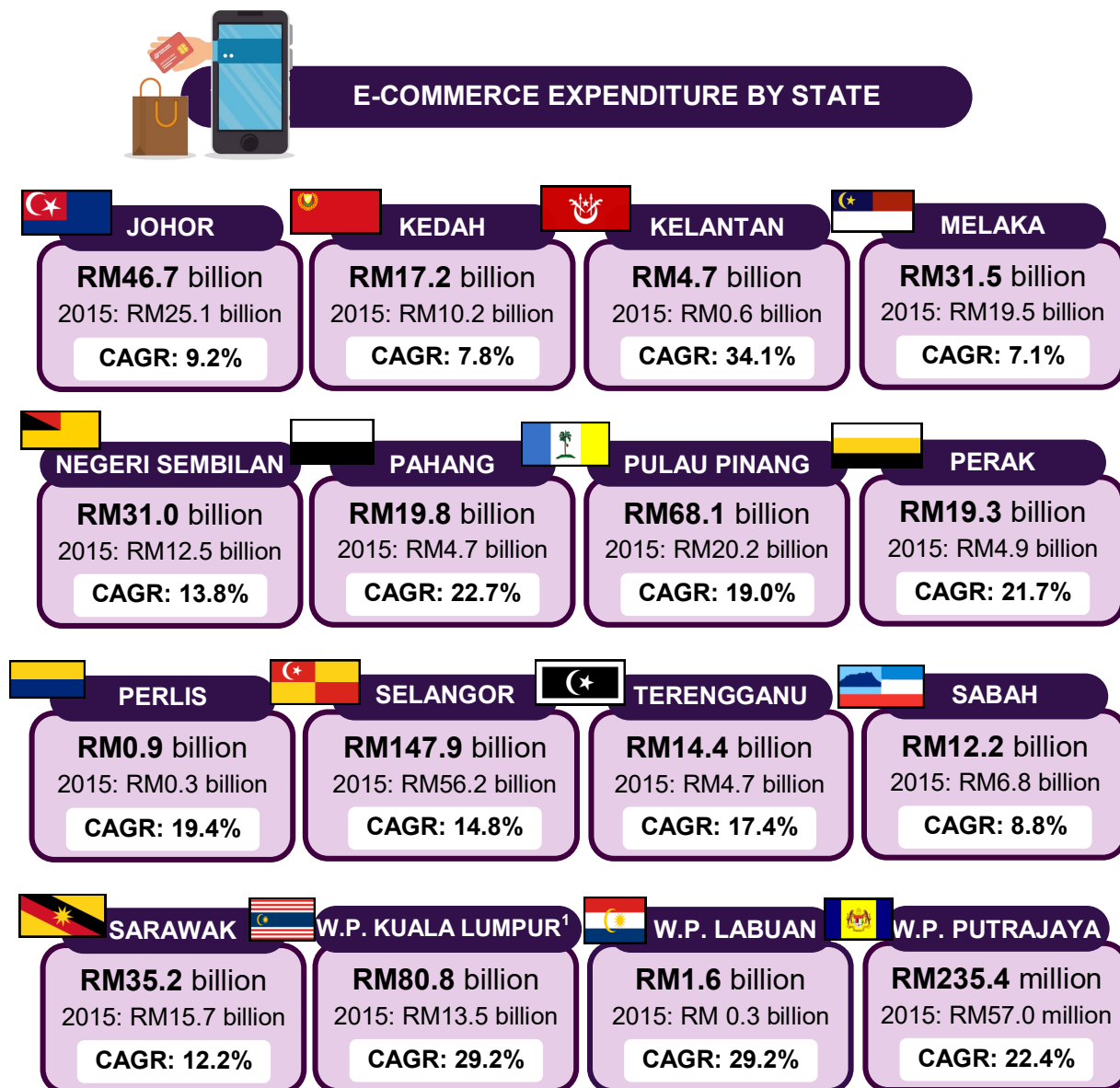
Source: Economic Census 2023 - Usage of ICT and E-Commerce by Establishment



3.3.4 E-COMMERCE EXPENDITURE BY STATE

Figure 3.6 shows that Selangor continued to record the highest expenditure from e-commerce transactions by RM147.5 billion, with an annual growth rate of 14.8 per cent. W. P. Kuala Lumpur ranks second with RM80.8 billion (CAGR: 29.2%), followed by Pulau Pinang with e-commerce expenditure of RM68.1 billion (CAGR: 19.0%).

Figure 3.6: E-Commerce Expenditure by State, 2015 and 2022



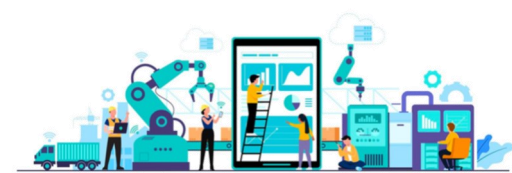
Note.

CAGR - Compound annual growth rate

¹ Include SUPRA

Supra - Covers production activities that beyond the centre of predominant economic interest for any state

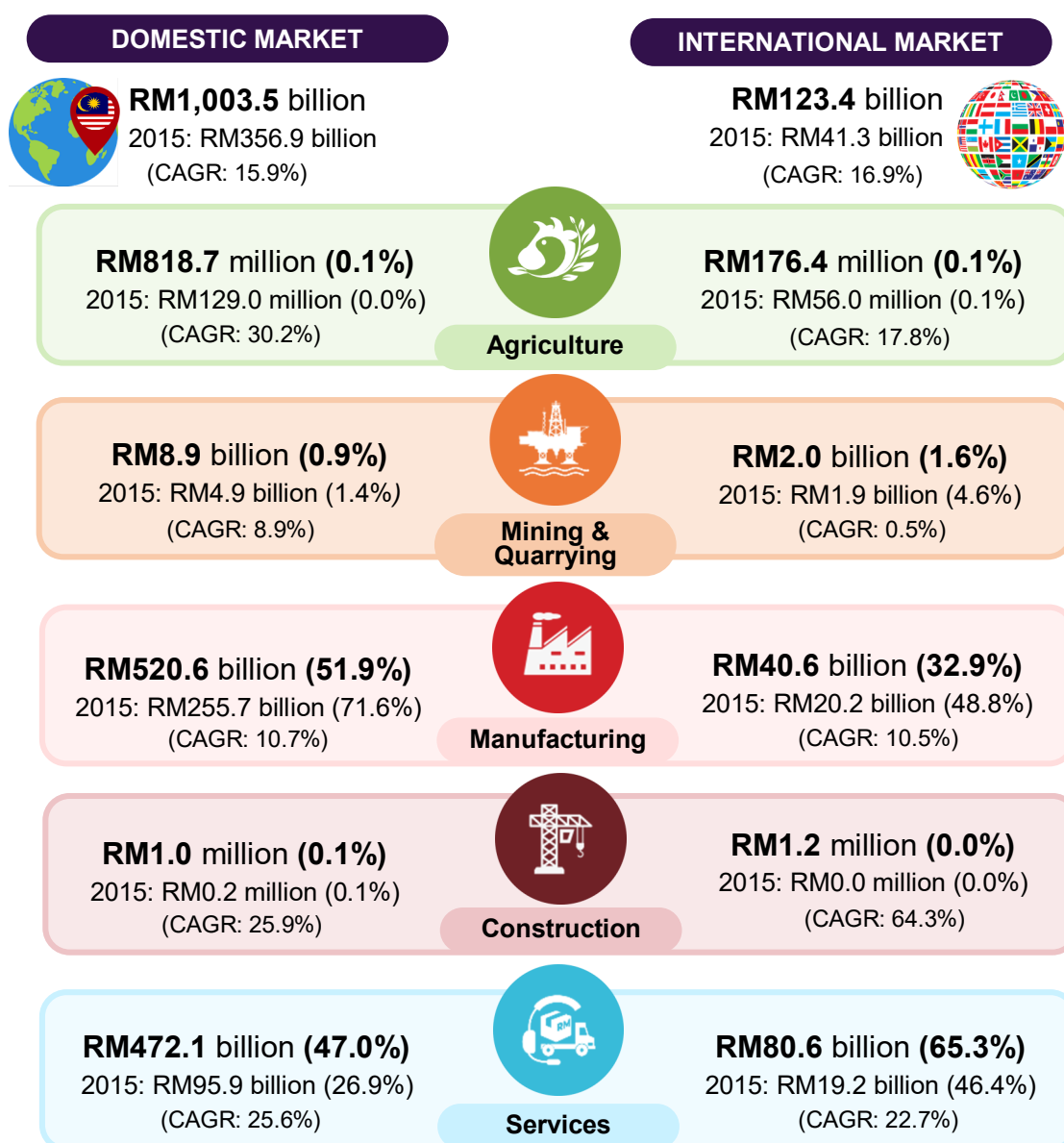
Source: Economic Census 2023 - Usage of ICT and E-Commerce by Establishment



3.3.5 E-COMMERCE INCOME BY TYPE OF MARKET

E-commerce income in Malaysia is primarily driven by the domestic market, totalling RM1,003.5 billion. Meanwhile, the international market contributes only RM123.4 billion in 2022. For the domestic market, Manufacturing sector is the main contributor with a value of RM520.6 billion. On the other hand, the international market is dominated by the Services sector, with an income of RM80.6 billion, as illustrated in **Figure 3.7**.

Figure 3.7: E-Commerce Income by Type of Market, 2015 and 2022



Note.

(%) - Percentage share

"0" refers to a value less than RM500,000

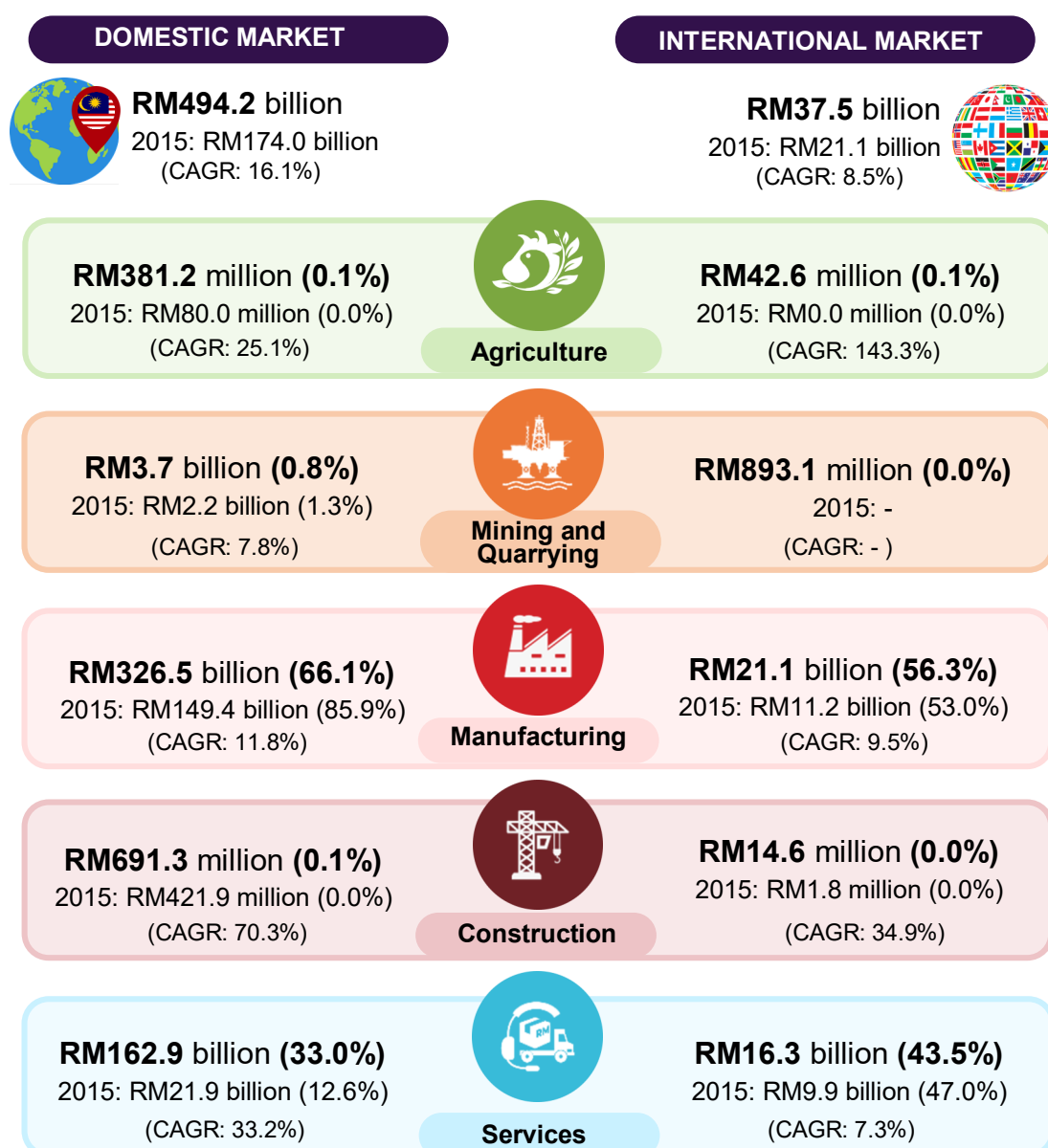
Source: Economic Census 2023 - Usage of ICT and E-Commerce by Establishment



3.3.6 E-COMMERCE EXPENDITURE BY TYPE OF MARKET

E-commerce expenditure in Malaysia is dominated by the domestic market, totalling RM494.2 billion while the international market recorded RM37.5 billion. Manufacturing sector is the main contributor to e-commerce expenditure in both type of markets, with RM326.5 billion for the domestic market and RM21.1 billion for the international market, as shown in **Figure 3.8**.

Figure 3.8: E-Commerce Expenditure by Type of Market, 2015 and 2022



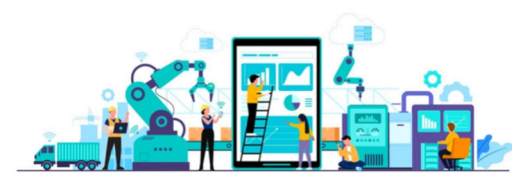
Note.

(%) - Percentage share

"0" refers to a value of less than RM500,000

"-" refers to data not available

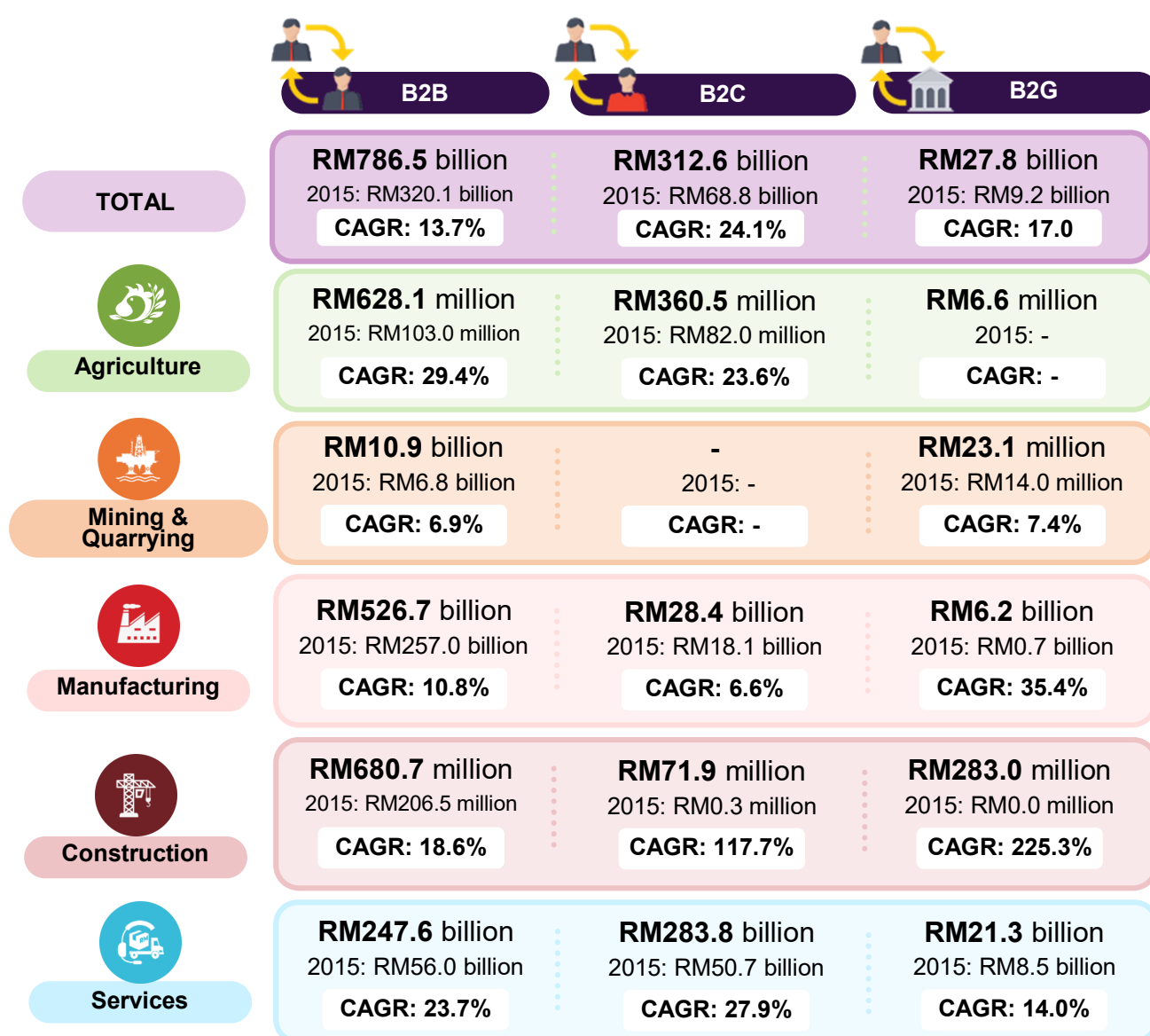
Source: Economic Census 2023 - Usage of ICT and E-Commerce by Establishment



3.3.7 E-COMMERCE INCOME BY TYPE OF CUSTOMER

The highest e-commerce income by type of customer comes from Business to Business (B2B), totalling RM786.5 billion with an annual growth rate of 13.7 per cent. Subsequently, Business to Consumer (B2C) recorded RM312.6 billion (CAGR: 24.1%), and Business to Government (B2G) contributed RM27.8 billion (CAGR: 17.0%). The Manufacturing sector is the primary contributor to B2B income, amounting to RM526.7 billion. Meanwhile, the Services sector dominates B2C and B2G with contributions of RM283.8 billion and RM21.3 billion, respectively, as shown in **Figure 3.9**.

Figure 3.9: E-Commerce Income by Type of Customer, 2015 and 2022



Note.

"0" refers to a value of less than RM500,000

"-" refers to data not available

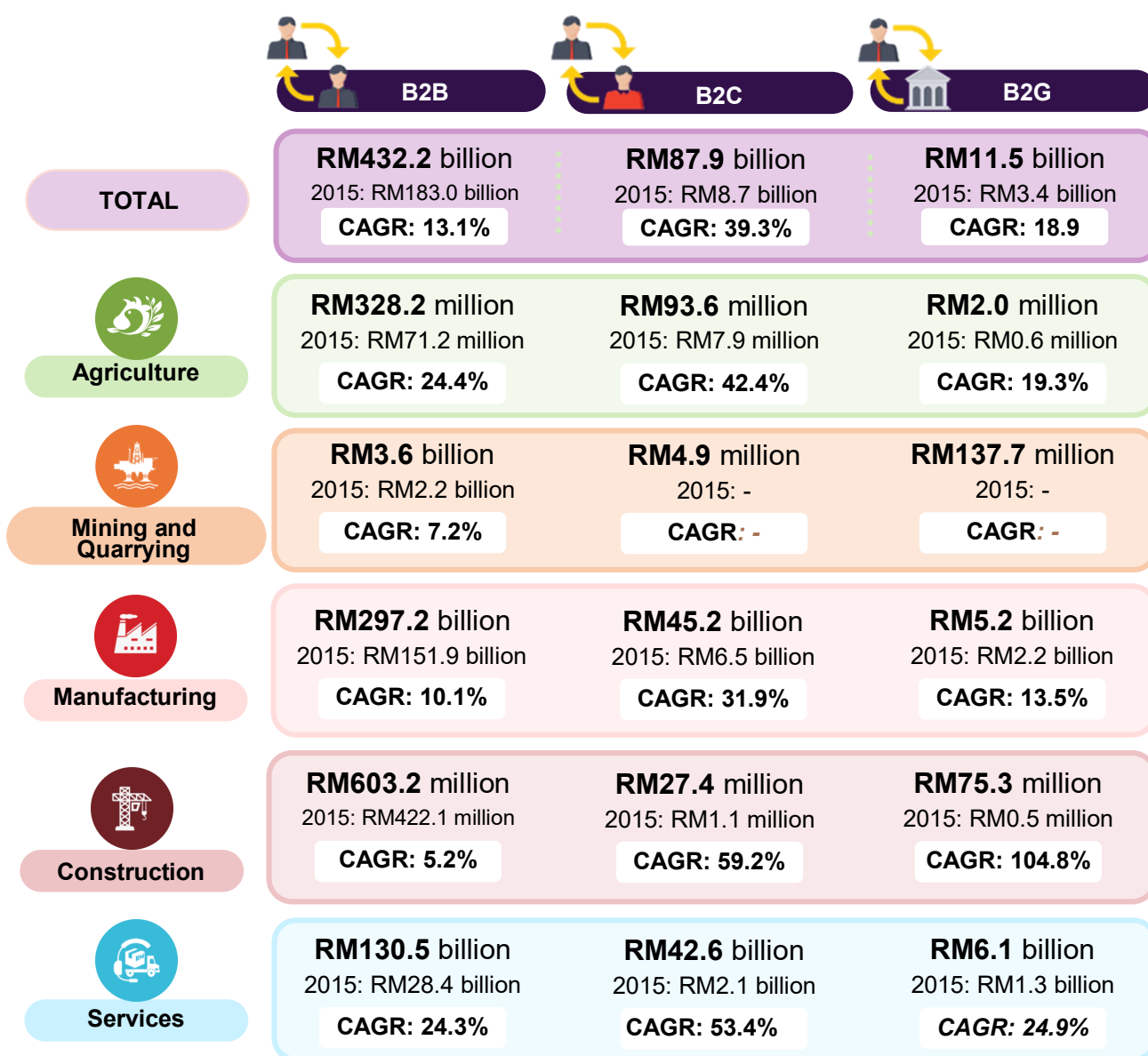
CAGR - Compound annual growth rate

Source: Economic Census 2023 - Usage of ICT and E-Commerce by Establishment

3.3.8 E-COMMERCE EXPENDITURE BY TYPE OF CUSTOMER

Expenditure from e-commerce transactions by type of customer shows that B2B recorded RM432.2 billion with an annual growth rate of 13.1 per cent. Subsequently, B2C recorded RM87.9 billion (CAGR: 39.3%), while B2G contributed RM11.5 billion (CAGR: 18.9%). The primary contributor to e-commerce expenditure is the Manufacturing sector, RM297.2 billion in B2B transactions. Meanwhile, the Services sector leads in both B2C and B2G, RM42.6 billion (CAGR: 53.4%) and RM6.1 billion (CAGR: 24.9%), respectively, as illustrated in **Figure 3.10**.

Figure 3.10: E-Commerce Expenditure by Type of Customer, 2015 and 2022



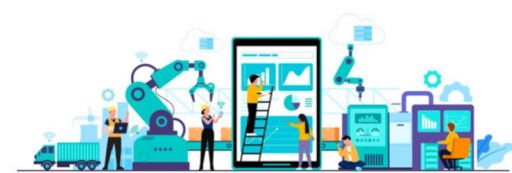
Note.

CAGR - Compound annual growth rate

"0" refers to a value of less than RM500,000

"-" refers to data not available

Source: Economic Census 2023 - Usage of ICT and E-Commerce by Establishment



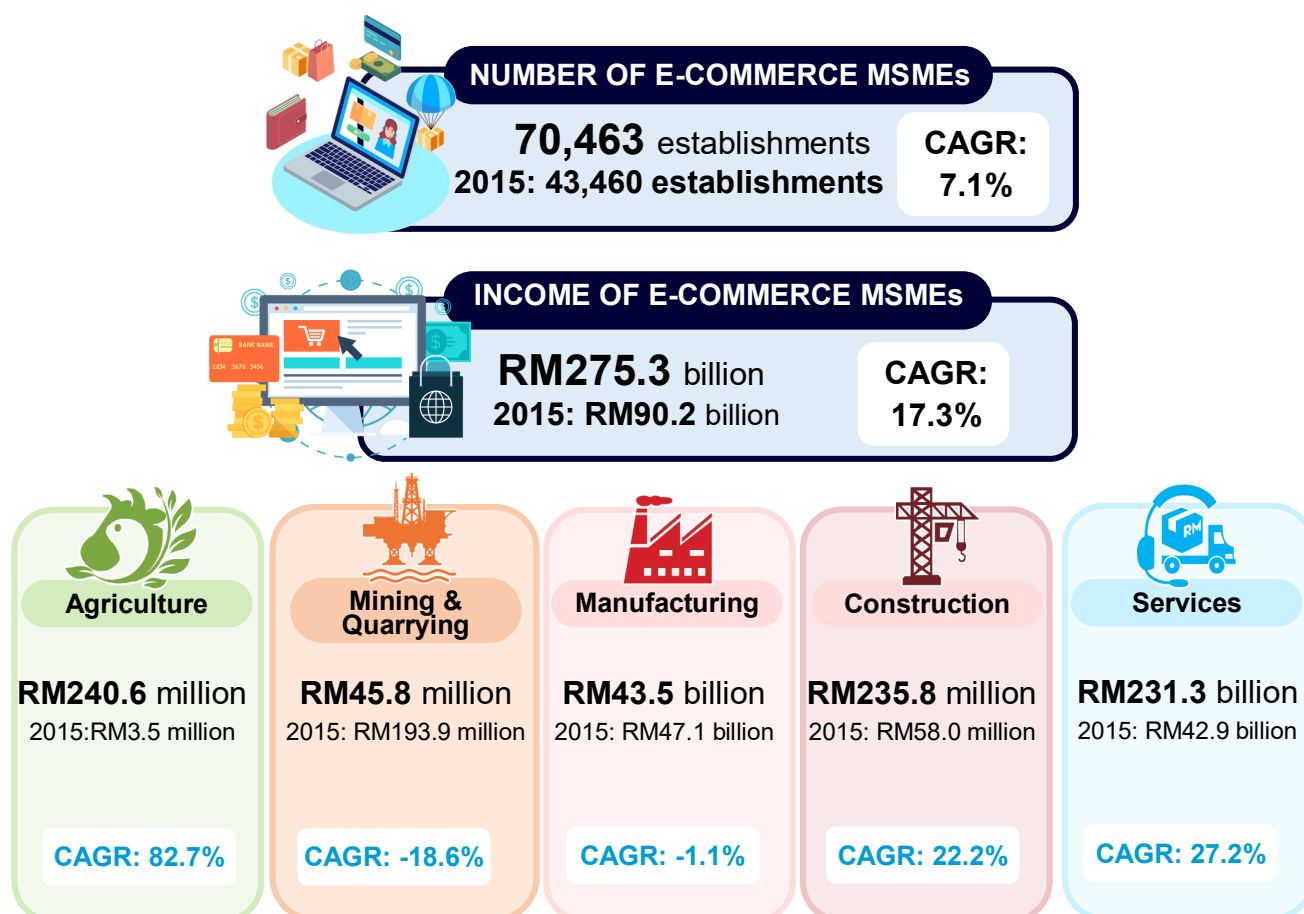
3.4 PERFORMANCE OF E-COMMERCE FOR MICRO, SMALL AND MEDIUM ENTERPRISE (MSMEs)

3.4.1 E-COMMERCE INCOME BY SECTOR

A total of 70,463 MSMEs' establishments were engaged in e-commerce transactions, compared to 43,460 establishments in 2015. E-commerce income transactions by MSMEs in Malaysia reached RM275.3 billion in 2022, an increase from RM90.2 billion in 2015. The annual growth rate in 2022 registered at 17.3 per cent.

Services sector was the largest contributor with RM231.3 billion as compared to RM42.9 billion (CAGR: 27.2%) in 2015, followed by Manufacturing sector with RM43.5 billion (CAGR: -1.1%) and Agriculture sector at RM240.6 million (CAGR: 82.7%), as shown in Figure 3.11.

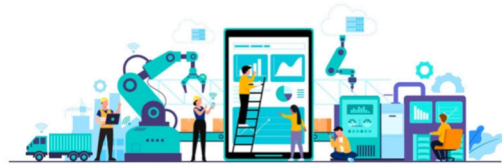
Figure 3.11: Income of E-Commerce - MSMEs, 2015 and 2022



Note.

CAGR - Compound annual growth rate

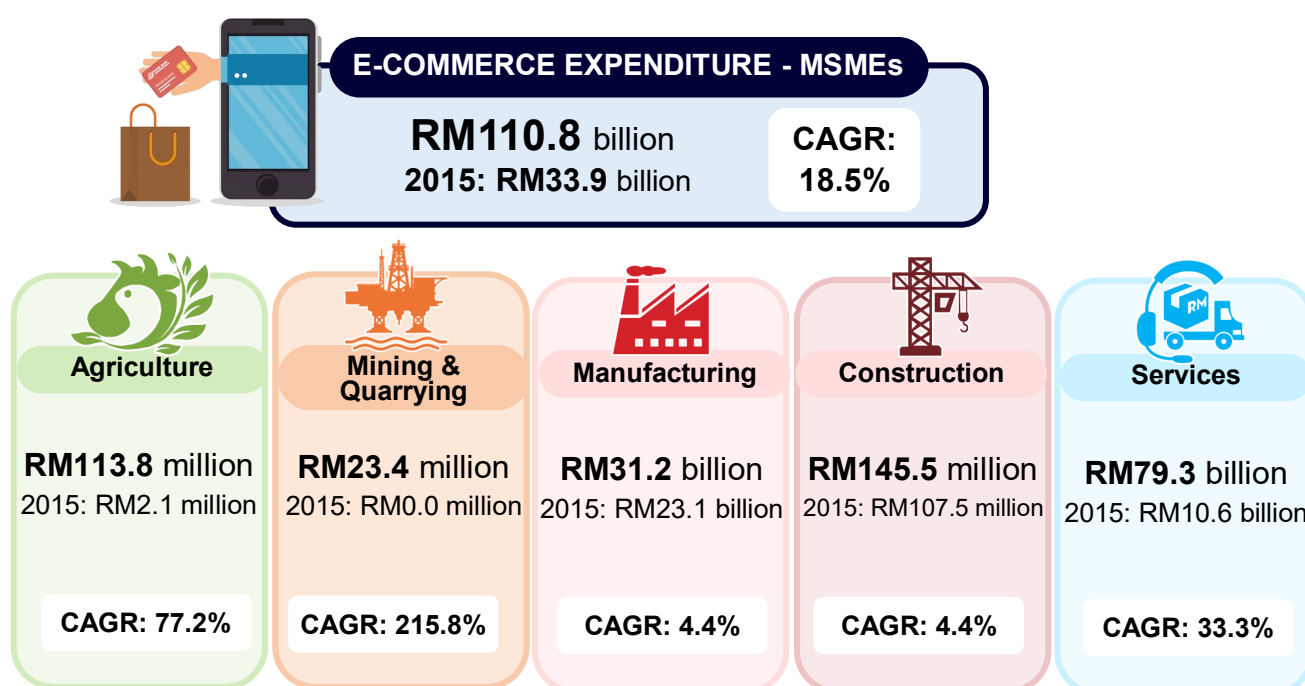
Source: Economic Census 2023 - Usage of ICT and E-Commerce by Establishment



3.4.2 E-COMMERCE EXPENDITURE BY SECTOR

In 2022, e-commerce expenditure recorded by MSMEs reached RM110.8 billion, up from RM33.9 billion in 2015, with an annual growth rate of 18.5 per cent. Services sector was the largest contributor, recording RM79.3 billion with an annual growth rate of 33.3 per cent. This was followed by Manufacturing sector at a RM31.2 billion (CAGR: 4.4%), while Construction sector recorded RM145.5 million, with an annual growth of 4.4 per cent, as shown in **Figure 3.12**.

Figure 3.12: E-Commerce Expenditure - MSMEs, 2015 and 2022



Note.

CAGR - Compound annual growth rate

"0" refers to a value of less than RM500,000

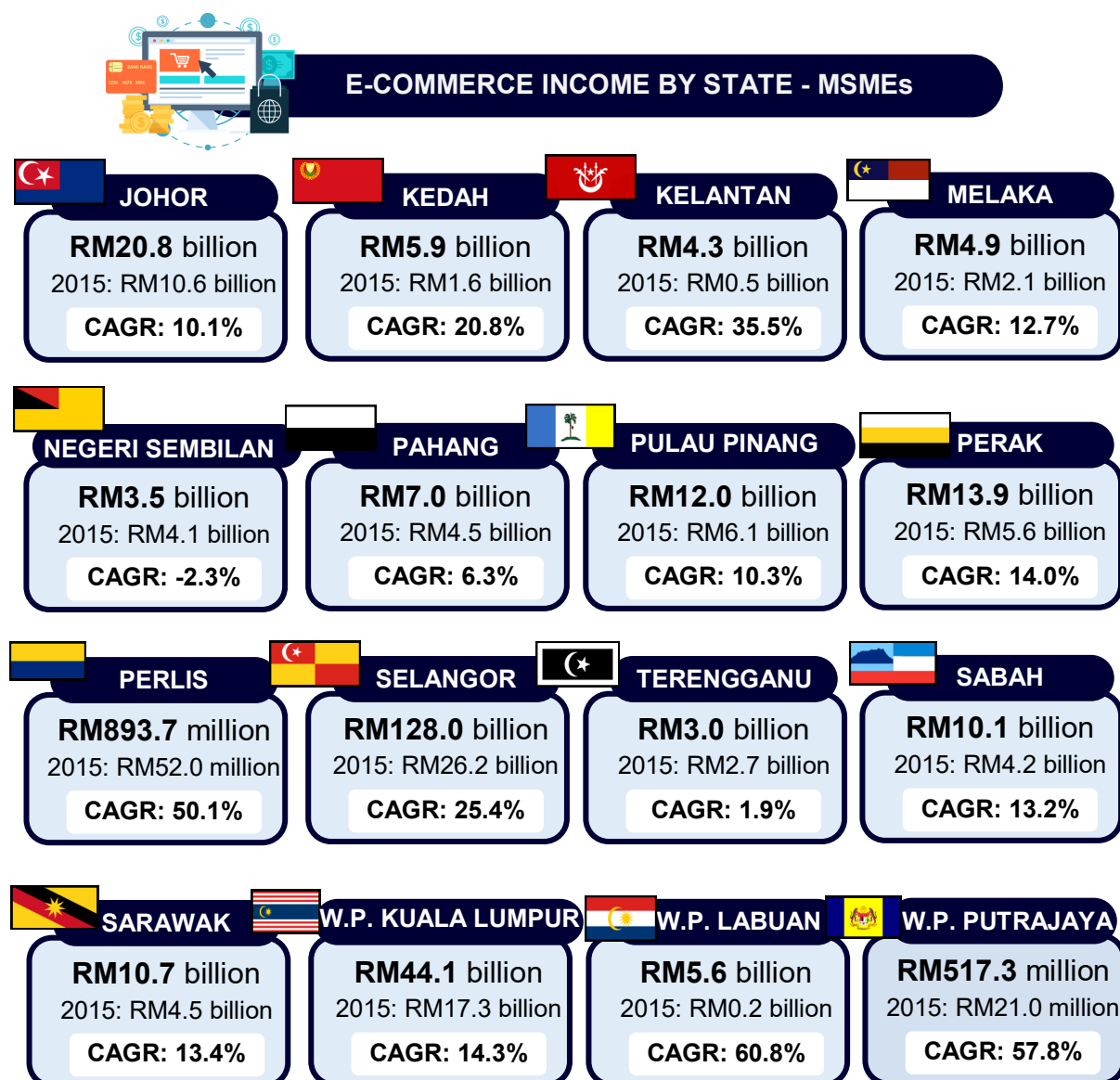
Source: Economic Census 2023 - Usage of ICT and E-Commerce by Establishment



3.4.3 E-COMMERCE INCOME BY STATE

Figure 3.13 shows the income of e-commerce generated by MSMEs according to state. Selangor recorded the highest income transactions, totalling RM128.0 billion, with an annual growth rate of 25.4 per cent. W.P. Kuala Lumpur ranked second with RM44.1 billion (CAGR: 14.3%), while Pulau Pinang registered RM12.0 billion (CAGR: 10.3%) as the third highest in e-commerce income.

Figure 3.13: E-Commerce Income by State - MSMEs, 2015 and 2022



Note.

CAGR - Compound annual growth rate

“-” refers to data not available

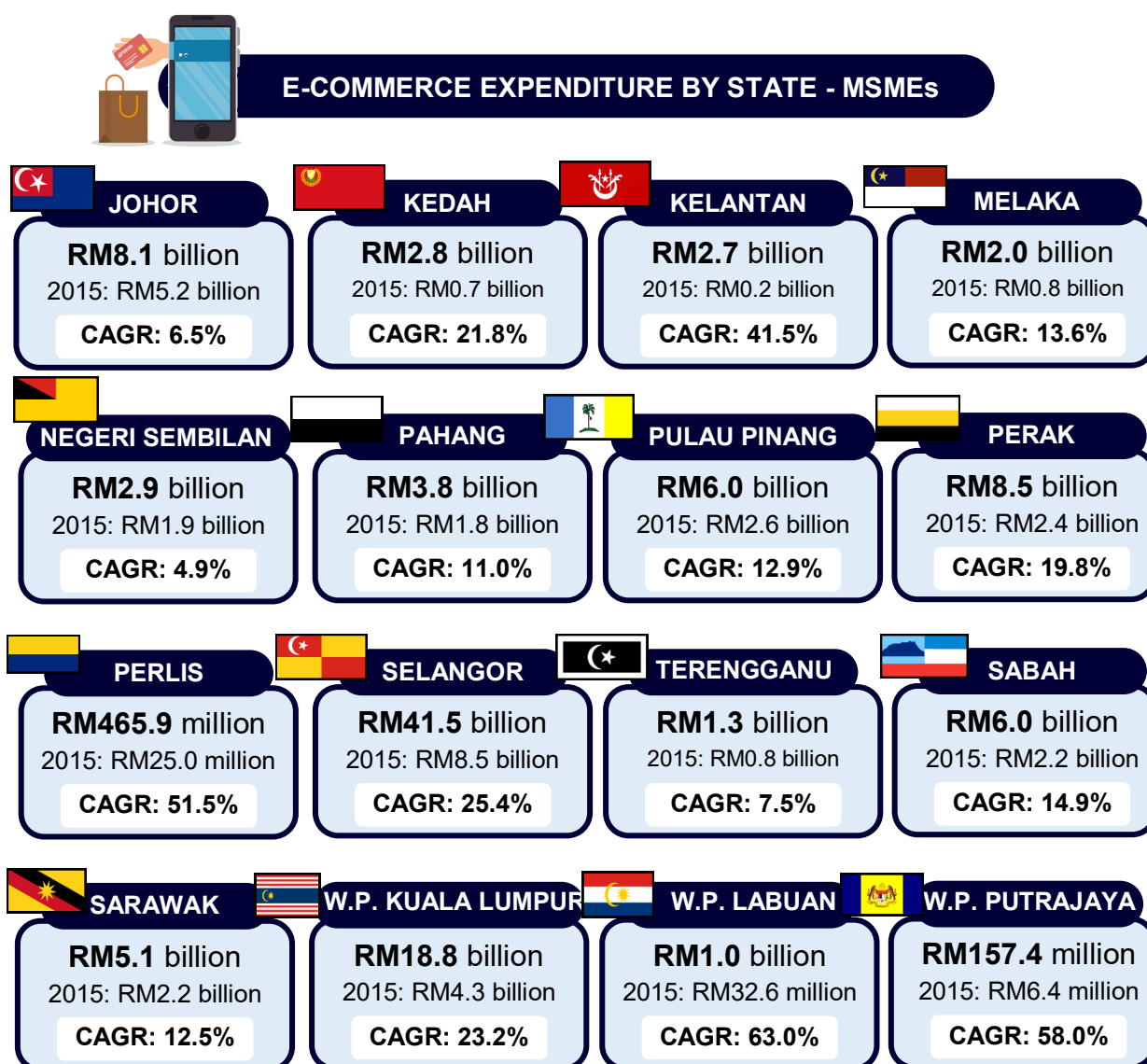
Source: Economic Census 2023 - Usage of ICT and E-Commerce by Establishment



3.4.4 E-COMMERCE EXPENDITURE BY STATE

As shown in **Figure 3.14**, Selangor continued to hold the highest e-commerce expenditure among MSMEs, amounting to RM41.5 billion, with an annual growth rate of 25.4 per cent. W.P. Kuala Lumpur ranked second with RM18.8 billion (CAGR: 23.2%), followed by Pulau Pinang with e-commerce expenditures of RM6.0 billion (CAGR: 12.9%).

Figure 3.14: E-Commerce Expenditure by State - MSMEs, 2015 and 2022



Note.

CAGR - Compound annual growth rate

"-" refers to data not available

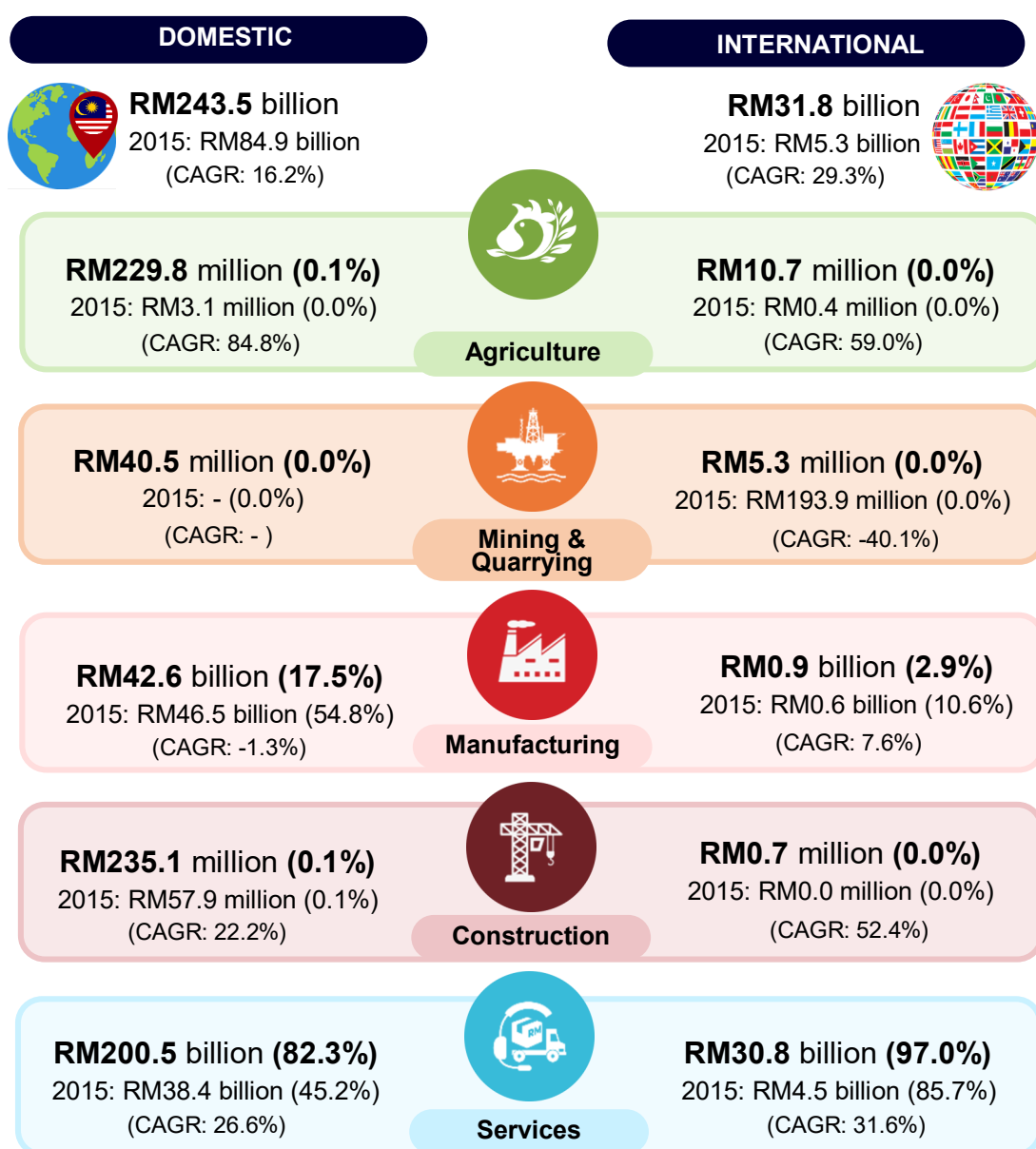
Source: Economic Census 2023 - Usage of ICT and E-Commerce by Establishment



3.4.5 E-COMMERCE INCOME BY TYPE OF MARKET

E-commerce income by MSMEs in Malaysia is largely driven by the domestic market, totalling RM243.5 billion. Meanwhile, the international market contributes RM31.8 billion. For the domestic market, Services sector is the largest contributor, with income amounting to RM200.5 billion. In addition, Services sector also recorded the highest contribution in the international market, with earnings of RM 30.8 billion, as shown in **Figure 3.15**.

Figure 3.15: E-Commerce Income by Type of Market - MSMEs, 2015 and 2022



Note.

(%) - Percentage share

"0" refers to a value of less than RM500,000

"-" refers to data not available

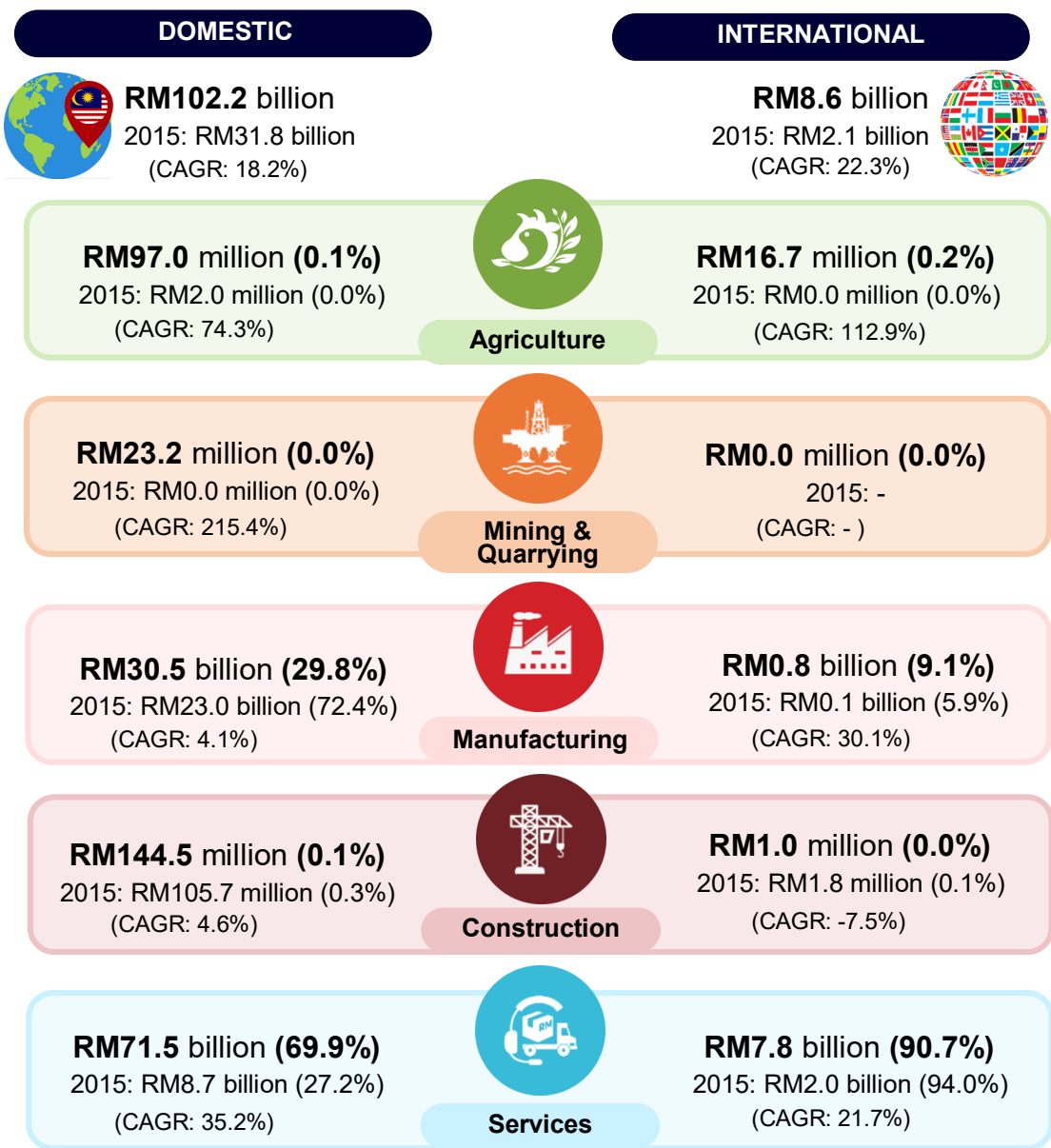
Source: Economic Census 2023 - Usage of ICT and E-Commerce by Establishment



3.4.6 E-COMMERCE EXPENDITURE BY TYPE OF MARKET

E-commerce expenditure by MSMEs in Malaysia were predominantly led by the domestic market, which recorded RM102.2 billion. Meanwhile, the international market recorded RM8.6 billion. Services sector is the primary contributor to e-commerce expenditure in both markets, with RM71.5 billion for the domestic market and RM7.8 billion for the international market, as shown in **Figure 3.16**.

Figure 3.16: E-Commerce Expenditure by Type of Market - MSMEs, 2015 and 2022



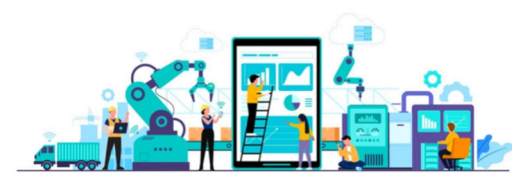
Note.

(%) - Percentage share

"0" refers to a value of less than RM500,000

"-" refers to data not available

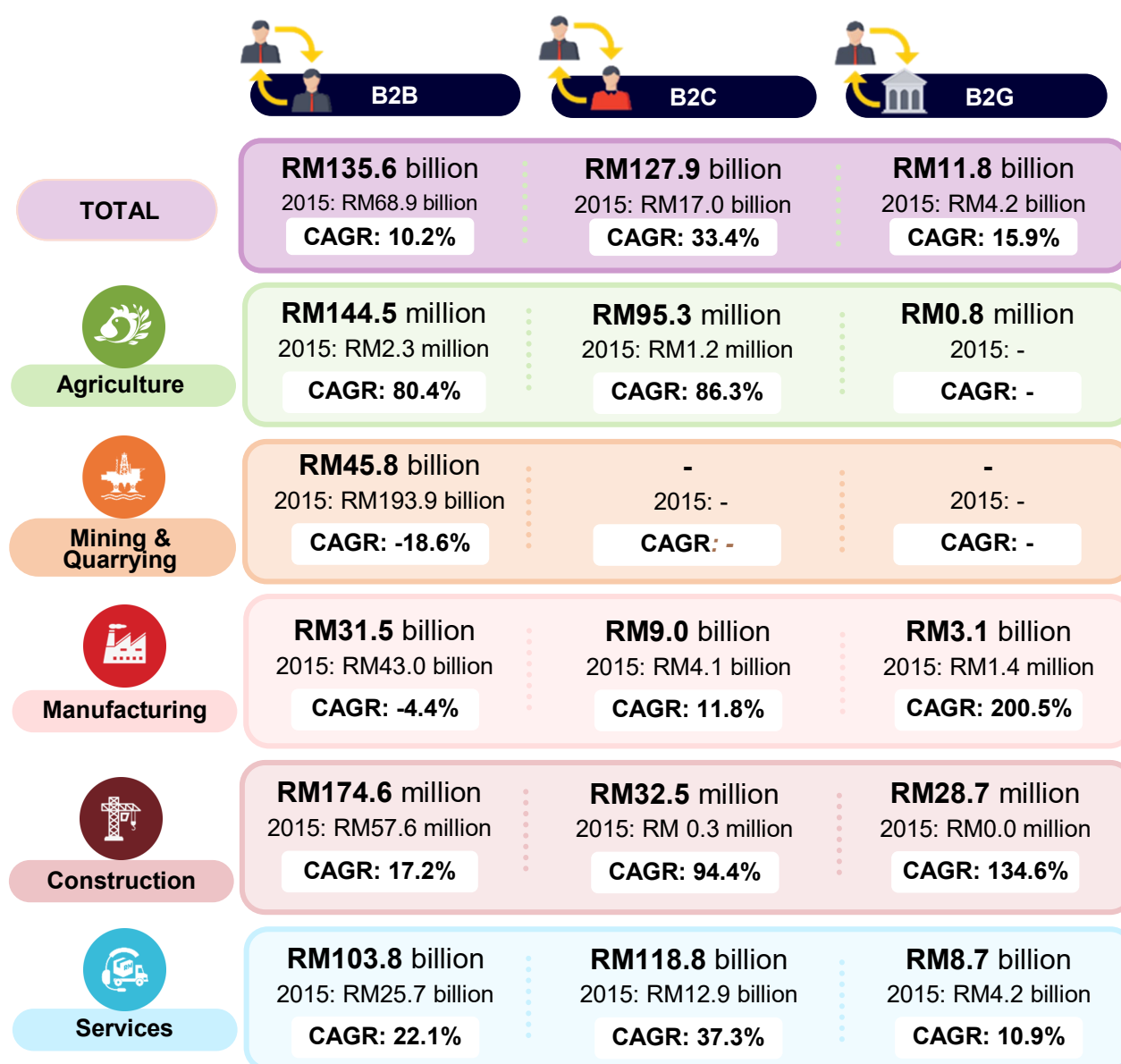
Source: Economic Census 2023 - Usage of ICT and E-Commerce by Establishment



3.4.7 E-COMMERCE INCOME BY TYPE OF CUSTOMER

The highest e-commerce income by MSMEs, based on customer type, comes from Business to Business (B2B) transaction, totalling RM135.6 billion with an annual growth rate of 10.2 per cent. This was followed by Business to Consumer (B2C) recorded RM127.9 billion (33.4%), and Business to Government (B2G) contributed RM11.8 billion, with an increase of 15.9 per cent. Services sector is the main contributor to B2B, B2C and B2G, with contribution of RM103.8 billion, RM 118.8 billion and RM 8.7 billion, respectively, as shown in **Figure 3.17**.

Figure 3.17: E-commerce Income by Type of Customer - MSMEs, 2015 and 2022



Note.

CAGR - Compound annual growth rate

"0" refers to a value of less than RM500,000

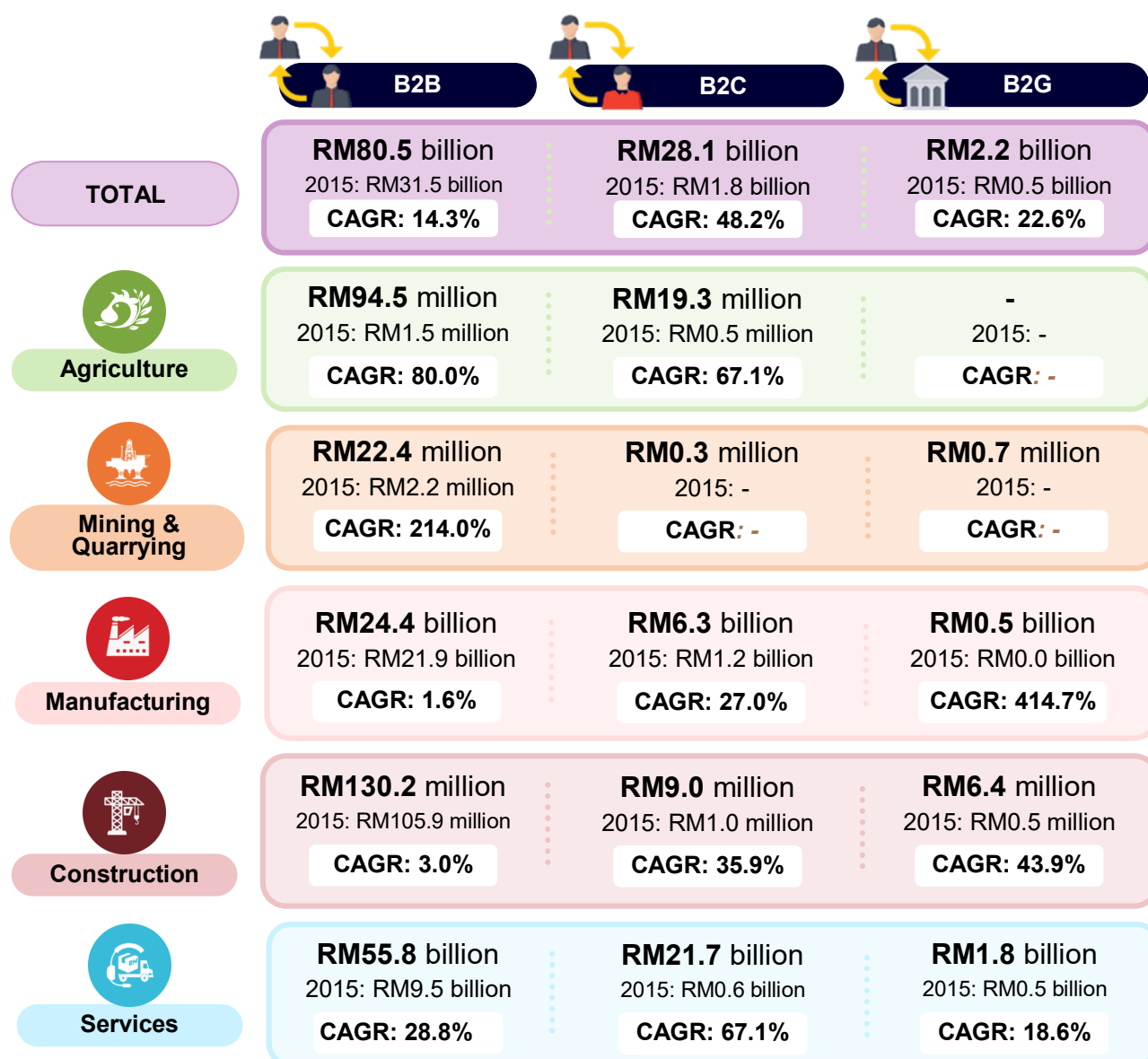
"-" refers to data not available

Source: Economic Census 2023 - Usage of ICT and E-Commerce by Establishment

3.4.8 E-COMMERCE EXPENDITURE BY TYPE OF CUSTOMER

E-commerce expenditure transactions among MSMEs by type of customer shows that B2B recorded RM80.5 billion with an annual growth rate of 14.3 per cent. This was followed by B2C registered RM28.1 billion (CAGR: 48.2%), and B2G contributed RM2.2 billion (CAGR: 22.6%). Services sector is the main contributor to e-commerce expenditure across all three customer types, with RM55.8 billion for B2B, RM21.7 billion for B2C, and RM1.8 billion for B2G, as shown in **Figure 3.18**.

Figure 3.18: E-Commerce Expenditure by Type of Customer - MSMEs, 2015 and 2022



Note.

CAGR - Compound annual growth rate

"0" refers to a value of less than RM500,000

"-" refers to data not available

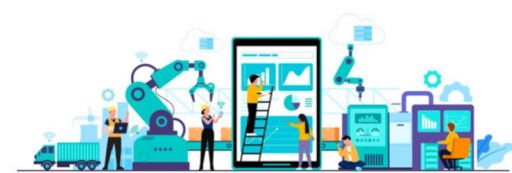
Source: Economic Census 2023 - Information and Communication Services

ACCESS AND USAGE OF ICT

CHAPTER 4



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4. ACCESS AND USAGE OF ICT

This chapter presents information on the access and usage of ICT among individuals, households, and establishments. The data for individuals and households were obtained from the ICT Use and Access by Individuals and Households Survey Report (ICTHS) 2023, while information on establishments was sourced from the Economic Census 2023: Usage of ICT and e-commerce by Establishment (ICTEC).

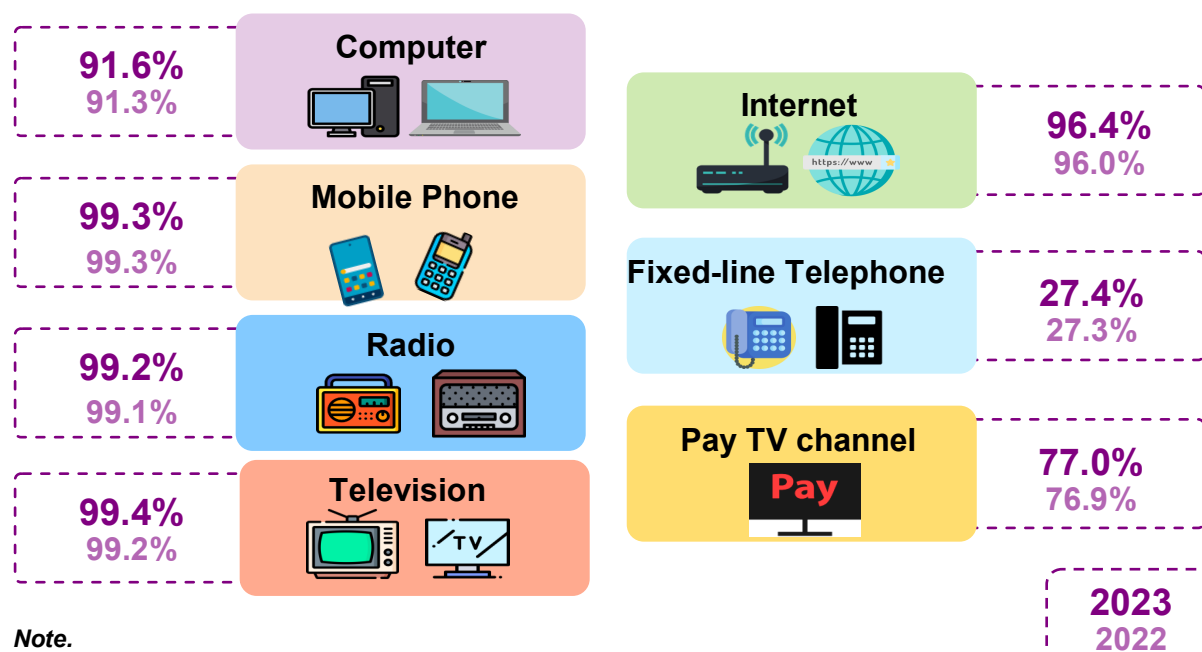
4.1 ICT USAGE AND ACCESS BY INDIVIDUALS AND HOUSEHOLDS

This section presents the findings of the 2023 Survey of ICT Use and Access by Individuals and Households (ICTHS). It provides the most recent statistics on the access and use of ICT equipment and services by individuals and households. The guidelines, concepts and definitions used in this report are based on the Manual for Measuring ICT Access and Use by Households and Individuals, 2020 Edition published by the International Telecommunication Union (ITU). The main objectives of these survey to obtain the latest and specific information on ICT use and access by individuals and households while to measure development of national ICT and Digital Economy.

4.1.1 ACCESS TO ICT SERVICES AND EQUIPMENT BY HOUSEHOLDS

Based on the survey findings (**Figure 4.1**), the percentage of household access to ICT services and equipment showed a marginal increase as compared to 2022. Television registered 99.4 per cent followed by radio (99.2%) and Internet (96.4%) in 2023. Meanwhile, the percentage of households with access to fixed-line telephone and pay TV channel rose to 27.4 per cent and 77.0 per cent, respectively.

Figure 4.1: Percentage of Households with Access to ICT Services and Equipment, Malaysia, 2022 and 2023



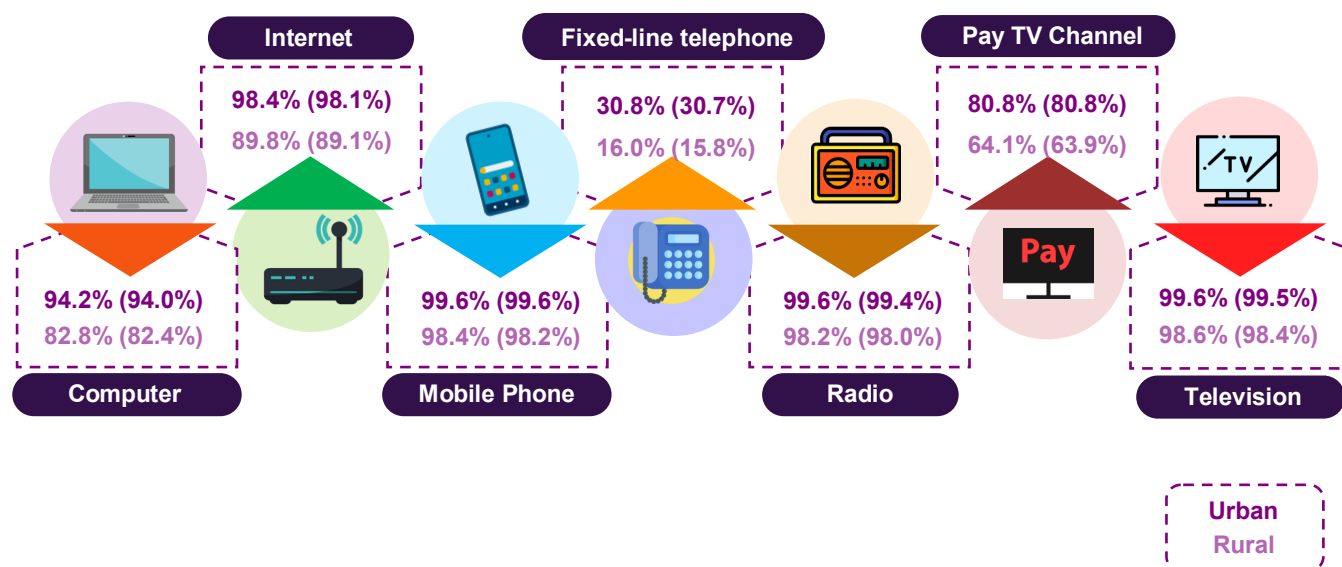


4.1.1.1 Access to ICT Services and Equipment by Strata

Urban households exhibited an upward trend in the percentage of access to ICT equipment and services, namely, radio (99.6%), television (99.6%), Internet (98.4%), computer (94.2%) and fixed-line telephone (30.8%). Meanwhile, the percentage of household access to mobile phones and pay TV channel remained unchanged 99.6 per cent and 80.8 per cent, respectively.

Rural households also witnessed an increase in access to ICT services and equipment which include Internet (89.8%), television (98.6%), radio (98.2%), computer (82.8%), fixed-line telephone (16.0%), mobile phone (98.4%) and pay TV channel (64.1%) as shown in **Figure 4.2**.

Figure 4.2: Percentage of Households with Access to ICT Services and Equipment by Strata, Malaysia, 2022 dan 2023



4.1.2 USE OF ICT SERVICES AND EQUIPMENT BY INDIVIDUALS

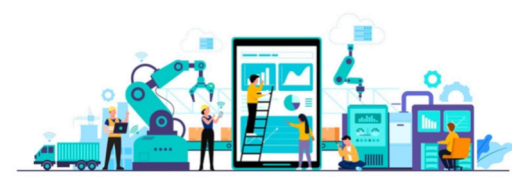
4.1.2.1 Mobile Phone Ownership and Usage

Mobile phone ownership by individuals in Malaysia increased to 98.4 per cent in 2023 as compared to 98.2 per cent in 2022. The percentage contribution of mobile phone ownership by individuals in urban and rural areas was 99.0 per cent and 96.3 per cent, respectively.

Note.

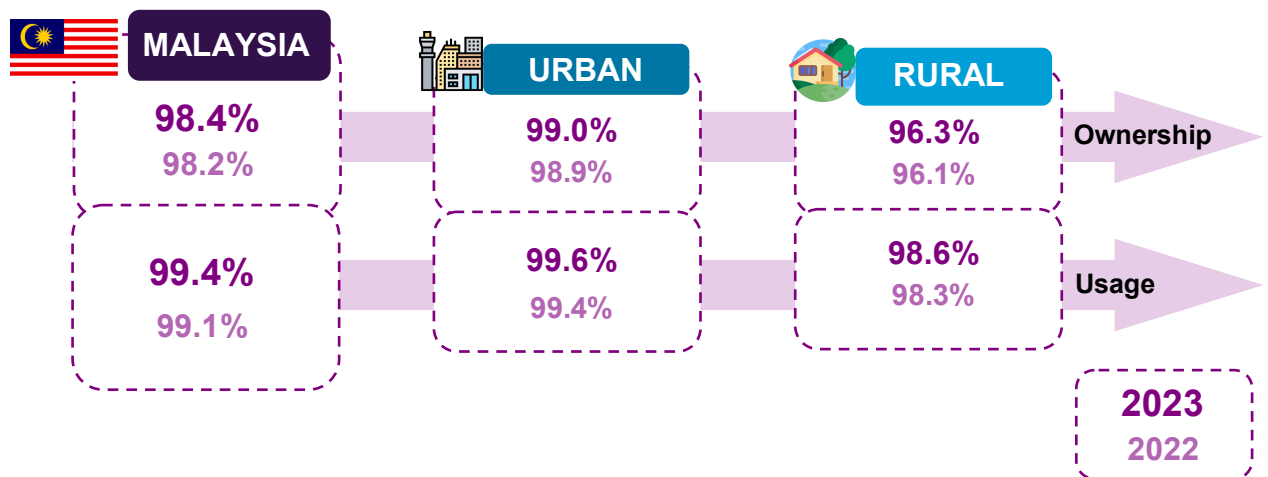
Figures in bracket refer to the percentage of ICT access in 2022

Source: ICT Use and Access by Individuals and Household Survey Report, 2023



In terms of usage, individuals who use mobile phone reached 99.4 per cent. Mobile phone usage in urban and rural areas was 99.6 per cent and 98.6 per cent, respectively as shown in **Figure 4.3**.

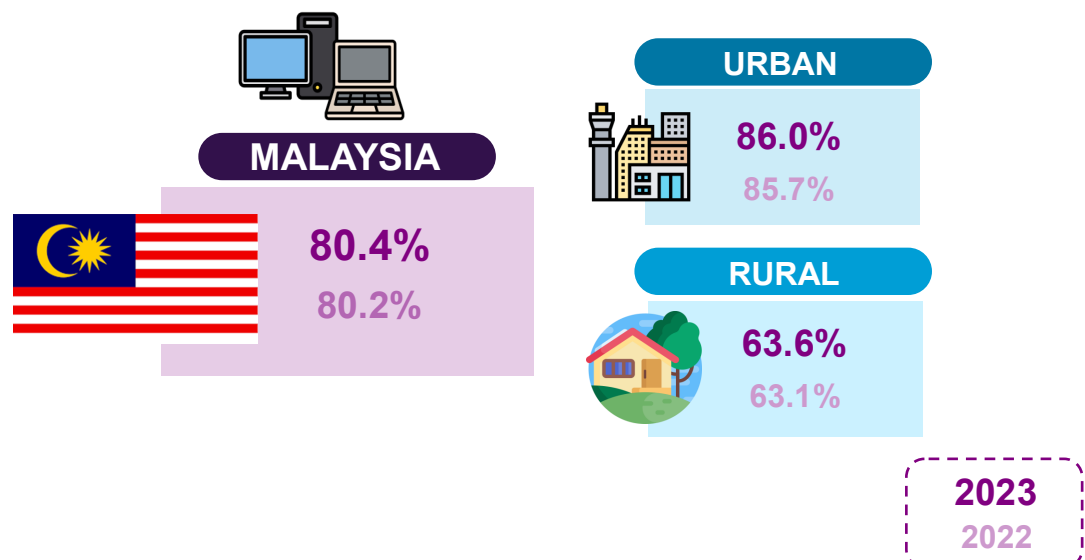
Figure 4.3: Percentage of Individuals Owning and Using Mobile Phone by Strata, Malaysia, 2022 dan 2023



4.1.2.1 Computer Usage

Computer usage includes the use of all types of computers, namely personal computers, laptops or portable electronic boards. Based on the survey findings, computer usage also showed 0.2 percentage points increment to 80.4 per cent in 2023 (2022: 80.2%). Similarly, computer usage in urban and rural areas also increased to 86.0 per cent (0.3 percentage points) and 63.6 per cent (0.5 percentage points), respectively as shown in **Figure 4.4**.

Figure 4.4: Percentage of Individuals Using Computer by Strata, Malaysia, 2022 dan 2023



Note.

Source: ICT Use and Access by Individuals and Household Survey Report, 2023

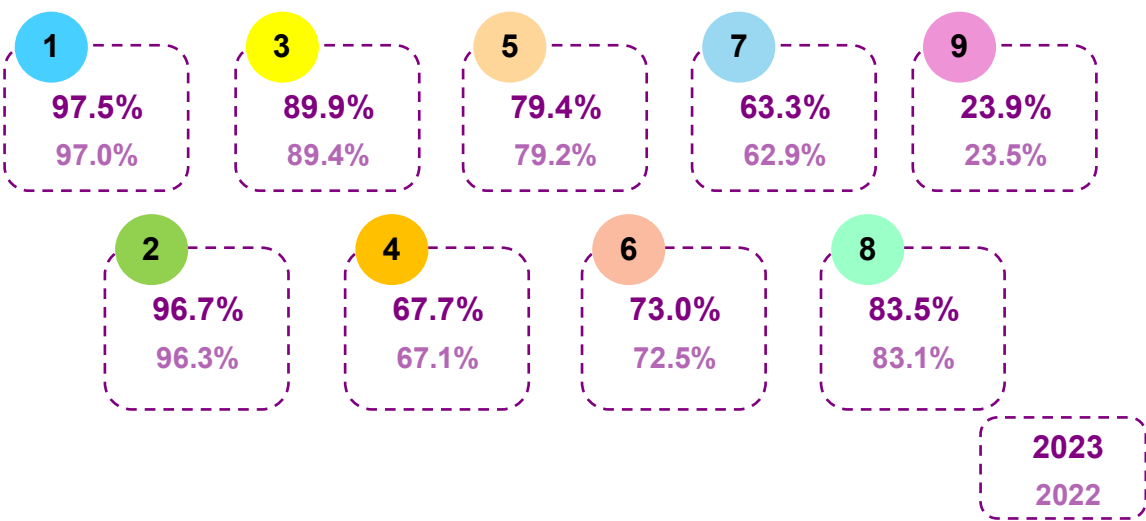


4.1.2.3 ICT Skills

ICT skills is one of the indicators monitored in the Sustainable Development Goals (SDGs) which is SDG 4.4.1, Proportion of youth and adults with information and communications technology (ICT) skills, by type of skill. The statistics derived from these activities can provide valuable information for policymaker aiming to enhance ICT skills. By prioritising the improvement of ICT skills, societies can foster an informed and knowledgeable community.

Five activities that showed the highest percentage in 2023 are copying or moving a file or folder (97.5%). This is followed by the activity of using copy and paste tools to duplicate or move information within a document (96.7%), sending an e-mail with attached files (89.9%), transferring files between a computer and other mobile devices (83.5%) and connecting and installing new devices (79.4%) as shown in **Figure 4.5**.

Figure 4.5: Percentage of Individuals Using Computer by ICT Skills, Malaysia, 2022 dan 2023



Note.

1. Copying or moving a file or folder

2. Using copy and paste tools to duplicate or move information within a document

3. Sending an e-mail with attached files

4. Using basic arithmetic formulas in a spreadsheet

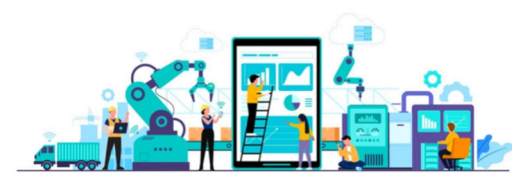
5. Connecting and installing new devices
6. Searching, downloading, installing and configuring software

7. Creating electronic presentations using computer software

8. Transferring files between a computer and other mobile devices

9. Writing a computer program using a specialised programming language

Source: ICT Use and Access by Individuals and Household Survey Report, 2023

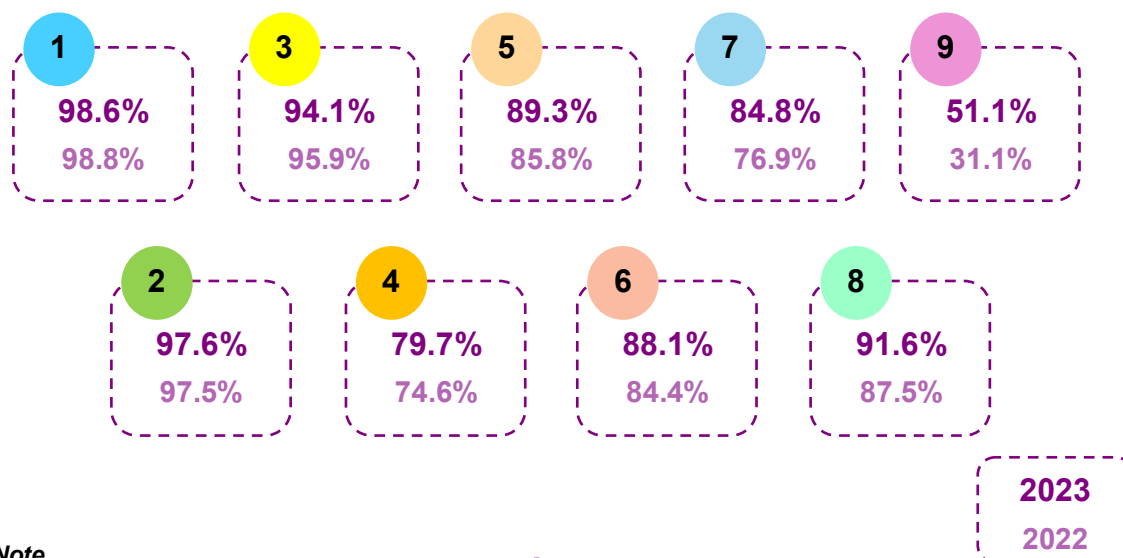


4.1.2.4 Computer Skills by Youth

Computer skills are categorised as basic, intermediate and advance. Youth refer to individuals aged between 15 to 24 years.

Overall, the performance of youth ICT skills reached an intermediate level and approached the performance of advanced skills. Based on the findings of the survey, 98.6 per cent of youth who use a computer carry out the activity of copying or transferring files or folders. For the intermediate level, 84.8 per cent of youth create electronic presentation activities using computer software. Approximately, 51.1 per cent has the skill to write a computer program using a specialised programming language as shown in **Figure 4.6**.

Figure 4.6: Percentage of Youth Using Computer by ICT Skills, Malaysia, 2022 and 2023



Note.

1. Copying or moving a file or folder
2. Using copy and paste tools to duplicate or move information within a document
3. Sending an e-mail with attached files
4. Using basic arithmetic formulas in a spreadsheet
5. Connecting and installing new devices
6. Searching, downloading, installing and configuring software
7. Creating electronic presentations using computer software
8. Transferring files between a computer and other mobile devices
9. Writing a computer program using a specialised programming language

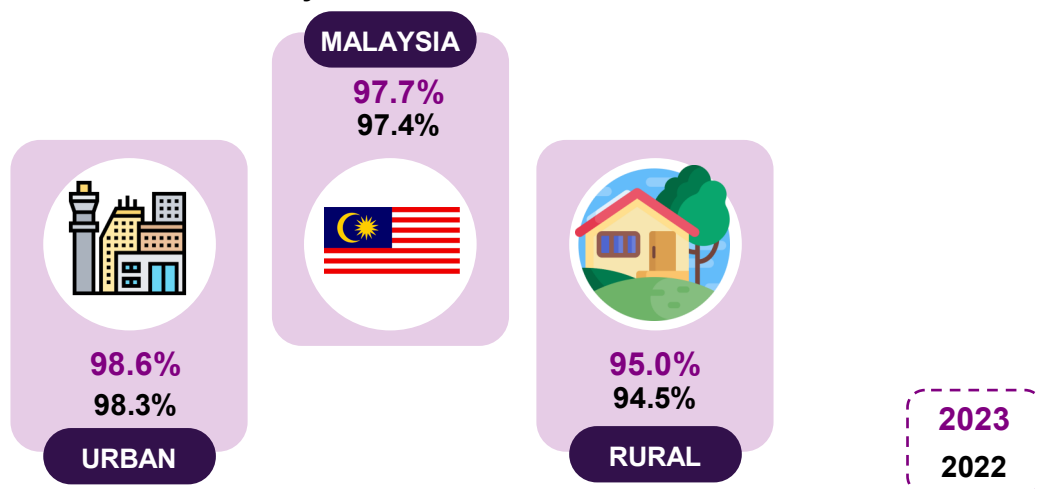
Source: ICT Use and Access by Individuals and Household Survey Report, 2023

4.1.2.5 Internet Usage

Internet usage by individuals in Malaysia increased to 97.7 per cent in 2023 from 97.4 per cent in 2022 (0.3 percentage point). Meanwhile, Internet users in urban and rural areas were 98.6 per cent and 95.0 per cent, respectively in 2023 as shown in **Figure 4.7**.



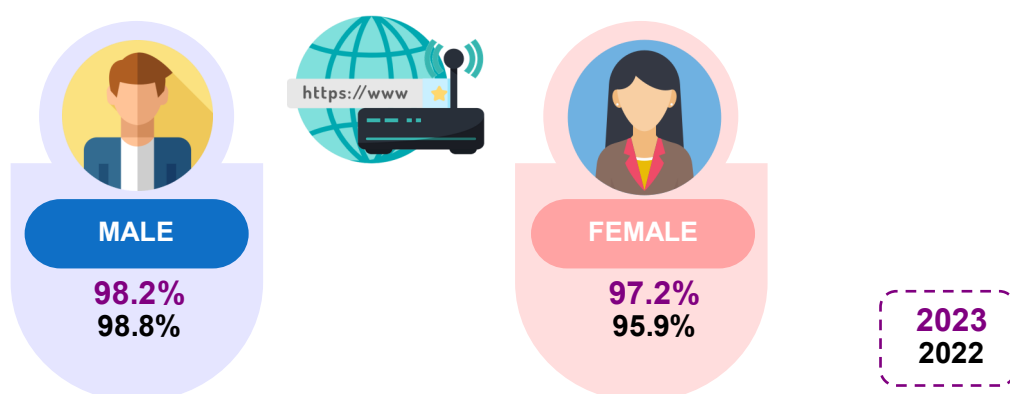
Figure 4.7: Percentage of Individuals Using the Internet by Strata, Malaysia, 2022 and 2023



4.1.2.6 Internet Usage by Sex

Internet usage for male displayed a higher rate at 98.2 per cent as compared to female 97.2 per cent in 2023. The gender gap in Internet usage refers to the disparity in the percentage of Internet usage between male and female users. The gender gap in Internet usage narrowed by 1.0 percentage points in 2023 as compared to the previous year gap of 2.9 percentage points as shown in **Figure 4.7**.

Figure 4.8: Percentage of Individuals Using the Internet by Sex, Malaysia, 2022 and 2023



4.1.2.7 Internet Usage by Age Group

Internet usage by age group are exceeded 95.0 per cent for all age groups except for the age group of 60 years and above which recorded a lower percentage at 86.9 per cent in 2023. Meanwhile, the highest Internet users were in the age group of 20 to 39 years (99.6%) as shown in **Figure 4.9**.

Note.

Source: ICT Use and Access by Individuals and Household Survey Report, 2023

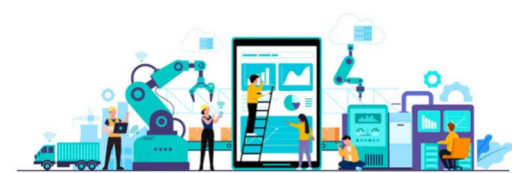
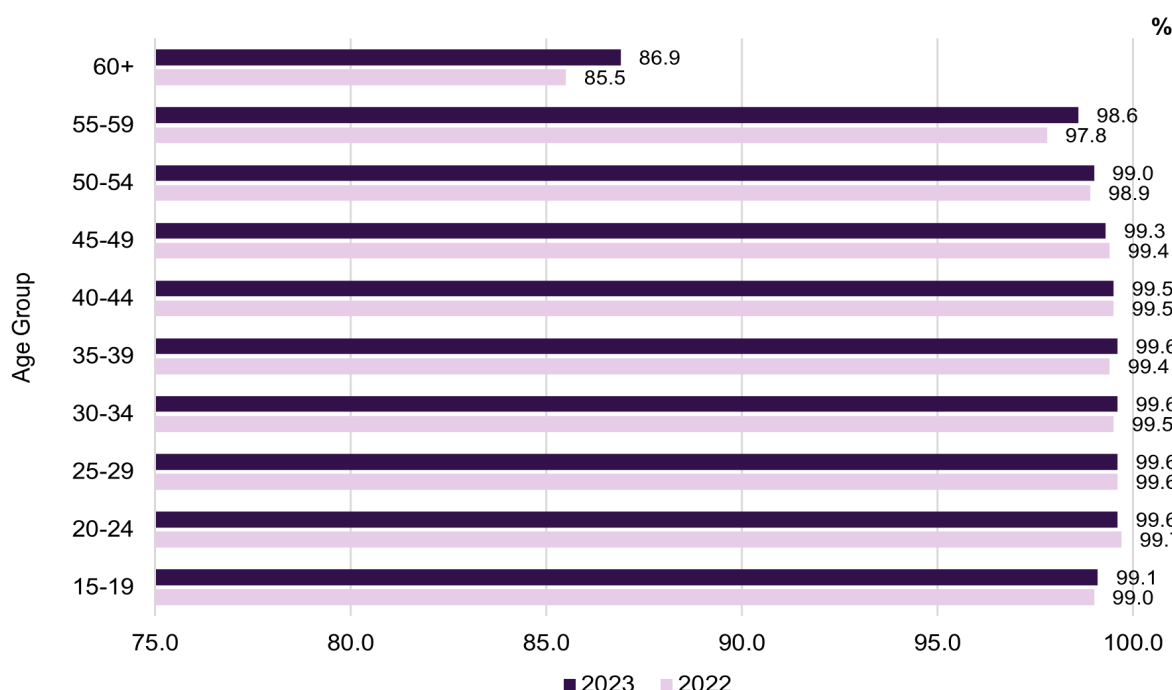


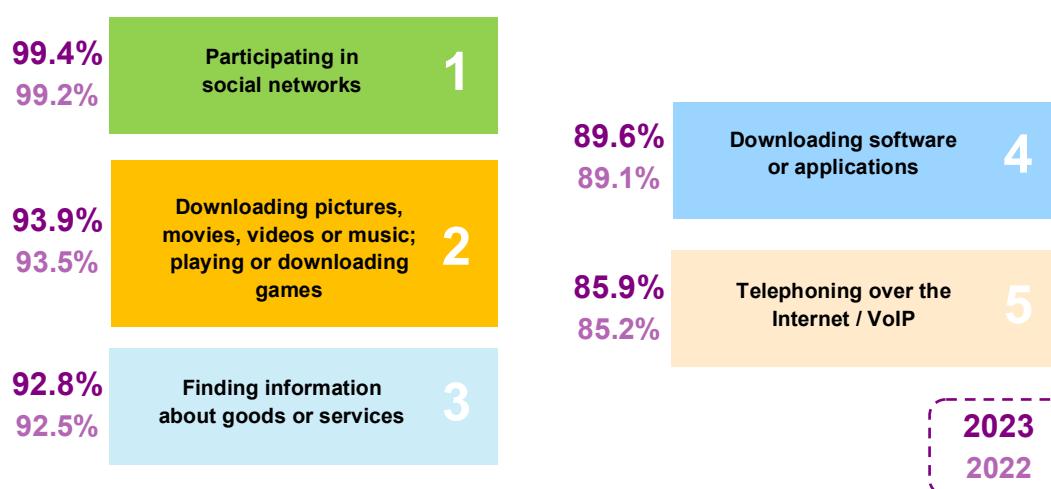
Figure 4.9: Percentage of Individuals Using the Internet by Age Group, Malaysia, 2022 and 2023



4.1.2.8 Internet Usage by Activities

The most popular Internet usage activity in 2023 was participating in social networks with 99.4 per cent, followed by downloading pictures, movies, videos or music; playing or downloading games (93.9%), finding information about goods or services (92.8%), downloading software or applications (89.6%) and making phone calls via Internet/ VoIP (85.9%) as shown in **Figure 4.10**.

Figure 4.10: Percentage of Individuals Using the Internet by Top Five Internet Activities, Malaysia, 2022 and 2023



Note.

Each individual can choose more than one Internet activities

Source: ICT Use and Access by Individuals and Household Survey Report, 2023



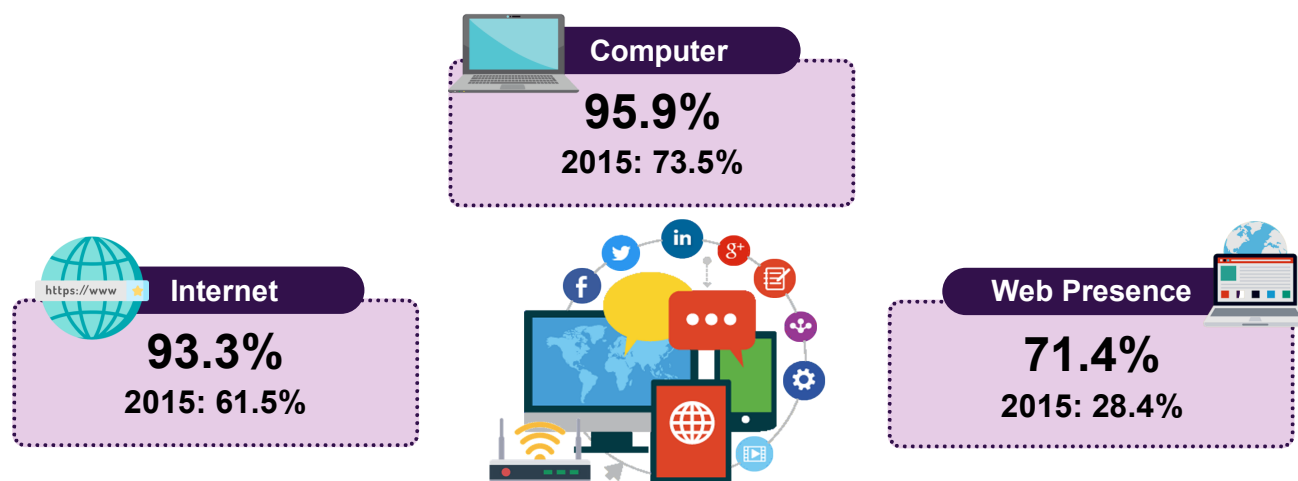
4.2 USAGE OF ICT BY ESTABLISHMENT

Dedicated to establishments, this section explores the landscape of ICT usage in various sectors and states. Additionally, it provides a comprehensive overview of the types of web presence utilised by different sectors, delves into the computer network infrastructure across sectors, and investigates the types of internet access. The purpose of internet usage by establishments is explored, shedding light on different sectors. Lastly, this part delves into the adoption of digital technology, providing a holistic understanding of how establishments integrate and embrace digital advancements in their operations.

4.2.1 USAGE OF ICT

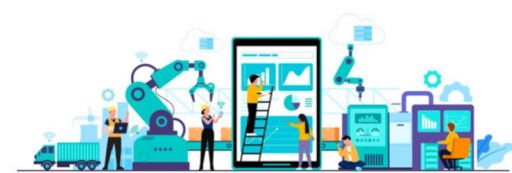
The census findings show that a total of 1,091,867 establishments were operating in 2022 with 95.9 per cent of establishments used computers (including personal computers, laptops, and tablets), compared to 73.5 per cent in 2015. Internet usage (using the internet accessible through computers and other devices such as mobile phones) in establishments increased 93.3 per cent (2015: 61.5%). Meanwhile, establishments with web presence recorded 71.4 per cent (2015: 28.4%), as shown in **Figure 4.11**.

Figure 4.11: Usage of Computer, Internet and Web Presence, 2015 and 2022



Note.

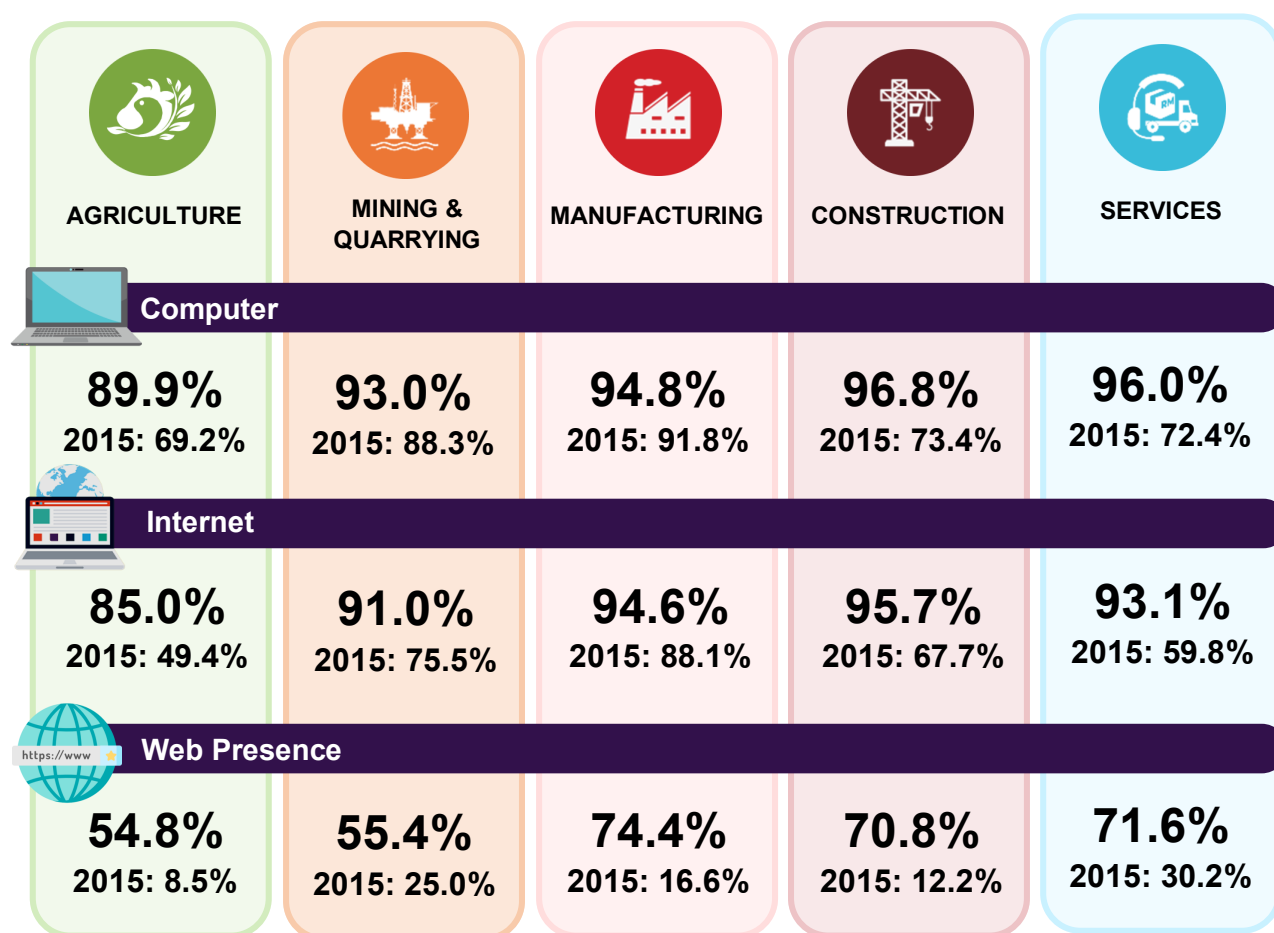
Source: Economic Census 2023 - Usage of ICT and E-Commerce by Establishment



4.2.2 USAGE OF ICT BY SECTOR

The usage of computer, internet, and web presence by sector is shown in **Figure 4.12**. Construction sector recorded the highest percentage in computer and internet usage at 96.8 per cent (2015: 73.4%) and 95.7 per cent (2015: 67.7%), respectively. Meanwhile, Manufacturing sector recorded the highest percentage in web presence usage at 74.4 per cent (2015: 16.6%).

Figure 4.12: Percentage Usage of Computer, Internet and Web Presence by Sector, 2015 and 2022



Note.

Source: Economic Census 2023 - Usage of ICT and E-Commerce by Establishment



4.2.3 ICT USAGE BY STATE

W. P. Kuala Lumpur recorded the highest percentage of computer, internet and web presence usage by establishments at 99.8 per cent, 99.6 per cent, and 91.0 per cent, respectively, as shown in **Figure 4.13**.

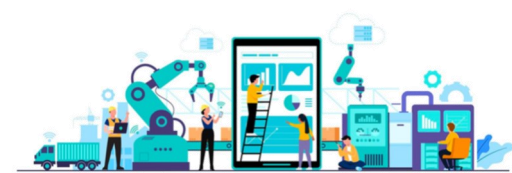
Figure 4.13: Percentage of Computer, Internet and Web Presence Usage by State, 2022

	Computer	Internet	Web Presence
 Johor	97.9%	97.6%	79.7%
 Kedah	90.7%	81.8%	55.7%
 Kelantan	93.2%	79.3%	40.5%
 Melaka	97.0%	93.1%	67.7%
 Negeri Sembilan	93.8%	92.9%	60.8%
 Pahang	94.0%	92.6%	58.6%
 Pulau Pinang	99.0%	98.7%	78.9%
 Perak	95.5%	84.9%	58.7%
 Perlis	93.8%	78.4%	56.6%
 Selangor	99.2%	98.9%	85.2%
 Terengganu	92.1%	91.3%	62.1%
 Sabah	88.3%	84.8%	45.6%
 Sarawak	85.6%	82.3%	47.8%
 W.P. Kuala Lumpur	99.8%	99.6%	91.0%
 W.P. Labuan	95.3%	93.3%	64.3%
 W.P. Putrajaya	99.2%	99.2%	88.9%
Supra	100.0%	100.0%	100.0%
 MALAYSIA	95.9%	93.3%	71.4%

Note.

Supra - Covers production activities that beyond the centre of predominant economic interest for any state

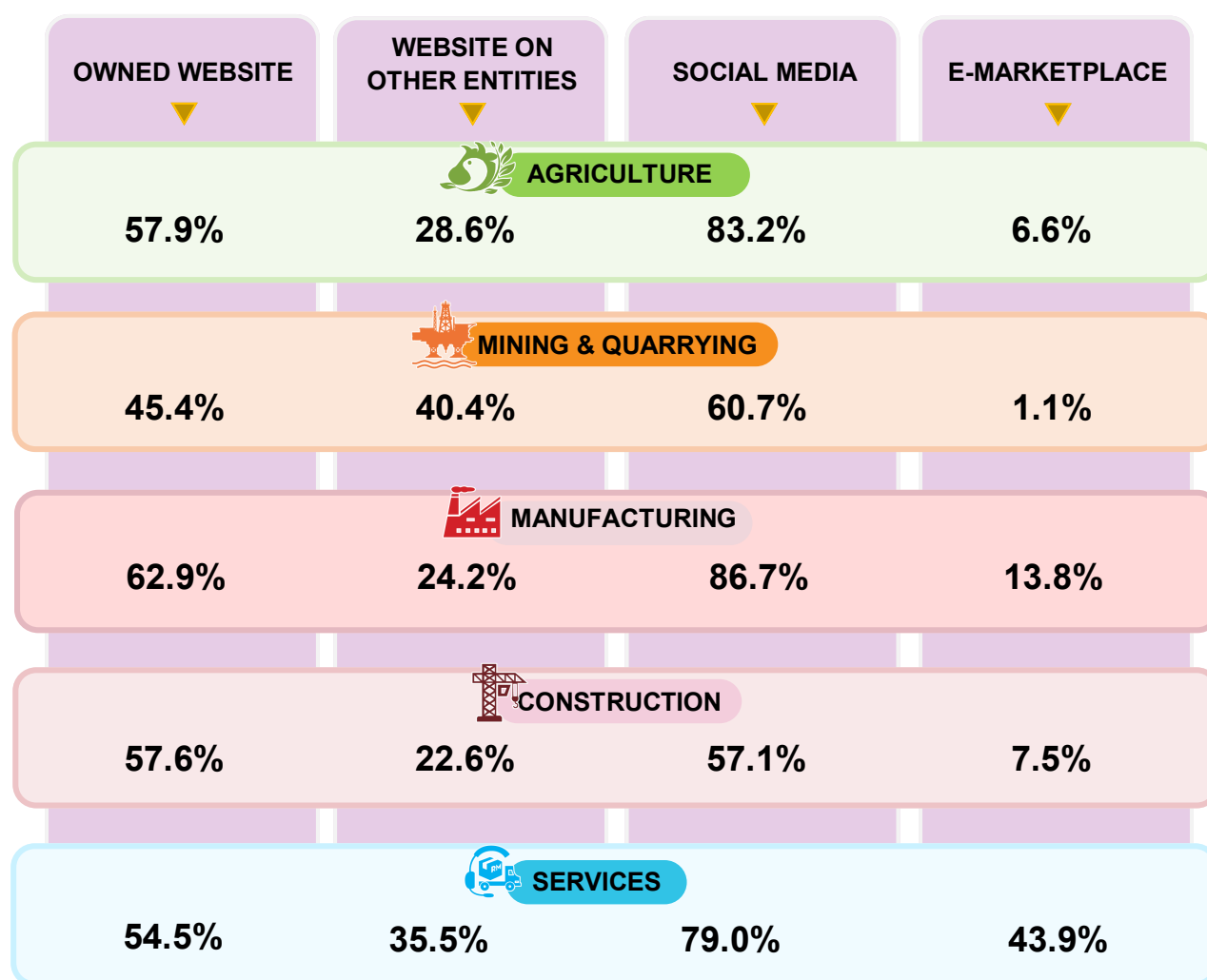
Source: Economic Census 2023 - Usage of ICT and E-Commerce by Establishment



4.2.4 TYPES OF WEB PRESENCE OWNERSHIP BY SECTOR

Figure 4.14 shows the types of web presence owned by establishments according to sector. Manufacturing sector recorded the highest percentage in two types of web presence usage: social media usage (86.7%) and owned websites (62.9%). Meanwhile, Mining & quarrying sector recorded the highest percentage in the use of websites on other entities (40.4%), and Services sector recorded the highest percentage in e-marketplace usage (43.9%).

Figure 4.14 : Types of Web Presence Ownership by Sector, 2022



Note.

Source: Economic Census 2023 - Usage of ICT and E-Commerce by Establishment

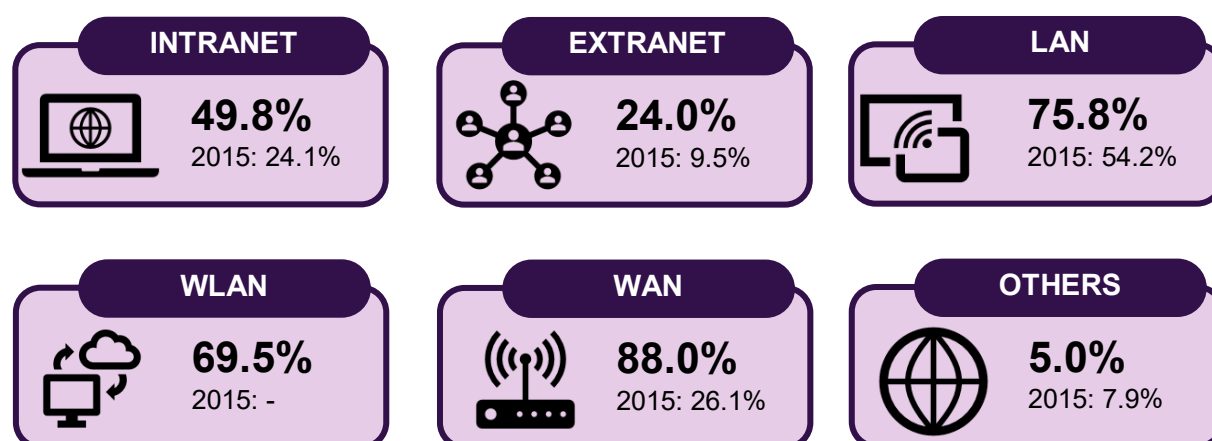


4.2.5 COMPUTER NETWORK INFRASTRUCTURE

In 2022, the adoption of network technologies saw substantial increase compared to 2015, with Wide Area Network (WAN) leading at 88.0 per cent, up from 26.1 per cent. Local Area Network (LAN) reached 75.8 per cent, while Wireless LAN (WLAN) recorded 69.5 per cent. Usage of Intranet stood at 49.8 per cent, and extranet at 24.0 per cent, reflecting steady integration in establishments. The Others category reduce to 5.0 per cent, indicating a shift towards more established network solutions, emphasising the growing reliance on advanced connectivity for operational efficiency.

These trends underscore the growing adoption of robust network systems to enhance communication and operational capabilities. The data also indicates a steady shift from less-defined network categories towards more reliable and integrated systems, demonstrating advancements in digital infrastructure across industries as shown in **Figure 4.15**.

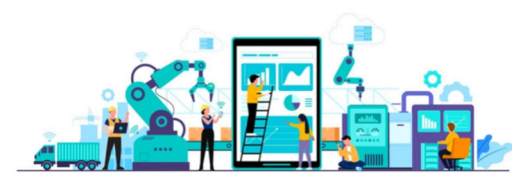
Figure 4.15: Types of Computer Network Infrastructure Usage, 2015 and 2022



Note.

“-” refers to data not available

Source: Economic Census 2023 - Usage of ICT and E-Commerce by Establishment



4.2.6 COMPUTER NETWORK INFRASTRUCTURE BY SECTOR

The use of intranet, extranet and LAN is dominated by Manufacturing sector, with 70.0 per cent, 52.5 per cent and 89.0 per cent, respectively. Meanwhile, for WLAN (70.7%) and WAN (91.0%) were recorded by Services sector, and other infrastructures (23.4%) were recorded by Mining & quarrying sector, as shown in **Figure 4.16**.

Figure 4.16: Types of Computer Network Infrastructure Usage by Sector, 2015 and 2022

 INTRANET	 EXTRANET	 LAN	 WLAN	 WAN	 OTHERS
 AGRICULTURE					
58.6% 2015: 23.2%	16.7% 2015: 4.5%	84.2% 2015: 54.2%	54.9% 2015: -	53.0% 2015: 26.4%	10.4% 2015: 10.8%
 MINING & QUARRYING					
53.2% 2015: 28.9%	21.4% 2015: 7.7%	84.5% 2015: 57.8%	64.4% 2015: -	53.1% 2015: 35.5%	23.4% 2015: 7.5%
 MANUFACTURING					
70.0% 2015: 46.1%	52.5% 2015: 36.0%	89.0% 2015: 61.8%	69.0% 2015: -	52.5% 2015: 22.6%	12.8% 2015: 8.8%
 CONSTRUCTION					
40.5% 2015: 16.8%	13.2% 2015: 2.6%	62.4% 2015: 50.8%	57.2% 2015: -	81.4% 2015: 34.1%	5.8% 2015: 11.8%
 SERVICES					
49.2% 2015: 22.5%	23.2% 2015: 7.6%	75.9% 2015: 53.7%	70.7% 2015: -	91.0% 2015: 26.0%	4.4% 2015: 7.5%

Note.

“-” refers to data not available

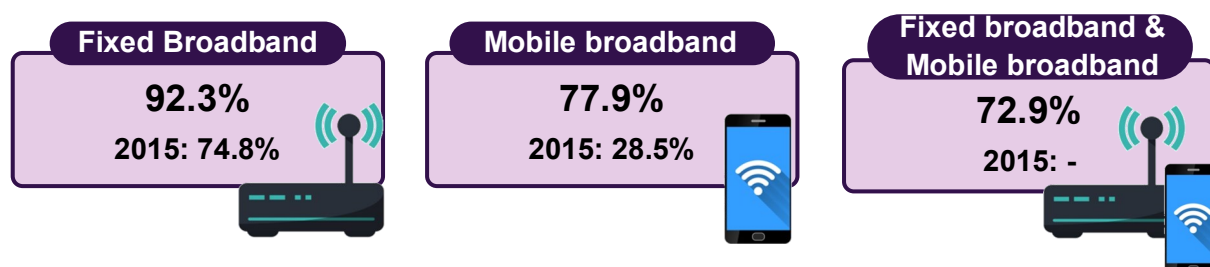
Source: Economic Census 2023 - Usage of ICT and E-Commerce by Establishment



4.2.7 TYPES OF INTERNET ACCESS

A total of 92.3 per cent (2015: 74.8%) of establishments use fixed broadband for internet access, followed by mobile broadband and the use of both fixed and mobile broadband at 77.9 percent (2015: 28.5%) and 72.9 per cent, respectively, as shown in **Figure 4.17**.

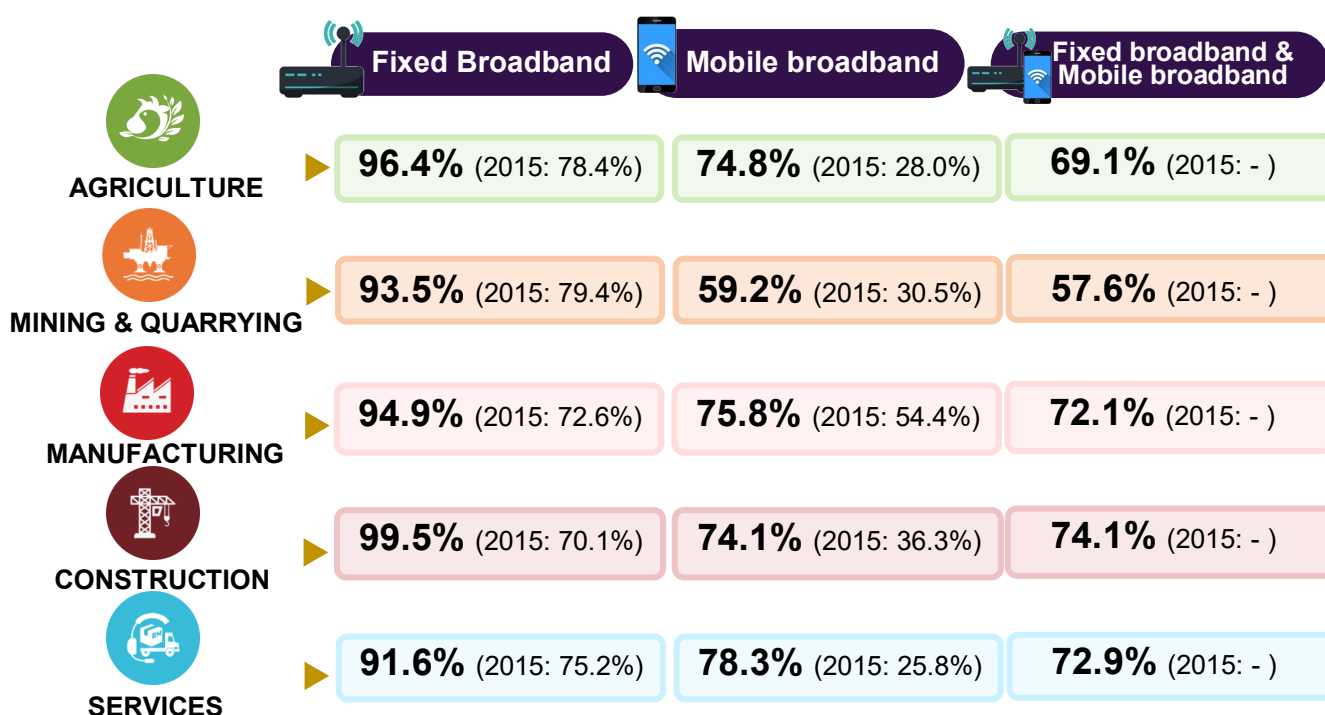
Figure 4.17: Types of Internet Access, 2015 and 2022



4.2.7.1 TYPES OF INTERNET ACCESS BY SECTOR

Establishments in Construction sector recorded the highest internet access for fixed broadband usage at 99.5 per cent in 2022 (2015: 70.1%), followed by Agriculture sector at 96.4 per cent (2015: 78.4%) and Manufacturing sector at 94.9 per cent (2015: 72.6%). Services sector recorded the highest usage of mobile broadband at 78.3 per cent (2015: 25.8%), followed by Manufacturing sector at 75.8 per cent (2015: 54.4%) and Agriculture sector at 74.8 per cent (2015: 28.0%). Meanwhile, Construction sector recorded the highest percentage for the usage of both types of broadband at 74.1 per cent, as shown in **Figure 4.18**.

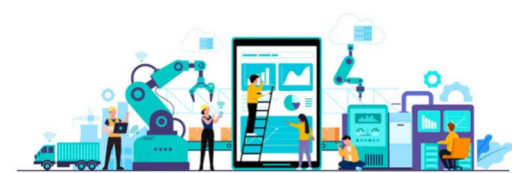
Figure 4.18: Types of Internet Access by Sector, 2015 and 2022



Note.

“ - ” refers to data not available

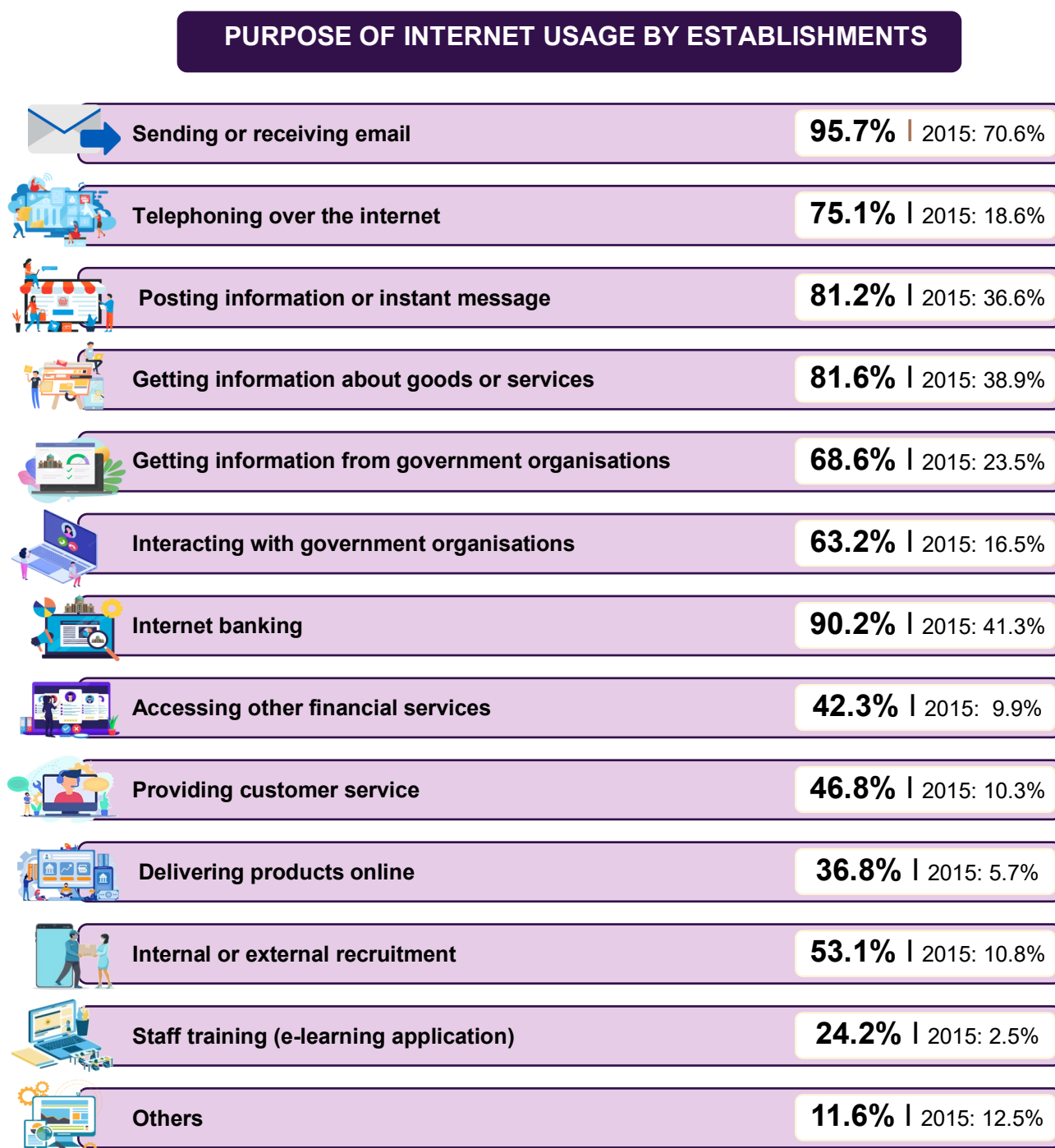
Source: Economic Census 2023 - Usage of ICT and E-Commerce by Establishment



4.2.8 PURPOSE OF INTERNET USAGE

In **Figure 4.19** shows the percentage of internet usage purposes by establishments. The purpose of using the internet for sending or receiving emails recorded the highest percentage at 95.7 per cent (2015: 70.6%). This was followed by internet banking at 90.2 per cent (2015: 41.3%) and getting information about goods or services at 81.6 per cent (2015: 38.9%).

Figure 4.19: Purpose of Internet Usage by Establishments, 2015 and 2022



Note.

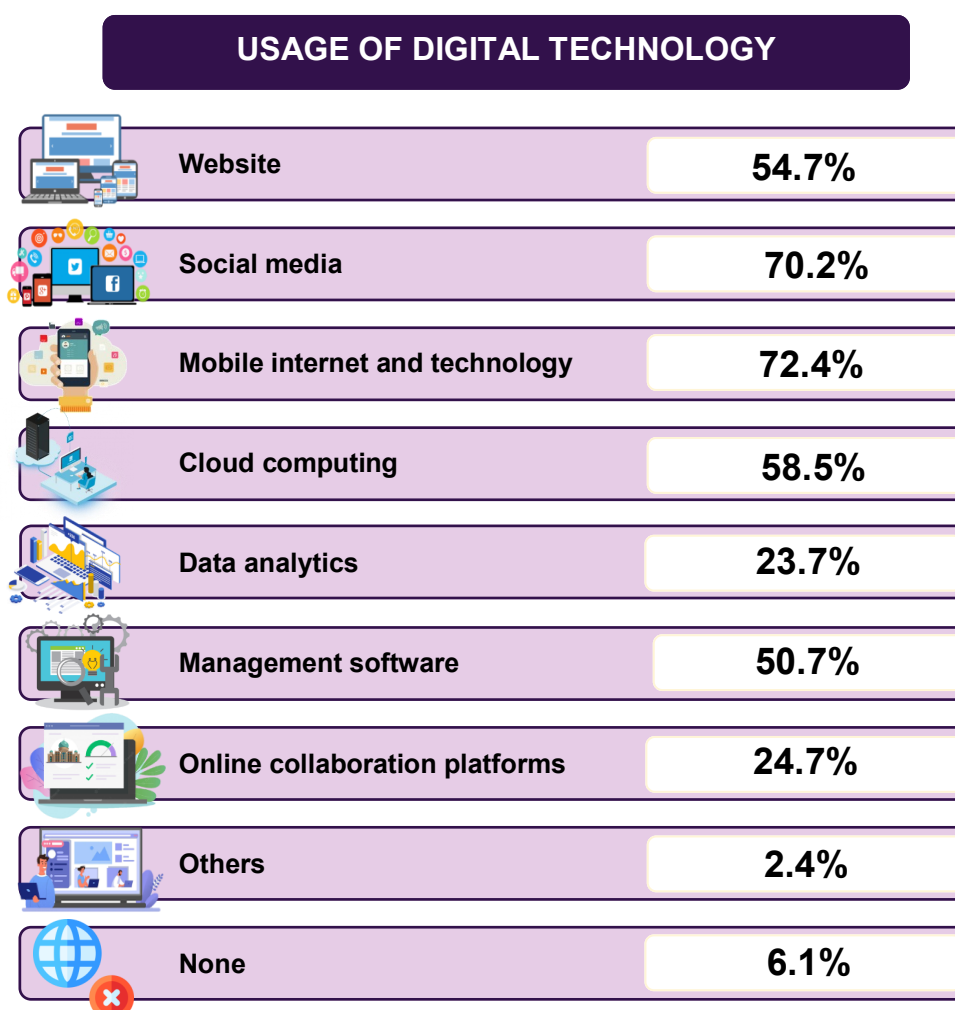
Source: Economic Census 2023 - Usage of ICT and E-Commerce by Establishment



4.2.9 USAGE OF DIGITAL TECHNOLOGY

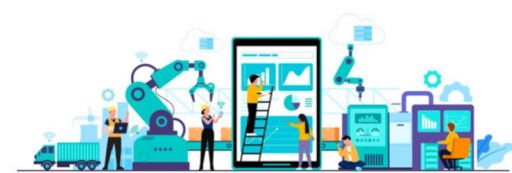
The usage of digital technology for mobile internet and technology recorded the highest percentage at 72.4 per cent. This was followed by social media at 70.2 per cent and cloud computing at 58.5 per cent, as shown in **Figure 4.20**.

Figure 4.20: Usage of Digital Technology, 2022



Note.

Source: Economic Census 2023 - Usage of ICT and E-Commerce by Establishment

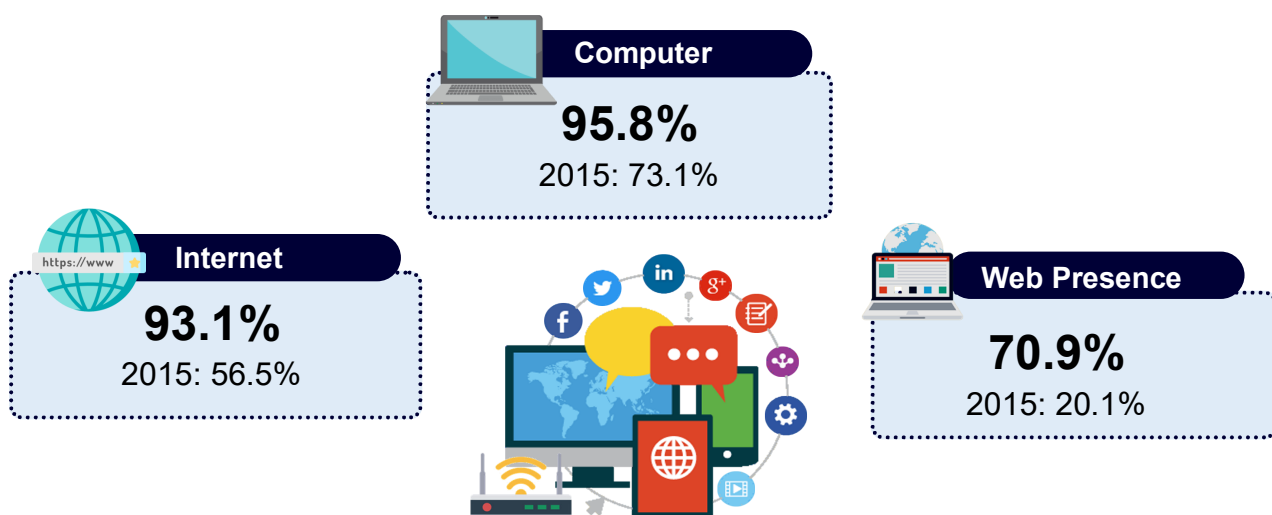


4.3 USAGE OF ICT BY MICRO, SMALL AND MEDIUM ENTERPRISES (MSMEs)

4.3.1 USAGE OF ICT

The census findings show that a total of 1,069,831 MSMEs were operating in 2022. 95.8 per cent from the total MSMEs used computers (including personal computers, laptops, and tablets), compared to 73.1 per cent in 2015. Internet usage (via computers and other devices such as mobile phones) among MSMEs also increased to 93.2 per cent (2015: 56.5%). Additionally, 70.9 per cent of these establishments have a web presence, up from 20.1 per cent in 2015, as shown in **Figure 4.21**.

Figure 4.21: Percentage of Computer, Internet and Web Presence Use - MSMEs, 2015 and 2022



Note.

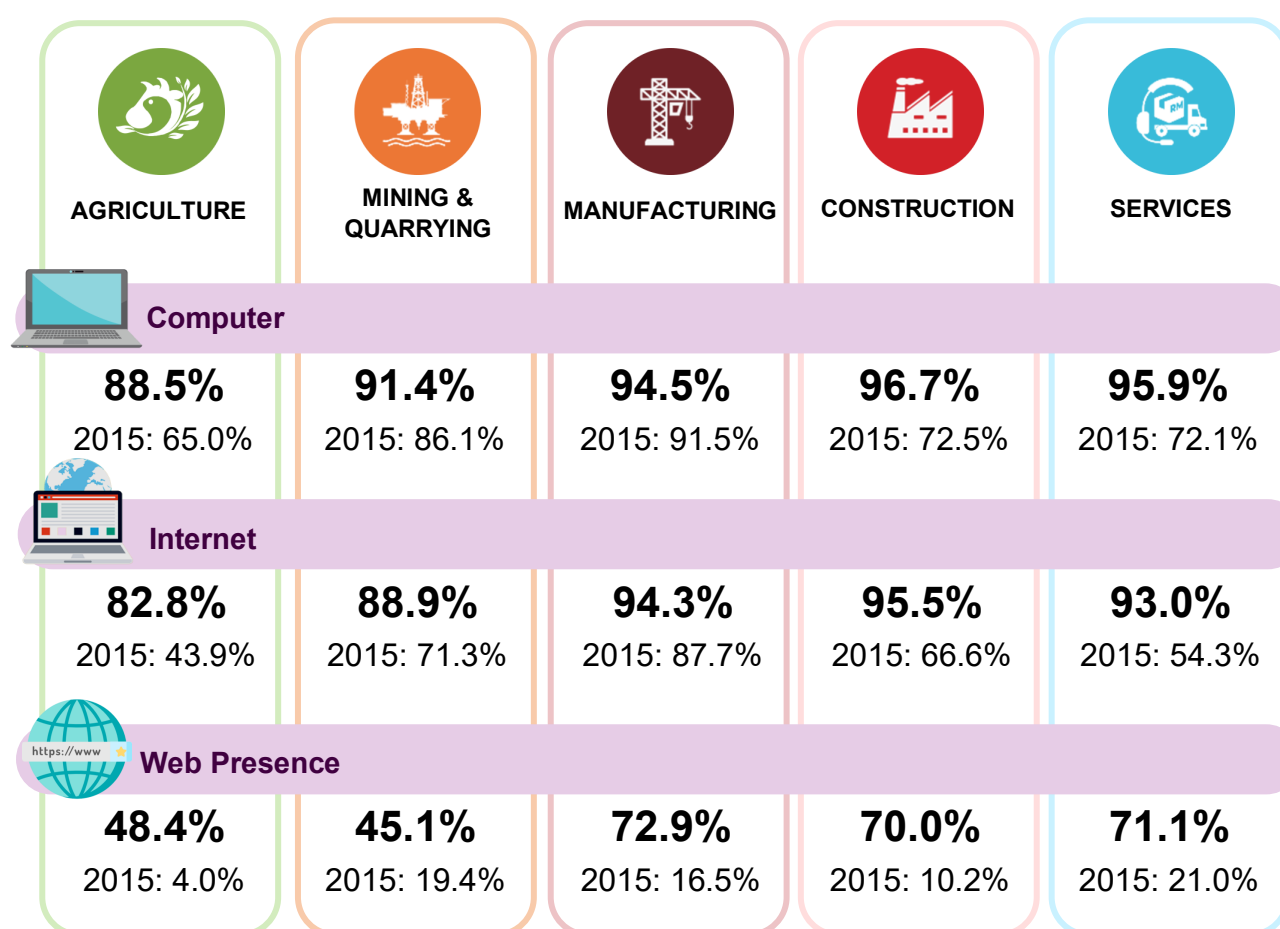
Source: Economic Census 2023 - Usage of ICT and E-Commerce by Establishment



4.3.2 USAGE OF ICT BY SECTOR

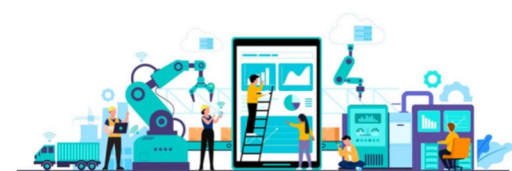
Figure 4.22 shows the usage of computers, internet, and web presence by sector for MSMEs. Construction sector recorded the highest percentage for computer and internet usage at 96.7 per cent (2015: 72.5%) and 95.5 per cent (2015: 66.6%), respectively. However, for the use of web presence, Manufacturing sector recorded the highest percentage of 72.9 per cent (2015: 16.5%).

Figure 4.22: Percentage of Computer, Internet and Web Presence Use by Sector - MSMEs, 2015 and 2022



Note.

Source: Economic Census 2023 - Usage of ICT and E-Commerce by Establishment



4.3.3 USAGE OF ICT BY STATE

W.P. Kuala Lumpur recorded the highest percentage in computer, internet and web presence usage among MSMEs, at 99.7 per cent, 99.6 per cent and 90.8 per cent, respectively. This was followed by the state of W. P. Putrajaya recorded the second highest percentage in computer and internet at 99.2 per cent, as shown in **Figure 4.23**.

**Figure 4.23: Percentage of Computer, Internet and Web Presence Use
by State - MSMEs, 2022**

	Computer	Internet	Web Presence
 Johor	97.9%	97.6%	79.2%
 Kedah	90.5%	81.5%	55.0%
 Kelantan	93.1%	79.0%	39.7%
 Melaka	96.9%	93.0%	67.2%
 Negeri Sembilan	93.7%	92.8%	60.1%
 Pahang	93.0%	92.4%	57.6%
 Pulau Pinang	99.0%	98.7%	78.4%
 Perak	95.4%	84.6%	58.1%
 Perlis	93.7%	78.1%	56.2%
 Selangor	99.2%	98.9%	84.9%
 Terengganu	92.0%	91.2%	61.5%
 Sabah	88.1%	84.5%	44.3%
 Sarawak	85.3%	81.9%	46.5%
 W.P. Kuala Lumpur	99.7%	99.6%	90.8%
 W.P. Labuan	95.2%	93.2%	63.5%
 W.P. Putrajaya	99.2%	99.2%	88.4%
 MALAYSIA	95.8%	93.1%	70.8%

Note.

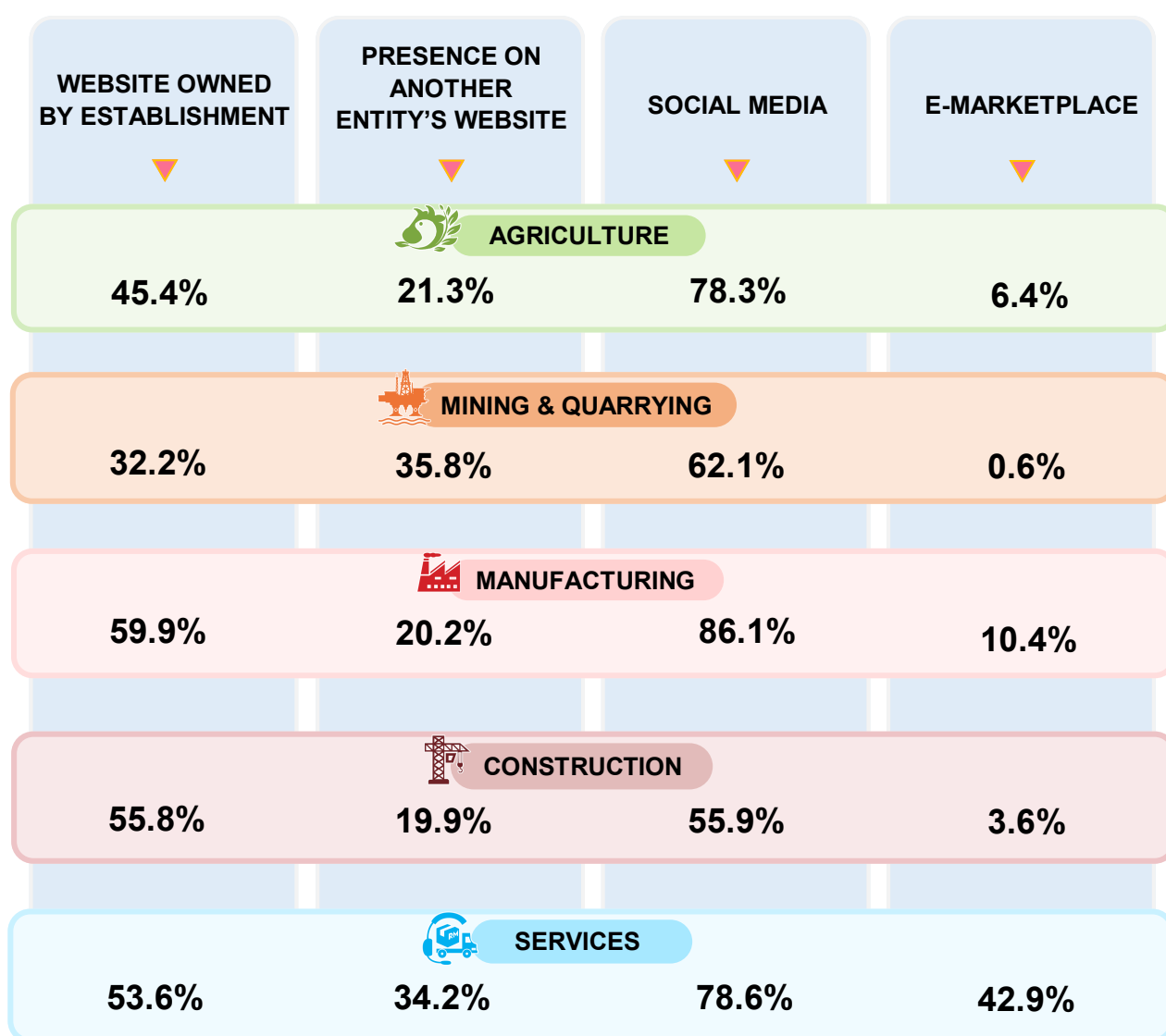
Source: Economic Census 2023 - Usage of ICT and E-Commerce by Establishment



4.3.4 TYPE OF WEB PRESENCE OWNED BY SECTOR

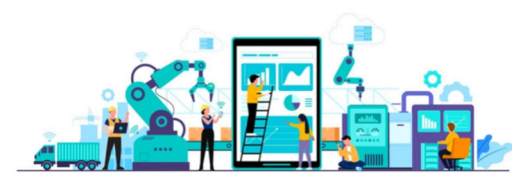
Figure 4.24 shows the types of web presence utilised by MSMEs by sector. Manufacturing sector recorded the highest percentage for two types of web presence: social media usage (86.1%) and own website (59.9%). Mining & quarrying sector recorded the highest percentage in the use of presence on another entity's website (35.8%), while Services sector led in the usage of e-marketplace (42.9%).

Figure 4.24: Type of Web Presence Owned by Sector - MSMEs, 2022



Note.

Source: Economic Census 2023 - Usage of ICT and E-Commerce by Establishment

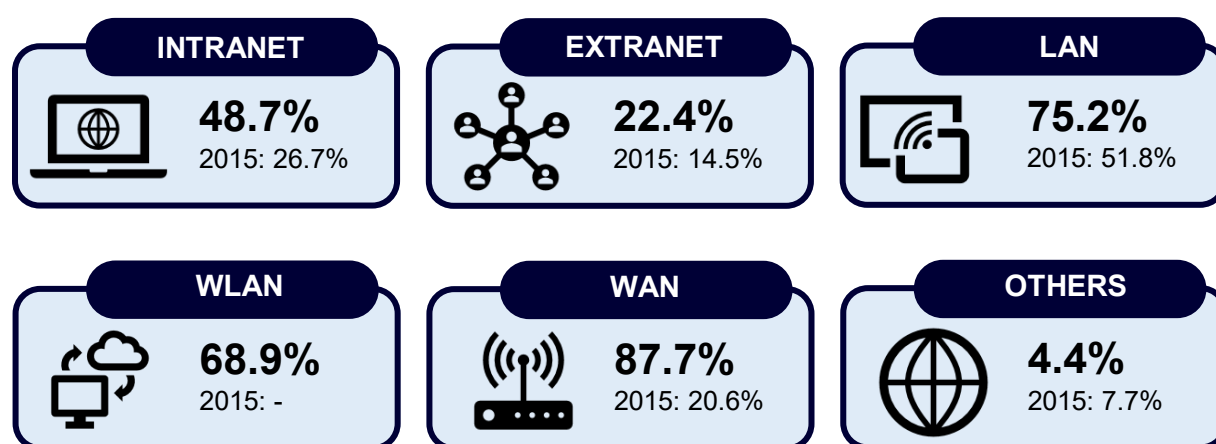


4.3.5 COMPUTER NETWORK INFRASTRUCTURE

In 2022, internet usage based on the type of computer network infrastructure by MSMEs recorded significant growth compared to 2015. Wide Area Network (WAN) led the way with usage at 87.7 per cent, a substantial increase from 20.6 per cent in 2015. Local Area Network (LAN) reached 75.2 per cent, increased from 51.8 per cent in 2015, while Wireless Local Area Network (WLAN) recorded usage at 68.9 per cent as shown in **Figure 4.25**.

This development reflects the continued adoption of advanced network technologies, highlighting the growing importance of reliable computer network infrastructure in business operations. This trend indicates a shift towards more robust network solutions, with MSMEs increasingly adapting digital infrastructure to support communication and operational efficiency.

Figure 4.25: Computer Network Infrastructure - MSMEs, 2015 dan 2022



Note.

"-" refers to data not available

Source: Economic Census 2023 - Usage of ICT and E-Commerce by Establishment



4.3.6 COMPUTER NETWORK INFRASTRUCTURE BY SECTOR

The usage of intranet, extranet and LAN among MSMEs was dominated by Manufacturing sector with percentage of 68.5 per cent, 49.6 per cent and 88.3 per cent, respectively. Services sector reported the highest usage for WLAN (70.2%) and WAN (90.9%). Meanwhile, the highest usage for others infrastructure, recorded at 18.5 per cent, in Mining & quarrying sector, as shown in **Figure 4.26**.

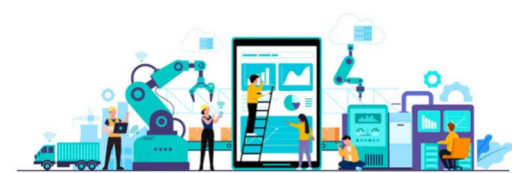
**Figure 4.26: Type of Computer Network Infrastructure
by Sector - MSMEs, 2015 and 2022**

 INTRANET	 EXTRANET	 LAN	 WLAN	 WAN	 OTHERS
 AGRICULTURE					
54.7% 2015: 21.2%	2.3% 2015: 3.3%	81.5% 2015: 52.4%	47.1% 2015: -	44.9% 2015: 26.1%	12.0% 2015: 11.4%
 MINING & QUARRYING					
42.2% 2015: 26.6%	17.9% 2015: 5.5%	81.9% 2015: 54.3%	55.4% 2015: -	41.2% 2015: 31.1%	18.5% 2015: 9.1%
 MANUFACTURING					
68.5% 2015: 44.7%	49.6% 2015: 35.4%	88.3% 2015: 61.1%	68.7% 2015: -	49.6% 2015: 21.4%	7.4% 2015: 9.1%
 CONSTRUCTION					
38.7% 2015: 16.5%	10.5% 2015: 2.5%	61.2% 2015: 50.2%	55.9% 2015: -	80.8% 2015: 34.1%	5.9% 2015: 12.0%
 SERVICES					
48.4% 2015: 25.7%	22.0% 2015: 13.4%	75.5% 2015: 51.0%	70.2% 2015: -	90.9% 2015: 19.7%	4.0% 2015: 7.2%

Note.

Source: Economic Census 2023 - Usage of ICT and E-Commerce by Establishment

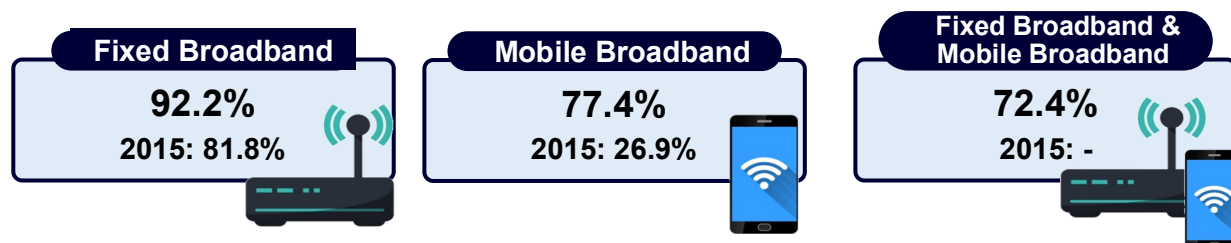
“-” refers to data not available



4.3.7 TYPE OF INTERNET ACCESS

A total of 92.2 per cent (2015: 81.8%) of MSMEs used fixed broadband for internet access, followed by mobile broadband at 77.4 per cent (2015: 26.9%) and both fixed broadband and mobile broadband at 72.4 per cent, as shown in **Figure 4.27**.

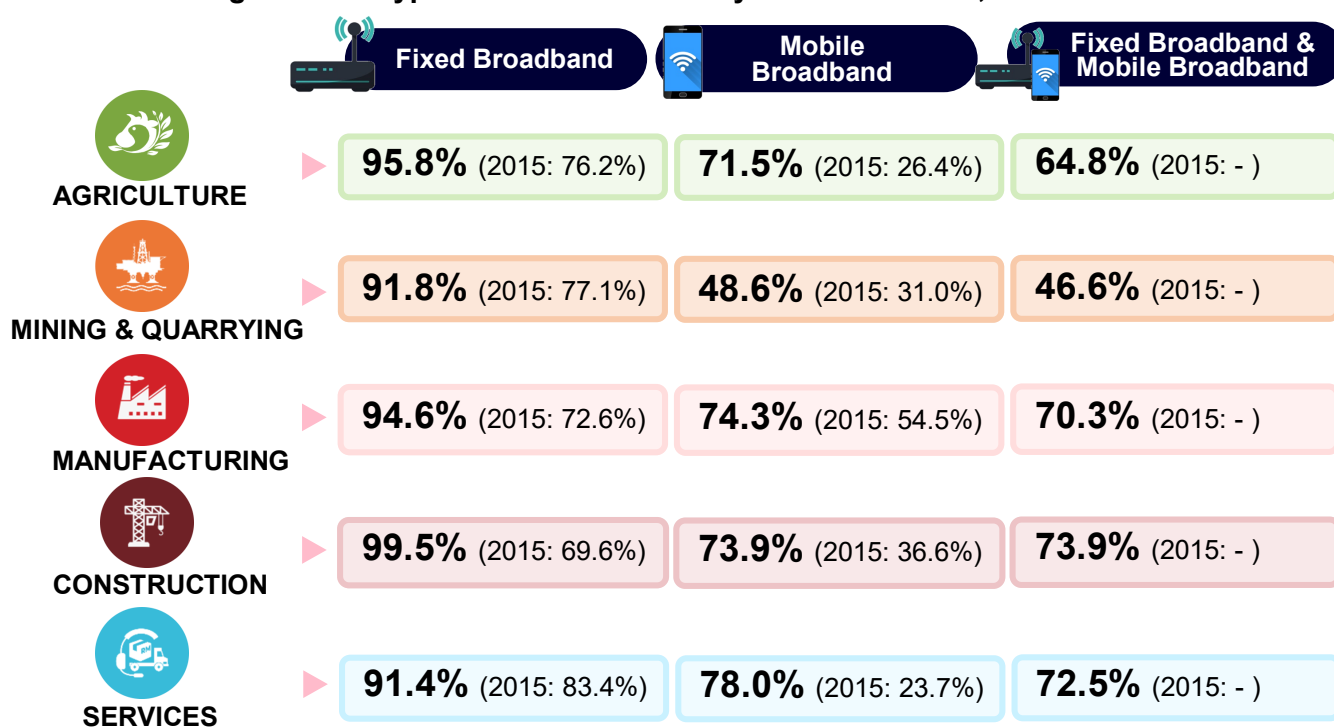
Figure 4.27: Type of Internet Access - MSMEs, 2015 and 2022



4.3.7.1 TYPE OF INTERNET ACCESS BY SECTOR

MSMEs in Construction sector recorded the highest access to the internet for fixed broadband use at 99.5 per cent in 2022 (2015: 69.6%), followed by Agriculture sector at 95.8 per cent (2015: 76.2%) and Manufacturing sector at 94.6 per cent (2015: 72.6%). Services sector reported the highest usage of mobile broadband at 78.0 per cent (2015: 23.7%), followed by Manufacturing sector at 74.3 per cent (2015: 54.5%) and Construction sector at 73.9 per cent (2015: 36.6%). Additionally, Construction sector also registered the highest percentage of both broadband usage, 73.9 per cent, as shown in **Figure 4.28**.

Figure 4.28: Type of Internet Access by Sector - MSMEs, 2015 and 2022



Note.

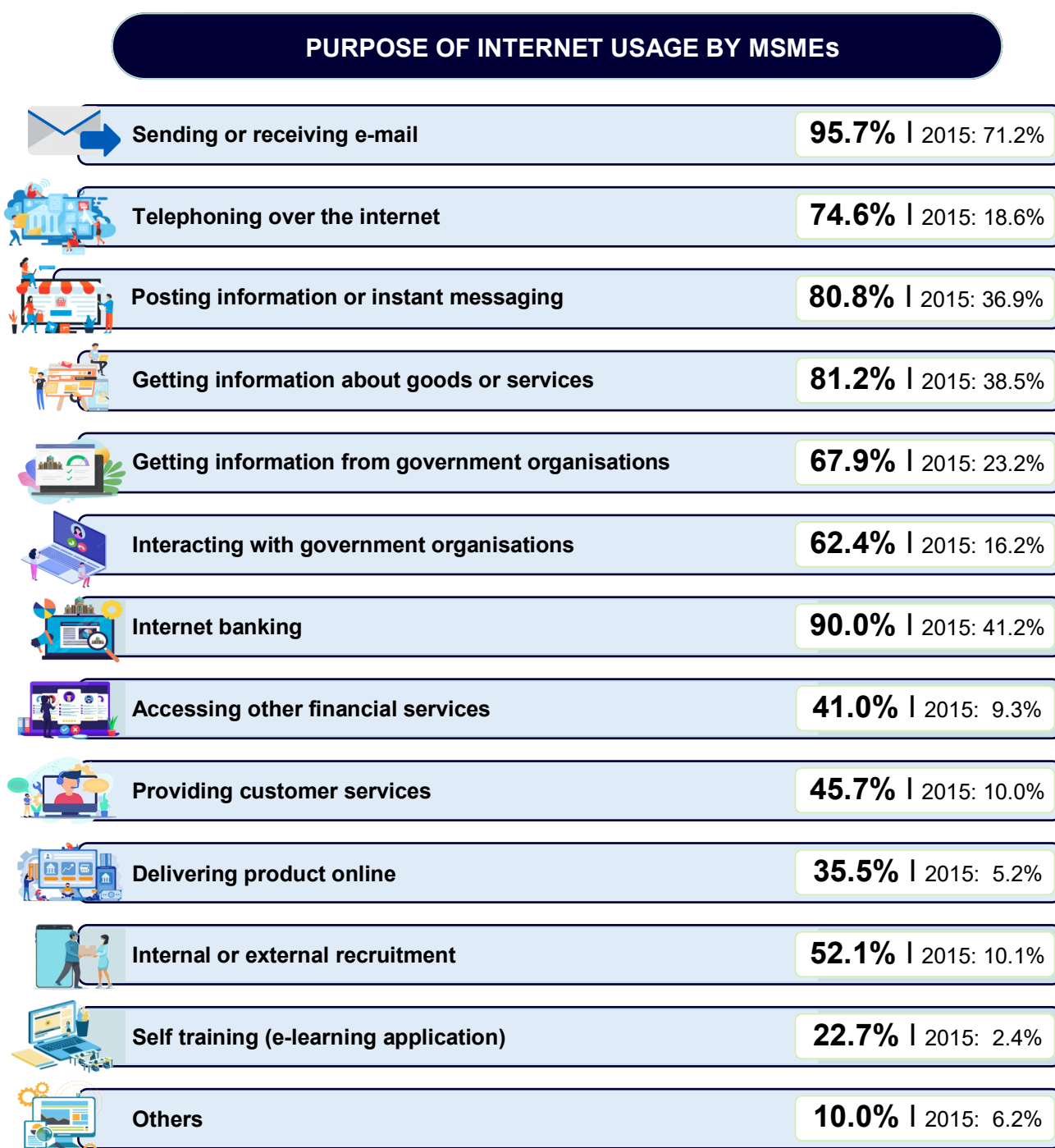
“-” refers to data not available

Source: Economic Census 2023 - Usage of ICT and E-Commerce by Establishment

4.3.8 PURPOSE OF INTERNET USAGE

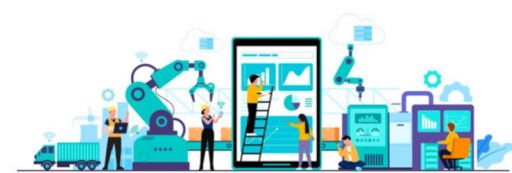
Figure 4.29 shows the percentage of internet use among MSMEs by purpose. The purpose of using the internet for sending or receiving e-mail recorded the highest percentage with 95.7 per cent (2015: 71.2%). This was followed by internet banking at 90.0 per cent (2015: 41.2%) and getting information about goods or services at 81.2 per cent (2015: 38.5%).

Figure 4.29: Purpose of Internet Usage - MSMEs, 2015 and 2022



Note.

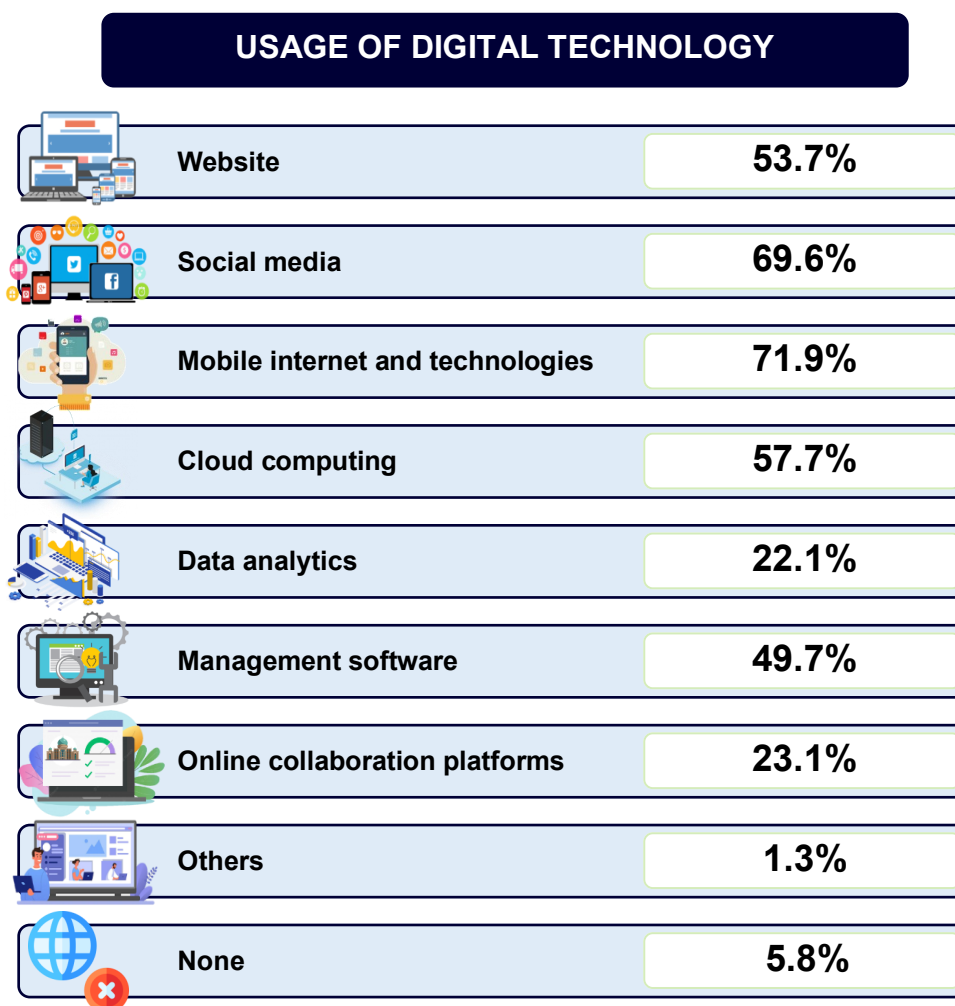
Source: Economic Census 2023 - Usage of ICT and E-Commerce by Establishment



4.3.9 USAGE OF DIGITAL TECHNOLOGY

The usage of digital technology among MSMEs shows that mobile internet and technologies recorded the highest percentage at 71.9 per cent. This was followed by social media at 69.6 per cent and cloud computing at 57.7 per cent, as shown in **Figure 4.30**.

Figure 4.30: Usage of Digital Technology - MSMEs, 2022



Note.

Source: Economic Census 2023 - Usage of ICT and E-Commerce by Establishment

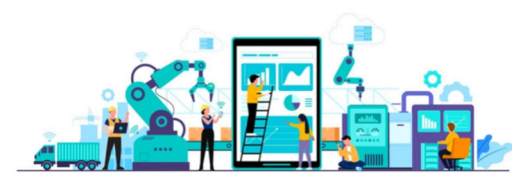
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OTHER FACTS ON MALAYSIA DIGITAL ECONOMY

CHAPTER 5



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5. OTHER FACTS ON MALAYSIA DIGITAL ECONOMY

Information on Malaysia's Digital Economy performance and insights are accessible from various sources with different scopes and focuses. The Malaysian Communications and Multimedia Commission (MCMC) has published Communication & Multimedia indicators through their interactive dashboard namely Facts and Figures which consist of statistics related to number of subscriptions, penetration rates and related ICT indices.

5.1 PENETRATION RATES

Year	Quarter	Fixed Broadband per 100 Premises	Mobile Broadband per 100 Inhabitants	Mobile Cellular per 100 Inhabitants	Pay TV per 100 Households
(%)					
2021	1	39.0	120.1	135.7	82.6
	2	41.0	124.2	139.8	82.6
	3	39.9	127.4	142.1	82.2
	4	40.8	126.4	144.0	80.1
2022	1	42.9	124.1	139.2	78.4
	2	45.3	127.9	143.1	82.6
	3	46.4	128.9	143.7	81.4
	4	47.6	131.0	145.3	80.6
2023	1	48.6	132.0	146.7	79.6
	2	49.1	133.3	148.1	78.5
	3	49.9	133.8	148.6	77.3
	4	50.6	134.5	148.7	76.4
2024	1	46.9	132.1	146.7	68.7
	2	47.5	132.5	147.3	66.9
	3	48.2	132.0	146.4	66.0

Note.

All penetration rates are estimated based on population projection as at end of period according to Census 2020 by Department of Statistics, Malaysia (DOSM), except for 4Q 2021 & 1Q 2022, the population figure is estimated using MCMC internal estimation.

Broadband penetration rate is calculated based on fixed-broadband subscriptions with speed equal or more than 1Mbit/s, and mobile-broadband with speed equal or more than 650kbit/s.

Fixed-broadband penetration rate per 100 premises includes household and non-household subscriptions. Household subscriptions cover residential whereas non-household subscriptions inclusive of businesses, government, organisation etc.

Commencing 10 2021, methodology to calculate total number of premises is revised by including total number of commercial and industrial premises from National Property Information Centre (NAPIC) and public facilities from

The added total may differ due to rounding.

Source: Communications & Multimedia Dashboard - Facts & Figures



5.2 BROADBAND SUBSCRIPTIONS

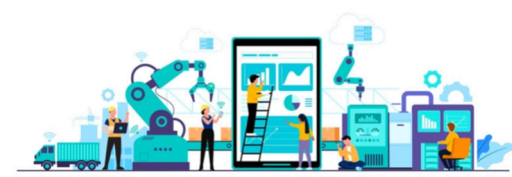
Year	Quarter	Number of Subscriptions		
		Fixed Broadband	Mobile Broadband	Total
		('000)		
2021	1	3,512.4	39,340.6	42,852.2
	2	3,679.6	40,571.7	44,251.0
	3	3,585.0	41,630.0	45,214.7
	4	3,727.4	42,016.1	45,743.5
2022	1	3,847.5	41,447.9	45,295.2
	2	3,975.2	41,768.6	45,743.8
	3	4,101.1	42,372.4	46,473.5
	4	4,220.5	43,239.5	47,460.0
2023	1	4,327.9	43,770.8	48,098.8
	2	4,402.3	44,486.0	48,888.3
	3	4,488.7	44,770.1	49,258.8
	4	4,574.1	45,333.9	49,908.0
2024	1	4,616.4	44,894.8	49,511.2
	2	4,679.2	45,128.4	49,807.6
	3	4,717.1	45,023.2	49,780.7

Note.

Fixed-broadband refers to penetration rate per 100 premises

Mobile-broadband refers to penetration rate per 100 inhabitants

Source: Communications & Multimedia Dashboard - Facts & Figures



5.3 NUMBER OF PAY TV SUBSCRIPTIONS AND PENETRATION RATE

Year	Quarter	Number of Pay TV Subscriptions			Penetration Rate
		Households	Non Households	Total	per 100 Households
		('000)			(%)
2021	1	6,810.0	9.5	6,819.3	82.6
	2	6,787.2	7.6	6,794.3	82.6
	3	6,754.2	7.7	6,761.2	82.2
	4	6,692.0	8.4	6,699.6	80.1
2022	1	6,621.3	8.2	6,628.8	78.4
	2	6,584.6	8.3	6,592.9	82.6
	3	6,536.9	8.6	6,545.5	81.4
	4	6,536.9	8.6	6,545.5	80.6
2023	1	6,449.4	9.3	6,458.7	79.6
	2	6,396.9	9.1	6,406.0	78.5
	3	6,315.4	9.1	6,324.5	77.3
	4	6,294.1	9.0	6,303.1	76.4
2024	1	6,212.9	8.9	6,221.7	68.7
	2	6,065.1	9.3	6,074.4	66.9
	3	5,993.9	9.4	6,003.4	66.0

Note.

Pay TV is inclusive of Internet Protocol TV (IPTV) and Satellite TV

Pay TV refers to penetration rate per 100 households

Source: Communications & Multimedia Dashboard - Facts & Figures

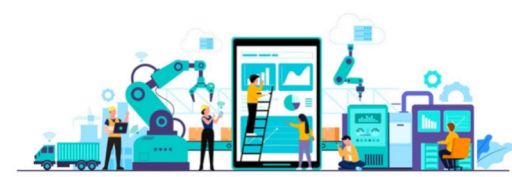


5.4 DIGITAL SIGNATURE– ACCUMULATE NUMBER OF CERTIFICATES ISSUED BY TYPE

Year	Quarter	Others ¹	Local		Total
			Government	Corporate	
			('000)		
2021	1	54.6	566.6	15,314.0	15,935.1
	2	54.6	592.7	15,922.4	16,569.7
	3	55.4	622.7	16,126.3	16,804.4
	4	57.3	646.0	16,208.1	16,911.4
2022	1	59.8	674.8	16,738.4	17,473.0
	2	61.6	696.4	17,469.5	18,227.5
	3	61.6	744.4	17,654.0	18,460.0
	4	61.6	778.4	17,735.8	18,575.8
2023	1	60.5	812.4	18,330.1	19,203.0
	2	60.5	873.8	18,956.6	19,890.9
	3	60.5	989.2	19,174.0	20,223.7
	4	128.8	1,218.5	20,229.3	21,576.6
2024	1	128.8	1,218.5	20,238.3	21,585.6
	2	497.0	1,360.0	21,192.5	23,049.5
	3	837.1	1,542.0	21,527.4	23,906.5

Note.

¹ Others includes Local - Individual, Foreign - Corporate and Foreign - Government
Source: Communications & Multimedia Dashboard - Facts & Figures



5.5 4G AND 5G COVERAGE

Year	4G Coverage	5G Coverage
	(%)	
2018	79.7	N/A
2019	82.2	N/A
2020	93.5	N/A
2021	95.4	4.0
2022	96.9	47.1
2023	97.1	80.2
2024	98.4	82.0

Note.

4G coverage refers to percentage of population covered by at least LTE/WIMAX mobile networks

5G coverage refers to percentage of population covered by at least 5G mobile networks

Updated as of September 2024

Source: Communications & Multimedia Dashboard - Facts & Figures

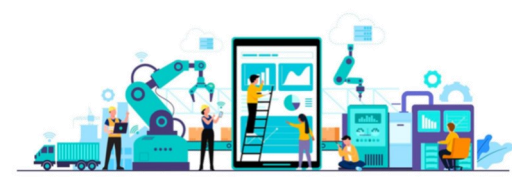
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NEW INDUSTRIAL MASTER PLAN (NIMP)

CHAPTER 6



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6. NEW INDUSTRIAL MASTER PLAN 2030 (NIMP)

6.1 Scope Covered by NIMP 2030

The New Industrial Master Plan 2030 (NIMP 2030) is an industry policy for the manufacturing and manufacturing-related services sector launched by the Malaysian government on September 1, 2023, aimed at revitalising and transforming the country's manufacturing sector over the next seven years until 2030. This plan outlines ambitious economic targets and focuses on enhancing Malaysia's industrial capabilities while integrating digital technologies into various sectors.

Purpose

- 1 Provide national strategic direction for industrial development
- 2 Provide reference for investors and other economies on Malaysia's position and direction
- 3 Feature the role of the Malaysian Government in shaping the economy

6.2 COVERAGE OF NIMP 2030

The NIMP 2030 has enclosures of 21 Sectoral Plans included as supplementary references. These plans provide a view of the respective sectoral perspectives in the context of the NIMP 2030 document. The 21 sectors covered are:

Table 6.1: Sectors Covered in NIMP 2030

Sectors	Industry	Relevant Sector-specific Policies
Priority Sectors	1. Aerospace 2. Chemical 3. Electrical and Electronics (E&E) 4. Pharmaceutical 5. Medical Devices	1. Aerospace Industry Blueprint 2010 2. Chemical Industry Roadmap 2030 3. Malaysia Plastics Sustainability Roadmap 2021-2030 4. E&E Roadmap 2021-2030 5. Malaysian National Medicines Policy



6.2 COVERAGE OF NIMP 2030 (cont'd)

Table 6.1: Sectors Covered in NIMP 2030 (cont'd)

Sectors	Industry	Relevant Sector-specific Policies
Sectors	6. Digital and ICT 7. Automotive 8. Food Processing 9. Global Services and Professional Services 10. Halal 11. Machinery and Equipment (M&E) 12. Manufacturing-Related Services (MRS) 13. Metal 14. Mineral 15. Palm Oil-based Products 16. Petroleum Products and Petrochemicals 17. Rail 18. Rubber-based Products 19. Shipbuilding and Ship Repair (SBSR) 20. Textile, Apparel and Footwear 21. Wood, Paper and Furniture	6. Industry4WRD: National Policy on Industry 4.0 7. Malaysia Digital Economy Blueprint 8. Malaysia National Artificial Intelligence Roadmap 9. National Automotive Policy 2020 10. National Agrofood Policy 2.0 2021-2030 11. Halal Industry Master Plan 2030 12. Foresight Study on the Iron and Steel Industry 13. National Mineral Policy 14. National Mineral Industry Transformation Plan 2021-2030 15. National Advanced Materials Technology Roadmap 16. National Agri-commodity Policy 2021-2030 17. Malaysian Rail Supporting Industry Roadmap 2030 18. National Timber Industry Strategic Plan 2021- 2025

6.3 KEY CHALLENGES

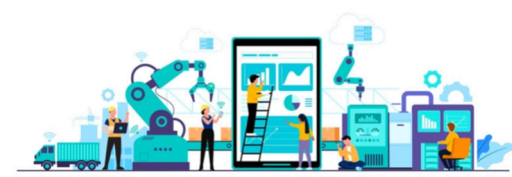
Despite the manufacturing and services sectors have achieved considerable progress over the years, it is essential to recognise that there are key challenges in Malaysia's industrialisation development.

Figure 6.1: Key Challenges



Note.

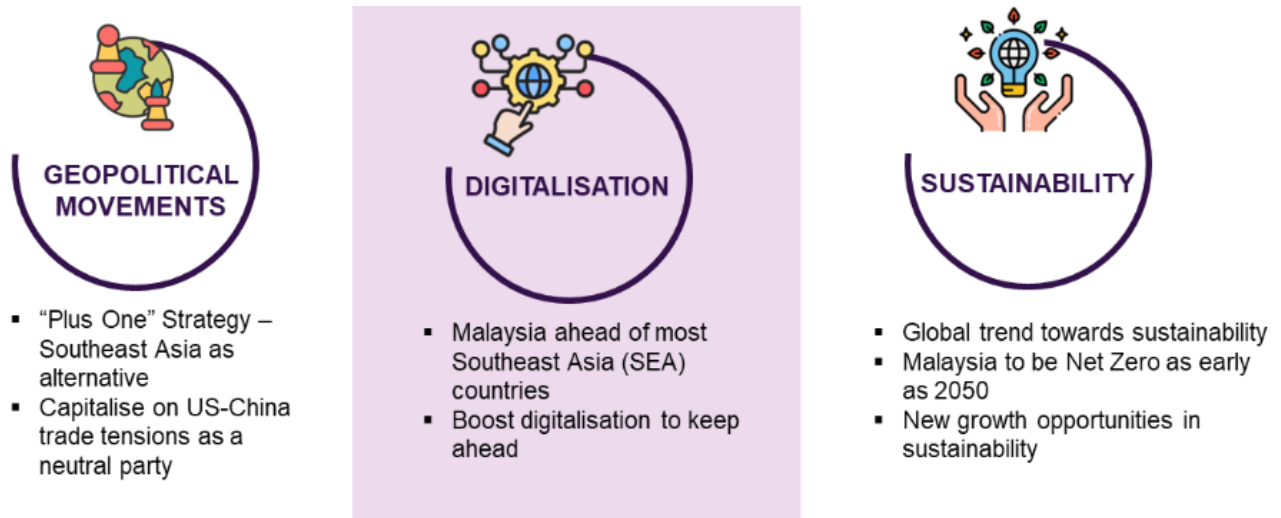
FTA – Free Trade Agreements, ²FDIs-Foreign Direct Investments, ³DDIs-Domestic Direct Investment, ⁴GVC-Global Value Chain, ⁵MSME-Micro, Small and Medium Enterprises



6.4 EMERGING MEGA TRENDS

Merely observing Malaysia's current manufacturing industry is insufficient to future-proof the nation. Instead, preparing for the economy of tomorrow is essential. This demands a clear understanding of key global trends that will shape Malaysia's development over the next decade. Three major trends will impact the future of global trade and investment, including in Malaysia.

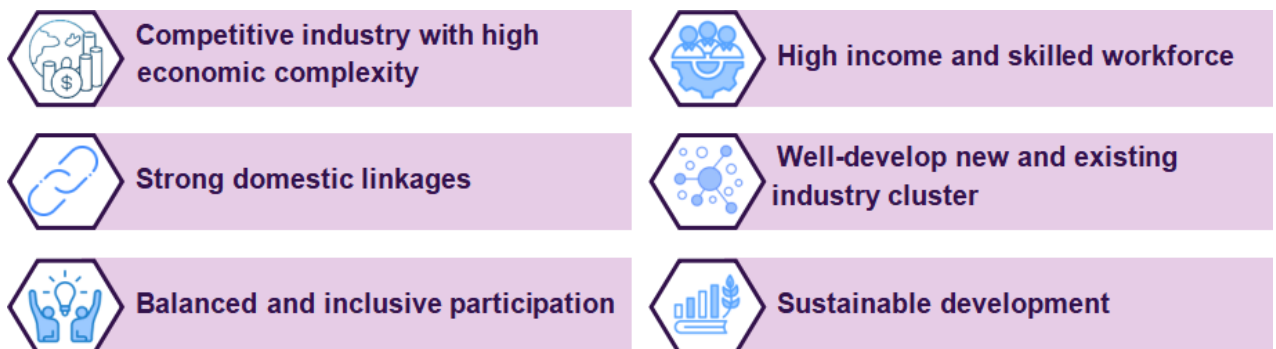
Figure 6.2: 3 Key Trends



6.5 VISION, GOALS AND MISSIONS

Considering Malaysia's strategic position to capitalise on opportunities, it is essential for the nation to formulate an ambitious and comprehensive strategy to propel the next phase of industrialisation. This vision acts as a cohesive objective to motivate the entire nation, encompassing both the government and industries.

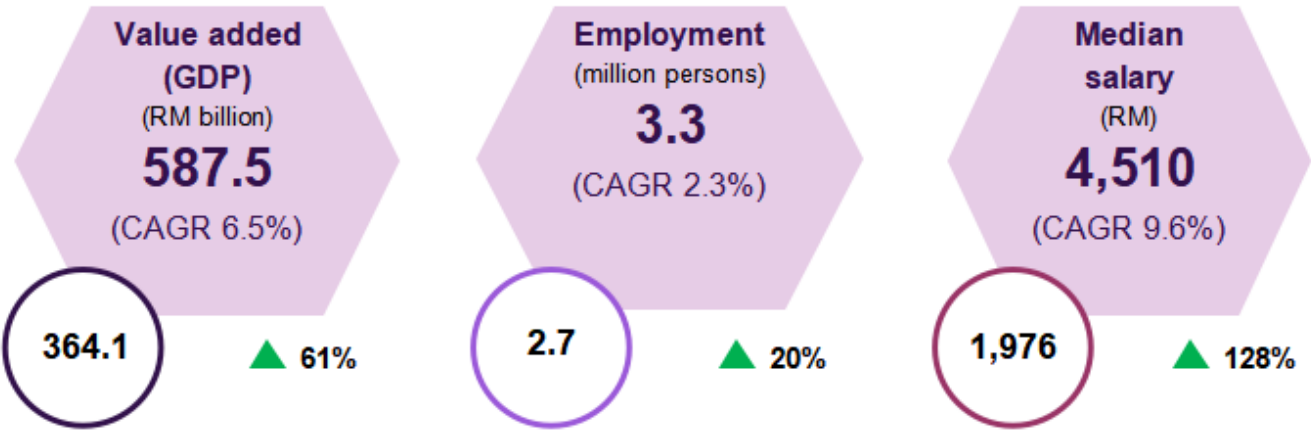
Aimed at delivering **accelerated** and **holistic broad-based growth** to achieve Malaysia's Vision on:





MARCOECONOMIC TARGET FOR MANUFACTURING SECTOR (IMPACT BASED)

The NIMP 2030 is expected to achieve high-impact growth for Malaysia. It is driven with the aim to contribute to the national manufacturing top-line targets.

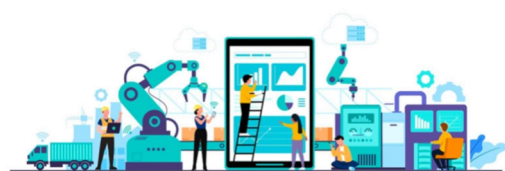


Legend: Target (2030) Baseline (2021) Baseline (2022) Value increase

Manufacturing's value-added (GDP) is expected to grow by **65 per cent** from 2022, reaching **RM587.5 billion** by 2030. This indicates an increase of 6 per cent from today's GDP, driven by NIMP 2030 interventions for high-impact and emerging growth sectors including chemical, E&E, electric vehicle (EV), aerospace, pharmaceutical and advanced materials.

Employment is expected to grow at **2.3 per cent** from 2022, consistent with historical growth rate, providing livelihood for **3.3 million** rakyat by 2030. The industry's growing employment trajectory is due to the creation of high-skilled jobs as the country advances towards higher value-added activities coupled with greater use of labour-enhancing automation and technological advancements.

Median salary for manufacturing sector is expected to grow by **96 per cent**, using median average pre-pandemic level, to reach **RM4,510**. This is an increase of approximately 128 percent from 2021, driven by the shift of the industry towards higher value-added activities and high-skilled jobs opportunities created.



GOALS AND TARGETS (OUTCOME-BASED)

Table 6.2: Goal and Targets NIMP 2030

NIMP GOALS	OUTCOMES	MEASURES	BASELINE (2021)	TARGETS (2030)
 Increase economic complexity	Sophistication in economic value-added.	Value added for complex products or high-tech manufacturing and services.	8.1% (2020)	15%
	Regional innovation hub.	Gross expenditure on R&D to GDP.	1%	3.5%
 Create high-value job opportunities	High-skilled jobs.	Number of jobs created.	-	700K jobs from mfg and MRS
	Fair income.	Manufacturing median wages.	RM1,976	RM4,510
 Extend domestic linkages	Internationally competitive SMEs.	Share of SME exports within total exports	11.7%	25%
	Deepened local supply chain integration.	Domestic value added in mfg. and services in gross exports	49% (2018)	65%
 Develop new & existing clusters	Accelerated growth in existing core clusters.	Global market share in high tech mfg. exports	3%	6%
	Accelerated growth in emerging markets such as 4IR and digital.	Global market share in green and digital exports	2%	4%
 Improve inclusivity	Catalysed sectoral and regional development through investments.	Total investments (FDI and DDI realised) as a share of state of GDP	Average 13%	25%
	High manufacturing value added participation by less developed States.	Increasing mfg. value added in less developed States	22%	30-35%
 Enhance ESG practices	Derisked economy against ESG factors.	Country ESG factors rating (Sustainalytics Index)	56.5 (Grade C)	75-100 (Grade A)
	Drive towards Net Zero aspirations.	Reduction in Carbon emission intensity based on NDC ¹ goals	33%	45%

Note.

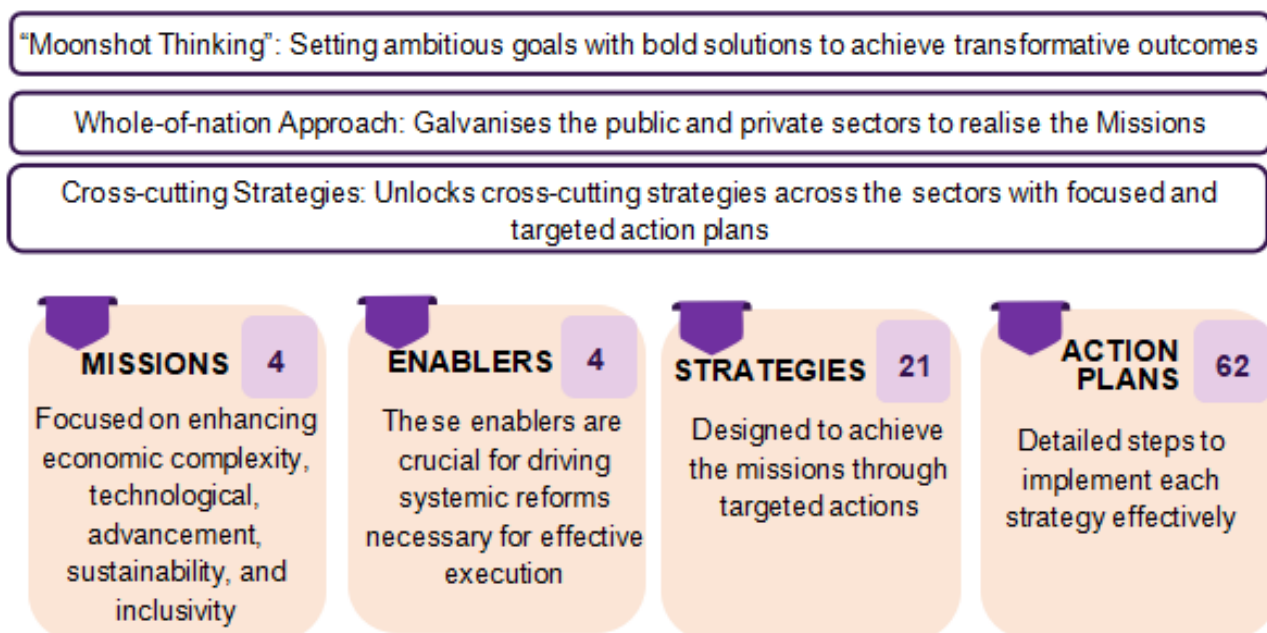
NDC¹ - National Determined Contributions

The manufacturing and services sectors are the two largest contributors to Malaysia's economy. The manufacturing sector plays a crucial role, concentrating on large-scale production of tangible goods. It encompasses a wide range of activities, including the transformation of raw materials and components into finished products through the use of machinery, labor, and advanced technology.

To ensure continuous growth of the manufacturing sector and related services, the NIMP 2030 adopts a mission-based approach, which is designed to transform Malaysia's industrial landscape by focusing on specific, measurable goals that align with the nation's economic and sustainability objectives as shown in Figure 6.4.



Table 6.4: Mission-based Approach of NIMP 2030



MISSION 1 - Advance economic complexity:

This is to encourage high-growth industries to innovate and produce more sophisticated products. This will enhance the competitiveness of Malaysia in the global market

MISSION 2 - Tech up for a digitally vibrant nation:

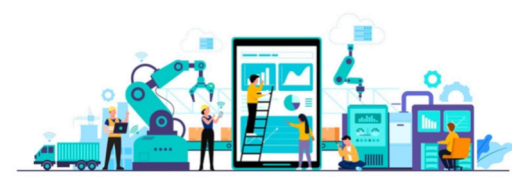
By embracing a whole-of-nation digital transformation, Malaysia can drive digital adoption, spur innovation, enhance labour productivity, and unlock opportunities in digital frontier technologies

MISSION 3 - Push for Net Zero:

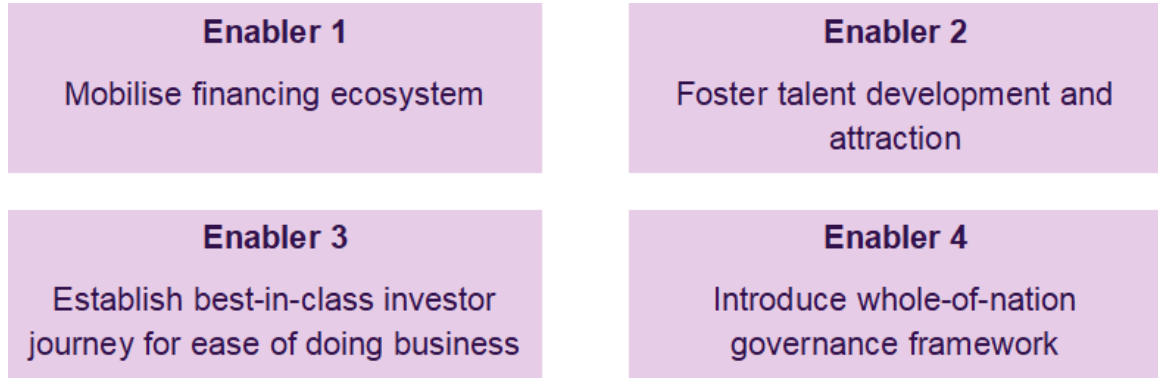
This emphasises Malaysia's commitment to addressing climate change by striving for a Net Zero future. Through sustainable practices and green initiatives, Malaysia aims to reduce carbon emissions and build a resilient and environmentally friendly economy

MISSION 4 - Safeguard economic security and inclusivity:

Malaysia aims to build resilience and enhance trade security against global shocks and geopolitical tension. Apart from that, Malaysia is creating an enabling environment that fosters entrepreneurship, supporting SMEs, and promoting equitable participation in economic activities to narrow all forms of disparities between the states



The missions are interconnected and need to be advanced simultaneously to achieve the goals and targets. However, Malaysian industries face several systemic and institutional challenges, which will be addressed through four (4) enablers:



The missions and enablers will be carried out using 21 strategies and 62 action plans meant to provide the required enabling ecosystems. Many catalytic mission-based projects have been found to propel mission-oriented implementation. Through "industry deals," which provide a forum for industry actors to create joint ventures and suggest strategic mission-based projects, constant interaction with sectors and stakeholders will take place. These projects will result in actual activities meant to bring about the intended results of the missions.

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STATISTICAL TABLE



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Table A1: ICT Industry and Non ICT Industry that Produce ICT Products, 2015-2023

Kind of economic activity	2015	2016	2017	2018	2019	2020	2021	2022 ^e	2023 ^p
RM Million									
ICT industry	141,990	153,507	166,607	177,197	191,093	195,079	211,657	237,862	243,466
1. ICT manufacturing	49,260	53,231	57,263	58,645	62,417	65,767	75,308	92,035	92,588
2. ICT trade	22,430	24,361	26,430	28,189	30,085	28,489	30,418	34,408	35,682
3. ICT services	59,535	64,392	70,574	77,427	84,830	88,682	93,962	98,041	100,780
4. Content and media	10,765	11,523	12,341	12,936	13,760	12,142	11,969	13,379	14,417
Non ICT industry	14,488	14,510	20,421	21,807	21,024	20,681	19,069	23,146	23,589
Total industries that produce ICT products	156,478	168,018	187,027	199,004	212,117	215,760	230,727	261,008	267,055
Annual percentage change (%)									
ICT industry		8.1	8.5	6.4	7.8	2.1	8.5	12.4	2.4
1. ICT manufacturing		8.1	7.6	2.4	6.4	5.4	14.5	22.2	0.6
2. ICT trade		8.6	8.5	6.7	6.7	-5.3	6.8	13.1	3.7
3. ICT services		8.2	9.6	9.7	9.6	4.5	6.0	4.3	2.8
4. Content and media		7.0	7.1	4.8	6.4	-11.8	-1.4	11.8	7.8
Non ICT industry		0.2	40.7	6.8	-3.6	-1.6	-7.8	21.4	1.9
Total industries that produce ICT products		7.4	11.3	6.4	6.6	1.7	6.9	13.1	2.3
Percentage share total industries that produce ICT products (%)									
ICT industry	90.7	91.4	89.1	89.0	90.1	90.4	91.7	91.1	91.2
1. ICT manufacturing	31.5	31.7	30.6	29.5	29.4	30.5	32.6	35.3	34.7
2. ICT trade	14.3	14.5	14.1	14.2	14.2	13.2	13.2	13.2	13.4
3. ICT services	38.0	38.3	37.7	38.9	40.0	41.1	40.7	37.6	37.7
4. Content and media	6.9	6.9	6.6	6.5	6.5	5.6	5.2	5.1	5.4
Non ICT industry	9.3	8.6	10.9	11.0	9.9	9.6	8.3	8.9	8.8
Total industries that produce ICT products	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Table A2: Supply and Use of ICT Products, 2015 - 2023 (RM Million)

2015					2016			
RM Million								
Supply								
Components	ICT goods	ICT services	Content and media products	Total	ICT goods	ICT services	Content and media products	Total
ICT domestic production	278,948	140,156	25,066	444,169	300,874	157,353	27,800	486,028
Imports of ICT products	139,893	19,651	4,720	164,264	147,360	20,059	4,722	172,141
Taxes less subsidies on ICT products	1,733	3,221	1,413	6,366	1,736	3,414	1,453	6,604
Total supply of ICT products	420,574	163,027	31,199	614,800	449,971	180,826	33,975	664,772
Use								
Components	ICT goods	ICT services	Content and media products	Total	ICT goods	ICT services	Content and media products	Total
Intermediate use on ICT products	200,382	81,779	15,351	297,513	223,575	92,944	17,468	333,987
Final consumption expenditure on ICT products	16,537	45,805	8,742	71,084	18,023	50,125	9,332	77,480
Gross capital formation on ICT products	17,689	15,438	381	33,508	19,460	16,813	386	36,659
Exports of ICT products	185,965	20,005	6,725	212,695	188,913	20,944	6,789	216,647
Total use of ICT products	420,574	163,027	31,199	614,800	449,971	180,826	33,975	664,772

Table A2: Supply and Use of ICT Products, 2015 - 2023 (RM Million) (cont'd)

2017					2018			
RM Million								
Supply								
Components	ICT goods	ICT services	Content and media products	Total	ICT goods	ICT services	Content and media products	Total
ICT domestic production	319,666	173,963	31,887	525,516	349,056	192,503	36,330	577,888
Imports of ICT products	184,867	19,452	4,688	209,008	190,852	19,511	4,601	214,964
Taxes less subsidies on ICT products	1,821	2,872	1,327	6,020	1,572	1,508	761	3,841
Total supply of ICT products	506,354	196,287	37,902	740,544	541,480	213,521	41,692	796,693
Use								
Components	ICT goods	ICT services	Content and media products	Total	ICT goods	ICT services	Content and media products	Total
Intermediate use on ICT products	230,812	100,887	20,528	352,227	231,360	110,274	28,000	369,634
Final consumption expenditure on ICT products	18,369	56,004	10,016	84,389	19,544	61,468	6,334	87,346
Gross capital formation on ICT products	20,223	17,967	505	38,694	16,660	19,655	493	36,808
Exports of ICT products	236,950	21,429	6,854	265,234	273,915	22,125	6,866	302,905
Total use of ICT products	506,354	196,287	37,902	740,544	541,480	213,521	41,692	796,693

Table A2: Supply and Use of ICT Products, 2015 - 2023 (RM Million) (cont'd)

2019					2020			
RM Million								
Supply								
Components	ICT goods	ICT services	Content and media products	Total	ICT goods	ICT services	Content and media products	Total
ICT domestic production	359,244	207,360	39,543	606,147	376,521	214,721	36,303	627,546
Imports of ICT products	179,989	20,000	4,619	204,608	189,077	22,671	4,041	215,790
Taxes less subsidies on ICT products	2,220	2,925	1,006	6,152	1,285	2,651	560	4,495
Total supply of ICT products	541,453	230,286	45,169	816,907	566,883	240,043	40,904	847,831
Use								
Components	ICT goods	ICT services	Content and media products	Total	ICT goods	ICT services	Content and media products	Total
Intermediate use on ICT products	242,564	120,075	30,543	393,182	244,337	124,321	27,848	396,505
Final consumption expenditure on ICT products	22,278	66,804	7,255	96,336	23,519	69,901	5,905	99,325
Gross capital formation on ICT products	10,933	19,900	422	31,255	16,453	20,298	479	37,230
Exports of ICT products	265,677	23,507	6,949	296,133	282,575	25,524	6,672	314,771
Total use of ICT products	541,453	230,286	45,169	816,907	566,883	240,043	40,904	847,831

Table A2: Supply and Use of ICT Products, 2015 - 2023 (RM Million) (cont'd.)

2021					2022 ^e			
RM Million								
Supply								
Components	ICT goods	ICT services	Content and media products	Total	ICT goods	ICT services	Content and media products	Total
ICT domestic production	414,237	226,782	32,150	673,169	495,733	243,662	35,022	774,417
Imports of ICT products	228,610	28,187	3,979	260,776	275,804	33,634	4,279	313,717
Taxes less subsidies on ICT products	618	3,866	2,145	6,630	619	3,882	2,387	6,888
Total supply of ICT products	643,465	258,834	38,274	940,574	772,156	281,179	41,688	1,095,023
Use								
Components	ICT goods	ICT services	Content and media products	Total	ICT goods	ICT services	Content and media products	Total
Intermediate use on ICT products	278,290	132,606	27,040	437,935	315,431	143,779	27,859	487,069
Final consumption expenditure on ICT products	25,751	75,656	4,883	106,290	24,780	78,285	8,015	111,080
Gross capital formation on ICT products	17,936	21,917	505	40,357	17,889	24,214	589	42,692
Exports of ICT products	321,489	28,656	5,846	355,992	414,056	34,901	5,225	454,182
Total use of ICT products	643,465	258,834	38,274	940,574	772,156	281,179	41,688	1,095,023

Table A2: Supply and Use of ICT Products, 2015 - 2023 (RM Million) (cont'd)

2023 ^p				
RM Million				
Supply				
Components	ICT goods	ICT services	Content and media products	Total
ICT domestic production	504,377	248,361	37,366	790,104
Imports of ICT products	228,171	38,266	4,283	270,720
Taxes less subsidies on ICT products	672	3,998	2,525	7,196
Total supply of ICT products	733,219	290,625	44,175	1,068,019
Use				
Components	ICT goods	ICT services	Content and media products	Total
Intermediate use on ICT products	294,308	148,659	30,965	473,933
Final consumption expenditure on ICT products	26,608	81,624	8,266	116,497
Gross capital formation on ICT products	21,004	25,260	636	46,900
Exports of ICT products	391,300	35,082	4,307	430,689
Total use of ICT products	733,219	290,625	44,175	1,068,019

Table A3: Supply and Use of ICT Products, 2016 - 2023 (Annual Percentage Change)

2016					2017			
Annual percentage change (%)								
Supply								
Components	ICT goods	ICT services	Content and media products	Total	ICT goods	ICT services	Content and media products	Total
ICT domestic production	7.9	12.3	10.9	9.4	6.2	10.6	14.7	8.1
Imports of ICT products	5.3	2.1	0.0	4.8	25.5	-3.0	-0.7	21.4
Taxes less subsidies on ICT products	0.2	6.0	2.8	3.7	4.9	-15.9	-8.7	-8.8
Total supply of ICT products	7.0	10.9	8.9	8.1	12.5	8.6	11.6	11.4
Use								
Components	ICT goods	ICT services	Content and media products	Total	ICT goods	ICT services	Content and media products	Total
Intermediate use on ICT products	11.6	13.7	13.8	12.3	3.2	8.5	17.5	5.5
Final consumption expenditure on ICT products	9.0	9.4	6.8	9.0	1.9	11.7	7.3	8.9
Gross capital formation on ICT products	10.0	8.9	1.3	9.4	3.9	6.9	30.8	5.6
Exports of ICT products	1.6	4.7	1.0	1.9	25.4	2.3	0.9	22.4
Total use of ICT products	7.0	10.9	8.9	8.1	12.5	8.6	11.6	11.4

Table A3: Supply and Use of ICT Products, 2016 - 2023 (Annual Percentage Change) (cont'd)

2018					2019			
Annual percentage change (%)								
Supply								
Components	ICT goods	ICT services	Content and media products	Total	ICT goods	ICT services	Content and media products	Total
ICT domestic production	9.2	10.7	13.9	10.0	2.9	7.7	8.8	4.9
Imports of ICT products	3.2	0.3	-1.9	2.9	-5.7	2.5	0.4	-4.8
Taxes less subsidies on ICT products	-13.7	-47.5	-42.6	-36.2	41.2	93.9	32.2	60.1
Total supply of ICT products	6.9	8.8	10.0	7.6	0.0	7.9	8.3	2.5
Use								
Components	ICT goods	ICT services	Content and media products	Total	ICT goods	ICT services	Content and media products	Total
Intermediate use on ICT products	0.2	9.3	36.4	4.9	4.8	8.9	9.1	6.4
Final consumption expenditure on ICT products	6.4	9.8	-36.8	3.5	14.0	8.7	14.5	10.3
Gross capital formation on ICT products	-17.6	9.4	-2.3	-4.9	-34.4	1.2	-14.4	-15.1
Exports of ICT products	15.6	3.2	0.2	14.2	-3.0	6.2	1.2	-2.2
Total use of ICT products	6.9	8.8	10.0	7.6	0.0	7.9	8.3	2.5

Table A3: Supply and Use of ICT Products, 2016 - 2023 (Annual Percentage Change) (cont'd)

2020					2021			
Annual percentage change (%)								
Supply								
Components	ICT goods	ICT services	Content and media products	Total	ICT goods	ICT services	Content and media products	Total
ICT domestic production	4.8	3.5	-8.2	3.5	10.0	5.6	-11.4	7.3
Imports of ICT products	5.1	13.4	-12.5	5.5	20.9	24.3	-1.5	20.8
Taxes less subsidies on ICT products	-42.1	-9.4	-44.4	-26.9	-51.9	45.9	283.2	47.5
Total supply of ICT products	4.7	4.2	-9.4	3.8	13.5	7.8	-6.4	10.9
Use								
Components	ICT goods	ICT services	Content and media products	Total	ICT goods	ICT services	Content and media products	Total
Intermediate use on ICT products	0.7	3.5	-8.8	0.8	13.9	6.7	-2.9	10.4
Final consumption expenditure on ICT products	5.6	4.6	-18.6	3.1	9.5	8.2	-17.3	7.0
Gross capital formation on ICT products	50.5	2.0	13.6	19.1	9.0	8.0	5.3	8.4
Exports of ICT products	6.4	8.6	-4.0	6.3	13.8	12.3	-12.4	13.1
Total use of ICT products	4.7	4.2	-9.4	3.8	13.5	7.8	-6.4	10.9

Table A3: Supply and Use of ICT Products, 2016 - 2023 (Annual Percentage Change) (cont'd)

2022 ^e					2023 ^p			
Annual percentage change (%)								
Supply								
Components	ICT goods	ICT services	Content and media products	Total	ICT goods	ICT services	Content and media products	Total
ICT domestic production	19.7	7.4	8.9	15.0	1.7	1.9	6.7	2.0
Imports of ICT products	20.6	19.3	7.5	20.3	-17.3	13.8	0.1	-13.7
Taxes less subsidies on ICT products	0.1	0.4	11.3	3.9	8.5	3.0	5.8	4.5
Total supply of ICT products	20.0	8.6	8.9	16.4	-5.0	3.4	6.0	-2.5
Use								
Components	ICT goods	ICT services	Content and media products	Total	ICT goods	ICT services	Content and media products	Total
Intermediate use on ICT products	13.3	8.4	3.0	11.2	-6.7	3.4	11.1	-2.7
Final consumption expenditure on ICT products	-3.8	3.5	64.1	4.5	7.4	4.3	3.1	4.9
Gross capital formation on ICT products	-0.3	10.5	16.7	5.8	17.4	4.3	8.1	9.9
Exports of ICT products	28.8	21.8	-10.6	27.6	-5.5	0.5	-17.6	-5.2
Total use of ICT products	20.0	8.6	8.9	16.4	-5.0	3.4	6.0	-2.5

Table A4: Supply and Use of ICT Products, 2015 - 2023 (Percentage Share)

2015					2016			
Percentage share (%)								
Supply								
Components	ICT goods	ICT services	Content and media products	Total	ICT goods	ICT services	Content and media products	Total
ICT domestic production	66.3	86.0	80.3	72.2	66.9	87.0	81.8	73.1
Taxes less subsidies on ICT products	0.4	2.0	4.5	1.0	0.4	1.9	4.3	1.0
Total supply of ICT products	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Use								
Components	ICT goods	ICT services	Content and media products	Total	ICT goods	ICT services	Content and media products	Total
Intermediate use on ICT products	47.6	50.2	49.2	48.4	49.7	51.4	51.4	50.2
Final consumption expenditure on ICT products	3.9	28.1	28.0	11.6	4.0	27.7	27.5	11.7
Gross capital formation on ICT products	4.2	9.5	1.2	5.5	4.3	9.3	1.1	5.5
Exports of ICT products	44.2	12.3	21.6	34.6	42.0	11.6	20.0	32.6
Total use of ICT products	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Table A4: Supply and Use of ICT Products, 2015 - 2023 (Percentage Share) (cont'd)

2017					2018			
Percentage share (%)								
Supply								
Components	ICT goods	ICT services	Content and media products	Total	ICT goods	ICT services	Content and media products	Total
ICT domestic production	63.1	88.6	84.1	71.0	64.5	90.2	87.1	72.5
Taxes less subsidies on ICT products	0.4	1.5	3.5	0.8	0.3	0.7	1.8	0.5
Total supply of ICT products	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Use								
Components	ICT goods	ICT services	Content and media products	Total	ICT goods	ICT services	Content and media products	Total
Intermediate use on ICT products	45.6	51.4	54.2	47.6	42.7	51.6	67.2	46.4
Final consumption expenditure on ICT products	3.6	28.5	26.4	11.4	3.6	28.8	15.2	11.0
Gross capital formation on ICT products	4.0	9.2	1.3	5.2	3.1	9.2	1.2	4.6
Exports of ICT products	46.8	10.9	18.1	35.8	50.6	10.4	16.5	38.0
Total use of ICT products	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Table A4: Supply and Use of ICT Products, 2015 - 2023 (Percentage Share) (cont'd)

2019					2020			
Percentage share (%)								
Supply								
Components	ICT goods	ICT services	Content and media products	Total	ICT goods	ICT services	Content and media products	Total
ICT domestic production	66.4	90.0	87.6	74.2	66.4	89.5	88.8	74.0
Taxes less subsidies on ICT products	0.4	1.3	2.2	0.8	0.2	1.1	1.4	0.5
Total supply of ICT products	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Use								
Components	ICT goods	ICT services	Content and media products	Total	ICT goods	ICT services	Content and media products	Total
Intermediate use on ICT products	44.8	52.1	67.6	48.1	43.1	51.8	68.1	46.8
Final consumption expenditure on ICT products	4.1	29.0	16.1	11.8	4.2	29.1	14.4	11.7
Gross capital formation on ICT products	2.0	8.6	0.9	3.8	2.9	8.5	1.2	4.4
Exports of ICT products	49.1	10.2	15.4	36.3	49.8	10.6	16.3	37.1
Total use of ICT products	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Table A4: Supply and Use of ICT Products, 2015 - 2023 (Percentage Share) (cont'd)

2021					2022 ^e			
Percentage share (%)								
Supply								
Components	ICT goods	ICT services	Content and media products	Total	ICT goods	ICT services	Content and media products	Total
ICT domestic production	64.4	87.6	84.0	71.6	64.2	86.7	84.0	70.7
Taxes less subsidies on ICT products	0.1	1.5	5.6	0.7	0.1	1.4	5.7	0.6
Total supply of ICT products	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Use								
Components	ICT goods	ICT services	Content and media products	Total	ICT goods	ICT services	Content and media products	Total
Intermediate use on ICT products	43.2	51.2	70.6	46.6	40.9	51.1	66.8	44.5
Final consumption expenditure on ICT products	4.0	29.2	12.8	11.3	3.2	27.8	19.2	10.1
Gross capital formation on ICT products	2.8	8.5	1.3	4.3	2.3	8.6	1.4	3.9
Exports of ICT products	50.0	11.1	15.3	37.8	53.6	12.4	12.5	41.5
Total use of ICT products	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Table A4: Supply and Use of ICT Products, 2015 - 2023 (Percentage Share) (cont'd)

2023 ^p				
Percentage share (%)				
Supply				
Components	ICT goods	ICT services	Content and media products	Total
ICT domestic production	68.8	85.5	84.6	74.0
Taxes less subsidies on ICT products	0.1	1.4	5.7	0.7
Total supply of ICT products	100.0	100.0	100.0	100.0
Use				
Components	ICT goods	ICT services	Content and media products	Total
Intermediate use on ICT products	40.1	51.2	70.1	44.4
Final consumption expenditure on ICT products	3.6	28.1	18.7	10.9
Gross capital formation on ICT products	2.9	8.7	1.4	4.4
Exports of ICT products	53.4	12.1	9.8	40.3
Total use of ICT products	100.0	100.0	100.0	100.0

Table A5: Exports of ICT Products, 2015 - 2023

Kind of economic activity	2015	2016	2017	2018	2019	2020	2021	2022	2023 ^p
RM Million									
1. ICT goods	185,965	188,913	236,950	273,915	265,677	282,575	321,489	414,056	391,300
2. ICT services	20,005	20,944	21,429	22,125	23,507	25,524	28,656	34,901	35,082
3. Content and media products	6,725	6,789	6,854	6,866	6,949	6,672	5,846	5,225	4,307
Total exports of ICT products	212,695	216,647	265,234	302,905	296,133	314,771	355,992	454,182	430,689
Total exports	817,370	834,491	960,778	992,511	987,481	873,477	1,093,895	1,378,618	1,250,183
Annual percentage change (%)									
1. ICT goods		1.6	25.4	15.6	-3.0	6.4	13.8	28.8	-5.5
2. ICT services		4.7	2.3	3.2	6.2	8.6	12.3	21.8	0.5
3. Content and media products		1.0	0.9	0.2	1.2	-4.0	-12.4	-10.6	-17.6
Total exports of ICT products		1.9	22.4	14.2	-2.2	6.3	13.1	27.6	-5.2
Total exports		2.1	15.1	3.3	-0.5	-11.5	25.2	26.0	-9.3
Percentage share total exports of ICT products (%)									
1. ICT goods	87.4	87.2	89.3	90.4	89.7	89.8	90.3	91.2	90.9
2. ICT services	9.4	9.7	8.1	7.3	7.9	8.1	8.1	7.7	8.1
3. Content and media products	3.2	3.1	2.6	2.3	2.4	2.1	1.6	1.1	1.0
Total exports of ICT products	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Percentage share total exports (%)									
Total exports of ICT products	26.0	26.0	27.6	30.5	30.0	36.0	32.5	32.9	34.5

Table A6: Imports of ICT Products, 2015 - 2023

Kind of economic activity	2015	2016	2017	2018	2019	2020	2021	2022	2023 ^p
RM Million									
1. ICT goods	139,893	147,360	184,867	190,852	179,989	189,077	228,610	275,804	228,171
2. ICT services	19,651	20,059	19,452	19,511	20,000	22,671	28,187	33,634	38,266
3. Content and media products	4,720	4,722	4,688	4,601	4,619	4,041	3,979	4,279	4,283
Total imports of ICT products	164,264	172,141	209,008	214,964	204,608	215,790	260,776	313,717	270,720
Total imports	728,778	751,363	866,524	895,405	873,618	783,152	981,922	1,249,547	1,157,224
Annual percentage change (%)									
1. ICT goods		5.3	25.5	3.2	-5.7	5.0	20.9	20.6	-17.3
2. ICT services		2.1	-3.0	0.3	2.5	13.4	24.3	19.3	13.8
3. Content and media products		0.0	-0.7	-1.9	0.4	-12.5	-1.5	7.5	0.1
Total imports of ICT products		4.8	21.4	2.8	-4.8	5.5	20.8	20.3	-13.7
Total imports		3.1	15.3	3.3	-2.4	-10.4	25.4	27.3	-7.4
Percentage share total imports of ICT products (%)									
1. ICT goods	85.1	85.6	88.5	88.8	88.0	87.6	87.7	87.9	84.3
2. ICT services	12.0	11.7	9.3	9.1	9.8	10.5	10.8	10.7	14.1
3. Content and media products	2.9	2.7	2.2	2.1	2.2	1.9	1.5	1.4	1.6
Total imports of ICT products	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Percentage share total imports (%)									
Total imports of ICT products	22.5	22.9	24.1	24.0	23.4	27.6	26.6	25.1	23.4

Table A7: Income Components of ICT industry, 2015-2023

Kind of economic activity	2015	2016	2017	2018	2019	2020	2021	2022 ^e	2023 ^p
RM Million									
Compensation of employees	56,258	60,600	66,726	70,165	73,415	73,314	78,184	84,593	86,733
Gross operating surplus	84,720	91,937	100,060	109,717	116,899	124,813	135,664	152,946	158,577
Taxes less subsidies on production and imports	5,594	5,862	5,242	3,196	4,877	3,136	4,031	5,179	6,640
Total	146,571	158,399	172,029	183,078	195,191	201,263	217,878	242,718	251,951
Annual percentage change (%)									
Compensation of employees		7.7	10.1	5.2	4.6	-0.1	6.6	8.2	2.5
Gross operating surplus		8.5	8.8	9.7	6.5	6.8	8.7	12.7	3.7
Taxes less subsidies on production and imports		4.8	-10.6	-39.0	52.6	-35.7	28.5	28.5	28.2
Total		8.1	8.6	6.4	6.6	3.1	8.3	11.4	3.8
Percentage share (%)									
Compensation of employees	38.4	38.3	38.8	38.3	37.6	36.4	35.9	34.9	34.4
Gross operating surplus	57.8	58.0	58.2	59.9	59.9	62.0	62.3	63.0	62.9
Taxes less subsidies on production and imports	3.8	3.7	3.0	1.8	2.5	1.6	1.8	2.1	2.6
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Table A8: Employment in the ICT Industry, 2015 - 2023

Kind of economic activity	2015	2016	2017	2018	2019	2020	2021	2022	2023
Number of persons ('000)									
1. ICT manufacturing	408	407	412	415	416	409	433	439	441
2. ICT trade	218	220	224	234	238	252	263	264	277
3. ICT services	286	290	302	316	325	341	352	357	361
4. Content and media	152	155	155	156	156	156	157	158	158
Total employment in the ICT industry	1,064	1,072	1,094	1,122	1,136	1,158	1,206	1,217	1,237
Total employment	14,068	14,164	14,477	14,776	15,073	14,719	14,825	15,155	15,813
Annual percentage change (%)									
1. ICT manufacturing		-0.2	1.2	0.7	0.2	-1.6	5.8	1.4	0.4
2. ICT trade		0.8	2.2	4.3	1.6	5.8	4.6	0.3	4.8
3. ICT services		1.2	4.1	5.0	2.8	4.9	3.3	1.2	1.3
4. Content and media		2.0	0.3	0.3	0.2	-0.1	0.6	0.4	0.1
Total employment in the ICT industry		0.7	2.1	2.5	1.2	2.0	4.1	1.0	1.6
Total employment		0.7	2.2	2.1	2.0	-2.3	0.7	2.2	4.3
Percentage share total employment in the ICT industry (%)									
1. ICT manufacturing	38.4	38.0	37.7	37.0	36.6	35.3	35.9	36.1	35.6
2. ICT trade	20.5	20.5	20.5	20.9	21.0	21.7	21.8	21.7	22.4
3. ICT services	26.9	27.0	27.6	28.2	28.7	29.5	29.2	29.3	29.2
4. Content and media	14.3	14.5	14.2	13.9	13.7	13.5	13.0	12.9	12.8
Total employment in the ICT industry	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Percentage share total employment (%)									
Total employment in the ICT industry	7.6	7.6	7.6	7.6	7.5	7.9	8.1	8.0	7.8

Table A9: Gross Value Added of ICT Industry, 2015 - 2023 (RM Million)

Kind of economic activity	2015	2016	2017	2018	2019	2020	2021	2022 ^e	2023 ^p
RM Million									
1. ICT manufacturing	52,076	56,287	60,598	62,064	65,686	69,485	77,748	93,973	96,180
1.1 Computers and peripheral equipment	5,339	5,549	5,162	5,247	5,651	6,038	6,564	6,499	6,911
1.2 Electronic components & boards, communication equipment and consumer electronics	46,737	50,737	55,436	56,817	60,035	63,447	71,184	87,473	89,269
2. ICT trade	22,430	24,361	26,430	28,189	30,085	28,489	30,418	34,408	35,682
2.1 Wholesale trade	7,768	8,251	8,740	9,163	9,638	9,215	9,635	10,830	11,368
2.2 Retail trade	14,661	16,110	17,690	19,026	20,447	19,274	20,784	23,578	24,313
3. ICT services	60,803	65,681	72,076	79,240	84,976	90,553	97,150	100,297	104,966
3.1 Telecommunications	41,012	45,090	49,520	53,973	57,819	63,054	68,090	70,841	73,193
3.2 Computer programming, consultancy, information and related activities	14,219	15,147	16,323	17,639	18,740	19,446	19,947	21,174	21,934
3.3 Other ICT services	5,572	5,444	6,233	7,629	8,417	8,053	9,113	8,282	9,840
4. Content and media	11,263	12,070	12,924	13,585	14,443	12,737	12,562	14,041	15,123
4.1 Publishing of books, periodicals and other publishing activities	5,446	5,757	6,013	6,122	6,500	5,931	5,840	6,234	6,544
4.2 Motion picture, video, television programme, photographic and creative activities	2,209	2,428	2,673	2,813	3,101	2,210	1,997	2,680	3,200
4.3 Other content and media	3,608	3,885	4,238	4,650	4,842	4,596	4,724	5,127	5,380
Gross Value Added of ICT Industry	146,571	158,399	172,029	183,078	195,191	201,263	217,878	242,718	251,951
Gross Domestic Product	1,176,941	1,249,698	1,372,310	1,447,760	1,512,738	1,418,491	1,548,701	1,793,903	1,822,904

Table A10: Gross Value Added of ICT Industry, 2016 - 2023 (Annual Percentage Change)

Kind of economic activity	2016	2017	2018	2019	2020	2021	2022 ^e	2023 ^p
Annual percentage change (%)								
1. ICT manufacturing	8.1	7.7	2.4	5.8	5.8	11.9	20.9	2.3
1.1 Computers and peripheral equipment	3.9	-7.0	1.6	7.7	6.8	8.7	-1.0	6.3
1.2 Electronic components & boards, communication equipment and consumer electronics	8.6	9.3	2.5	5.7	5.7	12.2	22.9	2.1
2. ICT trade	8.6	8.5	6.7	6.7	-5.3	6.8	13.1	3.7
2.1 Wholesale trade	6.2	5.9	4.8	5.2	-4.4	4.6	12.4	5.0
2.2 Retail trade	9.9	9.8	7.6	7.5	-5.7	7.8	13.4	3.1
3. ICT services	8.0	9.7	9.9	7.2	6.6	7.3	3.2	4.7
3.1 Telecommunications	9.9	9.8	9.0	7.1	9.1	8.0	4.0	3.3
3.2 Computer programming, consultancy, information and related activities	6.5	7.8	8.1	6.2	3.8	2.6	6.1	3.6
3.3 Other ICT services	-2.3	14.5	22.4	10.3	-4.3	13.2	-9.1	18.8
4. Content and media	7.2	7.1	5.1	6.3	-11.8	-1.4	11.8	7.7
4.1 Publishing of books, periodicals and other publishing activities	5.7	4.4	1.8	6.2	-8.8	-1.5	6.7	5.0
4.2 Motion picture, video, television programme, photographic and creative	9.9	10.1	5.2	10.2	-28.7	-9.6	34.2	19.4
4.3 Other content and media	7.7	9.1	9.7	4.1	-5.1	2.8	8.5	4.9
Gross Value Added of ICT Industry	8.1	8.6	6.4	6.6	3.1	8.3	11.4	3.8
Gross Domestic Product	6.2	9.8	5.5	4.5	-6.2	9.2	15.8	1.6

Table A11: Gross Value Added of ICT Industry, 2015 - 2023 (Percentage Share)

Kind of economic activity	2015	2016	2017	2018	2019	2020	2021	2022 ^e	2023 ^p
Percentage share Gross Value Added of ICT Industry (%)									
1. ICT manufacturing	35.5	35.5	35.2	33.9	33.7	34.5	35.7	38.7	38.2
1.1 Computers and peripheral equipment	3.6	3.5	3.0	2.9	2.9	3.0	3.0	2.7	2.7
1.2 Electronic components & boards, communication equipment and consumer electronics	31.9	32.0	32.2	31.0	30.8	31.5	32.7	36.0	35.4
2. ICT trade	15.3	15.4	15.4	15.4	15.4	14.2	14.0	14.2	14.2
2.1 Wholesale trade	5.3	5.2	5.1	5.0	4.9	4.6	4.4	4.5	4.5
2.2 Retail trade	10.0	10.2	10.3	10.4	10.5	9.6	9.5	9.7	9.7
3. ICT services	41.5	41.5	41.9	43.3	43.5	45.0	44.6	41.3	41.7
3.1 Telecommunications	28.0	28.5	28.8	29.5	29.6	31.3	31.3	29.2	29.1
3.2 Computer programming, consultancy, information and related activities	9.7	9.6	9.5	9.6	9.6	9.7	9.2	8.7	8.7
3.3 Other ICT services	3.8	3.4	3.6	4.2	4.3	4.0	4.2	3.4	3.9
4. Content and media	7.7	7.6	7.5	7.4	7.4	6.3	5.8	5.8	6.0
4.1 Publishing of books, periodicals and other publishing activities	3.7	3.6	3.5	3.3	3.3	2.9	2.7	2.6	2.6
4.2 Motion picture, video, television programme, photographic and creative activities	1.5	1.5	1.6	1.5	1.6	1.1	0.9	1.1	1.3
4.3 Other content and media	2.5	2.5	2.5	2.5	2.5	2.3	2.2	2.1	2.1
Gross Value Added of ICT Industry	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Percentage share to GDP (%)									
Gross Value Added of ICT Industry	12.5	12.7	12.5	12.7	12.9	14.2	14.1	13.5	13.8

Table A12: Gross Value Added of E-Commerce by ICT Industry, 2015 - 2023

Kind of economic activity	2015	2016	2017	2018	2019	2020	2021	2022 ^e	2023 ^p
RM Million									
ICT industry	22,712	26,013	28,520	30,341	34,507	44,854	58,689	70,553	72,428
1. ICT manufacturing	16,319	18,749	20,044	20,504	22,449	27,758	35,713	43,945	44,883
2. ICT trade	1,771	2,086	2,805	3,668	4,824	7,433	10,195	12,356	12,722
3. ICT services	3,825	4,156	4,588	5,044	6,033	8,126	10,979	12,162	12,533
4. Content and media	797	1,022	1,082	1,126	1,201	1,536	1,802	2,090	2,290
Non ICT industry	66,434	69,631	78,783	87,106	94,844	119,007	142,090	168,867	175,736
Gross Value Added of e-commerce	89,145	95,644	107,303	117,448	129,351	163,860	200,780	239,420	248,164
Annual percentage change (%)									
ICT industry		14.5	9.6	6.4	13.7	30.0	30.8	20.2	2.7
1. ICT manufacturing		14.9	6.9	2.3	9.5	23.6	28.7	23.1	2.1
2. ICT trade		17.8	34.5	30.8	31.5	54.1	37.2	21.2	3.0
3. ICT services		8.7	10.4	9.9	19.6	34.7	35.1	10.8	3.0
4. Content and media		28.3	5.9	4.1	6.6	27.9	17.4	16.0	9.6
Non ICT industry		4.8	13.1	10.6	8.9	25.5	19.4	18.8	4.1
Gross Value Added of e-commerce		7.3	12.2	9.5	10.1	26.7	22.5	19.2	3.7
Percentage share Gross Value Added of e-commerce (%)									
ICT industry	25.5	27.2	26.6	25.8	26.7	27.4	29.2	29.5	29.2
1. ICT manufacturing	18.3	19.6	18.7	17.4	17.4	17.0	17.8	18.4	18.1
2. ICT trade	2.0	2.2	2.6	3.1	3.7	4.5	5.1	5.2	5.1
3. ICT services	4.3	4.3	4.3	4.3	4.7	5.0	5.5	5.1	5.1
4. Content and media	0.9	1.1	1.0	1.0	0.9	0.9	0.9	0.9	0.9
Non ICT industry	74.5	72.8	73.4	74.2	73.3	72.6	70.8	70.5	70.8
Gross Value Added of e-commerce	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Percentage share to GDP (%)									
ICT industry	1.9	2.1	2.1	2.1	2.3	3.2	3.8	3.9	4.0
Non ICT industry	5.6	5.6	5.7	6.0	6.3	8.4	9.2	9.4	9.6
Gross Value Added of e-commerce	7.6	7.7	7.8	8.1	8.6	11.6	13.0	13.3	13.6

Table A13: Gross Value Added of E-Commerce by Main Sectors, 2015 - 2023

Kind of economic activity	2015	2016	2017	2018	2019	2020	2021	2022 ^e	2023 ^p
RM Million									
1. Agriculture	155	170	276	276	293	347	415	443	429
2. Mining and Quarrying	3,743	3,537	4,160	4,875	4,942	5,577	7,081	7,985	6,704
3. Manufacturing	57,855	60,865	66,933	69,382	73,703	89,030	115,736	127,496	128,588
4. Construction	64	77	76	76	76	98	101	124	132
5. Services	27,328	30,995	35,858	42,840	50,336	68,808	77,447	103,372	112,312
Gross Value Added of e-commerce	89,145	95,644	107,303	117,448	129,351	163,860	200,780	239,420	248,164
Annual percentage change (%)									
1. Agriculture		9.5	62.7	-0.2	6.4	18.2	19.7	6.8	-3.2
2. Mining and Quarrying		-5.5	17.6	17.2	1.4	12.8	27.0	12.8	-16.0
3. Manufacturing		5.2	10.0	3.7	6.2	20.8	30.0	10.2	0.9
4. Construction		19.7	-1.0	-0.7	-0.1	30.0	2.9	22.4	6.3
5. Services		13.4	15.7	19.5	17.5	36.7	12.6	33.5	8.6
Gross Value Added of e-commerce		7.3	12.2	9.5	10.1	26.7	22.5	19.3	3.7
Percentage share Gross Value Added of e-commerce (%)									
1. Agriculture	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
2. Mining and Quarrying	4.2	3.7	3.9	4.1	3.8	3.4	3.5	3.3	2.7
3. Manufacturing	64.9	63.6	62.4	59.1	57.0	54.3	57.6	53.3	51.8
4. Construction	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
5. Services	30.7	32.4	33.4	36.5	38.9	42.0	38.6	43.2	45.3
Gross Value Added of e-com	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Percentage share to GDP (%)									
1. Agriculture	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2. Mining and Quarrying	0.3	0.3	0.3	0.3	0.3	0.4	0.5	0.4	0.4
3. Manufacturing	4.9	4.9	4.9	4.8	4.9	6.3	7.5	7.1	7.1
4. Construction	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5. Services	2.3	2.5	2.6	3.0	3.3	4.9	5.0	5.8	6.2
Gross Value Added of e-commerce	7.6	7.7	7.8	8.1	8.6	11.6	13.0	13.3	13.6

Table A14: ICT Contribution to Economy, 2015 - 2023

Kind of economic activity	2015	2016	2017	2018	2019	2020	2021	2022 ^e	2023 ^p
RM Million									
ICT industry	146,571	158,399	172,029	183,078	195,191	201,263	217,878	242,718	251,951
1. ICT manufacturing	52,076	56,287	60,598	62,064	65,686	69,485	77,748	93,973	96,180
2. ICT trade	22,430	24,361	26,430	28,189	30,085	28,489	30,418	34,408	35,682
3. ICT services	60,803	65,681	72,076	79,240	84,976	90,553	97,150	100,297	104,966
4. Content and media	11,263	12,070	12,924	13,585	14,443	12,737	12,562	14,041	15,123
E-commerce of non ICT industry	66,434	69,631	78,783	87,106	94,844	119,007	142,090	168,867	175,736
Total ICT and e-commerce	213,005	228,030	250,812	270,185	290,035	320,270	359,969	411,585	427,687
Annual percentage change (%)									
ICT industry		8.1	8.6	6.4	6.6	3.1	8.3	11.4	3.8
1. ICT manufacturing		8.1	7.7	2.4	5.8	5.8	11.9	20.9	2.3
2. ICT trade		8.6	8.5	6.7	6.7	-5.3	6.8	13.1	3.7
3. ICT services		8.0	9.7	9.9	7.2	6.6	7.3	3.2	4.7
4. Content and media		7.2	7.1	5.1	6.3	-11.8	-1.4	11.8	7.7
E-commerce of non ICT industry		4.8	13.1	10.6	8.9	25.5	19.4	18.8	4.1
Total ICT and e-commerce		7.1	10.0	7.7	7.3	10.4	12.4	14.3	3.9
Percentage share of total ICT and e-commerce (%)									
ICT industry	68.8	69.5	68.6	67.8	67.3	62.8	60.5	59.0	58.9
1. ICT manufacturing	24.4	24.7	24.2	23.0	22.6	21.7	21.6	22.8	22.5
2. ICT trade	10.5	10.7	10.5	10.4	10.4	8.9	8.5	8.4	8.3
3. ICT services	28.6	28.8	28.7	29.3	29.3	28.3	27.0	24.4	24.5
4. Content and media	5.3	5.3	5.2	5.0	5.0	4.0	3.5	3.4	3.5
E-commerce of non ICT industry	31.2	30.5	31.4	32.2	32.7	37.2	39.5	41.0	41.1
Total ICT and e-commerce	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Percentage share to GDP (%)									
ICT industry	12.5	12.7	12.5	12.7	12.9	14.2	14.1	13.5	13.8
E-commerce of non ICT industry	5.6	5.6	5.7	6.0	6.3	8.4	9.2	9.4	9.6
ICT contribution to economy	18.1	18.2	18.3	18.7	19.2	22.6	23.2	22.9	23.5

Table B1.1: Principal Statistics of Information and Communication Services, 2010, 2015 and 2022

Year	Number of establishments	Value of intermediate input (RM '000)	Value of intermediate input (RM '000)	Value added (RM '000)	Number of persons engaged	Salaries & wages (RM '000)	Value of fixed assets
2022	18,903	190,111,510	87,461,602	102,649,908	250,509	19,295,969	114,019,173
2015	8,008	124,606,402	62,047,504	62,558,898	203,017	11,659,440	82,778,363
2010	2,379	81,881,422	39,785,471	42,095,951	131,127	6,391,430	30,038,060

Table B1.2: Principal Statistics of Information and Communication Services by Activity, 2022

Activity	Number of establishments	Value of gross output (RM '000)	Value of intermediate input (RM '000)	Value added (RM '000)	Number of persons engaged	Salaries & Wages (RM '000)	Value of fixed assets
Total	18,903	190,111,510	87,461,602	102,649,908	250,509	19,295,969	114,019,173
Publishing	1,831	5,593,228	2,787,151	2,806,077	17,164	826,126	1,951,197
Motion picture, video and television programme production, sound recording and music publishing	2,054	4,298,434	1,953,614	2,344,820	16,169	708,310	2,574,734
Programming and broadcasting	85	9,621,887	5,984,232	3,637,656	7,558	743,589	6,702,187
Telecommunication services	2,426	120,966,308	51,011,108	69,955,200	68,837	7,047,452	87,184,531
Information services	2,006	8,373,172	3,533,054	4,840,118	17,832	1,433,805	1,408,957

Table B1.3: Principal Statistics of Information and Communication Services by State, 2022

State	Number of establishments	Value of gross output (RM '000)	Value of intermediate input (RM '000)	Value added (RM '000)	Number of persons engaged	Salaries & wages (RM '000)	Value of fixed assets (RM '000)
Total	18,903	190,111,510	87,461,602	102,649,908	250,509	19,295,969	114,019,173
Johor	824	916,709	466,990	449,719	3,771	119,567	864,258
Kedah	168	109,205	58,524	50,681	538	17,673	42,724
Kelantan	41	5,431	3,128	2,302	74	1,308	484
Melaka	217	176,084	84,980	91,104	709	17,176	73,479
Negeri Sembilan	197	169,813	86,650	83,164	499	19,349	58,568
Pahang	76	202,246	66,494	135,752	349	8,771	562,551
Pulau Pinang	878	5,245,385	2,731,896	2,513,490	11,560	375,315	5,102,774
Perak	350	423,506	254,359	169,146	1,156	43,590	120,859
Perlis	20	3,012	1,680	1,332	48	1,152	1,584
Selangor	8,331	57,212,248	27,246,095	29,966,153	101,048	8,037,469	21,447,511
Terengganu	79	25,166	12,326	12,840	232	7,555	13,047
Sabah	268	276,461	160,241	116,221	1,138	30,478	238,792
Sarawak	316	1,004,524	485,046	519,478	2,911	117,008	1,457,513
W.P. Kuala Lumpur	7,092	124,248,353	55,753,128	68,495,225	126,191	10,488,499	83,995,233
W.P. Labuan	13	3,794	1,012	2,781	19	391	459
W.P. Putrajaya	33	89,571	49,052	40,519	266	10,670	39,337

Table B1.4: Principal Statistics of Information and Communication Services by Legal Status, 2022

Legal status	Number of establishments	Value of gross output (RM '000)	Value of intermediate input (RM '000)	Value added (RM '000)	Number of persons engaged	Salaries & wages (RM '000)	Value of fixed assets (RM '000)
Total	18,903	190,111,510	87,461,602	102,649,908	250,509	19,295,969	114,019,173
Individual proprietorship	1,806	1,355,080	752,672	602,408	5,932	265,015	424,441
Partnership	412	401,649	226,469	175,180	1,459	60,577	135,137
Limited liabilities partnership	274	237,162	95,389	141,772	1,087	57,821	47,621
Private limited company	16,218	156,956,508	71,273,057	85,683,451	210,985	15,808,817	93,225,308
Public limited company	164	30,760,255	14,947,449	15,812,806	30,064	3,044,066	20,109,463
Public corporation	25	400,049	166,228	233,821	964	59,071	76,872
Private non-profit making organisation	4	807	337	470	18	600	331

Table B1.5: Principal Statistics of Information and Communication Services by Ownership, 2022

Ownership	Number of establishments	Value of gross output (RM '000)	Value of intermediate input (RM '000)	Value added (RM '000)	Number of persons engaged	Salaries & wages (RM '000)	Value of fixed assets (RM '000)
Total	18,903	190,111,510	87,461,602	102,649,908	250,509	19,295,969	114,019,173
Malaysian residents	18,844	185,594,406	85,842,867	99,751,539	236,891	18,154,171	113,292,625
Non-Malaysian residents	51	4,368,596	1,545,493	2,823,103	13,514	1,135,104	599,110
Joint ownership	8	148,507	73,241	75,266	104	6,694	127,438

Table B1.6: Number of Persons Engaged in the Information and Communication Services by Activity, 2022

Activity	Number of establishments	Number of persons engaged		
		Total	Working proprietor & active business partners and unpaid family worker	Paid employees (full-time) Paid employees (part-time)
Total	18,903	250,509	908	246,752 2,849
Publishing	1,831	17,164	135	16,857 172
Motion picture, video and television programme production, sound recording and music publishing	2,054	16,169	129	15,116 924
Programming and broadcasting	85	7,558	-	7,523 35
Telecommunication services	2,426	68,837	273	67,986 578
Computer programming, consultancy and related activities	10,501	122,949	251	121,962 736
Information services	2,006	17,832	120	17,308 404

Table B1.7: Number of Persons Engaged and Salaries & Wages in the Information and Communication Services by Category of Workers, 2022

Category of worker	Number of persons engaged			Salaries & wages (RM '000)
	Total	Male	Female	
Total	250,509	152,398	98,111	19,295,969
Total working proprietor & active business partners and unpaid family workers	908	782	126	-
Working proprietor and active business partners	807	719	88	-
Unpaid family workers (all members of family and friends not receiving regular wages)	101	63	38	-
Total paid employees (full-time)	246,752	149,632	97,120	19,231,999
Managers	32,633	21,764	10,869	5,050,278
Professionals	60,119	38,332	21,787	6,923,829
Professionals (except Researcher)	56,564	36,242	20,322	6,503,249
Researcher	3,555	2,090	1,465	420,579
Technicians and associate professionals	51,979	38,801	13,178	3,576,965
Clerical support workers	35,628	11,470	24,158	1,505,065
Service and sales workers	24,479	12,833	11,646	998,117
Craft and related trades workers	9,627	8,201	1,426	366,630
Plant and machine operators, and assemblers	8,587	4,809	3,778	254,311
Elementary occupations	23,700	13,422	10,278	556,805
Paid employees (part-time)	2,849	1,984	865	63,970

Table B1.8: Number of Persons Engaged in the Information and Communication Services by Category of Workers and Citizenship, 2022

Category of worker	Number of persons engaged		
	Total	Citizen	Non-citizen
Total	250,509	246,643	3,866
Total working proprietor & active business partners and unpaid family workers	908	908	-
Working proprietor and active business partners	807	807	-
Unpaid family workers (all members of family and friends not receiving regular wages)	101	101	-
Total paid employees (full-time)	246,752	242,886	3,866
Managers	32,633	32,147	486
Professionals	60,119	58,579	1,540
Professionals (except Researcher)	56,564	55,198	1,366
Researcher	3,555	3,381	174
Technicians and associate professionals	51,979	50,701	1,278
Clerical support workers	35,628	35,546	82
Service and sales workers	24,479	24,414	65
Craft and related trades workers	9,627	9,541	86
Plant and machine operators, and assemblers	8,587	8,352	235
Elementary occupations	23,700	23,606	94
Paid employees (part-time)	2,849	2,849	-

Table B1.9: Number of Full-Time Paid Employees in the Information and Communication Services by Activity and Category of Skilled Workers, 2022

Activity	High-Skilled*		Semi-Skilled**		Low-Skilled***	
	Number of persons engaged	Salaries & wages (RM '000)	Number of persons engaged	Salaries & wages (RM '000)	Number of persons engaged	Salaries & wages (RM '000)
Total	144,731	15,551,072	78,321	3,124,122	23,700	556,805
Publishing	7,373	491,381	7,672	277,007	1,812	53,993
Motion picture, video and television programme production, sound recording and music publishing	7,871	447,724	5,191	194,696	2,054	50,104
Programming and broadcasting	4,719	628,410	2,092	95,016	712	19,300
Telecommunication services	35,742	5,211,920	27,930	1,668,076	4,314	149,574
Computer programming, consultancy and related activities	78,197	7,639,060	30,878	657,455	12,887	225,176
Information services	10,829	1,132,578	4,558	231,872	1,921	58,657

Note.

* Includes managers & professionals and technicians & associate professionals

** Includes clerical support workers, service & sales workers, craft & related trades workers and plant & machine operators and assemblers

*** Includes elementary occupations

Table B1.10: Number of Persons Engaged in the Information and Communication Services by Highest Certificate Obtained and Sex, 2022

Qualification	Total employment	Number of persons engaged	
		Male	Female
Total	250,509	152,398	98,111
Postgraduate	10,091	6,196	3,895
Bachelor/ Advanced diploma or equivalent	81,792	53,177	28,615
Diploma	55,693	35,784	19,909
STPM or equivalent	12,309	7,342	4,967
Certificate	20,521	12,631	7,890
SPM/ SPM (V) or equivalent	63,533	34,750	28,783
Below SPM/ SPM (V) qualification	6,570	2,518	4,052

Table B1.1.11: Number of Persons Engaged in the Information and Communication Services by Activity and Highest Certificate Obtained, 2022

Activity	Postgraduate	Bachelor/ Advanced diploma or equivalent	Diploma	STPM or equivalent	Certificate	SPM/SPM (V) or equivalent	Below SPM/ SPM (V) qualification
Total	10,091	81,792	55,693	12,309	20,521	63,533	6,570
Publishing	558	4,973	3,886	1,607	1,205	4,431	504
Motion picture, video and television programme production, sound recording and music publishing	321	4,893	5,212	558	1,206	3,595	384
Programming and broadcasting	298	2,975	852	409	535	2,438	51
Telecommunication services	2,791	21,019	16,304	2,484	4,919	19,752	1,568
Computer programming, consultancy and related activities	5,376	42,690	25,721	6,341	10,643	28,581	3,597
Information services	747	5,242	3,718	910	2,013	4,736	466

Table B1.12: Value of Fixed Assets of Information and Communication Services by Activity, 2022

Activity	Net book value as at 01.01.2022 (RM '000)	Capital expenditure (RM '000)	Disposal (RM '000)	Current depreciation (RM '000)	Net book value as at 31.12.2022 (RM '000)	Rent paid during 2022 (RM '000)
Total	104,978,868	13,522,022	152,403	4,318,342	114,019,173	1,760,896
Publishing	1,903,996	110,881	2,761	60,914	1,951,197	67,195
Motion picture, video and television programme production, sound recording and music publishing	2,660,788	36,692	4,849	119,623	2,574,734	62,596
Programming and broadcasting	4,303,524	2,475,042	66	76,314	6,702,187	14,965
Telecommunication services	81,711,032	9,109,308	78,608	3,544,812	87,184,531	1,024,158
Computer programming, consultancy and related activities	13,100,126	1,583,705	15,077	471,000	14,197,567	488,804
Information services	1,299,401	206,393	51,042	45,680	1,408,957	103,177

Table B1.13: Value of Fixed Assets of Information and Communication Services by Type of Asset, 2022

Type of assets	Net book value as at 01.01.2022 (RM '000)	Capital expenditure (RM '000)	Disposal (RM '000)	Current depreciation (RM '000)	Net book value as at 31.12.2022 (RM '000)	Rent paid during 2022 (RM '000)
Total	104,978,868	13,522,022	152,403	4,318,342	114,019,173	1,760,896
Land	2,696,477	-	-	15,881	2,680,596	328,352
Buildings and other construction	13,574,163	453,248	8,648	181,740	13,836,795	1,303,863
Land Improvement	637	-	-	84	553	-
Transport equipment	807,030	315,206	55,511	87,652	979,590	3,173
Information and communications technology	51,197,909	9,316,260	55,243	2,257,225	58,198,006	5,160
Machinery and equipment	33,298,822	3,164,040	13,336	1,581,469	34,869,018	64,762
Furniture and fittings	1,759,963	244,344	13,600	107,509	1,883,177	3,244
Other assets	1,643,867	28,925	6,064	86,780	1,571,438	52,343

Table B1.14: Principal Statistics of Women-owned Establishments in Information and Communication Services

Activity	Number of establishments	Value of gross output (RM '000)	Value of intermediate input (RM '000)	Value added (RM '000)	Number of persons engaged	Salaries & wages (RM '000)	Value of fixed assets
Total	1,739	2,181,396	1,161,037	1,020,359	9,177	458,975	477,388
Publishing	249	345,306	168,914	176,392	1,020	46,403	59,296
Motion picture, video and television programme production, sound recording and music publishing	276	349,429	184,963	164,466	1,646	71,634	92,995
Programming and broadcasting							
Telecommunication services	223	293,276	152,619	140,657	1317	81,674	34,481
Computer programming, consultancy and related activities	801	1,006,227	560,756	445,471	4501	222,869	266,391
Information services	190	187,158	93,784	93,374	693	36,395	24,225

Table B1.15: Principal Statistics of Women-owned Establishments in Information and Communication Services by State, 2022

State	Number of establishments	Value of gross output (RM '000)	Value of intermediate input (RM '000)	Value added (RM '000)	Number of persons engaged	Salaries & wages (RM '000)	Value of fixed assets (RM '000)
Total	1,739	2,181,396	1,161,037	1,020,359	9,177	458,975	477,388
Johor	85	48,987	23,831	25,156	250	7,643	7,066
Kedah	32	12,353	6,399	5,954	91	3,300	2,396
Perlis	5	1,113	735	378	15	274	156
Kelantan	25	8,082	3,136	4,946	61	1,275	2,124
Melaka	28	18,551	4,682	13,869	65	2,021	5,832
Negeri Sembilan	13	27,837	17,874	9,962	38	1,199	20,934
Pahang	78	70,422	22,429	47,993	388	11,620	21,097
Pulau Pinang	59	29,122	16,634	12,488	147	5,695	3,714
Perak	733	1,011,062	529,949	481,113	3878	242,785	240,729
Selangor	7	7,449	1,885	5,564	35	1,119	1,349
Terengganu	16	12,543	7,231	5,312	60	1,632	1,485
Sabah	8	9,052	3,358	5,694	48	1,835	2,203
Sarawak	650	924,823	522,892	401,931	4,101	178,577	168,303
W.P. Kuala Lumpur							
W.P. Putrajaya							

Table B2.1: Principal Statistics of Publishing Activities, 2010, 2015 and 2022

Year	Number of establishments	Value of gross output (RM '000)	Value of intermediate input (RM '000)	Value added (RM '000)	Number of persons engaged	Salaries & wages (RM '000)	Value of fixed assets (RM '000)
2022	1,831	5,593,228	2,787,151	2,806,077	17,164	826,126	1,951,197
2015	726	4,945,707	2,473,569	2,472,138	16,480	699,902	1,743,484
2010	128	1,018,043	514,963	503,080	4,671	164,699	232,911

Table B2.2: Principal Statistics of Publishing Activities by Group, 2022

Group description	Number of establishments	Value of gross output (RM '000)	Value of intermediate input (RM '000)	Value added (RM '000)	Number of persons engaged	Salaries & wages (RM '000)	Value of fixed assets
Total	1,831	5,593,228	2,787,151	2,806,077	17,164	826,126	1,951,197
Publishing of books, brochures and other publications	489	1,169,246	609,672	559,574	4,767	201,107	457,073
Publishing of newspapers, journals, magazines and periodicals in print or electronic form	237	3,189,670	1,561,261	1,628,409	7,917	416,659	1,195,118
Publishing of ready-made software	684	907,776	446,251	461,525	2,981	152,355	171,473
Others publishing	421	326,536	169,968	156,568	1,499	56,005	127,533

Table B2.3: Principal Statistics of Publishing Activities by State, 2022

State	Number of establishments	Value of gross output (RM '000)	Value of intermediate input (RM '000)	Value added (RM '000)	Number of persons engaged	Salaries & wages (RM '000)	Value of fixed assets (RM '000)
Total	1,831	5,593,228	2,787,151	2,806,077	17,164	826,126	1,951,197
Johor	98	98,198	47,798	50,400	339	8,499	24,553
Kedah	31	8,937	4,453	4,484	35	1,414	2,657
Kelantan	7	665	339	326	11	142	44
Melaka	25	23,010	14,462	8,548	81	1,536	7,725
Negeri Sembilan	35	14,391	7,097	7,294	69	1,407	13,797
Pahang	21	9,397	3,181	6,216	39	680	9,190
Pulau Pinang	95	310,577	143,828	166,750	1,161	48,392	57,244
Perak	54	179,543	114,088	65,455	252	6,863	12,221
Perlis	4	1,078	663	415	12	393	445
Selangor	817	3,462,729	1,771,780	1,690,949	10,268	478,345	1,341,892
Terengganu	10	2,212	1,279	933	11	509	470
Sabah	23	28,162	15,539	12,623	102	3,171	3,734
Sarawak	53	279,916	157,929	121,986	852	37,865	23,310
W.P. Kuala Lumpur	551	1,149,282	490,204	659,078	3,849	233,949	447,376
W.P. Labuan	7	25,133	14,513	10,620	83	2,961	6,540
W.P. Putrajaya							

Table B2.4: Principal Statistics of Publishing Activities by Legal Status, 2022

Legal Status	Number of establishments	Value of gross output (RM '000)	Value of intermediate input (RM '000)	Value added (RM '000)	Number of persons engaged	Salaries & wages (RM '000)	Value of fixed assets
Total	1,831	5,593,228	2,787,151	2,806,077	17,164	826,126	1,951,197
Individual proprietorship	301	332,242	161,931	170,311	797	34,078	125,804
Partnership	72	123,452	70,950	52,502	256	8,808	47,925
Limited liabilities partnership	43	18,758	6,699	12,059	159	8,138	12,662
Private limited company	1,382	3,674,305	1,755,288	1,919,018	11,866	539,139	1,319,131
Public limited company	25	1,437,880	788,162	649,718	4,046	234,797	434,983
Public corporation	8	6,591	4,122	2,469	40	1,164	10,692
Private non-profit making organisation							

Table B2.5 Principal Statistics of Publishing Activities by Ownership, 2022

Ownership	Number of establishments	Value of gross output (RM '000)	Value of intermediate input (RM '000)	Value added (RM '000)	Number of persons engaged	Salaries & wages (RM '000)	Value of fixed assets
Total	1,831	5,593,228	2,787,151	2,806,077	17,164	826,126	1,951,197
Malaysian residents	1,827	5,572,200	2,771,097	2,801,103	17,125	824,550	1,949,969
Non-Malaysian residents	4	21,028	16,054	4,974	39	1,575	1,229

Table B2.6: Number of Persons Engaged and Salaries & Wages in the Publishing Activities by Category of Workers, 2022

Category of worker	Number of persons engaged			Salaries & wages (RM '000)
	Total	Male	Female	
Total	17,164	10,171	6,993	826,126
Total working proprietor & active business partners and unpaid family workers	135	110	25	-
Working proprietor and active business partners	113	96	17	-
Unpaid family workers (all members of family and friends not receiving regular wages)	22	14	8	-
Total paid employees (full-time)	16,857	9,997	6,860	822,381
Managers	1,605	1,276	329	183,418
Professionals	2,689	1,496	1,193	169,340
Professionals (except Researcher)	2,545	1,400	1,145	161,144
Researcher	144	96	48	8,196
Technicians and associate professionals	3,079	2,022	1,057	138,623
Clerical support workers	3,526	1,307	2,219	135,576
Service and sales workers	2,063	1,105	958	75,119
Craft and related trades workers	817	664	153	27,737
Plant and machine operators, and assemblers	1,266	1,024	242	38,576
Elementary occupations	1,812	1,103	709	53,993
Paid employees (part-time)	172	64	108	3,744

Table B2.7: Number of Persons Engaged in the Publishing Activities by Group, 2022

Group description	Number of establishments	Number of persons engaged			
		Total	Working proprietor & active business partners and unpaid family worker	Paid employees (full-time)	Paid employees (part-time)
Total	1,831	17,164	135	16,857	172
Publishing of books, brochures and other publications	489	4,767	24	4,691	52
Publishing of newspapers, journals, magazines and periodicals in print or electronic form	237	7,917	67	7,787	63
Publishing of ready-made software	684	2,981	20	2,929	32
Others publishing	421	1,499	24	1,450	25

Table B3.1: Principal Statistics of Motion Picture, Video and Television Programme Production, Sound Recording and Music Publishing Activities, 2010, 2015 and 2022

Year	Number of establishments	Value of gross output (RM '000)	Value of intermediate input (RM '000)	Value added (RM '000)	Number of persons engaged	Salaries & wages (RM '000)	Value of fixed assets (RM '000)
2022	2,054	4,298,434	1,953,614	2,344,820	16,169	708,310	2,574,734
2015	1,355	3,202,231	1,484,815	1,717,415	13,866	461,804	1,991,018
2010	323	1,897,113	841,107	1,056,006	4,956	117,524	427,176

Table B3.2: Principal Statistics of Motion Picture, Video and Television Programme Production, Sound Recording and Music Publishing Activities by Group, 2022

Group description	Number of establishments	Value of gross output (RM '000)	Value of intermediate input (RM '000)	Value added (RM '000)	Number of persons engaged	Salaries & wages (RM '000)	Value of fixed assets
Total	2,054	4,298,434	1,953,614	2,344,820	16,169	708,310	2,574,734
Motion picture, video and television programme production activities	1,170	2,216,869	968,949	1,247,919	7,984	430,406	1,646,784
Motion picture, video and television programme post-production activities	312	354,191	153,464	200,727	2,143	95,041	123,526
Motion picture, video and television programme distribution activities	186	525,325	242,254	283,071	1,540	55,819	136,323
Motion picture projection activities	119	822,879	423,882	398,997	2,809	62,953	567,083
Sound record and music publishing activities	267	379,170	165,063	214,107	1,693	64,090	101,018

Table B3.3: Principal Statistics of Motion Picture, Video and Television Programme Production, Sound Recording and Music Publishing Activities by State, 2022

State	Number of establishments	Value of gross output (RM '000)	Value of intermediate input (RM '000)	Value added (RM '000)	Number of persons engaged	Salaries & wages (RM '000)	Value of fixed assets (RM '000)
Total	2,054	4,298,434	1,953,614	2,344,820	16,169	708,310	2,574,734
Johor	56	163,633	77,205	86,427	271	9,094	327,888
Kedah	23	17,367	8,632	8,736	130	2,133	9,673
Perlis							
Kelantan	10	41,315	21,621	19,694	186	3,178	33,510
Pahang							
Terengganu	16	57,197	27,633	29,564	186	2,576	17,712
Melaka	29	48,384	21,078	27,306	161	4,664	12,759
Negeri Sembilan	46	113,195	50,774	62,421	665	16,886	97,958
Pulau Pinang	26	38,619	18,748	19,871	237	3,774	29,409
Perak	988	1,800,519	850,485	950,034	6,994	331,683	644,211
Selangor	31	47,085	23,868	23,217	398	6,859	21,765
Sabah	32	35,587	19,904	15,684	303	8,331	23,217
Sarawak	792	1,930,700	831,997	1,098,703	6,615	318,573	1,352,977
W.P. Kuala Lumpur	5	4,831	1,670	3,162	23	558	3,657
W.P. Labuan							
W.P. Putrajaya							

Table B3.4: Principal Statistics of Motion Picture, Video and Television Programme Production, Sound Recording and Music Publishing Activities by Legal Status, 2022

Legal Status	Number of establishments	Value of gross output (RM '000)	Value of intermediate input (RM '000)	Value added (RM '000)	Number of persons engaged	Salaries & wages (RM '000)	Value of fixed assets
Total	2,054	4,298,434	1,953,614	2,344,820	16,169	708,310	2,574,734
Individual proprietorship	215	201,373	109,371	92,002	1,181	41,922	93,137
Partnership	50	119,333	78,058	41,275	233	8,410	46,281
Limited liabilities partnership	23	116,244	42,346	73,898	155	9,746	18,535
Private limited company	1,759	3,839,503	1,706,511	2,132,991	14,556	647,106	2,400,569
Public limited company	7	21,980	17,327	4,654	44	1,126	16,210
Private non-profit making organisation							

Table B3.5: Principal Statistics of Motion Picture, Video and Television Programme Production, Sound Recording and Music Publishing Activities by Ownership, 2022

Ownership	Number of establishments	Value of gross output (RM '000)	Value of intermediate input (RM '000)	Value added (RM '000)	Number of persons engaged	Salaries & wages (RM '000)	Value of fixed assets
Total	2,054	4,298,434	1,953,614	2,344,820	16,169	708,310	2,574,734
Malaysian residents	2,051	4,235,850	1,897,532	2,338,318	16,114	704,679	2,574,468
Non-Malaysian residents	3						
Joint ownership							
		62,584	56,082	6,502	55	3,631	266

Table B3.6: Number of Persons Engaged and Salaries & Wages in the Motion Picture, Video and Television Programme Production, Sound Recording and Music Publishing Activities by Category of Workers, 2022

Category of worker	Number of persons engaged			Salaries & wages (RM '000)
	Total	Male	Female	
Total	16,169	10,202	5,967	708,310
Total working proprietor & active business partners and unpaid family workers	129	105	24	-
Working proprietor and active business partners	113	98	15	-
Unpaid family workers (all members of family and friends not receiving regular wages)	16	7	9	-
Total paid employees (full-time)	15,116	9,388	5,728	692,524
Managers	2,413	2,082	331	156,205
Professionals	2,900	1,630	1,270	182,891
Professionals (except Researcher)	2,826	1,579	1,247	178,667
Researcher	74	51	23	4,224
Technicians and associate professionals	2,558	1,949	609	108,628
Clerical support workers	2,010	467	1,543	81,189
Service and sales workers	2,433	1,490	943	89,406
Craft and related trades workers	530	443	87	18,286
Plant and machine operators, and assemblers	218	189	29	5,815
Elementary occupations	2,054	1,138	916	50,104
Paid employees (part-time)	924	709	215	15,786

Table B3.7: Number of Persons Engaged in the Motion Picture, Video and Television Programme Production, Sound Recording and Music Publishing Activities by Group, 2022

Group description	Number of establishments	Number of persons engaged			
		Total	Working proprietor & active business partners and unpaid family worker	Paid employees (full-time)	Paid employees (part-time)
Total	2,054	16,169	129	15,116	924
Motion picture, video and television programme production activities	1,170	7,984	37	7,844	103
Motion picture, video and television programme post-production activities	312	2,143	26	2,097	20
Motion picture, video and television programme distribution activities	186	1,540	8	1,514	18
Motion picture projection activities	119	2,809	10	2,046	753
Sound record and music publishing activities	267	1,693	48	1,615	30

Table B4.1: Principal Statistics of Programming and Broadcasting Activities, 2010, 2015 and 2022

Year	Number of establishments	Value of gross output (RM '000)	Value of intermediate input (RM '000)	Value added (RM '000)	Number of persons engaged	Salaries & wages (RM '000)	Value of fixed assets (RM '000)
2022	85	9,621,887	5,984,232	3,637,656	7,558	743,589	6,702,187
2015	39	7,211,172	4,182,456	3,028,715	6,659	582,529	6,088,564
2010	15	4,009,704	2,444,377	1,565,327	4,934	389,210	1,419,866

Table B4.2: Principal Statistics of Programming and Broadcasting Activities by Group, 2022

Group description	Number of establishments	Value of gross output (RM '000)	Value of intermediate input (RM '000)	Value added (RM '000)	Number of persons engaged	Salaries & wages (RM '000)	Value of fixed assets
Total	85	9,621,887	5,984,232	3,637,656	7,558	743,589	6,702,187
Radio broadcasting	26	686,474	391,291	295,183	1,306	104,398	155,958
Television programming and broadcasting activities	59	8,935,413	5,592,940	3,342,473	6,252	639,191	6,546,229

Table B4.3: Principal Statistics of Programming and Broadcasting Activities by State, 2022

State	Number of establishments	Value of gross output (RM '000)	Value of intermediate input (RM '000)	Value added (RM '000)	Number of persons engaged	Salaries & wages (RM '000)	Value of fixed assets
Total	85	9,621,887	5,984,232	3,637,656	7,558	743,589	6,702,187
Johor							
Kelantan	4	6,221	2,976	3,245	69	1,751	5,507
Terengganu							
Pulau Pinang							
Perak	4	8,697	4,738	3,959	29	1,416	3,244
Selangor	46	642,325	431,380	210,945	1,172	94,189	206,880
Sabah							
Sarawak	5	7,397	4,173	3,224	68	2,137	4,731
W.P. Kuala Lumpur	26	8,957,246	5,540,964	3,416,282	6,220	644,096	6,481,825

Table B4.4: Principal Statistics of Programming and Broadcasting Activities by Legal Status, 2022

Legal Status	Number of establishments	Value of gross output (RM '000)	Value of intermediate input (RM '000)	Value added (RM '000)	Number of persons engaged	Salaries & wages (RM '000)	Value of fixed assets (RM '000)
Total	85	9,621,887	5,984,232	3,637,656	7,558	743,589	6,702,187
Private limited company	82	8,937,832	5,621,953	3,315,880	6,801	672,715	6,497,941
Public limited company	3	684,055	362,279	321,776	757	70,874	204,246
Public corporation							

Table B4.5: Principal Statistics of Programming and Broadcasting Activities by Ownership, 2022

Ownership	Number of establishments	Value of gross output (RM '000)	Value of intermediate input (RM '000)	Value added (RM '000)	Number of persons engaged	Salaries & wages (RM '000)	Value of fixed assets
Malaysian residents	85	9,621,887	5,984,232	3,637,656	7,558	743,589	6,702,187

Table B4.6: Number of Persons Engaged and Salaries and Wages in the Programming & Broadcasting Activities by Category of Workers, 2022

Category of worker	Number of persons engaged			Salaries & wages (RM '000)
	Total	Male	Female	
Total	7,558	3,468	4,090	743,589
Total working proprietor & active business partners and unpaid family workers	-	-	-	-
Working proprietor and active business partners	-	-	-	-
Unpaid family workers (all members of family and friends not receiving regular wages)	-	-	-	-
Total paid employees (full-time)	7,523	3,443	4,080	742,726
Managers	745	406	339	194,567
Professionals	2,921	1,356	1,565	366,660
Professionals (except Researcher)	2,868	1,314	1,554	360,760
Researcher	53	42	11	5,900
Technicians and associate professionals	1,053	795	258	67,183
Clerical support workers	1,509	277	1,232	71,843
Service and sales workers	512	415	97	20,524
Craft and related trades workers	58	33	25	2,204
Plant and machine operators, and assemblers	13	13	0	445
Elementary occupations	712	148	564	19,300
Paid employees (part-time)	35	25	10	863

Table B4.7: Number of Persons Engaged in the Programming and Broadcasting Activities by Group, 2022

Group description	Number of establishments	Number of persons engaged			
		Total	Working proprietor & active business partners and unpaid family worker	Paid employees (full-time)	Paid employees (part-time)
Total	85	7,558	-	7,523	35
Radio broadcasting	26	1,306	-	1,294	12
Television programming and broadcasting activities	59	6,252	-	6,229	23

Table B5.1: Principal Statistics of Telecommunication Services, 2010, 2015 and 2022

Year	Number of establishments	Value of gross output (RM '000)	Value of intermediate input (RM '000)	Value added (RM '000)	Number of persons engaged	Salaries & wages (RM '000)	Value of fixed assets (RM '000)
2022	2,426	120,966,308	51,011,108	69,955,200	68,837	7,047,452	87,184,531
2015	1,135	72,293,739	33,988,507	38,305,231	51,510	3,804,464	61,095,436
2010	342	53,426,879	26,320,024	27,106,855	41,814	2,120,085	25,191,839

Table B5.2: Principal Statistics of Telecommunication Services by Group, 2022

Group description	Number of establishments	Value of gross output (RM '000)	Value of intermediate input (RM '000)	Value added (RM '000)	Number of persons engaged	Salaries & wages (RM '000)	Value of fixed assets
Total	2,426	120,966,308	51,011,108	69,955,200	68,837	7,047,452	87,184,531
Telecommunication activities (wired, wireless and satellite)	796	101,431,518	40,756,229	60,675,290	45,349	5,259,697	75,159,740
Provision of internet access over networks between the client and the ISP not owned or controlled by the ISP (including provision of telecommunication services over existing telecom connection VOIP provision)	190	5,838,478	3,168,592	2,669,886	4,648	301,557	3,688,344
Other telecommunications activities	1,440	13,696,311	7,086,287	6,610,024	18,840	1,486,199	8,336,446

Table B5.3: Principal Statistics of Telecommunication Services by State, 2022

State	Number of establishments	Value of gross output (RM '000)	Value of intermediate input (RM '000)	Value added (RM '000)	Number of persons engaged	Salaries & wages (RM '000)	Value of fixed assets
Total	2,426	120,966,308	51,011,108	69,955,200	68,837	7,047,452	87,184,531
Johor	163	142,076	81,090	60,986	997	27,573	64,407
Kedah	41	33,030	18,601	14,429	181	7,758	15,540
Kelantan	13	778	508	270	13	232	82
Melaka	51	43,106	14,820	28,286	136	3,823	16,152
Negeri Sembilan	44	22,726	12,775	9,951	50	1,020	14,643
Pahang	25	144,883	38,797	106,086	82	3,838	521,540
Pulau Pinang	92	940,339	360,521	579,817	1,655	82,330	261,490
Perak	87	42,313	21,986	20,326	250	9,906	25,828
Perlis	5	812	407	404	12	299	392
Selangor	983	27,787,363	12,673,234	15,114,130	19,584	1,766,300	13,898,616
Terengganu	37	5,890	2,746	3,144	50	2,212	2,610
Sabah	91	91,651	50,505	41,146	223	5,644	165,732
Sarawak	77	386,542	151,253	235,288	512	24,845	1,162,833
W.P. Kuala Lumpur	703	91,281,805	37,561,115	53,720,690	45,008	5,107,364	71,019,212
W.P. Labuan	5	1,386	392	994	5	157	206
W.P. Putrajaya	9	41,610	22,359	19,251	79	4,152	15,248

Table B5.4: Principal Statistics of Telecommunication Services by Legal Status, 2022

Legal Status	Number of establishments	Value of gross output (RM '000)	Value of intermediate input (RM '000)	Value added (RM '000)	Number of persons engaged	Salaries & wages (RM '000)	Value of fixed assets
Total	2,426	120,966,308	51,011,108	69,955,200	68,837	7,047,452	87,184,531
Individual proprietorship	462	377,010	262,793	114,217	1,584	63,966	88,817
Partnership	124	60,176	30,049	30,126	473	19,042	17,235
Limited liabilities partnership	13	16,106	7,319	8,787	80	6,012	3,716
Private limited company	1,793	94,612,035	38,097,486	56,514,549	48,418	4,780,450	68,544,902
Public limited company	34	25,900,981	12,613,462	13,287,519	18,282	2,177,982	18,529,860
Public corporation							

Table B5.5: Principal Statistics of Telecommunication Services by Ownership, 2022

Ownership	Number of establishments	Value of gross output (RM '000)	Value of intermediate input (RM '000)	Value added (RM '000)	Number of persons engaged	Salaries & wages (RM '000)	Value of fixed assets (RM '000)
Total	2,426	120,966,308	51,011,108	69,955,200	68,837	7,047,452	87,184,531
Malaysian residents	2,418	120,213,388	50,574,527	69,638,861	68,168	7,004,057	87,178,446
Non-Malaysian residents	8	752,920	436,582	316,338	669	43,396	6,085

Table B5.6: Number of Persons Engaged and Salaries & Wages in the Telecommunication Services by Category of Workers, 2022

Category of worker	Number of persons engaged			Salaries & wages (RM '000)
	Total	Male	Female	
Total	68,837	41,286	27,551	7,047,452
Total working proprietor & active business partners and unpaid family workers	273	246	27	-
Working proprietor and active business partners	249	231	18	-
Unpaid family workers (all members of family and friends not receiving regular wages)	24	15	9	-
Total paid employees (full-time)	67,986	40,670	27,316	7,029,571
Managers	10,238	6,798	3,440	1,895,865
Professionals	13,130	8,234	4,896	2,066,964
Professionals (except Researcher)	12,349	7,816	4,533	1,968,640
Researcher	781	418	363	98,324
Technicians and associate professionals	12,374	9,821	2,553	1,249,092
Clerical support workers	9,040	3,053	5,987	691,311
Service and sales workers	10,022	4,430	5,592	611,579
Craft and related trades workers	3,963	3,674	289	176,683
Plant and machine operators, and assemblers	4,905	2,322	2,583	188,504
Elementary occupations	4,314	2,338	1,976	149,574
Paid employees (part-time)	578	370	208	17,882

Table B5.7: Number of Persons Engaged in the Telecommunication Services by Group, 2022

Group description	Number of establishments	Number of persons engaged			
		Total	Working proprietor & active business partners and unpaid family worker	Paid employees (full-time)	Paid employees (part-time)
Total	2,426	68,837	273	67,986	578
Telecommunication activities (wired, wireless and satellite)	796	45,349	72	44,830	447
Provision of internet access over networks between the client and the ISP not owned or controlled by the ISP (including provision of telecommunication services over existing telecom connection VOIP provision)	190	4,648	16	4,579	53
Other telecommunications activities	1,440	18,840	185	18,577	78

Table B6.1: Principal Statistics of Computer Programming, Consultancy and Related Activities, 2010, 2015 and 2022

Year	Number of establishments	Value of gross output (RM '000)	Value of intermediate input (RM '000)	Value added (RM '000)	Number of persons engaged	Salaries & wages (RM '000)	Value of fixed assets
2022	10,501	41,258,481	22,192,443	19,066,038	122,949	8,536,688	14,197,567
2015	4,102	31,873,598	17,530,608	14,342,990	98,232	5,201,449	10,676,505
2010	1,366	17,785,128	8,422,108	9,363,020	61,468	3,020,583	2,164,780

Table B6.2: Principal Statistics of Computer Programming, Consultancy and Related Activities by Group, 2022

Group description	Number of establishments	Value of gross output (RM '000)	Value of intermediate input (RM '000)	Value added (RM '000)	Number of persons engaged	Salaries & wages (RM '000)	Value of fixed assets
Total	10,501	41,258,481	22,192,443	19,066,038	122,949	8,536,688	14,197,567
Computer programming activities	1,921	10,922,889	6,046,350	4,876,539	23,729	1,870,607	1,795,176
Computer consultancy services	1,882	10,384,486	5,497,741	4,886,744	29,853	2,111,270	2,573,628
Computer facilities management activities	522	10,874,723	6,166,037	4,708,686	25,963	1,672,487	6,766,881
Other information technology service activities	6,176	9,076,383	4,482,314	4,594,068	43,404	2,882,324	3,061,882

Table B6.3: Principal Statistics of Computer Programming, Consultancy and Related Activities by State, 2022

State	Number of establishments	Value of gross output (RM '000)	Value of intermediate input (RM '000)	Value added (RM '000)	Number of persons engaged	Salaries & wages (RM '000)	Value of fixed assets (RM '000)
Total	10,501	41,258,481	22,192,443	19,066,038	122,949	8,536,688	14,197,567
Johor	406	403,616	226,322	177,293	1,826	57,933	385,301
Kedah	65	41,130	24,350	16,780	179	5,469	14,270
Kelantan	14	2,918	1,822	1,097	29	584	201
Melaka	100	40,649	23,019	17,630	212	6,151	21,270
Negeri Sembilan	75	82,846	44,962	37,885	199	11,575	13,825
Pahang	18	9,513	4,228	5,285	53	1,305	2,642
Pulau Pinang	522	3,761,931	2,115,649	1,646,283	7,442	205,361	4,667,427
Perak	156	126,921	78,061	48,860	338	20,171	48,244
Perlis	8	886	493	393	17	288	525
Selangor	4,657	18,909,079	9,746,123	9,162,957	53,366	4,542,616	4,555,061
Terengganu	27	10,940	5,293	5,647	129	3,815	3,111
Sabah	104	95,113	63,552	31,561	334	12,203	44,275
Sarawak	131	287,853	150,002	137,851	1,068	40,478	237,289
W.P. Kuala Lumpur	4,204	17,469,934	9,699,841	7,770,093	57,691	3,626,650	4,194,047
W.P. Labuan	4	428	206	221	5	108	133
W.P. Putrajaya	10	14,723	8,520	6,203	61	1,980	9,947

Table B6.4: Principal Statistics of Computer Programming, Consultancy and Related Activities by Legal Status, 2022

Legal Status	Number of establishments	Value of gross output (RM '000)	Value of intermediate input (RM '000)	Value added (RM '000)	Number of persons engaged	Salaries & wages (RM '000)	Value of fixed assets (RM '000)
Total	10,501	41,258,481	22,192,443	19,066,038	122,949	8,536,688	14,197,567
Individual proprietorship							
	652	380,215	190,259	189,955	1,960	108,332	93,177
Partnership							
	138	85,412	42,132	43,280	419	21,319	16,918
Limited liabilities partnership							
	156	68,495	30,910	37,585	601	29,614	8,506
Private limited company							
	9,470	37,887,509	20,712,208	17,175,302	112,422	7,783,330	13,361,903
Public limited company							
	72	2,545,800	1,119,482	1,426,318	6,790	558,566	668,285
Public corporation							
Private non-profit making organisation							
	13	291,049	97,451	193,598	757	35,527	48,778

Table B6.5: Principal Statistics of Computer Programming, Consultancy and Related Activities by Ownership, 2022

Ownership	Number of establishments	Value of gross output (RM '000)	Value of intermediate input (RM '000)	Value added (RM '000)	Number of persons engaged	Salaries & wages (RM '000)	Value of fixed assets
Total	10,501	41,258,481	22,192,443	19,066,038	122,949	8,536,688	14,197,567
Malaysian residents	10,462	37,851,584	21,195,875	16,655,709	110,203	7,454,837	13,480,204
Non-Malaysian residents	35	3,266,415	927,446	2,338,969	12,691	1,078,450	590,284
Joint ownership	4	140,482	69,122	71,359	55	3,401	127,080

Table B6.6: Number of Persons Engaged and Salaries & Wages in the Computer Programming, Consultancy and Related Activities
by Category of Workers, 2022

Category of worker	Number of persons engaged			Salaries & wages (RM '000)
	Total	Male	Female	
Total	122,949	75,405	47,544	8,536,688
Total working proprietor & active business partners and unpaid family workers	251	215	36	-
Working proprietor and active business partners	223	193	30	-
Unpaid family workers (all members of family and friends not receiving regular wages)	28	22	6	-
Total paid employees (full-time)	121,962	74,703	47,259	8,521,691
Managers	15,728	9,820	5,908	2,362,744
Professionals	32,739	21,719	11,020	3,468,394
Professionals (except Researcher)	30,998	20,573	10,425	3,251,028
Researcher	1,741	1,146	595	217,366
Technicians and associate professionals	29,730	21,703	8,027	1,807,922
Clerical support workers	16,754	5,225	11,529	372,371
Service and sales workers	8,610	4,971	3,639	157,859
Craft and related trades workers	3,508	2,797	711	112,314
Plant and machine operators, and assemblers	2,006	1,153	853	14,911
Elementary occupations	12,887	7,315	5,572	225,176
Paid employees (part-time)	736	487	249	14,996

Table B6.7: Number of Persons Engaged in the Computer Programming, Consultancy and Related Activities by Group, 2022

Group description	Number of establishments	Number of persons engaged		
		Total	Working proprietor & active business partners and unpaid family worker	Paid employees (full-time) Paid employees (part-time)
Total	10,501	122,949	251	121,962 736
Computer programming activities	1,921	23,729	137	23,360 232
Computer consultancy services	1,882	29,853	32	29,554 267
Computer facilities management activities	522	25,963	44	25,885 34
Other information technology service activities	6,176	43,404	38	43,163 203

Table B7.1: Principal Statistics of Information Services Activities, 2010, 2015 and 2022

Year	Number of establishments	Value of gross output (RM '000)	Value of intermediate input (RM '000)	Value added (RM '000)	Number of persons engaged	Salaries & wages (RM '000)	Value of fixed assets (RM '000)
2022	2,006	8,373,172	3,533,054	4,840,118	17,832	1,433,805	1,408,957
2015	651	5,079,957	2,387,549	2,692,408	16,270	909,292	1,183,356
2010	205	3,744,555	1,242,892	2,501,663	13,284	579,329	601,488

Table B7.2 Principal Statistics of Information Services Activities by Group, 2022

Group description	Number of establishments	Value of gross output (RM '000)	Value of intermediate input (RM '000)	Value added (RM '000)	Number of persons engaged	Salaries & wages (RM '000)	Value of fixed assets (RM '000)
Total	2,006	8,373,172	3,533,054	4,840,118	17,832	1,433,805	1,408,957
Activities of providing infrastructure for hosting, data processing services and related activities	616	4,129,810	1,892,767	2,237,043	7,116	609,620	916,291
Data processing activities	243	2,119,170	732,045	1,387,125	6,393	547,625	142,981
Web portals	678	478,551	218,100	260,452	1,627	107,598	144,899
Other information service activities	469	1,645,640	690,142	955,498	2,696	168,962	204,786

Table B7.3: Principal Statistics of Information Services Activities by State, 2022

State	Number of establishments	Value of gross output (RM '000)	Value of intermediate input (RM '000)	Value added (RM '000)	Number of persons engaged	Salaries & wages (RM '000)	Value of fixed assets (RM '000)
Total	2,006	8,373,172	3,533,054	4,840,118	17,832	1,433,805	1,408,957
Johor	99	104,885	32,479	72,406	298	15,292	58,245
Kedah	11	8,977	2,605	6,372	20	1,072	808
Perlis							
Kelantan	7	1,158	479	679	12	237	370
Terengganu							
Melaka	25	12,123	5,047	7,076	94	3,089	10,621
Negeri Sembilan	14	1,466	738	728	20	683	3,543
Pahang	5	1,254	775	478	11	326	671
Pulau Pinang	121	116,070	59,615	56,455	622	21,395	17,526
Perak	25	30,686	18,248	12,438	65	2,409	3,042
Selangor	840	4,610,233	1,773,094	2,837,139	9,664	824,336	800,851
Sabah	18	12,976	6,118	6,858	77	2,494	3,251
Sarawak	19	8,705	2,444	6,261	112	3,459	6,168
W.P. Kuala Lumpur	816	3,459,387	1,629,007	1,830,379	6,808	557,866	499,797
W.P. Labuan	6	5,253	2,404	2,849	29	1,145	4,065
W.P. Putrajaya							

Table B7.4: Principal Statistics of Information Services Activities by Legal Status, 2022

Legal Status	Number of establishments	Value of gross output (RM '000)	Value of intermediate input (RM '000)	Value added (RM '000)	Number of persons engaged	Salaries & wages (RM '000)	Value of fixed assets (RM '000)
Total	2,006	8,373,172	3,533,054	4,840,118	17,832	1,433,805	1,408,957
Individual proprietorship	176	64,241	28,318	35,923	410	16,717	23,506
Partnership	28	13,275	5,279	7,996	78	2,998	6,777
Limited liabilities partnership	39	17,558	8,115	9,443	92	4,311	4,201
Private limited company	1,732	8,005,323	3,379,612	4,625,711	16,922	1,386,078	1,100,860
Public limited company	27	234,596	91,208	143,388	278	20,111	260,671
Public corporation	4	38,180	20,522	17,658	52	3,589	12,941

Table B7.5: Principal Statistics of Information Services Activities by Ownership, 2022

Ownership	Number of establishments	Value of gross output (RM '000)	Value of intermediate input (RM '000)	Value added (RM '000)	Number of persons engaged	Salaries & wages (RM '000)	Value of fixed assets (RM '000)
Total	2,006	8,373,172	3,533,054	4,840,118	17,832	1,433,805	1,408,957
Malaysian residents	2,001	8,099,497	3,419,605	4,679,892	17,723	1,422,460	1,407,352
Non-Malaysian residents							
Joint ownership	5	273,675	113,449	160,226	109	11,345	1,605

Table B7.6: Number of Persons Engaged and Salaries & Wages in the Information Services Activities by Category of Workers, 2022

Category of worker	Number of persons engaged			Salaries & wages (RM '000)
	Total	Male	Female	
Total	17,832	11,866	5,966	1,433,805
Total working proprietor & active business partners and unpaid family workers	120	106	14	-
Working proprietor and active business partners	109	101	8	-
Unpaid family workers (all members of family and friends not receiving regular wages)	11	5	6	-
Total paid employees (full-time)	17,308	11,431	5,877	1,423,107
Managers	1,904	1,382	522	257,480
Professionals	5,740	3,897	1,843	669,580
Professionals (except Researcher)	4,978	3,560	1,418	583,010
Researcher	762	337	425	86,570
Technicians and associate professionals	3,185	2,511	674	205,518
Clerical support workers	2,789	1,141	1,648	152,776
Service and sales workers	839	422	417	43,631
Craft and related trades workers	751	590	161	29,406
Plant and machine operators, and assemblers	179	108	71	6,060
Elementary occupations	1,921	1,380	541	58,657
Paid employees (part-time)	404	329	75	10,698

Table B7.7: Number of Persons Engaged in the Information Services Activities by Group, 2022

Group description	Number of establishments	Number of persons engaged			
		Total	Working proprietor & active business partners and unpaid family worker	Paid employees (full-time)	Paid employees (part-time)
Total	2,006	17,832	120	17,308	404
Activities of providing infrastructure for hosting, data processing services and related activities	616	7,116	109	6,816	191
Data processing activities	243	6,393	1	6,227	165
Web portals	678	1,627	10	1,601	16
Other information service activities	469	2,696	0	2,664	32

Table C1: Usage of Computer, Internet and Web Presence by Sector/ Sub-sector, 2015 and 2022

Sector/ Sub-sector	Year	Computer usage	Internet usage	Web presence owned
		%	%	%
Total	2022	95.9	93.3	71.4
	2015	73.5	61.5	28.4
Agriculture	2022	89.9	85.0	54.8
	2015	69.2	49.4	8.5
Mining and Quarrying	2022	93.0	91.0	55.4
	2015	88.3	75.5	25.0
Manufacturing	2022	94.8	94.6	74.4
	2015	91.8	88.1	16.6
Construction	2022	96.8	95.7	70.8
	2015	73.4	67.7	12.2
Services	2022	96.0	93.1	71.6
	2015	72.4	59.8	30.2
Utility	2022	98.2	97.9	70.4
	2015	78.7	71.5	17.3
Wholesale and Retail Trade	2022	96.3	95.0	67.4
	2015	87.0	74.3	46.2
Transportation and Storage	2022	91.7	88.6	65.3
	2015	33.7	38.5	22.2
Accommodation	2022	99.6	99.5	92.8
	2015	90.9	76.1	28.6
Food and Beverages	2022	91.0	77.5	66.8
	2015	41.3	20.2	11.8
Information and Communication	2022	100.0	100.0	100.0
	2015	100.0	100.0	89.7
Financial and Insurance/ Takaful	2022	100.0	100.0	100.0
	2015	100.0	100.0	26.2
Real Estate	2022	100.0	100.0	70.1
	2015	99.8	99.7	12.3
Professional, Scientific and Technical	2022	100.0	97.9	75.8
	2015	98.5	93.8	17.5
Administrative and Support Service	2022	99.6	99.6	72.7
	2015	84.9	75.2	11.5
Education	2022	98.5	98.1	76.4
	2015	86.8	74.4	18.0
Human Health and Social Work	2022	99.0	99.0	82.4
	2015	82.8	68.4	12.7
Arts, Entertainment and Recreation	2022	96.0	94.8	77.4
	2015	81.7	76.0	15.1
Other Services	2022	95.2	95.2	80.3
	2015	38.7	23.5	10.2

Table C2: Usage of Computer, Internet and Web Presence by State, 2015 and 2022

State	Year	Computer usage %	Internet usage %	Web presence usage %
Total	2022	95.9	93.3	71.4
	2015	73.5	61.5	28.4
Johor	2022	97.9	97.6	79.7
	2015	74.7	60.6	24.1
Kedah	2022	90.7	81.8	55.7
	2015	59.3	45.6	17.8
Kelantan	2022	93.2	79.3	40.5
	2015	91.8	32.1	11.5
Melaka	2022	97.0	93.1	67.7
	2015	73.6	64.8	35.9
Negeri Sembilan	2022	93.8	92.9	60.8
	2015	50.4	38.8	14.9
Pahang	2022	94.0	92.6	58.6
	2015	64.8	47.2	18.9
Perak	2022	95.5	84.9	58.7
	2015	64.9	48.9	19.0
Perlis	2022	93.8	78.4	56.6
	2015	52.7	42.0	16.9
Pulau Pinang	2022	99.0	98.7	78.9
	2015	87.0	80.4	34.9
Sabah	2022	88.3	84.8	45.6
	2015	58.5	43.4	17.1
Sarawak	2022	85.6	82.3	47.8
	2015	63.0	49.2	20.7
Selangor	2022	99.2	98.9	85.2
	2015	87.9	78.5	43.1
Terengganu	2022	92.1	91.3	62.1
	2015	51.0	36.8	13.7
W.P. Kuala Lumpur	2022	99.8	99.6	91.0
	2015	90.7	82.5	40.7
W.P. Labuan	2022	95.3	93.3	64.3
	2015	63.9	53.1	24.4
W.P. Putrajaya	2022	99.2	99.2	88.9
	2015	83.9	76.9	36.3
Supra	2022	100.0	100.0	100.0
	2015	-	-	-

Note.

'-' refers to data not available

Supra covers production activities that beyond centre of predominant economic interest for any state

Table C3: Type of Web Presence Owned by Sector/ Sub-sector, 2022

Sector/ Sub-sector	Year	Website owned by establishment	Presence on another entity's website	Social media	E-Marketplace
		%	%	%	%
Total	2022	55.2	34.0	78.0	39.6
Agriculture	2022	57.9	28.6	83.2	6.6
Mining and Quarrying	2022	45.4	40.4	60.7	1.1
Manufacturing	2022	62.9	24.2	86.7	13.8
Construction	2022	57.6	22.6	57.1	7.5
Services	2022	54.5	35.5	79.0	43.9
Utility	2022	38.4	14.1	94.3	1.9
Wholesale and Retail Trade	2022	52.0	31.4	79.6	60.0
Transportation and Storage	2022	56.6	31.0	57.8	43.6
Accommodation	2022	68.1	48.6	84.8	59.8
Food and Beverages	2022	47.4	52.4	90.4	61.1
Information and Communication	2022	84.4	53.4	95.3	33.7
Financial and Insurance/ Takaful	2022	66.7	31.2	82.1	12.4
Real Estate	2022	50.1	39.6	77.1	17.0
Professional, Scientific and Technical	2022	59.3	49.5	70.2	11.4
Administrative and Support Service	2022	46.9	42.6	76.0	8.0
Education	2022	46.6	20.3	74.3	4.2
Human Health and Social Work	2022	50.7	29.2	80.6	8.0
Arts, Entertainment and Recreation	2022	77.1	31.8	91.3	24.9
Other Services	2022	61.7	17.4	67.5	10.8

Table C4: Type of Computer Network Infrastructure Used by Sector/ Sub-sector, 2015 and 2022

Sector/ Sub-sector	Year	Intranet	Extranet	Local area network (LAN)	Wireless local area network (WLAN)	Wide area network (WAN)	Others
		%	%	%	%	%	%
Total	2022	49.8	24.0	75.8	69.5	88.0	5.0
	2015	24.1	9.5	54.2	-	26.1	7.9
Agriculture	2022	58.6	16.7	84.2	54.9	53.0	10.4
	2015	23.2	4.5	54.2	-	26.4	10.8
Mining and Quarrying	2022	53.2	21.4	84.5	64.4	53.1	23.4
	2015	28.9	7.7	57.8	-	35.5	7.5
Manufacturing	2022	91.8	52.5	89.0	69.0	52.5	12.8
	2015	46.1	36.0	61.8	-	22.6	8.8
Construction	2022	40.5	13.2	62.4	57.2	81.4	5.8
	2015	16.8	2.6	50.8	-	34.1	11.8
Services	2022	49.2	23.2	75.9	70.7	91.0	4.4
	2015	22.5	7.6	53.7	-	26.0	7.5
Utility	2022	50.4	20.3	61.4	69.3	98.1	1.9
	2015	26.4	8.0	50.8	-	36.6	11.9
Wholesale and Retail Trade	2022	45.0	20.8	77.1	72.4	96.7	4.0
	2015	17.3	9.0	48.8	-	24.6	8.6
Transportation and Storage	2022	76.7	25.5	75.7	69.9	97.6	5.3
	2015	50.8	4.0	43.5	-	19.9	8.3
Accommodation	2022	52.4	28.8	80.6	68.8	65.3	8.0
	2015	16.3	6.5	60.2	-	35.9	7.9
Food and Beverages	2022	49.7	33.5	66.9	51.6	66.4	6.8
	2015	20.6	3.6	68.0	-	32.0	3.0
Information and Communication	2022	75.9	23.3	79.8	79.8	95.8	4.8
	2015	29.0	7.2	61.8	-	29.0	4.4
Financial and Insurance/ Takaful	2022	95.2	34.3	82.1	93.9	94.5	3.4
	2015	64.5	18.4	79.3	-	54.4	3.4
Real Estate	2022	43.4	12.5	97.5	65.4	85.6	7.2
	2015	26.9	2.0	88.1	-	9.2	1.2
Professional, Scientific and Technical	2022	49.0	19.7	75.9	73.8	96.0	4.4
	2015	31.9	3.1	63.3	-	24.7	6.4
Administrative and Support Service	2022	47.9	28.9	78.1	78.1	96.9	2.6
	2015	24.6	3.8	56.9	-	25.6	8.3
Education	2022	44.3	32.4	73.4	63.7	80.8	0.2
	2015	27.3	4.0	49.5	-	26.0	9.1
Human Health and Social Work	2022	40.9	24.6	74.7	91.1	81.5	8.2
	2015	25.9	5.8	52.6	-	29.8	8.8
Arts, Entertainment and Recreation	2022	38.9	12.1	78.5	70.4	71.2	1.3
	2015	27.5	4.3	49.6	-	23.2	9.1
Other Services	2022	35.5	16.8	68.2	67.8	92.4	2.2
	2015	19.3	4.5	42.0	-	36.9	8.4

Note.

'-' refers to data not available

Others include Metropolitan Area Network (MAN), Storage Area Network (SAN), and Personal Area Network (PAN)

Table C5: Type of Internet Access by Sector/ Sub-sector, 2015 and 2022

Sector/ Sub-sector	Year	Fixed broadband	Mobile broadband	Both types of broadband
		%	%	%
Total	2022	92.3	77.9	72.9
	2015	74.8	28.5	-
Agriculture	2022	96.4	74.8	69.1
	2015	78.4	28.0	-
Mining and Quarrying	2022	93.5	59.2	57.6
	2015	79.4	30.5	-
Manufacturing	2022	94.9	75.8	72.1
	2015	91.8	54.4	-
Construction	2022	99.5	74.1	74.1
	2015	70.1	36.3	-
Services	2022	91.6	78.3	72.9
	2015	75.2	25.8	-
Utility	2022	91.3	65.1	62.1
	2015	82.2	27.2	-
Wholesale and Retail Trade	2022	91.5	75.6	70.5
	2015	71.1	25.7	-
Transportation and Storage	2022	90.5	86.5	85.0
	2015	75.9	23.6	-
Accommodation	2022	95.4	69.4	69.0
	2015	86.3	22.3	-
Food and Beverages	2022	88.5	87.3	81.7
	2015	87.1	30.0	-
Information and Communication	2022	100.0	95.4	86.8
	2015	81.1	30.3	-
Financial and Insurance/ Takaful	2022	95.3	69.1	66.1
	2015	93.5	46.4	-
Real Estate	2022	97.5	71.1	69.6
	2015	92.0	8.0	-
Professional, Scientific and Technical	2022	93.0	76.6	69.6
	2015	79.6	20.3	-
Administrative and Support Service	2022	98.1	96.5	96.5
	2015	78.5	24.8	-
Education	2022	94.2	88.9	82.6
	2015	77.1	25.1	-
Human Health and Social Work	2022	96.7	63.9	66.1
	2015	76.7	26.8	-
Arts, Entertainment and Recreation	2022	99.5	75.6	75.5
	2015	84.1	19.7	-
Other Services	2022	82.2	76.4	58.6
	2015	66.7	35.6	-

Note.

'-' refers to data not available

Table C6: Purpose of Internet Usage by Sector/ Sub-sector, 2015 and 2022

Sector/ Sub-sector	Year	Sending or receiving e-mail	Telephoning over the internet	Posting information or instant messaging	Getting information about goods or services
		%	%	%	%
Total	2022	95.7	75.1	81.2	81.6
	2015	70.6	18.6	36.6	38.9
Agriculture	2022	98.1	75.1	81.2	78.5
	2015	89.7	13.5	40.1	37.3
Mining and Quarrying	2022	98.2	65.3	81.6	75.9
	2015	93.5	14.2	45.2	43.4
Manufacturing	2022	91.8	75.8	80.8	81.6
	2015	93.6	12.3	47.0	66.1
Construction	2022	93.2	68.4	76.3	78.6
	2015	90.0	18.6	42.2	38.9
Services	2022	95.9	75.6	81.6	81.9
	2015	67.2	19.2	35.3	36.5
Utility	2022	98.6	57.0	73.7	73.5
	2015	94.1	25.8	45.6	45.7
Wholesale and Retail Trade	2022	96.0	75.0	82.0	83.6
	2015	54.3	20.1	30.7	36.1
Transportation and Storage	2022	98.1	86.6	88.5	79.8
	2015	91.5	16.1	29.9	20.2
Accommodation	2022	99.7	56.8	81.8	88.6
	2015	93.3	20.3	41.6	36.5
Food and Beverages	2022	93.5	82.0	85.5	80.8
	2015	78.9	10.8	22.8	31.7
Information and Communication	2022	99.0	92.1	90.3	82.2
	2015	100.0	29.0	99.9	42.0
Financial and Insurance/ Takaful	2022	99.9	69.0	66.4	70.8
	2015	99.6	12.1	39.1	13.6
Real Estate	2022	95.4	71.2	72.9	74.3
	2015	94.0	24.3	40.1	83.3
Professional, Scientific and Technical	2022	97.7	73.2	88.8	83.8
	2015	94.3	29.9	48.7	41.8
Administrative and Support Service	2022	92.8	75.2	84.1	90.1
	2015	91.4	31.3	48.1	36.1
Education	2022	97.0	96.1	80.2	82.4
	2015	89.5	17.9	37.2	32.3
Human Health and Social Work	2022	94.5	73.3	79.8	78.2
	2015	90.2	20.9	43.7	35.1
Arts, Entertainment and Recreation	2022	96.0	64.5	73.1	90.5
	2015	70.0	21.5	34.3	24.0
Other Services	2022	93.6	65.1	69.8	74.5
	2015	83.8	19.8	52.6	37.9

Table C6: Purpose of Internet Usage by Sector/ Sub-sector, 2015 and 2022 (cont'd)

Sector/ Sub-sector	Year	Getting information from government organisations	Interacting with government organisations	Internet banking	Accessing other financial services
		%	%	%	%
Total	2022	68.6	63.2	90.2	42.3
	2015	23.5	16.5	41.3	9.9
Agriculture	2022	73.2	65.8	90.1	43.3
	2015	42.6	31.6	34.2	6.8
Mining and Quarrying	2022	65.2	64.0	79.3	44.0
	2015	39.5	26.5	43.4	9.9
Manufacturing	2022	91.8	66.4	90.3	44.2
	2015	48.4	23.4	76.1	9.8
Construction	2022	72.5	59.9	86.3	38.9
	2015	30.8	22.6	44.5	7.1
Services	2022	68.2	63.3	90.6	42.4
	2015	20.6	15.4	38.1	10.1
Utility	2022	74.1	64.2	77.5	33.4
	2015	41.7	28.0	43.0	11.2
Wholesale and Retail Trade	2022	65.6	61.2	90.0	38.2
	2015	14.6	8.7	32.3	9.2
Transportation and Storage	2022	75.8	74.9	90.1	44.9
	2015	16.4	14.0	27.8	4.6
Accommodation	2022	81.3	78.2	91.4	26.6
	2015	35.5	28.8	51.1	10.1
Food and Beverages	2022	69.8	58.2	90.9	39.9
	2015	12.1	9.2	26.2	8.9
Information and Communication	2022	74.0	71.0	95.6	68.9
	2015	23.4	20.1	61.1	12.7
Financial and Insurance/ Takaful	2022	54.6	48.2	100.0	96.8
	2015	49.7	47.4	96.2	40.3
Real Estate	2022	75.1	72.3	98.1	43.2
	2015	29.9	73.9	90.4	7.5
Professional, Scientific and Technical	2022	80.9	75.6	90.4	43.7
	2015	34.5	29.0	46.2	13.0
Administrative and Support Service	2022	72.1	79.9	90.7	50.4
	2015	24.4	21.3	39.2	8.8
Education	2022	74.1	70.9	89.3	47.2
	2015	29.0	20.4	33.3	8.9
Human Health and Social Work	2022	75.6	73.6	90.3	63.8
	2015	31.1	22.5	47.9	8.0
Arts, Entertainment and Recreation	2022	73.5	66.0	85.0	40.0
	2015	15.8	11.0	34.8	6.1
Other Services	2022	60.1	51.9	86.2	29.5
	2015	27.7	23.4	41.4	4.2

Table C6: Purpose of Internet Usage by Sector/ Sub-sector, 2015 and 2022 (cont'd)

Sector/ Sub-sector	Year	Providing customer services	Delivering products online	Internal or external recruitment	Staff training (e-learning application)	Others
		%	%	%	%	%
Total	2022	46.8	36.8	53.1	24.2	11.6
	2015	10.3	5.7	10.8	2.5	12.5
Agriculture	2022	26.3	24.6	17.3	20.0	15.4
	2015	4.9	1.6	6.8	3.3	20.9
Mining and Quarrying	2022	29.5	27.9	53.8	23.3	7.9
	2015	7.1	7.4	9.5	4.6	19.2
Manufacturing	2022	48.0	32.3	52.6	19.8	11.2
	2015	11.0	14.9	10.2	3.2	12.8
Construction	2022	36.7	23.5	36.9	16.9	11.8
	2015	3.3	1.5	6.5	2.4	24.0
Services	2022	47.8	38.3	54.9	25.1	11.5
	2015	10.7	5.1	11.2	2.4	11.7
Utility	2022	38.1	29.2	57.6	21.8	11.1
	2015	9.5	2.4	8.0	1.5	20.2
Wholesale and Retail Trade	2022	47.5	40.0	51.4	25.7	11.0
	2015	6.6	5.6	7.7	1.3	12.2
Transportation and Storage	2022	51.9	42.3	50.9	31.1	9.0
	2015	5.5	1.8	3.6	1.6	9.6
Accommodation	2022	60.2	37.5	53.3	20.6	4.2
	2015	22.4	14.4	9.4	3.1	16.9
Food and Beverages	2022	45.9	40.2	61.1	30.1	19.6
	2015	10.1	5.9	10.4	1.4	8.5
Information and Communication	2022	74.8	45.3	61.5	36.8	15.3
	2015	16.7	7.3	12.2	7.2	13.9
Financial and Insurance/ Takaful	2022	62.5	34.7	55.4	11.6	16.0
	2015	76.3	4.7	32.9	23.3	0.9
Real Estate	2022	29.2	35.1	44.9	10.1	9.3
	2015	10.5	4.3	29.3	0.5	0.4
Professional, Scientific and Technical	2022	51.2	32.9	56.3	20.1	4.2
	2015	13.5	4.1	9.7	3.7	15.3
Administrative and Support Service	2022	50.2	35.3	54.9	21.0	15.6
	2015	12.3	2.9	6.6	2.0	18.3
Education	2022	51.3	30.6	65.4	51.0	11.1
	2015	11.7	4.1	11.2	5.6	13.7
Human Health and Social Work	2022	54.4	47.0	65.6	18.7	11.7
	2015	14.1	2.2	8.3	3.4	15.9
Arts, Entertainment and Recreation	2022	41.2	30.9	40.4	21.3	25.9
	2015	16.5	5.2	4.0	1.4	26.1
Other Services	2022	32.5	27.9	67.9	20.5	5.2
	2015	21.5	2.3	16.9	1.5	11.6

Note.

Others include downloading software, entertainment and online space storage

Table C7: Usage of Digital Technology by Sector/ Sub-sector, 2022

Sector/ Sub-sector	Year	Website	Social media	Mobile internet and technologies	Cloud computing
		%	%	%	%
Total	2022	54.7	70.2	72.4	58.5
Agriculture	2022	56.9	67.0	64.0	63.9
Mining and Quarrying	2022	55.5	56.8	56.2	67.7
Manufacturing	2022	66.2	81.9	68.1	55.6
Construction	2022	57.8	54.6	63.7	58.6
Services	2022	53.8	70.7	73.4	58.5
Utility	2022	41.5	86.4	72.7	59.8
Wholesale and Retail Trade	2022	52.3	69.3	75.0	58.7
Transportation and Storage	2022	73.8	57.0	83.6	71.8
Accommodation	2022	52.7	79.2	59.3	52.2
Food and Beverages	2022	50.7	90.3	66.5	40.3
Information and Communication	2022	89.2	95.3	95.4	70.3
Financial and Insurance/ Takaful	2022	50.0	50.5	82.3	65.0
Real Estate	2022	48.5	71.5	76.6	58.8
Professional, Scientific and Technical	2022	62.8	65.9	78.0	74.5
Administrative and Support Service	2022	20.6	81.5	76.3	68.2
Education	2022	65.8	80.0	86.7	70.8
Human Health and Social Work	2022	60.3	67.1	79.2	86.4
Arts, Entertainment and Recreation	2022	65.4	73.5	61.5	64.6
Other Services	2022	52.1	54.5	47.3	41.2

Table C7: Usage of Digital Technology by Sector/ Sub-sector, 2022 (cont'd)

Sector/ Sub-sector	Year	Data analytics %	Management software %	Online collaborative platforms %	Others %	None %
Total	2022	23.7	50.7	24.7	2.4	6.1
Agriculture	2022	17.2	48.1	27.1	3.4	8.9
Mining and Quarrying	2022	25.1	53.6	41.9	0.2	0.1
Manufacturing	2022	91.8	53.9	27.1	2.9	6.9
Construction	2022	20.3	47.3	30.2	1.2	0.7
Services	2022	24.4	50.8	24.1	2.5	6.4
Utility	2022	25.2	40.4	29.8	1.4	9.4
Wholesale and Retail Trade	2022	21.0	50.7	21.7	2.6	7.8
Transportation and Storage	2022	37.0	54.4	35.1	0.0	2.1
Accommodation	2022	28.1	60.3	36.7	0.8	9.0
Food and Beverages	2022	30.4	39.9	28.0	2.5	8.2
Information and Communication	2022	30.6	85.2	30.7	0.0	0.0
Financial and Insurance/ Takaful	2022	15.0	52.0	35.0	4.7	9.2
Real Estate	2022	28.8	50.2	32.2	0.3	1.5
Professional, Scientific and Technical	2022	19.4	57.6	14.4	2.2	2.5
Administrative and Support Service	2022	25.2	45.8	22.0	8.2	5.7
Education	2022	19.6	53.6	28.2	0.1	1.6
Human Health and Social Work	2022	43.8	48.1	23.3	1.2	8.1
Arts, Entertainment and Recreation	2022	49.7	57.5	14.0	1.6	2.6
Other Services	2022	25.8	50.8	22.3	2.8	3.0

Note.

Others include digital tools such as digital payments (e.g., DuitNow QR), artificial intelligence (AI), and the Internet of Things (IoT)

Table C8: Usage of Computer, Internet and Web Presence by Sector/ Sub-sector - MSMEs, 2015 and 2022

Sector/ Sub-sector	Year	Computer usage	Internet usage	Web presence owned
		%	%	%
Total	2022	95.8	93.1	70.8
	2015	73.1	56.5	20.1
Agriculture	2022	88.5	82.8	48.4
	2015	65.0	43.9	4.0
Mining and Quarrying	2022	91.4	88.9	45.1
	2015	86.1	71.3	19.4
Manufacturing	2022	94.5	94.3	72.9
	2015	91.8	87.7	16.5
Construction	2022	96.7	95.5	70.0
	2015	72.5	66.6	10.2
Services	2022	95.9	93.0	71.1
	2015	72.1	54.3	21.0
Utility	2022	98.0	97.7	67.4
	2015	76.7	68.9	13.2
Wholesale and Retail Trade	2022	96.2	94.9	66.9
	2015	86.8	64.2	29.1
Transportation and Storage	2022	91.4	88.2	64.2
	2015	33.1	32.9	21.5
Accommodation	2022	99.6	99.5	92.8
	2015	90.5	75.2	27.1
Food and Beverages	2022	90.8	77.0	66.1
	2015	40.5	19.1	5.4
Information and Communication	2022	100.0	100.0	100.0
	2015	100.0	100.0	89.3
Financial and Insurance/ Takaful	2022	100.0	100.0	100.0
	2015	100.0	100.0	23.5
Real Estate	2022	100.0	100.0	69.9
	2015	99.8	99.7	11.9
Professional, Scientific and Technical	2022	100.0	97.9	75.8
	2015	98.5	93.8	17.4
Administrative and Support Service	2022	99.6	99.6	72.6
	2015	84.8	75.1	11.4
Education	2022	98.5	98.1	76.2
	2015	86.7	74.1	17.2
Human Health and Social Work	2022	99.0	99.0	82.2
	2015	82.7	68.1	12.2
Arts, Entertainment and Recreation	2022	96.0	94.8	77.3
	2015	81.6	75.9	14.7
Other Services	2022	95.2	95.2	80.3
	2015	38.7	23.5	6.1

Table C9: Usage of Computer, Internet and Web Presence by State - MSMEs, 2015 and 2022

State	Year	Computer usage	Internet usage	Web presence usage
		%	%	%
Total	2022	95.8	93.1	70.8
	2015	73.1	56.5	20.1
Johor	2022	97.9	97.6	79.2
	2015	74.3	56.0	17.1
Kedah	2022	90.5	81.5	55.0
	2015	59.0	41.5	12.3
Kelantan	2022	93.1	79.0	39.7
	2015	91.8	24.9	6.2
Melaka	2022	96.9	93.0	67.2
	2015	73.3	59.2	24.3
Negeri Sembilan	2022	93.7	92.8	60.1
	2015	49.7	35.1	10.1
Pahang	2022	93.8	92.4	57.6
	2015	64.3	42.6	12.8
Perak	2022	95.4	84.6	58.1
	2015	64.7	44.7	13.0
Perlis	2022	93.7	78.1	56.2
	2015	50.2	39.1	13.1
Pulau Pinang	2022	99.0	98.7	78.4
	2015	87.1	74.8	25.0
Sabah	2022	88.1	84.5	44.3
	2015	55.3	39.3	11.8
Sarawak	2022	85.3	81.9	46.5
	2015	62.8	44.8	14.4
Selangor	2022	99.2	98.9	84.9
	2015	88.4	72.6	31.7
Terengganu	2022	92.0	91.2	61.5
	2015	49.8	33.5	9.5
W.P. Kuala Lumpur	2022	99.7	99.6	90.8
	2015	90.5	76.1	28.5
W.P. Labuan	2022	95.2	93.2	63.5
	2015	63.7	50.0	18.9
W.P. Putrajaya	2022	99.2	99.2	88.4
	2015	83.3	73.1	30.6

Note.

'-' refers to data not available

Table C10: Type of Web Presence Owned by Sector/ Sub-sector - MSMEs, 2022

Sector/ Sub-sector	Year	Website owned by establishment	Presence on another entity's website	Social media	E-Marketplace
		%	%	%	%
Total	2022	53.9	32.5	77.5	38.5
Agriculture	2022	45.4	21.3	78.3	6.4
Mining and Quarrying	2022	32.2	35.8	62.1	0.6
Manufacturing	2022	91.8	20.2	86.1	10.4
Construction	2022	55.8	19.9	55.9	3.6
Services	2022	53.6	34.2	78.6	42.9
Utility	2022	29.1	8.8	93.5	0.4
Wholesale and Retail Trade	2022	50.8	29.7	79.0	59.0
Transportation and Storage	2022	54.4	27.6	55.7	40.8
Accommodation	2022	67.8	48.1	84.9	59.4
Food and Beverages	2022	45.6	50.8	90.1	59.8
Information and Communication	2022	83.9	51.6	95.1	34.3
Financial and Insurance/ Takaful	2022	66.6	31.7	83.5	12.2
Real Estate	2022	49.7	39.1	76.9	16.5
Professional, Scientific and Technical	2022	59.1	49.3	70.0	11.0
Administrative and Support Service	2022	46.6	42.3	75.9	8.0
Education	2022	46.2	19.6	74.1	3.6
Human Health and Social Work	2022	50.3	28.6	80.5	7.1
Arts, Entertainment and Recreation	2022	76.9	31.4	91.3	24.4
Other Services	2022	61.7	17.4	67.5	10.8

Table C11: Type of Computer Network Infrastructure Used by Sector/ Sub-sector - MSMEs, 2015 and 2022

Sector/ Sub-sector	Year	Intranet	Extranet	Local area network (LAN)	Wireless local area network (WLAN)	Wide area network (WAN)	Others
		%	%	%	%	%	%
Total	2022	48.7	22.4	75.2	68.9	87.7	4.4
	2015	26.7	14.5	51.8	-	20.6	7.7
Agriculture	2022	54.7	2.3	81.5	47.1	44.9	12.0
	2015	21.2	3.3	52.4	-	26.1	11.4
Mining and Quarrying	2022	42.2	17.9	81.9	55.4	41.2	18.5
	2015	26.6	5.5	54.3	-	31.1	9.1
Manufacturing	2022	91.8	49.6	88.3	68.7	49.6	7.4
	2015	44.7	35.4	61.1	-	21.4	9.1
Construction	2022	38.7	10.5	61.2	55.9	80.8	5.9
	2015	16.5	2.5	50.2	-	34.1	12.0
Services	2022	48.4	22.0	75.5	70.2	90.9	4.0
	2015	25.7	13.4	51.0	-	19.7	7.2
Utility	2022	45.3	12.1	57.4	66.2	98.1	1.8
	2015	24.7	6.2	48.3	-	33.0	13.5
Wholesale and Retail Trade	2022	44.0	19.4	76.7	71.9	96.6	3.9
	2015	22.1	19.1	43.4	-	14.6	8.1
Transportation and Storage	2022	75.9	22.8	74.8	68.8	97.6	1.9
	2015	50.9	3.2	42.3	-	19.4	8.5
Accommodation	2022	52.0	28.2	80.4	68.5	65.0	7.2
	2015	15.5	5.9	58.8	-	35.6	8.3
Food and Beverages	2022	48.2	32.1	66.0	50.2	65.5	6.2
	2015	18.4	1.2	71.2	-	28.7	3.2
Information and Communication	2022	75.2	24.1	79.1	79.1	95.6	4.3
	2015	28.6	6.5	61.2	-	28.6	4.6
Financial and Insurance/ Takaful	2022	95.1	32.9	81.7	93.8	94.4	3.3
	2015	63.8	18.9	78.7	-	53.7	3.5
Real Estate	2022	43.1	12.0	97.5	65.2	85.6	6.9
	2015	27.0	2.0	88.2	-	9.1	1.2
Professional, Scientific and Technical	2022	48.8	19.4	75.9	73.7	96.0	4.2
	2015	31.9	3.0	63.2	-	24.7	6.4
Administrative and Support Service	2022	47.7	28.6	78.0	78.0	96.9	2.6
	2015	24.7	3.8	56.8	-	25.6	8.3
Education	2022	43.9	31.9	73.3	63.4	80.7	0.1
	2015	27.0	3.8	49.5	-	25.5	9.2
Human Health and Social Work	2022	40.5	24.0	74.5	91.0	81.5	7.5
	2015	25.7	5.7	52.4	-	29.6	8.9
Arts, Entertainment and Recreation	2022	38.6	11.7	78.4	70.3	71.0	1.3
	2015	27.5	4.1	49.4	-	23.0	9.2
Other Services	2022	35.5	16.8	68.2	67.8	92.4	2.2
	2015	19.3	4.5	42.0	-	36.9	8.4

Note.

'-' refers to data not available

Others include Metropolitan Area Network (MAN), Storage Area Network (SAN), and Personal Area Network (PAN)

Table C12: Type of Internet Access by Sector/ Sub-sector - MSMEs, 2015 and 2022

Sector/ Sub-sector	Year	Fixed broadband	Mobile broadband	Both types of broadband
		%	%	%
Total	2022	92.2	77.4	72.4
	2015	81.8	26.9	-
Agriculture	2022	95.8	71.5	64.8
	2015	76.2	26.4	-
Mining and Quarrying	2022	91.8	48.6	46.6
	2015	77.1	31.0	-
Manufacturing	2022	91.8	74.3	70.3
	2015	72.6	54.5	-
Construction	2022	99.5	73.9	73.9
	2015	69.6	36.6	-
Services	2022	91.4	78.0	72.5
	2015	83.4	23.7	-
Utility	2022	90.5	61.5	58.2
	2015	80.2	26.4	-
Wholesale and Retail Trade	2022	91.3	75.1	70.0
	2015	84.4	22.2	-
Transportation and Storage	2022	90.1	86.0	84.4
	2015	75.8	23.2	-
Accommodation	2022	95.4	69.1	68.8
	2015	85.8	21.9	-
Food and Beverages	2022	88.2	86.9	81.2
	2015	86.1	30.2	-
Information and Communication	2022	100.0	95.2	86.3
	2015	80.4	30.2	-
Financial and Insurance/ Takaful	2022	95.6	68.4	65.4
	2015	93.3	45.8	-
Real Estate	2022	97.5	70.9	69.5
	2015	92.0	7.9	-
Professional, Scientific and Technical	2022	92.9	76.5	69.4
	2015	79.6	20.3	-
Administrative and Support Service	2022	98.1	96.5	96.5
	2015	78.4	24.8	-
Education	2022	94.2	88.9	82.5
	2015	77.0	25.2	-
Human Health and Social Work	2022	96.7	64.0	66.0
	2015	76.5	26.8	-
Arts, Entertainment and Recreation	2022	99.5	75.4	75.4
	2015	84.0	19.6	-
Other Services	2022	82.2	76.4	58.6
	2015	66.7	35.6	-

Table C13: Purpose of Internet Usage by Sector/ Sub-sector - MSMEs, 2015 and 2022

Sector/ Sub-sector	Year	Sending or receiving e-mail	Telephoning over the internet	Posting information or instant messaging	Getting information about goods or services
		%	%	%	%
Total	2022	95.7	74.6	80.8	81.2
	2015	71.2	18.6	36.9	38.5
Agriculture	2022	97.8	70.8	77.9	74.7
	2015	87.8	13.0	36.3	34.3
Mining and Quarrying	2022	97.7	56.3	77.0	69.8
	2015	92.5	13.0	42.1	40.7
		91.8			
Manufacturing	2022	96.6	74.4	79.7	80.5
	2015	93.5	12.5	47.3	66.3
Construction	2022	93.0	67.4	75.6	77.9
	2015	89.8	18.5	41.8	38.5
Services	2022	95.8	75.2	81.3	81.6
	2015	67.7	19.3	35.6	35.8
Utility	2022	98.4	52.6	71.0	70.7
	2015	93.5	25.1	42.9	42.6
Wholesale and Retail Trade	2022	95.9	74.5	81.7	83.3
	2015	53.6	20.2	30.6	35.2
Transportation and Storage	2022	98.0	86.1	88.1	79.1
	2015	91.3	16.3	29.2	18.6
Accommodation	2022	99.7	56.4	81.7	88.5
	2015	93.1	19.7	40.3	35.4
Food and Beverages	2022	93.3	81.5	85.1	80.3
	2015	77.3	11.1	21.5	31.2
Information and Communication	2022	99.0	91.8	89.9	81.8
	2015	100.0	28.7	79.9	41.3
Financial and Insurance/ Takaful	2022	99.9	68.3	65.7	70.2
	2015	99.5	10.1	28.9	23.6
Real Estate	2022	95.4	71.1	72.8	74.1
	2015	94.0	14.3	90.1	83.3
Professional, Scientific and Technical	2022	97.7	73.1	88.7	83.8
	2015	94.3	29.9	48.6	41.6
Administrative and Support Service	2022	92.8	75.1	84.0	90.0
	2015	91.4	31.4	48.1	36.0
Education	2022	97.0	96.1	80.0	82.3
	2015	89.5	17.9	36.9	32.0
Human Health and Social Work	2022	94.5	73.1	79.6	78.1
	2015	90.1	20.9	43.6	34.8
Arts, Entertainment and Recreation	2022	96.0	64.3	72.9	90.4
	2015	69.8	21.4	34.1	23.9
Other Services	2022	93.6	65.1	69.8	74.5
	2015	83.8	19.8	52.6	37.9

Table C13: Purpose of Internet Usage by Sector/ Sub-sector - MSMEs, 2015 and 2022 (cont'd)

Sector/ Sub-sector	Year	Getting information from government organisations	Interacting with government organisations	Internet banking	Accessing other financial services
		%	%	%	%
Total	2022	67.9	62.4	90.0	41.0
	2015	23.2	16.2	41.2	9.3
Agriculture	2022	68.5	59.9	88.4	33.5
	2015	38.8	27.7	31.4	5.2
Mining and Quarrying	2022	56.3	55.0	73.9	30.5
	2015	35.8	22.2	38.9	7.8
Manufacturing	2022	91.8	64.5	89.7	41.0
	2015	48.4	23.4	76.1	9.9
Construction	2022	71.6	58.7	85.9	37.0
	2015	30.4	22.2	44.0	6.7
Services	2022	67.6	62.6	90.4	41.4
	2015	20.2	15.0	37.8	9.4
Utility	2022	71.4	60.4	75.1	26.5
	2015	37.9	25.7	40.8	9.5
Wholesale and Retail Trade	2022	65.0	60.5	89.8	37.1
	2015	13.6	17.7	31.3	8.5
Transportation and Storage	2022	74.9	74.0	89.8	42.9
	2015	15.0	12.6	26.4	3.4
Accommodation	2022	81.1	78.1	91.3	26.0
	2015	34.4	28.0	50.7	9.6
Food and Beverages	2022	68.9	57.0	90.6	38.2
	2015	8.9	15.5	23.6	6.6
Information and Communication	2022	73.0	70.1	95.5	68.2
	2015	22.3	18.8	60.2	12.1
Financial and Insurance/ Takaful	2022	53.6	47.0	100.0	95.9
	2015	48.3	45.9	96.0	38.6
Real Estate	2022	74.9	72.2	98.1	42.9
	2015	74.9	73.9	90.4	7.6
Professional, Scientific and Technical	2022	80.8	75.5	90.4	43.5
	2015	34.4	29.0	46.1	12.8
Administrative and Support Service	2022	72.0	79.9	90.7	50.3
	2015	24.3	21.2	39.2	8.7
Education	2022	74.0	70.7	89.2	46.9
	2015	28.8	20.2	33.0	8.6
Human Health and Social Work	2022	75.5	73.4	90.2	63.6
	2015	30.8	22.1	47.6	7.8
Arts, Entertainment and Recreation	2022	73.4	65.9	84.9	39.7
	2015	15.6	10.8	34.6	6.0
Other Services	2022	60.1	51.9	86.2	29.5
	2015	27.7	23.4	41.4	4.2

Table C13: Purpose of Internet Usage by Sector/ Sub-sector - MSMEs, 2015 and 2022 (cont'd)

Sector/ Sub-sector	Year	Providing customer services %	Delivering products online %	Internal or external recruitment %	Staff training (e-learning application) %	Others %
Total	2022	45.7	35.5	52.1	22.7	10.0
	2015	10	5.2	10.1	2.4	6.2
Agriculture	2022	13.6	11.6	3.0	9.7	0.8
	2015	4.1	1.0	3.9	1.2	20.7
Mining and Quarrying	2022	13.1	11.8	44.1	6.5	3.0
	2015	5.7	5.8	4.2	1.6	21.2
		91.8				
Manufacturing	2022	45.0	28.5	49.8	15.5	7.6
	2015	11.0	12.1	10.2	3.2	12.9
Construction	2022	34.7	21.1	34.9	15.2	9.1
	2015	3.2	1.4	6.2	2.2	23.7
Services	2022	47.0	37.3	54.1	23.8	10.3
	2015	10.4	4.8	10.4	2.3	4.4
Utility	2022	31.7	21.9	53.2	13.7	7.7
	2015	7.6	2.1	4.7	1.0	21.0
Wholesale and Retail Trade	2022	46.5	38.9	50.5	24.3	9.4
	2015	6.1	5.8	6.6	1.2	-
Transportation and Storage	2022	50.2	40.2	49.2	28.6	7.7
	2015	4.4	1.0	2.4	1.1	9.8
Accommodation	2022	59.9	36.9	52.9	19.9	3.5
	2015	21.3	10.2	8.5	2.5	17.0
Food and Beverages	2022	44.3	38.5	60.0	28.1	18.3
	2015	8.2	1.6	6.8	1.4	8.8
Information and Communication	2022	74.3	43.2	60.0	34.6	13.1
	2015	15.2	5.2	10.6	6.5	14.2
Financial and Insurance/ Takaful	2022	63.5	35.3	54.4	9.4	16.3
	2015	75.9	4.5	30.9	21.3	0.9
Real Estate	2022	28.7	34.7	44.5	9.6	8.8
	2015	6.4	4.3	69.3	0.5	0.4
Professional, Scientific and Technical	2022	51.0	32.6	56.1	19.8	3.8
	2015	13.4	4.1	9.6	3.7	15.2
Administrative and Support Service	2022	50.0	35.0	54.8	20.7	15.3
	2015	12.3	2.9	6.5	1.9	18.3
Education	2022	51.0	30.1	65.1	50.6	10.5
	2015	11.4	3.6	10.9	5.5	13.7
Human Health and Social Work	2022	54.0	46.8	65.4	18.1	11.0
	2015	13.8	2.2	8.0	3.2	15.9
Arts, Entertainment and Recreation	2022	40.9	30.7	40.1	20.9	25.5
	2015	16.4	4.7	3.9	1.3	26.1
Other Services	2022	32.5	27.9	67.9	20.5	5.2
	2015	21.5	2.3	16.9	1.5	11.6

Note.

Others include downloading software, entertainment and online space storage

Table C14: Usage of Digital Technology by Sector/ Sub-sector- MSMEs, 2022

Sector/ Sub-sector	Year	Website	Social media	Mobile internet and technologies	Cloud computing
		%	%	%	%
Total	2022	53.7	69.6	71.9	57.7
Agriculture	2022	49.4	61.4	59.4	57.6
Mining and Quarrying	2022	44.1	46.6	45.7	59.3
Manufacturing	2022	91.8	80.8	66.2	53.0
Construction	2022	56.5	53.8	63.6	59.9
Services	2022	53.0	70.3	73.0	57.8
Utility	2022	35.5	85.0	69.9	55.6
Wholesale and Retail Trade	2022	51.5	68.7	74.5	57.9
Transportation and Storage	2022	72.8	55.5	83.0	70.8
Accommodation	2022	52.3	79.2	58.9	51.8
Food and Beverages	2022	49.2	90.0	65.6	38.5
Information and Communication	2022	88.8	95.1	95.2	69.1
Financial and Insurance/ Takaful	2022	48.8	51.2	81.8	64.2
Real Estate	2022	48.2	71.4	76.5	58.6
Professional, Scientific and Technical	2022	62.6	65.8	77.9	74.4
Administrative and Support Service	2022	20.3	81.4	76.2	68.1
Education	2022	65.6	79.9	86.6	70.6
Human Health and Social Work	2022	60.0	66.8	79.1	86.3
Arts, Entertainment and Recreation	2022	65.2	73.4	61.3	64.4
Other Services	2022	52.1	54.5	47.3	41.2

Table C14: Usage of Digital Technology by Sector/ Sub-sector - MSMEs, 2022 (cont'd)

Sector/ Sub-sector	Year	Data analytics %	Management software %	Online collaborative platforms %	Others %	None %
Total	2022	22.1	49.7	23.1	1.3	5.8
Agriculture	2022	2.9	39.1	14.5	0.6	10.5
Mining and Quarrying	2022	7.3	42.1	28.0	0.2	0.1
Manufacturing	2022	12.9	51.3	23.0	2.9	6.8
Construction	2022	19.7	45.7	29.3	1.1	0.7
Services	2022	23.1	50.0	22.8	1.2	6.1
Utility	2022	17.4	34.3	22.6	0.0	10.2
Wholesale and Retail Trade	2022	19.6	49.9	20.3	0.8	7.9
Transportation and Storage	2022	34.8	52.8	32.8	0.0	0.0
Accommodation	2022	27.5	59.9	36.2	0.3	8.2
Food and Beverages	2022	28.5	38.1	26.0	0.0	5.7
Information and Communication	2022	28.1	84.6	28.7	0.0	0.0
Financial and Insurance/ Takaful	2022	13.0	50.8	33.4	4.1	9.4
Real Estate	2022	28.4	49.9	31.8	0.3	1.5
Professional, Scientific and Technical	2022	19.1	57.5	14.1	2.3	2.5
Administrative and Support Service	2022	24.9	45.6	21.7	8.2	5.4
Education	2022	19.0	53.3	27.8	0.0	1.0
Human Health and Social Work	2022	43.5	47.8	22.8	1.2	8.0
Arts, Entertainment and Recreation	2022	49.5	57.3	13.8	1.1	2.6
Other Services	2022	25.8	50.7	22.3	2.8	3.1

Note.

Others include digital tools such as digital payments (e.g., DuitNow QR), artificial intelligence (AI), and the Internet of Things (IoT)

Table C15: Income and Expenditure of E-Commerce by Sector/ Sub-sector, 2015 and 2022

Sector/ Sub-sector	Year	Number of establishment involved in e-commerce	Income (RM million)	Expenditure (RM million)
Total	2022	78,236	1,126,854	531,631
	2015	47,556	398,207	195,098
Agriculture	2022	427	995	424
	2015	81	185	80
Mining and Quarrying	2022	95	10,895	3,730
	2015	53	6,827	2,204
Manufacturing	2022	92	561,260	347,617
	2015	3,856	275,857	160,584
Construction	2022	412	1,036	706
	2015	272	207	424
Services	2022	73,054	552,668	179,155
	2015	43,294	115,131	31,808
Utility	2022	63	13,376	2,669
	2015	7	2,303	254
Wholesale and Retail Trade	2022	43,782	227,894	80,313
	2015	32,424	62,427	18,195
Transportation and Storage	2022	1,835	24,212	14,038
	2015	178	21,952	6,889
Accommodation	2022	1,285	6,145	3,884
	2015	512	5,924	3,546
Food and Beverages	2022	11,677	8,932	2,112
	2015	1,760	2,043	604
Information and Communication	2022	6,851	92,373	26,600
	2015	6,719	8,575	173
Financial and Insurance/ Takaful	2022	3,176	171,939	47,242
	2015	92	9,268	1,818
Real Estate	2022	432	87	42
	2015	24	9	9
Professional, Scientific and Technical	2022	374	496	78
	2015	172	206	33
Administrative and Support Service	2022	770	2,749	743
	2015	237	1,611	181
Education	2022	796	1,283	332
	2015	750	317	61
Human Health and Social Work	2022	195	1,275	683
	2015	28	4	17
Arts, Entertainment and Recreation	2022	598	1,834	373
	2015	305	483	25
Other Services	2022	1,220	75	47
	2015	86	8	3

Table C16: Income and Expenditure of E-Commerce by State, 2015 and 2022

State	Year	Number of establishment involved in e-commerce	Income (RM million)	Expenditure (RM million)
Total	2022	78,236	1,126,854	531,631
	2015	47,556	398,207	195,098
Johor	2022	5,349	95,162	46,665
	2015	3,729	46,187	25,127
Kedah	2022	1,847	29,603	17,223
	2015	898	19,281	10,203
Kelantan	2022	912	7,278	4,671
	2015	92	1,341	598
Melaka	2022	3,357	56,099	31,531
	2015	3,038	25,881	19,450
Negeri Sembilan	2022	1,517	42,188	30,986
	2015	736	18,081	12,521
Pahang	2022	1,676	31,215	19,812
	2015	910	11,376	4,729
Perak	2022	3,812	33,390	19,259
	2015	1,901	11,668	4,864
Perlis	2022	376	1,674	912
	2015	92	640	264
Pulau Pinang	2022	4,669	101,359	68,134
	2015	2,991	43,763	20,206
Sabah	2022	2,217	22,478	12,197
	2015	1,116	11,830	6,763
Sarawak	2022	3,141	39,143	35,214
	2015	1,478	22,653	15,737
Selangor	2022	32,704	371,129	147,940
	2015	16,215	124,736	56,163
Terengganu	2022	1,483	26,913	14,418
	2015	574	15,076	4,685
W.P. Kuala Lumpur¹	2022	14,417	259,084	80,828
	2015	13,190	44,749	13,463
W.P. Labuan	2022	306	9,072	1,607
	2015	98	765	268
W.P. Putrajaya	2022	453	1,067	235
	2015	72	179	57

Note.

'-' refers to data not available

¹ Including Supra

Supra covers production activities that beyond centre of predominant economic interest for any state

Table C17: Income of E-Commerce by Type of Market and Sector/ Sub-sector, 2015 and 2022

Sector/ Sub-sector	Year	Total	Domestic	International
		(RM Million)	(RM Million)	(RM Million)
Total	2022	1,126,854	1,003,480	123,374
	2015	398,207	356,887	41,320
Agriculture	2022	995	819	176
	2015	185	129	56
Mining and Quarrying	2022	10,895	8,917	1,977
	2015	6,827	4,922	1,906
Manufacturing	2022	561,260	520,611	40,649
	2015	275,857	255,691	20,166
Construction	2022	1,036	1,034	1
	2015	207	207	0
Services	2022	552,668	472,099	80,570
	2015	115,130	95,938	19,192
Utility	2022	13,376	13,286	90
	2015	2,303	2,303	-
Wholesale and Retail Trade	2022	227,894	188,731	39,162
	2015	62,427	54,719	7,708
Transportation and Storage	2022	24,212	16,723	7,489
	2015	21,952	13,103	8,849
Accommodation	2022	6,145	5,555	590
	2015	5,924	3,812	2,112
Food and Beverages	2022	8,932	8,912	20
	2015	2,043	2,032	11
Information and Communication	2022	92,373	92,335	38
	2015	8,575	8,517	58
Financial and Insurance/ Takaful	2022	171,939	138,935	33,003
	2015	9,268	8,967	301
Real Estate	2022	87	81	6
	2015	9	9	-
Professional, Scientific and Technical	2022	496	491	5
	2015	206	196	9
Administrative and Support Service	2022	2,749	2,708	41
	2015	1,611	1,564	46
Education	2022	1,283	1,247	36
	2015	317	292	25
Human Health and Social Work	2022	1,275	1,260	16
	2015	4	3	0
Arts, Entertainment and Recreation	2022	1,834	1,761	73
	2015	483	412	71
Other Services	2022	75	74	1
	2015	8	6	1

Note.

'0' refers to value less than RM500,000

'-' refers to data not available

Table C18: Income of E-Commerce by Type of Customer and Sector/ Sub-sector, 2015 and 2022

Sector/ Sub-sector	Year	Total (RM Million)	Business to Business (B2B) (RM Million)	Business to Consumer (B2C) (RM Million)	Business to Government (B2G) (RM Million)
Total	2022	1,126,854	786,501	312,583	27,769
	2015	398,207	320,113	68,847	9,247
Agriculture	2022	995	628	360	7
	2015	185	103	82	-
Mining and Quarrying	2022	10,895	10,872	-	23
	2015	6,827	6,813	-	14
Manufacturing	2022	561,260	526,748	28,358	6,154
	2015	92	257,011	18,108	738
Construction	2022	1,036	681	72	283
	2015	207	206	0	0
Services	2022	552,668	247,573	283,793	21,303
	2015	115,131	55,979	50,657	8,495
Utility	2022	13,376	13,190	147	39
	2015	2,303	2,302	1	-
Wholesale and Retail Trade	2022	227,894	101,838	120,132	5,923
	2015	62,427	43,917	12,684	5,826
Transportation and Storage	2022	24,212	8,120	15,250	842
	2015	21,952	3,512	17,627	812
Accommodation	2022	6,145	1,210	4,618	317
	2015	5,924	1,603	3,241	1,080
Food and Beverages	2022	8,932	767	8,025	139
	2015	2,043	406	1,588	49
Information and Communication	2022	92,373	44,651	46,267	1,454
	2015	8,575	1,473	6,931	171
Financial and Insurance/ Takaful	2022	171,939	74,997	84,629	12,312
	2015	9,268	2,152	6,706	410
Real Estate	2022	87	35	52	1
	2015	9	4	5	0
Professional, Scientific and Technical	2022	496	300	191	4
	2015	206	113	79	14
Administrative and Support Service	2022	2,749	1,195	1,379	174
	2015	1,611	462	1,021	128
Education	2022	1,283	516	736	31
	2015	317	18	297	3
Human Health and Social Work	2022	1,275	426	842	7
	2015	4	0	3	0
Arts, Entertainment and Recreation	2022	1,834	300	1,477	56
	2015	483	15	468	0
Other Services	2022	75	25	47	2
	2015	8	2	4	1

Note.

'0' refers to value less than RM500,000

Table C19: Expenditure of E-Commerce by Type of Market and Sector/ Sub-sector, 2015 and 2022

Sector/ Sub-sector	Year	Total	Domestic	International
			(RM Million)	(RM Million)
Total	2022	531,631	494,160	37,471
	2015	195,098	173,963	21,135
Agriculture	2022	424	381	43
	2015	80	80	0
Mining and Quarrying	2022	3,730	3,729	1
	2015	2,204	2,204	-
Manufacturing	2022	347,617	326,505	21,112
	2015	160,584	149,387	11,197
Construction	2022	706	691	15
	2015	424	422	2
Services	2022	179,155	162,854	16,301
	2015	31,808	21,871	9,937
Utility	2022	2,669	2,649	20
	2015	254	254	-
Wholesale and Retail Trade	2022	80,313	71,368	8,944
	2015	18,195	14,920	3,275
Transportation and Storage	2022	14,038	8,540	5,498
	2015	6,889	1,858	5,031
Accommodation	2022	3,884	2,698	1,186
	2015	3,546	2,235	1,311
Food and Beverages	2022	2,112	1,763	350
	2015	604	488	116
Information and Communication	2022	26,600	26,585	15
	2015	173	90	83
Financial and Insurance/ Takaful	2022	47,242	47,142	100
	2015	1,818	1,728	91
Real Estate	2022	42	39	3
	2015	9	9	0
Professional, Scientific and Technical	2022	78	75	3
	2015	33	31	2
Administrative and Support Service	2022	743	659	84
	2015	181	165	16
Education	2022	332	320	12
	2015	61	57	4
Human Health and Social Work	2022	683	653	30
	2015	17	14	3
Arts, Entertainment and Recreation	2022	373	316	57
	2015	25	20	5
Other Services	2022	47	47	0
	2015	3	2	0

Note.

'0' refers to value less than RM500,000

'-' refers to data not available

Table C20: Expenditure of E-Commerce by Type of Customer and Sector/ Sub-sector, 2015 and 2022

Sector/ Sub-Sector	Year	Total (RM Million)	Business to Business (B2B) (RM Million)	Business to Consumer (B2C) (RM Million)	Business to Government (B2G) (RM Million)
Total	2022	531,631	432,160	87,937	11,535
	2015	195,098	183,002	8,656	3,440
Agriculture	2022	424	328	94	2
	2015	80	71	8	1
Mining and Quarrying	2022	3,730	3,587	5	138
	2015	2,204	2,204	-	
Manufacturing	2022	347,617	297,157	45,223	5,238
	2015	92	151,914	6,517	2,153
Construction	2022	706	603	27	75
	2015	424	422	1	0
Services	2022	179,155	130,484	42,588	6,082
	2015	31,808	28,391	2,130	1,286
Utility	2022	2,669	2,599	64	6
	2015	254	254	-	-
Wholesale and Retail Trade	2022	80,313	60,690	17,711	1,912
	2015	18,195	16,467	728	1,001
Transportation and Storage	2022	14,038	11,300	2,437	301
	2015	6,889	6,696	-	194
Accommodation	2022	3,884	2,523	1,041	320
	2015	3,546	2,260	1,246	40
Food and Beverages	2022	2,112	1,955	148	9
	2015	604	576	28	0
Information and Communication	2022	26,600	21,474	4,660	466
	2015	173	166	6	1
Financial and Insurance/ Takaful	2022	47,242	28,455	15,781	3,006
	2015	1,818	1,687	87	45
Real Estate	2022	42	31	10	1
	2015	9	9	0	-
Professional, Scientific and Technical	2022	78	47	30	1
	2015	33	30	3	0
Administrative and Support Service	2022	743	399	295	49
	2015	181	148	27	5
Education	2022	332	190	132	11
	2015	61	55	5	0
Human Health and Social Work	2022	683	553	130	0
	2015	17	17	0	0
Arts, Entertainment and Recreation	2022	373	255	116	2
	2015	25	24	1	0
Other Services	2022	47	13	33	1
	2015	3	3	0	-

Note.

'0' refers to value less than RM500,000

'-' refers to data not available

Table C21: Income and Expenditure of E-Commerce by Sector/ Sub-sector - MSMEs, 2015 and 2022

Sector/ Sub-sector	Year	Number of establishment involved in e-commerce	Income	Expenditure
			(RM million)	(RM million)
Total	2022	70,463	275,310	110,798
	2015	43,460	90,182	33,683
Agriculture	2022	353	241	114
	2015	36	4	2
Mining and Quarrying	2022	31	46	23
	2015	34	194	0
Manufacturing	2022	2,431	43,494	31,235
	2015	92	47,059	23,125
Construction	2022	358	236	146
	2015	245	58	107
Services	2022	67,290	231,294	79,281
	2015	40,671	42,867	10,629
Utility	2022	36	1,255	141
	2015	3	7	0
Wholesale and Retail Trade	2022	43,053	147,691	57,218
	2015	32,035	37,188	9,442
Transportation and Storage	2022	1,417	3,086	1,445
	2015	100	106	13
Accommodation	2022	1,175	2,783	1,794
	2015	354	915	482
Food and Beverages	2022	8,762	1,561	263
	2015	174	63	17
Information and Communication	2022	6,166	5,856	2,090
	2015	6,442	810	117
Financial and Insurance/ Takaful	2022	2,538	65,508	15,514
	2015	44	1,765	303
Real Estate	2022	424	36	24
	2015	24	9	9
Professional, Scientific and Technical	2022	360	139	47
	2015	167	123	25
Administrative and Support Service	2022	739	1,584	339
	2015	234	1,556	179
Education	2022	675	597	171
	2015	710	144	31
Human Health and Social Work	2022	148	261	61
	2015	26	2	5
Arts, Entertainment and Recreation	2022	578	862	127
	2015	272	173	4
Other Services	2022	1,219	75	47
	2015	86	8	3

Note.

'0' refers to value less than RM500,000

Table C22: Income and Expenditure of E-Commerce by State - MSMEs, 2015 and 2022

State	Year	Number of establishment involved in e-commerce	Income (RM million)	Expenditure (RM million)
Total	2022	70,463	275,310	110,798
	2015	43,460	90,182	33,863
Johor	2022	4,460	20,809	8,091
	2015	3,212	10,634	5,219
Kedah	2022	1,635	5,917	2,823
	2015	744	1,580	711
Kelantan	2022	812	4,306	2,686
	2015	461	514	237
		91.8		
Melaka	2022	3,203	4,950	2,013
	2015	2,892	2,146	826
Negeri Sembilan	2022	1,293	3,481	2,694
	2015	570	4,107	1,931
Pahang	2022	1,402	6,958	3,797
	2015	764	4,544	1,835
Perak	2022	3,405	13,851	8,488
	2015	1,658	5,550	2,392
Perlis	2022	357	894	466
	2015	82	52	25
Pulau Pinang	2022	4,013	12,029	5,985
	2015	2,650	6,057	2,556
Sabah	2022	1,863	10,091	5,953
	2015	963	4,225	2,249
Sarawak	2022	2,758	10,744	5,130
	2015	1,270	4,456	2,243
Selangor	2022	30,417	128,037	41,477
	2015	15,024	26,189	8,483
Terengganu	2022	1,388	3,028	1,277
	2015	514	2,655	771
W.P. Kuala Lumpur	2022	12,767	44,075	18,763
	2015	12,506	17,251	4,347
W.P. Labuan	2022	278	5,626	999
	2015	93	203	33
W.P. Putrajaya	2022	412	517	157
	2015	57	21	6

Note.

'-' refers to data not available

Table C23: Income of E-Commerce by Type of Market and Sector/ Sub-sector - MSMEs, 2015 and 2022

Sector/ Sub-sector	Year	Total	Domestic	International
		(RM Million)	(RM Million)	(RM Million)
Total	2022	275,310	243,524	31,786
	2015	90,182	84,931	5,251
Agriculture	2022	241	230	11
	2015	4	3	0
Mining and Quarrying	2022	46	40	5
	2015	194	-	194
Manufacturing	2022	43,494	42,564	930
	2015	47,059	46,504	556
Construction	2022	236	235	1
	2015	58	58	0
Services	2022	231,294	200,455	30,839
	2015	42,867	38,366	4,501
Utility	2022	1,255	1,254	2
	2015	7	7	-
Wholesale and Retail Trade	2022	147,691	130,063	17,627
	2015	37,188	33,140	4,048
Transportation and Storage	2022	3,086	25,797	506
	2015	106	101	6
Accommodation	2022	2,783	2,543	240
	2015	915	626	289
Food and Beverages	2022	1,561	1,557	4
	2015	63	63	0
Information and Communication	2022	5,856	5,851	5
	2015	810	786	23
Financial and Insurance/ Takaful	2022	65,508	53,156	12,353
	2015	1,765	1,701	63
Real Estate	2022	36	34	2
	2015	9	9	-
Professional, Scientific and Technical	2022	139	136	3
	2015	123	117	6
Administrative and Support Service	2022	1,584	1,551	33
	2015	1,556	1,509	46
Education	2022	597	582	15
	2015	144	140	4
Human Health and Social Work	2022	261	252	9
	2015	2	1	0
Arts, Entertainment and Recreation	2022	862	823	39
	2015	173	159	14
Other Services	2022	75	74	1
	2015	8	6	1

Note.

'0' refers to value less than RM500,000

'-' refers to data not available

Table C24: Income of E-Commerce by Type of Customer and Sector/ Sub-sector - MSMEs, 2015 and 2022

Sector/ Sub-sector	Year	Total (RM Million)	Business to Business (B2B) (RM Million)	Business to Consumer (B2C) (RM Million)	Business to Government (B2G) (RM Million)
Total	2022	275,310	135,640	127,890	11,781
	2015	90,182	68,940	17,037	4,205
Agriculture	2022	241	145	95	1
	2015	4	2	1	-
Mining and Quarrying	2022	46	46	-	-
	2015	194	194	-	-
Manufacturing	2022	43,494	31,452	8,952	3,090
	2015	92	42,967	4,091	1
Construction	2022	236	175	33	29
	2015	58	58	0	0
Services	2022	231,294	103,823	118,810	8,662
	2015	42,867	25,719	12,944	4,204
Utility	2022	1,255	1,209	26	20
	2015	7	6	1	-
Wholesale and Retail Trade	2022	147,691	70,645	73,553	3,493
	2015	37,188	24,111	9,417	3,660
Transportation and Storage	2022	3,086	1,141	1,905	40
	2015	106	33	63	10
Accommodation	2022	2,783	632	2,010	141
	2015	915	245	492	178
Food and Beverages	2022	1,561	117	1,424	20
	2015	63	24	39	0
Information and Communication	2022	5,856	3,212	2,636	8
	2015	810	106	688	16
Financial and Insurance/ Takaful	2022	65,508	25,632	35,050	4,826
	2015	1,765	667	901	197
Real Estate	2022	36	18	17	1
	2015	9	4	5	0
Professional, Scientific and Technical	2022	139	76	60	3
	2015	123	68	41	14
Administrative and Support Service	2022	1,584	698	812	74
	2015	1,556	446	983	126
Education	2022	597	246	349	2
	2015	144	2	142	0
Human Health and Social Work	2022	261	92	163	6
	2015	2	0	1	0
Arts, Entertainment and Recreation	2022	862	79	758	25
	2015	173	5	167	0
Other Services	2022	75	25	47	2
	2015	8	2	4	1

Note.

'0' refers to value less than RM500,000

'-' refers to data not available

Table C25: Expenditure of E-Commerce by Type of Market and Sector/ Sub-sector - MSMEs, 2015 and 2022

Sector/ Sub-sector	Year	Total	Domestic	International
		(RM Million)	(RM Million)	(RM Million)
Total	2022	110,798	102,219	8,580
	2015	33,863	31,765	2,098
Agriculture	2022	114	97	17
	2015	2	2	0
Mining and Quarrying	2022	23	23	0
	2015	0	0	-
Manufacturing	2022	31,235	30,458	777
	2015	23,125	23,002	123
		92		
Construction	2022	146	145	1
	2015	107	105	2
Services	2022	79,281	71,496	7,785
	2015	10,629	8,655	1,973
Utility	2022	141	141	0
	2015	0	0	-
Wholesale and Retail Trade	2022	57,218	50,479	6,739
	2015	9,442	7,742	1,700
Transportation and Storage	2022	1,445	1,022	423
	2015	13	13	0
Accommodation	2022	1,794	1,263	531
	2015	482	331	151
Food and Beverages	2022	263	255	8
	2015	17	16	1
Information and Communication	2022	2,090	2,087	3
	2015	117	54	63
Financial and Insurance/ Takaful	2022	15,514	15,468	46
	2015	303	264	39
Real Estate	2022	24	24	1
	2015	9	9	0
Professional, Scientific and Technical	2022	47	45	2
	2015	25	23	2
Administrative and Support Service	2022	339	320	19
	2015	179	163	16
Education	2022	171	165	6
	2015	31	30	0
Human Health and Social Work	2022	61	55	6
	2015	5	5	0
Arts, Entertainment and Recreation	2022	127	127	1
	2015	4	3	1
Other Services	2022	47	47	0
	2015	3	2	0

Note.

'0' refers to value less than RM500,000

'-' refers to data not available

Table C26: Expenditure of E-Commerce by Type of Customer and Sector/ Sub-sector - MSMEs, 2015 and 2022

Sector/ Sub-Sector	Year	Total	Business to Business (B2B)	Business to Consumer (B2C)	Business to Government (B2G)
		(RM Million)	(RM Million)	(RM Million)	(RM Million)
Total	2022	110,798	80,524	28,054	2,220
	2015	33,863	31,540	1,791	533
Agriculture	2022	114	94	19	-
	2015	2	2	1	-
Mining and Quarrying	2022	23	22	0	1
	2015	0	0	-	-
Manufacturing	2022	31,235	24,442	6,337	455
	2015	92	21,933	1,192	0
Construction	2022	146	130	9	6
	2015	107	106	1	0
Services	2022	79,281	55,835	21,688	1,758
	2015	10,629	9,500	597	532
Utility	2022	141	138	3	0
	2015	0	0	-	-
Wholesale and Retail Trade	2022	57,218	41,218	14,982	1,018
	2015	9,442	8,545	378	519
Transportation and Storage	2022	1,445	870	548	27
	2015	13	13	-	0
Accommodation	2022	1,794	1,152	520	121
	2015	482	298	178	6
Food and Beverages	2022	263	203	59	1
	2015	17	17	0	0
Information and Communication	2022	2,090	1,083	1,003	4
	2015	117	114	4	0
Financial and Insurance/ Takaful	2022	15,514	10,709	4,243	562
	2015	303	298	4	1
Real Estate	2022	24	18	5	1
	2015	9	9	0	-
Professional, Scientific and Technical	2022	47	24	22	1
	2015	25	22	3	0
Administrative and Support Service	2022	339	177	147	15
	2015	179	146	27	5
Education	2022	171	99	67	5
	2015	31	28	2	0
Human Health and Social Work	2022	61	52	9	0
	2015	5	5	0	0
Arts, Entertainment and Recreation	2022	127	78	47	2
	2015	4	3	1	0
Other Services	2022	47	13	33	1
	2015	3	3	0	-

Note.

'0' refers to value less than RM500,000

'-' refers to data not available

Table C27: Quarterly Income of E-Commerce, 2020 - 2024

Year	Quarter	Income	YoY	QoQ
		(RM million)	%	%
2020		918,510	32.7	
	1	200,710	-	-
	2	222,263	-	10.7
	3	244,060	-	9.8
	4	251,478	-	3.0
2021		1,062,815	15.7	
	1	247,951	23.5	-1.4
	2	260,534	17.2	5.1
	3	271,669	11.3	4.3
	4	92	12.4	4.0
2022		1,126,854	6.0	
	1	270,789	9.2	-4.2
	2	280,538	7.7	3.6
	3	281,380	3.6	0.3
	4	294,147	4.1	4.5
2023		1,182.00	4.9	
	1	298,880	10.4	1.6
	2	287,428	2.5	-3.8
	3	296,600	5.4	3.2
	4	299,093	1.7	0.8
2024				
	1	300,484	0.5	0.5
	2	309,835	7.8	3.1
	3	307,904	3.8	-0.6

Table D1.1: Percentage of Households with Access to Mobile Phone by State, Type and Strata, Malaysia, 2023

State	Mobile phone			Feature phone			Smart phone		
	Total	Urban	Rural	Total	Urban	Rural	Total	Urban	Rural
MALAYSIA	99.3	99.6	98.4	16.3	13.6	25.5	97.6	98.6	94.1
Johor	99.5	99.6	99.1	21.2	21.4	20.4	99.1	99.2	98.9
Kedah	99.4	99.5	99.2	21.4	15.8	33.1	96.1	97.0	94.3
Kelantan	99.2	99.4	99.0	25.8	21.5	29.4	94.5	96.0	93.2
Melaka	99.6	99.6	99.5	19.6	19.2	24.1	97.3	97.4	96.2
Negeri Sembilan	99.3	99.7	98.4	12.4	9.4	19.9	97.9	99.5	93.9
Pahang	99.1	99.2	99.0	17.1	16.3	18.1	94.9	95.6	94.1
Pulau Pinang	99.8	99.8	100.0	14.1	14.0	14.7	98.2	98.1	99.1
Perak	99.3	99.2	99.6	19.5	16.8	27.2	96.2	96.5	95.5
Perlis	99.6	99.5	99.7	23.3	23.3	23.2	97.0	96.8	97.3
Selangor	99.6	99.7	98.4	9.2	8.8	16.9	99.4	99.5	96.7
Terengganu	98.5	99.0	97.8	16.1	13.4	20.9	97.4	98.0	96.5
Sabah	99.4	99.8	99.0	20.2	14.1	27.6	97.2	98.7	95.3
Sarawak	97.4	99.6	94.5	21.2	14.0	30.9	93.6	99.6	85.3
W.P. Kuala Lumpur	100.0	100.0	n.a.	7.9	7.9	n.a.	99.8	99.8	n.a.
W.P. Labuan	99.6	99.6	100.0	4.9	4.1	12.9	99.6	99.6	100.0
W.P. Putrajaya	100.0	100.0	n.a.	11.2	11.2	n.a.	100.0	100.0	n.a.

Note.

Mobile phone includes feature phone and smart phone

Table D1.2: Percentage of Households with Internet Access by State, Type of Service and Strata, Malaysia, 2023

State	Internet			Mobile broadband			Fixed broadband			(%)
	Total	Urban	Rural	Total	Urban	Rural	Total	Urban	Rural	
MALAYSIA	96.4	98.4	89.8	95.3	97.4	88.5	47.1	54.0	24.2	
Johor	98.8	99.1	97.4	97.4	97.8	96.2	53.5	57.2	39.8	
Kedah	95.9	97.3	93.0	95.6	97.0	92.8	34.5	43.1	16.5	
Kelantan	94.6	95.8	93.6	93.7	94.5	93.1	24.8	34.4	16.9	
Melaka	96.3	96.5	94.3	95.6	95.9	93.3	55.3	57.2	35.6	
Negeri Sembilan	96.0	98.3	90.4	94.7	97.2	88.4	47.2	53.1	32.6	
Pahang	95.4	96.4	94.2	93.5	93.9	93.0	31.9	39.7	22.5	
Pulau Pinang	99.3	99.3	99.1	97.3	97.4	96.5	55.3	56.1	45.1	
Perak	95.0	96.4	91.2	91.8	93.5	86.8	40.2	45.3	25.9	
Perlis	95.6	98.3	92.3	94.8	97.3	91.7	32.0	38.5	24.1	
Selangor	99.2	99.3	97.4	99.1	99.2	97.4	59.9	60.5	43.8	
Terengganu	94.6	95.7	92.7	92.9	94.6	90.0	28.5	29.8	26.1	
Sabah	90.4	97.9	81.3	90.4	97.9	81.3	31.2	42.6	17.2	
Sarawak	90.6	98.4	79.9	89.7	98.3	78.1	32.8	44.1	17.5	
W.P. Kuala Lumpur	99.8	99.8	n.a.	97.3	97.3	n.a.	73.7	73.7	n.a.	
W.P. Labuan	99.7	100.0	96.8	94.6	94.7	93.5	41.7	41.6	41.9	
W.P. Putrajaya	100.0	100.0	n.a.	99.6	99.6	n.a.	75.6	75.6	n.a.	

Note.

Internet includes mobile broadband and fixed broadband

Table D1.3: Percentage of Households with Access to ICT Services and Equipment by State and Strata, Malaysia, 2023

State	Computer			Pay TV channel			Television		
	Total	Urban	Rural	Total	Urban	Rural	Total	Urban	Rural
MALAYSIA	91.6	94.2	82.8	77.0	80.8	64.1	99.4	99.6	98.6
Johor	92.6	94.1	86.9	82.8	83.8	79.2	99.7	99.8	99.3
Kedah	86.5	89.4	80.3	57.7	60.5	51.9	99.4	99.6	98.9
Kelantan	87.7	90.4	85.4	57.1	57.2	57.1	99.1	99.6	98.7
Melaka	91.8	91.7	92.3	82.1	82.3	79.7	99.9	100.0	99.5
Negeri Sembilan	85.8	90.2	74.8	77.4	78.0	75.9	99.7	99.7	99.8
Pahang	88.1	92.0	83.4	77.1	78.5	75.4	99.1	99.4	98.8
Pulau Pinang	95.9	95.8	97.6	81.5	82.2	72.4	99.8	99.8	100.0
Perak	91.0	90.3	93.0	76.3	77.9	71.8	99.5	99.7	99.0
Perlis	89.3	91.2	86.9	78.0	81.1	74.1	99.1	99.0	99.1
Selangor	95.9	96.1	90.8	84.8	85.0	80.0	99.9	99.9	99.2
Terengganu	89.8	92.8	84.7	70.0	68.1	73.4	99.6	99.7	99.3
Sabah	83.8	92.2	73.6	66.3	73.1	57.9	97.6	97.4	97.8
Sarawak	88.2	94.0	80.4	63.2	77.3	44.2	98.1	98.8	97.2
W.P. Kuala Lumpur	99.6	99.6	n.a.	96.1	96.1	n.a.	100.0	100.0	n.a.
W.P. Labuan	97.2	98.0	90.3	90.6	90.6	90.3	99.6	99.6	100.0
W.P. Putrajaya	99.6	99.6	n.a.	96.8	96.8	n.a.	100.0	100.0	n.a.

Table D1.3: Percentage of Households with Access to ICT Services and Equipment by State and Strata, Malaysia, 2023 (cont'd)

State	Radio			Fixed-line telephone			(%)
	Total	Urban	Rural	Total	Urban	Rural	
MALAYSIA	99.2	99.6	98.2	27.4	30.8	16.0	
Johor	99.9	100.0	99.8	30.5	32.0	25.1	
Kedah	99.7	99.9	99.4	16.0	18.6	10.6	
Kelantan	99.7	99.8	99.7	16.4	20.5	13.0	
Melaka	99.7	99.7	99.0	53.4	56.1	25.9	
Negeri Sembilan	99.6	99.6	99.5	48.6	57.3	26.9	
Pahang	99.7	99.7	99.6	21.8	24.0	19.3	
Pulau Pinang	99.9	99.9	99.4	29.3	28.8	35.7	
Perak	97.9	98.2	97.0	20.1	20.0	20.3	
Perlis	99.9	100.0	99.7	34.6	43.9	23.2	
Selangor	99.6	99.7	97.2	29.2	29.6	21.0	
Terengganu	99.7	99.7	99.8	23.5	22.3	25.4	
Sabah	97.9	98.7	97.0	17.7	26.4	7.1	
Sarawak	97.5	99.3	95.2	17.3	24.5	7.4	
W.P. Kuala Lumpur	99.8	99.8	n.a.	42.9	42.9	n.a.	
W.P. Labuan	99.3	99.6	96.8	36.8	38.0	25.8	
W.P. Putrajaya	100.0	100.0	n.a.	54.4	54.4	n.a.	

Table D2.1: Percentage of Individuals Using and Owning Mobile Phone by State and Strata, Malaysia, 2023

State	Usage			Ownership			Total
	Total	Urban	Rural	Total	Urban	Rural	
MALAYSIA	99.4	99.6	98.6	98.4	99.0	96.3	
Johor	99.8	99.9	99.4	99.6	99.9	99.0	
Kedah	99.2	99.4	98.7	98.3	98.8	97.2	
Kelantan	99.3	99.8	98.9	96.7	98.6	95.3	
Melaka	99.5	99.4	99.8	99.1	99.3	98.0	
Negeri Sembilan	99.3	99.8	98.0	98.3	99.4	95.6	
Pahang	99.5	99.6	99.4	99.0	99.5	98.4	
Pulau Pinang	99.9	99.9	99.3	99.0	99.0	98.6	
Perak	98.6	98.8	97.8	97.5	98.2	95.4	
Perlis	98.8	99.0	98.4	96.8	97.7	95.7	
Selangor	99.7	99.7	99.4	99.5	99.5	98.3	
Terengganu	99.1	99.2	98.9	97.8	97.8	97.6	
Sabah	99.3	99.6	99.0	96.1	96.4	95.7	
Sarawak	98.2	99.3	96.7	96.5	99.1	93.0	
W.P. Kuala Lumpur	99.9	99.9	n.a.	99.9	99.9	n.a.	
W.P. Labuan	99.9	99.9	99.7	99.7	99.7	99.0	
W.P. Putrajaya	99.9	99.9	n.a.	99.8	99.8	n.a.	

Table D2.2: Percentage of Mobile Phone Ownership by State and Sex, Malaysia, 2023

State	Total	Male	Female
MALAYSIA	98.4	98.7	98.0
Johor	99.6	99.8	99.5
Kedah	98.3	98.9	97.6
Kelantan	96.7	97.6	95.9
Melaka	99.1	99.1	99.1
Negeri Sembilan	98.3	98.3	98.2
Pahang	99.0	99.3	98.7
Pulau Pinang	99.0	99.6	98.2
Perak	97.5	98.1	96.8
Perlis	96.8	97.3	96.4
Selangor	99.5	99.6	99.3
Terengganu	97.8	98.1	97.4
Sabah	96.1	96.4	95.7
Sarawak	96.5	97.1	95.9
W.P. Kuala Lumpur	99.9	100.0	99.8
W.P. Labuan	99.7	99.7	99.6
W.P. Putrajaya	99.8	100.0	99.6

Table D2.3: Percentage of Individuals Using Computer by State and Strata, Malaysia, 2023

State	Total	Urban	Rural	(%)
MALAYSIA	80.4	86.0	63.6	
Johor	84.1	87.5	74.1	
Kedah	73.3	77.0	65.7	
Kelantan	73.8	81.6	67.7	
Melaka	86.0	87.0	77.8	
Negeri Sembilan	76.5	81.9	63.6	
Pahang	77.8	83.9	70.8	
Pulau Pinang	85.4	86.0	78.4	
Perak	78.0	81.0	69.9	
Perlis	74.8	75.6	74.0	
Selangor	91.3	91.8	80.8	
Terengganu	80.4	84.4	73.5	
Sabah	60.6	73.6	45.1	
Sarawak	67.9	78.7	53.5	
W.P. Kuala Lumpur	95.6	95.6	n.a.	
W.P. Labuan	88.3	89.1	77.9	
W.P. Putrajaya	97.1	97.1	n.a.	

Table D2.4: Percentage of Individuals Using Computer by State, Type of ICT Skills and Strata, Malaysia, 2023

State	Copying or moving a file or folder			Using copy and paste tools to duplicate or move information within a document			Sending an e-mail with attached files		
	Total	Urban	Rural	Total	Urban	Rural	Total	Urban	Rural
	(%)								
MALAYSIA	97.5	97.6	97.1	96.7	97.2	94.8	89.9	90.1	88.8
Johor	96.8	96.5	97.7	94.6	94.6	94.4	92.6	92.6	92.7
Kedah	98.9	98.4	99.9	99.7	99.7	99.5	94.5	94.9	93.5
Kelantan	98.6	98.1	99.1	96.1	92.7	99.4	90.9	91.9	90.0
Melaka	99.7	99.8	99.1	95.2	95.5	92.1	85.4	85.9	81.4
Negeri Sembilan	98.4	99.1	96.3	94.9	96.3	90.7	96.6	98.8	89.7
Pahang	97.3	98.9	95.2	97.1	97.6	96.5	91.2	92.7	89.2
Pulau Pinang	95.4	95.1	98.7	97.2	97.2	97.6	79.7	79.6	80.7
Perak	94.8	95.1	93.7	96.2	98.2	89.8	86.0	87.2	82.1
Perlis	98.0	96.8	99.6	97.4	96.8	98.2	97.0	96.7	97.4
Selangor	97.4	97.5	94.8	96.8	96.8	97.4	91.6	91.7	89.1
Terengganu	98.6	98.7	98.5	95.1	98.1	89.1	78.3	77.7	79.3
Sabah	97.2	98.1	95.5	97.6	98.6	95.6	89.0	86.0	94.9
Sarawak	97.6	97.5	97.8	95.6	98.3	90.2	81.5	81.4	81.9
W.P. Kuala Lumpur	99.7	99.7	n.a	99.8	99.8	n.a	97.0	97.0	n.a
W.P. Labuan	99.3	99.2	99.9	99.7	100.0	96.2	92.9	93.6	83.3
W.P. Putrajaya	99.2	99.2	n.a	99.2	99.2	n.a	95.9	95.9	n.a

Table D2.4: Percentage of Individuals Using Computer by State, Type of ICT Skills and Strata, Malaysia, 2023 (cont'd)

State	Using basic arithmetic formulas in a spreadsheet			Connecting and installing new devices			Searching, downloading, installing and configuring software		
	Total	Urban	Rural	Total	Urban	Rural	Total	Urban	Rural
	(%)								
MALAYSIA	67.7	68.5	64.2	79.4	80.3	75.9	73.0	73.7	70.1
Johor	72.2	71.3	75.3	74.1	75.2	70.1	70.8	72.0	66.5
Kedah	73.0	76.3	65.2	82.7	83.5	80.7	78.6	78.7	78.1
Kelantan	52.3	56.3	48.4	74.7	72.2	77.1	70.4	67.5	73.1
Melaka	71.4	71.4	71.2	75.6	75.9	73.5	75.8	77.2	62.9
Negeri Sembilan	75.8	77.3	71.1	75.7	75.1	77.4	75.4	73.6	80.7
Pahang	69.7	74.6	63.0	73.9	73.9	73.7	70.4	73.4	66.4
Pulau Pinang	63.9	64.0	62.9	80.1	79.7	84.8	70.1	69.9	72.7
Perak	54.3	54.0	55.0	79.5	80.5	76.3	64.6	65.7	60.7
Perlis	47.8	51.1	43.8	74.3	76.4	71.7	65.8	68.1	63.1
Selangor	68.2	68.7	56.3	83.7	84.0	78.0	74.2	74.8	59.0
Terengganu	59.4	58.3	61.6	72.2	72.0	72.7	63.9	61.4	68.8
Sabah	73.1	69.0	81.0	79.5	79.8	78.9	74.1	71.9	78.5
Sarawak	62.2	63.8	59.2	77.3	77.9	76.1	71.7	73.3	68.6
W.P. Kuala Lumpur	76.8	76.8	n.a	85.7	85.7	n.a	84.4	84.4	n.a
W.P. Labuan	90.6	91.4	79.8	89.5	90.8	71.2	76.7	76.8	75.5
W.P. Putrajaya	77.9	77.9	n.a	90.1	90.1	n.a	87.1	87.1	n.a

Table D2.4: Percentage of Individuals Using Computer by State, Type of ICT Skills and Strata, Malaysia, 2023 (cont'd)

State	Creating electronic presentations using computer software			Transferring files between a computer and other devices			Writing a computer program using a specialised programming language		
	Total	Urban	Rural	Total	Urban	Rural	Total	Urban	Rural
	(%)								
MALAYSIA	63.3	63.6	61.9	83.5	84.0	81.6	23.9	24.9	19.6
Johor	64.5	64.8	63.6	81.5	81.2	82.3	22.8	24.7	16.0
Kedah	60.7	63.7	53.4	87.3	89.8	81.3	22.1	24.2	17.3
Kelantan	63.5	66.3	60.8	87.1	88.2	86.1	24.6	25.5	23.7
Melaka	60.6	62.2	45.0	85.0	85.0	84.9	26.2	26.8	20.6
Negeri Sembilan	75.2	78.6	65.0	85.1	86.5	80.8	27.2	29.7	19.8
Pahang	59.7	63.9	54.0	87.7	87.5	88.0	22.1	23.6	20.0
Pulau Pinang	54.0	54.3	50.1	72.7	72.6	73.6	25.7	25.4	28.9
Perak	48.0	48.7	45.6	72.3	73.7	68.0	23.8	25.4	18.7
Perlis	50.3	50.1	50.6	88.5	84.1	94.0	18.4	24.0	11.5
Selangor	59.8	60.4	46.2	87.6	87.9	80.7	21.2	21.1	21.6
Terengganu	69.3	67.0	73.8	71.5	70.3	74.0	24.2	24.8	23.0
Sabah	74.6	71.1	81.4	84.7	82.3	89.5	24.3	24.7	23.6
Sarawak	66.0	64.3	69.2	75.2	75.5	74.5	18.3	20.6	13.7
W.P. Kuala Lumpur	76.8	76.8	n.a	92.7	92.7	n.a	37.1	37.1	n.a
W.P. Labuan	92.5	91.9	100.0	98.1	98.7	91.2	23.1	23.7	14.3
W.P. Putrajaya	90.5	90.5	n.a	99.1	99.1	n.a	36.1	36.1	n.a

Table D2.5 Percentage of Youth Using Computer by State, Type of ICT Skills and Strata, Malaysia, 2023

State	Copying or moving a file or folder			Using copy and paste tools to duplicate or move information within a document			Sending an e-mail with attached files		
	Total	Urban	Rural	Total	Urban	Rural	Total	Urban	Rural
	(%)								
MALAYSIA	98.6	98.6	98.7	97.6	97.5	98.0	94.1	94.8	91.6
Johor	98.8	98.6	99.6	97.0	97.9	94.0	96.0	96.4	94.3
Kedah	98.9	98.6	99.7	99.5	99.4	99.6	98.4	100.0	95.1
Kelantan	99.3	99.3	99.2	95.6	91.1	99.6	90.3	90.5	90.1
Melaka	99.8	99.9	98.5	96.1	96.4	93.0	88.6	89.3	81.8
Negeri Sembilan	99.2	100.0	96.7	96.8	98.5	91.6	96.9	99.3	89.7
Pahang	99.0	99.1	99.0	97.2	96.6	97.9	76.8	82.3	70.0
Pulau Pinang	98.7	98.8	97.7	99.8	99.8	100.0	94.9	94.7	97.7
Perak	98.2	98.1	98.4	97.5	97.2	98.3	94.1	93.1	96.9
Perlis	100.0	100.0	100.0	99.3	99.0	99.5	100.0	100.0	100.0
Selangor	97.0	97.1	96.7	95.7	95.6	96.5	94.4	94.4	93.8
Terengganu	99.8	99.6	100.0	99.8	99.7	99.9	99.0	99.3	98.5
Sabah	98.6	99.5	97.2	98.4	98.5	98.4	98.8	98.9	98.7
Sarawak	98.8	99.0	98.4	100.0	100.0	100.0	92.9	93.4	92.1
W.P. Kuala Lumpur	100.0	100.0	n.a	100.0	100.0	n.a	96.1	96.1	n.a
W.P. Labuan	99.2	99.2	100.0	100.0	100.0	100.0	96.8	96.7	100.0
W.P. Putrajaya	100.0	100.0	n.a	100.0	100.0	n.a	100.0	100.0	n.a

Table D2.5: Percentage of Youth Using Computer by State, Type of ICT Skills and Strata, Malaysia, 2023 (cont'd)

State	Using basic arithmetic formulas in a spreadsheet			Connecting and installing new devices			Searching, downloading, installing and configuring software			Total
	Total	Urban	Rural	Total	Urban	Rural	Total	Urban	Rural	
MALAYSIA	79.7	80.0	78.6	89.3	90.4	85.5	88.1	88.0	88.5	88.5
Johor	83.0	81.7	87.8	85.2	89.1	70.1	84.9	87.4	75.7	75.7
Kedah	89.4	92.6	82.4	94.8	99.5	84.4	98.2	99.9	94.7	94.7
Kelantan	61.8	67.1	57.2	73.9	71.3	76.3	82.4	78.1	86.2	86.2
Melaka	86.7	86.7	87.2	78.3	78.2	79.8	91.3	92.9	77.2	77.2
Negeri Sembilan	93.6	96.5	84.7	80.2	80.6	78.7	92.3	90.7	96.9	96.9
Pahang	64.0	62.5	65.8	89.8	85.1	95.6	88.1	84.2	92.8	92.8
Pulau Pinang	76.5	77.5	63.2	91.0	90.5	97.6	85.9	85.6	90.8	90.8
Perak	91.6	91.3	92.6	90.2	88.8	94.2	89.4	87.8	94.1	94.1
Perlis	65.6	67.4	63.5	75.5	78.4	72.4	72.1	76.1	67.6	67.6
Selangor	79.1	78.9	83.4	93.4	93.8	83.7	84.4	84.4	85.1	85.1
Terengganu	71.2	63.9	84.4	91.1	91.9	89.7	95.2	96.2	93.4	93.4
Sabah	89.3	88.9	89.9	95.7	95.8	95.6	93.4	93.6	93.0	93.0
Sarawak	67.7	61.1	79.7	87.6	89.0	85.3	85.2	85.3	85.1	85.1
W.P. Kuala Lumpur	77.3	77.3	n.a	95.7	95.7	n.a	92.0	92.0	n.a	n.a
W.P. Labuan	99.7	100.0	65.4	99.7	100.0	65.4	95.6	95.6	100.0	100.0
W.P. Putrajaya	82.0	82.0	n.a	100.0	100.0	n.a	93.8	93.8	n.a	n.a

Table D2.5: Percentage of Youth Using Computer by State, Type of ICT Skills and Strata, Malaysia, 2023 (cont'd)

State	Creating electronic presentations using computer software			Transferring files between a computer and other devices			Writing a computer program using a specialised programming language		
	Total	Urban	Rural	Total	Urban	Rural	Total	Urban	Rural
	Writing a computer program using a specialised programming language (%)								
MALAYSIA	84.8	85.3	82.8	91.6	91.9	90.7	51.1	56.6	33.0
Johor	84.4	85.1	81.7	86.5	87.6	82.3	26.8	25.4	32.1
Kedah	87.1	91.9	76.6	90.0	92.4	84.9	46.9	56.8	25.3
Kelantan	81.8	82.5	81.1	86.4	87.0	85.9	41.6	54.9	29.9
Melaka	81.9	84.1	61.8	88.2	88.4	86.1	54.1	58.0	19.0
Negeri Sembilan	95.6	98.8	85.7	87.3	89.3	81.1	52.2	59.1	31.2
Pahang	82.7	78.3	88.0	91.7	89.3	94.5	41.8	35.6	49.4
Pulau Pinang	87.1	87.8	77.1	91.8	91.7	92.5	47.7	48.7	34.7
Perak	88.7	87.4	92.2	95.4	94.8	97.2	67.9	82.8	26.6
Perlis	58.2	63.6	52.3	84.8	70.9	100.0	36.5	43.2	29.1
Selangor	81.9	82.1	76.4	92.3	92.4	88.6	87.1	88.0	66.6
Terengganu	90.3	90.8	89.3	97.4	98.3	95.7	24.8	23.6	27.0
Sabah	89.0	90.2	86.9	96.5	96.1	97.2	28.7	21.9	40.5
Sarawak	78.3	77.8	79.3	91.2	91.2	91.2	21.3	24.1	16.2
W.P. Kuala Lumpur	86.3	86.3	n.a	95.8	95.8	n.a	64.2	64.2	n.a
W.P. Labuan	100.0	100.0	100.0	99.7	100.0	65.4	33.9	34.3	0.0
W.P. Putrajaya	100.0	100.0	n.a	100.0	100.0	n.a	59.6	59.6	n.a

Table D2.6: Percentage of Individuals Using Computer by Type of ICT Skills and Sex, Malaysia, 2023

Type of ICT Skills	Sex		Male	Female
Total	80.4	81.3	79.4	79.4
Copying or moving a file or folder	97.5	97.6	97.4	97.4
Using copy and paste tools to duplicate or move information within a document	96.7	97.1	96.3	96.3
Sending an e-mail with attached files	89.9	90.3	89.3	89.3
Using basic arithmetic formulas in a spreadsheet	67.7	73.4	61.1	61.1
Connecting and installing new devices	79.4	81.7	76.8	76.8
Searching, downloading, installing and configuring software	73.0	78.4	67.0	67.0
Creating electronic presentations using computer software	63.3	68.3	57.6	57.6
Transferring files between a computer and other devices	83.5	84.3	82.6	82.6
Writing a computer program using a specialised programming language	23.9	24.5	23.1	23.1

Table D2.7: Percentage of Individuals Using Computer by Type of ICT Skills and Age Group, Malaysia, 2023

Type of ICT Skills	Age Group											(%)
	15 - 19	20 - 24	25 - 29	30 - 34	35 - 39	40 - 44	45 - 49	50 - 54	55 - 59	60+		
Total	87.5	89.8	87.8	89.2	90.5	89.9	88.4	83.4	74.0	33.8		
Copying or moving a file or folder	98.3	98.8	98.8	98.7	98.6	98.3	97.4	96.2	90.3	91.1		
Using copy and paste tools to duplicate or move information within a document	97.2	98.0	98.1	98.0	98.5	97.6	97.2	94.1	93.8	86.1		
Sending an e-mail with attached files	90.7	97.1	97.1	96.3	97.7	96.3	91.2	79.9	65.2	42.8		
Using basic arithmetic formulas in a spreadsheet	78.1	81.1	83.9	81.6	73.4	66.6	62.4	34.9	28.2	20.2		
Connecting and installing new devices	87.6	90.8	91.0	89.4	89.4	84.0	75.6	57.0	38.6	26.9		
Searching, downloading, installing and configuring software	86.7	89.4	89.1	86.3	82.4	70.6	58.5	45.2	28.3	20.8		
Creating electronic presentations using computer software	86.4	83.2	80.8	74.6	70.0	53.2	38.1	34.8	25.9	16.2		
Transferring files between a computer and other devices	90.4	92.7	92.7	92.5	92.0	85.9	77.0	71.8	48.7	38.8		
Writing a computer program using a specialised programming language	47.4	54.5	33.0	18.2	15.9	9.3	9.0	7.6	6.1	4.3		

Table D2.8: Percentage of Individuals Using the Internet by State and Strata, Malaysia, 2023

State	Total	Urban	Rural	(%)
MALAYSIA	97.7	98.6	95.0	
Johor	98.6	99.2	96.6	
Kedah	96.9	97.8	95.1	
Kelantan	96.6	97.9	95.6	
Melaka	98.0	98.1	97.5	
Negeri Sembilan	98.4	99.6	95.7	
Pahang	97.0	97.9	96.0	
Pulau Pinang	99.0	99.2	96.8	
Perak	96.3	96.6	95.6	
Perlis	96.0	96.4	95.6	
Selangor	98.8	98.9	96.9	
Terengganu	97.2	97.3	97.1	
Sabah	97.2	98.2	95.9	
Sarawak	94.2	98.6	88.3	
W.P. Kuala Lumpur	99.9	99.9	n.a.	
W.P. Labuan	97.4	98.3	86.6	
W.P. Putrajaya	99.9	99.9	n.a.	

Table D2.9: Percentage of Individuals Using the Internet by State and Sex, Malaysia, 2023

State	Total	Male	Female	(%)
MALAYSIA	97.7	98.2	97.2	
Johor	98.6	98.9	98.2	
Kedah	96.9	97.5	96.3	
Kelantan	96.6	97.4	95.8	
Melaka	98.0	98.3	97.8	
Negeri Sembilan	98.4	98.8	98.1	
Pahang	97.0	97.6	96.2	
Pulau Pinang	99.0	99.4	98.6	
Perak	96.3	97.2	95.3	
Perlis	96.0	97.0	95.1	
Selangor	98.8	99.0	98.5	
Terengganu	97.2	98.1	96.3	
Sabah	97.2	97.4	96.9	
Sarawak	94.2	94.8	93.5	
W.P. Kuala Lumpur	99.9	100.0	99.7	
W.P. Labuan	97.4	98.7	96.0	
W.P. Putrajaya	99.9	99.7	100.0	

Table D2.10: Percentage of Individuals Using the Internet by Strata and Sex, Malaysia, 2023

(%)

Sex	Total	Urban	Rural
Total	97.7	98.6	95.0
Male	98.2	98.9	95.8
Female	97.2	98.2	94.0

Table D2.11: Percentage of Individuals Using the Internet by State, Type of Portable Devices Used and Strata, Malaysia, 2023

State	(%)										
	Mobile phone			Tablet			Portable computer			Other portable devices	
	Total	Urban	Rural	Total	Urban	Rural	Total	Urban	Rural	Total	Rural
MALAYSIA	99.0	99.0	98.8	26.5	29.2	18.1	38.7	42.7	26.0	13.5	6.8
Johor	99.4	99.4	99.6	23.5	23.4	24.1	44.7	46.1	40.3	14.5	12.8
Kedah	99.7	99.8	99.6	20.3	24.3	11.9	30.0	35.0	19.5	5.6	3.2
Kelantan	97.7	97.4	98.0	21.0	27.7	15.5	31.1	36.0	27.1	2.6	1.7
Melaka	98.9	98.8	99.8	21.7	23.0	10.4	30.8	32.0	20.3	5.8	2.4
Negeri Sembilan	99.8	99.9	99.5	21.7	24.4	15.0	31.5	35.7	21.1	2.2	1.7
Pahang	98.6	99.5	97.7	23.2	29.5	15.9	32.3	37.8	25.9	3.4	2.2
Pulau Pinang	99.6	99.6	99.9	32.0	32.3	28.3	44.1	44.7	36.3	5.9	4.0
Perak	99.1	99.4	98.1	17.7	17.6	17.7	36.8	37.9	33.8	23.0	17.0
Perlis	91.2	92.5	89.7	34.5	38.8	29.2	26.9	31.3	21.5	18.7	16.8
Selangor	99.4	99.4	98.8	37.4	37.7	30.7	50.0	50.4	42.3	25.5	21.7
Terengganu	99.4	99.6	99.1	28.5	26.3	32.2	24.6	25.5	23.2	3.4	2.8
Sabah	99.5	99.4	99.6	16.9	19.0	14.3	25.2	30.2	19.0	11.0	5.8
Sarawak	99.2	99.2	99.2	19.4	21.7	16.0	29.8	37.5	18.2	6.6	4.5
W.P. Kuala Lumpur	95.6	95.6	n.a.	38.1	38.1	n.a.	50.4	50.4	n.a.	15.8	n.a.
W.P. Labuan	93.5	94.7	76.7	35.3	35.3	35.1	72.6	77.0	13.0	10.4	4.0
W.P. Putrajaya	98.0	98.0	n.a.	56.7	56.7	n.a.	75.0	75.0	n.a.	22.2	n.a.

Table D2.12: Percentage of Individuals Using the Internet by State and Type of Activity, Malaysia, 2023

State	Access to Information			Professional	
	Finding information about goods/ services	Reading newspaper/ magazines online	Applying for jobs	Participating in professional networks	Work from home
MALAYSIA	92.8	68.9	36.3	12.2	16.4
Johor	98.1	67.3	35.0	10.2	8.9
Kedah	94.3	71.4	31.9	5.5	4.5
Kelantan	90.7	67.7	39.2	3.0	5.3
Melaka	94.9	71.6	35.2	5.1	4.8
Negeri Sembilan	91.6	67.2	40.9	10.4	6.1
Pahang	91.1	69.9	35.9	4.0	5.6
Pulau Pinang	96.2	74.9	33.1	11.9	20.6
Perak	96.3	72.9	35.3	2.5	19.5
Perlis	78.2	56.6	29.6	3.9	6.0
Selangor	98.3	72.6	32.9	20.8	29.1
Terengganu	97.7	71.2	36.0	24.8	19.4
Sabah	78.5	56.2	45.9	10.7	13.7
Sarawak	80.1	56.6	39.7	11.7	18.1
W.P. Kuala Lumpur	94.4	80.3	36.6	19.8	22.4
W.P. Labuan	96.8	82.9	36.6	7.2	15.0
W.P. Putrajaya	96.9	89.6	30.5	16.2	28.1

Note.

Refer to technical notes page 155 - 157 for detailed activities

Table D2.12: Percentage of Individuals Using the Internet by State and Type of Activity, Malaysia, 2023 (cont'd)

State	Communication							(%)
	Participating in social networks	Sending e-mail	Telephoning over the Internet	Uploading content to a website	Managing personal homepage	Managing blog	Accessing online discussion	
MALAYSIA	99.4	82.0	85.9	18.4	10.9	6.1	39.7	
Johor	99.2	80.5	85.3	22.4	4.5	6.3	34.8	
Kedah	99.4	86.3	88.2	16.8	0.9	1.1	22.7	
Kelantan	99.6	79.3	90.0	26.7	6.2	3.4	36.5	
Melaka	99.4	83.8	88.0	19.0	2.4	2.5	47.9	
Negeri Sembilan	99.6	78.2	87.9	21.3	7.7	7.9	43.2	
Pahang	99.0	81.4	87.9	15.4	2.2	2.4	29.3	
Pulau Pinang	99.7	76.8	83.0	15.5	17.1	5.1	27.5	
Perak	98.6	72.8	78.7	15.8	17.8	5.1	28.2	
Perlis	99.2	78.2	82.1	9.0	0.8	1.3	32.5	
Selangor	99.3	88.5	85.8	23.7	15.7	11.8	52.7	
Terengganu	99.5	91.8	90.5	9.1	11.0	1.1	19.4	
Sabah	99.6	78.3	92.9	10.5	14.7	3.4	38.4	
Sarawak	99.6	74.5	74.1	4.0	2.0	2.0	36.1	
W.P. Kuala Lumpur	99.8	86.2	87.1	28.7	23.0	10.3	66.9	
W.P. Labuan	99.6	85.1	98.4	24.2	30.6	23.1	34.8	
W.P. Putrajaya	99.9	98.2	98.0	22.9	21.8	10.8	65.3	

Note.

Refer to technical notes page 155 - 157 for detailed activities

Table D2.12: Percentage of Individuals Using the Internet by State and Type of Activity, Malaysia, 2023 (cont'd)

State	Other Online Services							(%)
	Performing tasks to generate income	Using services related to travel/accommodation	Selling goods/services other than e-Commerce	Ordering goods/services online other than e-Commerce	Using Internet banking	Using software for editing texts	Downloading software/applications	
MALAYSIA	15.9	37.0	14.9	50.8	75.2	36.3	89.6	
Johor	16.4	38.5	13.2	53.5	76.0	33.9	85.9	
Kedah	12.5	19.6	11.7	47.0	74.1	26.0	97.1	
Kelantan	12.8	23.4	12.2	38.7	67.2	25.0	85.8	
Melaka	16.3	24.4	18.2	51.5	74.7	27.9	85.4	
Negeri Sembilan	18.0	18.5	10.4	47.1	73.5	46.4	93.7	
Pahang	13.2	30.6	11.1	40.7	74.0	22.0	85.6	
Pulau Pinang	10.7	36.2	9.0	53.2	78.9	32.5	86.7	
Perak	14.4	32.4	13.8	41.3	68.5	33.2	80.4	
Perlis	7.0	25.8	9.5	41.1	54.0	13.3	72.6	
Selangor	18.7	53.3	22.5	68.8	90.0	56.5	95.2	
Terengganu	21.9	49.7	24.0	70.8	83.6	38.3	90.2	
Sabah	12.3	30.7	13.1	40.8	53.4	23.5	98.1	
Sarawak	12.6	25.1	11.9	25.5	60.4	24.4	84.7	
W.P. Kuala Lumpur	25.1	52.6	10.4	50.8	86.3	42.9	83.7	
W.P. Labuan	30.0	34.1	10.9	39.3	87.6	22.2	50.5	
W.P. Putrajaya	22.5	34.0	17.0	73.3	91.3	43.0	96.2	

Note.

Refer to technical notes page 155 - 157 for detailed activities

Table D2.12: Percentage of Individuals Using the Internet by State and Type of Activity, Malaysia, 2023 (cont'd)

State	Learning Activities			Entertainment			(%)
	Doing a formal online course	Consulting websites for formal learning purposes	Doing an informal online course	Listening to radio online	Watching television online	Downloading pictures/ movie/ games	
MALAYSIA	27.0	53.3	26.7	73.1	68.4	93.9	
Johor	23.3	53.4	22.9	80.5	65.2	93.2	
Kedah	20.2	49.3	18.1	79.6	68.5	98.0	
Kelantan	21.7	39.6	23.3	67.6	63.6	91.5	
Melaka	22.6	58.1	22.6	79.3	78.3	95.5	
Negeri Sembilan	23.1	48.9	19.8	79.4	70.9	96.4	
Pahang	22.6	49.7	22.2	65.1	59.3	88.9	
Pulau Pinang	16.8	56.4	16.5	82.6	89.0	93.4	
Perak	24.4	46.6	30.8	61.2	68.1	87.3	
Perlis	21.8	43.2	26.6	71.8	35.5	86.5	
Selangor	38.3	63.5	40.4	78.1	71.8	97.4	
Terengganu	44.4	53.5	38.7	96.9	79.3	97.7	
Sabah	20.6	46.4	18.2	54.5	57.4	95.6	
Sarawak	21.2	48.4	12.9	56.9	69.1	86.8	
W.P. Kuala Lumpur	33.6	58.3	34.7	79.7	65.8	94.1	
W.P. Labuan	18.2	61.2	14.2	86.2	53.9	99.7	
W.P. Putrajaya	32.0	68.1	21.1	97.0	82.5	98.5	

Note.

Refer to technical notes page 155 - 157 for detailed activities

Table D2.12: Percentage of Individuals Using the Internet by State and Type of Activity, Malaysia, 2023 (cont'd)

State	Storage Space		e-Health		e-Government		(%)
	Using storage space on the internet		Seeking health information	Making a medical appointment	Getting information from government organisations	Interacting with government organisations	
MALAYSIA	51.8		62.9	32.3	55.4	38.7	
Johor	52.3		66.1	25.3	67.7	47.8	
Kedah	51.7		68.3	17.4	85.0	46.3	
Kelantan	41.9		51.3	20.1	39.8	29.6	
Melaka	45.6		54.9	18.8	56.5	30.8	
Negeri Sembilan	56.0		53.3	23.3	44.5	28.7	
Pahang	41.4		52.0	17.9	35.6	30.6	
Pulau Pinang	47.4		58.1	21.8	59.9	44.4	
Perak	56.0		63.2	28.1	52.1	43.2	
Perlis	26.5		47.0	10.0	46.8	35.7	
Selangor	58.4		66.3	49.9	54.8	42.6	
Terengganu	49.7		71.5	65.0	64.2	69.9	
Sabah	46.4		76.8	42.1	57.6	24.7	
Sarawak	51.7		45.9	24.8	32.8	21.3	
W.P. Kuala Lumpur	56.2		64.3	24.4	55.1	38.9	
W.P. Labuan	28.3		49.3	24.0	48.8	40.0	
W.P. Putrajaya	77.9		82.0	15.6	62.2	56.7	

Note.

Refer to technical notes page 155 - 157 for detailed activities

Table D2.12: Percentage of Individuals Using the Internet by State and Type of Activity, Malaysia, 2023 (cont'd)

State	Civic and Politics		e-Commerce		Safety, Online Protection and Awareness	
	Posting opinions/ voting	Purchasing goods/ services via e-Commerce	Selling goods/ services via e-Commerce	Owning online security software and protection		
MALAYSIA	43.7	70.6	8.7	75.2		
Johor	43.8	69.9	8.4	84.0		
Kedah	30.4	76.0	6.9	71.6		
Kelantan	51.9	66.3	5.1	77.8		
Melaka	58.2	78.1	3.9	80.6		
Negeri Sembilan	30.6	73.4	3.6	67.2		
Pahang	35.1	71.9	3.1	73.3		
Pulau Pinang	43.6	67.0	6.0	87.8		
Perak	26.9	55.2	6.3	73.2		
Perlis	27.7	52.9	4.8	68.2		
Selangor	62.1	88.0	14.8	79.6		
Terengganu	72.3	82.3	5.2	73.0		
Sabah	25.2	48.8	8.4	58.7		
Sarawak	36.6	48.5	6.3	59.4		
W.P. Kuala Lumpur	37.3	80.2	12.9	86.8		
W.P. Labuan	44.2	93.1	25.0	60.2		
W.P. Putrajaya	50.3	97.0	5.8	94.0		

Note.

Refer to technical notes page 155 - 157 for detailed activities

Table D2.12: Percentage of Individuals Using the Internet by State and Type of Activity, Malaysia, 2023 (cont'd)

State	Safety, Online Protection and Awareness				Cyber crime awareness
	Verifying the reliability of information found online	Setting up effective measure to protect devices and online accounts	Changing privacy settings on your devices, accounts or app		
MALAYSIA	29.0	79.6	78.3		65.7
Johor	25.5	87.2	83.4		64.3
Kedah	28.1	79.0	76.7		68.0
Kelantan	25.1	79.1	77.4		66.7
Melaka	24.3	82.1	79.4		57.6
Negeri Sembilan	27.0	66.5	63.7		59.1
Pahang	25.1	69.1	75.5		57.0
Pulau Pinang	38.2	89.8	80.2		63.5
Perak	29.1	78.2	77.1		68.0
Perlis	26.6	73.2	66.4		63.7
Selangor	36.7	84.0	83.2		70.2
Terengganu	26.5	69.0	74.7		67.6
Sabah	19.9	73.5	78.1		64.4
Sarawak	20.9	71.7	65.2		65.1
W.P. Kuala Lumpur	37.1	82.5	81.1		65.7
W.P. Labuan	25.0	80.6	77.4		65.7
W.P. Putrajaya	37.7	92.4	84.4		61.1

Note.

Refer to technical notes page 155 - 157 for detailed activities

Table D2.13: Percentage of Individuals Using the Internet by Sex and Type of Activity, Malaysia, 2023

Sex	Total	Access to Information			Professional		
		Finding information about goods/ services	Reading newspaper/ magazines online	Applying for jobs	Participating in professional networks	Work from home	(%)
Total	97.7	92.8	68.9	36.3	12.2	16.4	
Male	98.2	93.0	68.9	36.0	12.1	17.0	
Female	97.2	92.5	68.8	36.7	12.3	15.8	

Note.

Refer to technical notes page 155 - 157 for detailed activities

Table D2.13: Percentage of Individuals Using the Internet by Sex and Type of Activity, Malaysia, 2023 (cont'd)

Sex	Communication						(%)
	Participating in social networks	Sending e-mail	Telephoning over the Internet	Uploading content to a website	Managing personal homepage	Managing blog	
Total	99.4	82.0	85.9	18.4	10.9	6.1	39.7
Male	99.5	82.4	86.4	19.0	11.4	6.2	40.6
Female	99.2	81.5	85.3	17.8	10.3	6.0	38.8

Note.

Refer to technical notes page 155 - 157 for detailed activities

Table D2.13: Percentage of Individuals Using the Internet by Sex and Type of Activity, Malaysia, 2023 (cont'd)

Sex	Other Online Services							(%)
	Performing tasks to generate Income	Using services related to travel/accommodation	Selling goods/services other than e-Commerce	Ordering goods/services online other than e-Commerce	Using Internet Banking	Using software for editing texts	Downloading software/applications	
Total	15.9	37.0	14.9	50.8	75.2	36.3	89.6	
Male	15.2	37.7	13.8	49.7	76.2	36.4	90.2	
Female	16.7	36.2	16.3	52.1	74.0	36.2	88.9	

Note.

Refer to technical notes page 155 - 157 for detailed activities

Table D2.13: Percentage of Individuals Using the Internet by Sex and Type of Activity, Malaysia, 2023 (cont'd)

Sex	(%)					
	Learning Activities			Entertainment		
	Doing a formal online course	Consulting websites for formal learning purposes	Doing an informal online course	Listening to radio online	Watching television online	Downloading pictures/ movie/ games
Total	27.0	53.3	26.7	73.1	68.4	93.9
Male	27.6	55.3	27.2	74.1	68.8	94.6
Female	26.3	51.1	26.1	72.0	68.0	93.1

Note.

Refer to technical notes page 155 - 157 for detailed activities

Table D2.13: Percentage of Individuals Using the Internet by Sex and Type of Activity, Malaysia, 2023 (cont'd)

Sex	Storage Space	e-Health			e-Government	
		Using storage space on the Internet	Seeking health information	Making a medical appointment	Getting information from government organisations	Interacting with government organisations
Total	51.8	62.9	32.3	55.4	38.7	
Male	52.5	62.5	33.2	54.6	38.9	
Female	51.0	63.4	31.2	56.2	38.5	

Note.

Refer to technical notes page 155 - 157 for detailed activities

Table D2.13: Percentage of Individuals Using the Internet by Sex and Type of Activity, Malaysia, 2023 (cont'd)

Sex	(%)			
	Civic and Politics		e-Commerce	
	Posting opinions/ voting	Purchasing goods/ services via e-Commerce	Selling goods/ services via e-Commerce	Safety, Online Protection and Awareness
Total	43.7	70.6	8.7	75.2
Male	44.2	70.7	8.9	75.9
Female	43.0	70.6	8.6	74.4

Note.

Refer to technical notes page 155 - 157 for detailed activities

Table D2.13: Percentage of Individuals Using the Internet by Sex and Type of Activity, Malaysia, 2023 (cont'd)

Sex	Safety, Online Protection and Awareness				(%)
	Verifying the reliability of information found online	Setting up effective measure to protect devices and online accounts	Changing privacy settings on your devices, account or app	Cyber crime awareness	
Total	29.0	79.6	78.3	65.7	
Male	29.9	82.1	80.0	66.9	
Female	28.0	76.8	76.3	64.4	

Note.

Refer to technical notes page 155 - 157 for detailed activities

Table D2.14: Percentage of Individuals Using the Internet by Age Group and Type of Activity, Malaysia, 2023

Age Group		Total	Access to Information		Professional		(%)
			Finding information about goods/ services	Reading newspaper/ magazines online	Applying for jobs	Participating in professional networks	Work from home
Total		97.7	92.8	68.9	36.3	12.2	16.4
15 - 19		99.1	84.9	61.1	33.4	4.7	4.4
20 - 24		99.6	96.2	71.6	63.7	13.6	14.6
25 - 29		99.6	96.1	71.6	74.3	14.3	21.9
30 - 34		99.6	96.2	75.6	42.1	33.7	37.5
35 - 39		99.6	97.5	77.5	34.3	10.1	15.5
40 - 44		99.5	96.6	78.1	29.8	11.0	19.5
45 - 49		99.3	94.7	72.3	24.5	11.6	17.1
50 - 54		99.0	92.8	69.0	11.9	7.9	12.1
55 - 59		98.6	91.5	64.6	11.6	4.7	9.7
60+		86.9	81.4	47.5	9.9	3.5	6.5

Note.

Refer to technical notes page 155 - 157 for detailed activities

Table D2.14: Percentage of Individuals Using the Internet by Age Group and Type of Activity, Malaysia, 2023 (cont'd)

Age Group	Communication						(%)
	Participating in social network	Sending e-mail	Telephoning over the Internet	Uploading content to a website	Managing personal homepage	Managing blog	Accessing online discussion
Total	99.4	82.0	85.9	18.4	10.9	6.1	39.7
15 - 19	99.8	76.9	87.4	18.3	10.3	5.7	34.0
20 - 24	99.9	89.2	92.5	23.2	16.4	11.6	40.6
25 - 29	100.0	91.0	90.6	20.4	15.2	7.3	35.9
30 - 34	99.9	91.4	90.0	23.5	16.7	3.1	40.9
35 - 39	99.9	91.9	90.0	23.6	18.5	9.0	40.0
40 - 44	99.9	89.3	89.1	21.2	5.7	7.4	54.8
45 - 49	99.8	85.6	88.2	18.8	5.3	6.1	54.3
50 - 54	99.1	80.3	86.2	15.7	4.4	5.6	49.8
55 - 59	99.4	76.3	83.9	10.1	3.6	4.3	33.6
60+	96.1	46.9	61.5	4.9	3.5	0.3	21.8

Note.

Refer to technical notes page 155 - 157 for detailed activities

Table D2.14: Percentage of Individuals Using the Internet by Age Group and Type of Activity, Malaysia, 2023 (cont'd)

(%)

Age Group	Other Online Services						
	Performing tasks to generate income	Using services related to travel/ accommodation	Selling goods/ services other than e-Commerce	Ordering goods/ services online other than e-Commerce	Using Internet banking	Using software for editing texts	Downloading software/ applications
Total	15.9	37.0	14.9	50.8	75.2	36.3	89.6
15 - 19	12.8	17.3	6.4	38.0	42.6	26.3	93.2
20 - 24	19.3	40.1	19.8	48.8	84.8	45.2	96.6
25 - 29	18.8	46.5	21.5	47.8	87.3	50.1	96.3
30 - 34	20.5	48.4	19.0	56.3	86.9	53.2	94.9
35 - 39	19.0	48.0	18.6	63.0	88.1	41.1	94.6
40 - 44	16.2	49.2	15.0	64.4	86.5	40.4	93.0
45 - 49	16.3	45.6	15.3	63.9	83.7	32.8	91.2
50 - 54	15.2	31.4	14.4	53.6	76.3	28.2	84.2
55 - 59	12.8	25.7	10.7	45.3	70.0	21.4	81.7
60+	6.5	13.1	6.0	31.1	45.8	12.0	65.6

Note.

Refer to technical notes page 155 - 157 for detailed activities

Table D2.14: Percentage of Individuals Using the Internet by Age Group and Type of Activity, Malaysia, 2023 (cont'd)

(%)

Age Group	Learning Activities			Entertainment		
	Doing a formal online course	Consulting websites for formal learning purposes		Listening to radio online	Watching television online	Downloading pictures/ movie/ games
		Doing an informal online course				
Total	27.0	53.3	26.7	73.1	68.4	93.9
15 - 19	28.8	67.4	25.1	71.5	67.9	98.2
20 - 24	51.9	75.2	28.3	75.5	77.3	98.7
25 - 29	40.4	78.4	22.5	73.9	74.4	98.5
30 - 34	26.1	70.9	45.8	81.9	72.1	97.8
35 - 39	26.6	64.2	44.2	81.7	72.4	98.0
40 - 44	25.5	34.2	22.6	77.8	74.2	96.7
45 - 49	22.2	35.6	22.9	77.1	69.3	94.2
50 - 54	15.4	28.9	16.5	75.8	64.6	91.9
55 - 59	13.4	27.3	14.4	62.4	58.1	87.6
60+	6.3	19.8	11.5	51.3	48.4	74.5

Note.

Refer to technical notes page 155 - 157 for detailed activities

Table D2.14: Percentage of Individuals Using the Internet by Age Group and Type of Activity, Malaysia, 2023 (cont'd)

Age Group	e-Health			e-Government	
	Storage Space Using storage space on the internet	Seeking health information	Making a medical appointment	Getting information from government organisations	Interacting with government organisations
Total	51.8	62.9	32.3	55.4	38.7
15 - 19	47.9	41.7	14.0	39.4	23.2
20 - 24	65.4	56.4	21.0	54.1	35.3
25 - 29	67.1	61.1	24.2	53.9	35.9
30 - 34	61.5	66.3	30.3	54.6	36.9
35 - 39	57.1	70.4	37.0	59.9	44.7
40 - 44	55.4	72.6	39.6	64.0	48.4
45 - 49	51.7	71.4	40.2	61.6	46.4
50 - 54	40.3	69.8	46.1	55.6	43.5
55 - 59	34.7	69.5	42.5	57.4	44.2
60+	23.5	59.1	41.3	56.3	36.5

Note.

Refer to technical notes page 155 - 157 for detailed activities

Table D2.14: Percentage of Individuals Using the Internet by Age Group and Type of Activity, Malaysia, 2023 (cont'd)

Age Group	Civic and Politics				e-Commerce		Safety, Online Protection and Awareness	
	Posting opinions/ voting		Purchasing goods/ services via e-Commerce		Selling goods/ services via e-Commerce		Owning online security software and protection	
Total	43.7		70.6		8.7		75.2	
15 - 19	26.6		47.1		4.4		79.0	
20 - 24	41.5		80.3		14.1		86.4	
25 - 29	43.9		83.0		12.6		85.2	
30 - 34	44.7		83.1		11.1		84.6	
35 - 39	38.6		85.1		10.7		84.3	
40 - 44	49.8		82.2		8.7		82.3	
45 - 49	53.8		80.2		7.4		82.3	
50 - 54	52.9		68.9		6.2		72.7	
55 - 59	50.8		56.8		5.8		57.0	
60+	44.7		35.3		3.1		32.5	

Note.

Refer to technical notes page 155 - 157 for detailed activities

Table D2.14: Percentage of Individuals Using the Internet by Age Group and Type of Activity, Malaysia, 2023 (cont'd)

(%)

Age Group	Safety, Online Protection and Awareness			
	Verifying the reality of information found online	Setting up effective measure to protect devices and online accounts	Changing privacy settings on your devices, account or app	Cyber crime awareness
Total	29.0	79.6	78.3	65.7
15 - 19	24.9	64.5	76.7	50.6
20 - 24	32.6	91.2	85.7	67.0
25 - 29	40.8	90.3	89.5	65.2
30 - 34	44.1	87.1	87.5	69.0
35 - 39	30.5	88.1	88.3	69.9
40 - 44	27.4	87.1	86.8	75.4
45 - 49	25.3	85.7	82.5	75.3
50 - 54	25.8	80.3	77.2	70.5
55 - 59	23.1	70.3	68.9	63.5
60+	9.6	49.8	37.5	55.2

Note.

Refer to technical notes page 155 - 157 for detailed activities

Table D3.1: Percentage of Households with Access to ICT Services and Equipment by State and Administrative District, Malaysia, 2023

State	Internet	Computer	Mobile phone	Pay TV channel	Television	Radio	Fixed-line telephone
JOHOR	98.8	92.6	99.5	82.8	99.7	99.9	30.5
Batu Pahat	98.9	92.7	99.2	85.5	100.0	100.0	26.1
Johor Bahru	99.4	95.1	99.7	84.4	100.0	100.0	31.4
Kluang	97.0	88.3	99.4	69.4	99.0	99.7	28.8
Kota Tinggi	98.7	90.2	99.6	83.3	99.6	100.0	20.2
Mersing	96.9	88.0	99.2	69.8	99.5	100.0	35.5
Muar	98.2	91.4	99.3	82.5	99.3	99.7	40.4
Pontian	98.2	90.1	99.1	84.0	99.5	100.0	30.5
Segamat	97.5	89.8	99.0	81.2	99.5	99.5	20.4
Kulai	98.8	90.8	99.6	83.4	99.3	100.0	36.1
Tangkak	98.1	89.1	99.5	89.0	99.5	100.0	34.4
KEDAH	95.9	86.5	99.4	57.7	99.4	99.7	16.0
Baling	93.9	83.3	99.6	51.9	99.4	99.4	9.9
Bandar Baharu	94.1	83.0	99.1	70.2	99.5	100.0	8.7
Kota Setar	99.0	89.1	99.6	72.1	99.4	99.4	19.3
Kuala Muda	95.4	87.4	99.4	55.4	99.4	100.0	13.6
Kubang Pasu	94.5	85.1	99.3	61.3	99.6	99.6	21.2
Kulim	96.3	88.2	99.4	53.2	99.4	100.0	24.6

Table D3.1: Percentage of Households with Access to ICT Services and Equipment by State and Administrative District, Malaysia, 2023 (cont'd)

State	Internet	Computer	Mobile phone	Pay TV channel	Television	Radio	Fixed-line telephone
Langkawi	97.6	91.5	99.4	57.1	99.4	100.0	12.2
Padang Terap	93.3	75.8	99.6	52.9	99.6	99.6	15.2
Sik	93.1	81.1	99.4	55.9	99.4	99.4	6.2
Yan	95.8	85.1	99.1	43.0	98.6	100.0	5.2
Pendang	95.3	82.8	99.1	43.7	99.4	98.7	7.9
Pokok Sena	94.8	83.6	98.1	47.7	99.0	99.6	14.9
KELANTAN	94.6	87.7	99.2	57.1	99.1	99.7	16.4
Bachok	95.6	82.8	99.0	54.9	99.5	99.5	13.2
Kota Bharu	96.0	89.8	99.3	52.5	99.7	99.7	18.5
Machang	90.5	87.5	99.0	62.4	99.0	100.0	13.9
Pasir Mas	92.5	87.3	99.1	54.8	99.0	99.6	24.6
Pasir Puteh	93.9	89.3	99.5	54.2	98.0	99.5	26.6
Tanah Merah	94.5	88.0	98.6	58.8	98.2	100.0	6.1
Tumpat	93.5	88.2	99.6	60.5	98.9	99.6	10.7
Gua Musang	95.2	88.3	99.6	69.8	99.2	100.0	14.2
Kuala Krai	95.7	89.8	98.5	67.1	99.3	100.0	16.4
Jeli	95.2	83.2	99.4	57.5	98.8	100.0	4.2
Lojing	95.5	18.2	95.5	63.6	95.5	95.5	0.0

Table D3.1: Percentage of Households with Access to ICT Services and Equipment by State and Administrative District, Malaysia, 2023 (cont'd)

State	Internet	Computer	Mobile phone	Pay TV channel	Television	Radio	Fixed-line telephone
MELAKA	96.3	91.8	99.6	82.1	99.9	99.7	53.4
Alor Gajah	95.8	92.3	99.4	86.2	100.0	99.5	51.6
Jasin	96.3	92.2	99.0	82.6	99.4	99.4	54.4
Melaka Tengah	96.6	91.5	99.8	80.3	100.0	99.8	53.9
NEGERI SEMBILAN	96.0	85.8	99.3	77.4	99.7	99.6	48.6
Jelebu	88.9	73.4	98.6	76.8	99.5	97.6	36.7
Kuala Pilah	95.7	79.3	98.1	77.7	99.7	99.7	39.0
Port Dickson	98.4	86.6	99.7	81.6	100.0	100.0	55.5
Rembau	92.0	78.3	98.6	70.3	99.5	100.0	29.7
Seremban	97.6	89.0	99.7	77.1	99.8	99.6	52.7
Tampin	93.3	82.8	97.9	81.5	99.3	99.6	45.0
Jempol	89.8	78.3	98.9	74.3	99.7	99.4	35.3
PAHANG	95.4	88.1	99.1	77.1	99.1	99.7	21.8
Bentong	93.0	91.1	100.0	82.4	99.6	100.0	20.5
Cameron Highlands	94.8	92.4	99.6	72.4	97.9	100.0	17.0
Jerantut	98.0	89.2	99.6	75.0	99.2	99.2	28.1
Kuantan	96.8	93.9	98.8	76.1	99.5	100.0	24.2
Lipis	91.3	80.7	99.5	82.1	98.9	99.1	12.4

Table D3.1: Percentage of Households with Access to ICT Services and Equipment by State and Administrative District, Malaysia, 2023 (cont'd)

State	Internet	Computer	Mobile phone	Pay TV channel	Television	Radio	Fixed-line telephone
Pekan	94.2	88.5	98.7	77.3	96.7	99.2	25.2
Raub	91.7	82.3	100.0	76.3	99.5	99.6	34.2
Temerloh	97.0	86.9	99.1	76.4	99.4	99.4	20.0
Rompin	95.0	78.5	99.3	75.9	99.1	100.0	7.2
Maran	92.1	81.1	99.4	83.1	99.4	99.4	14.0
Bera	95.9	77.4	98.7	74.2	99.0	99.0	24.6
PULAU PINANG	99.3	95.9	99.8	81.5	99.8	99.9	29.3
Seberang Prai Tengah	99.7	93.5	100.0	78.0	99.0	100.0	30.8
Seberang Prai Utara	99.1	91.2	99.0	68.5	100.0	100.0	37.7
Seberang Prai Selatan	99.4	96.1	100.0	81.3	100.0	100.0	18.8
Timur Laut	99.3	98.9	100.0	87.1	100.0	100.0	30.8
Barat Daya	98.9	97.9	100.0	89.1	100.0	99.4	21.8
PERAK	95.0	91.0	99.3	76.3	99.5	97.9	20.1
Batang Padang	89.6	96.8	100.0	66.8	100.0	99.3	35.1
Manjung	96.2	86.1	96.8	74.9	99.7	98.9	22.2
Kinta	97.9	96.8	100.0	78.9	99.4	98.7	15.7
Kerian	93.1	89.7	99.0	70.1	99.3	97.7	7.6
Kuala Kangsar	97.1	83.8	99.6	72.8	100.0	96.0	16.2

Table D3.1: Percentage of Households with Access to ICT Services and Equipment by State and Administrative District, Malaysia, 2023 (cont'd)

State	Internet	Computer	Mobile phone	Pay TV channel	Television	Radio	Fixed-line telephone
Larut Dan Matang	95.5	81.0	99.3	70.8	99.7	96.3	14.3
Hilir Perak	91.5	80.8	96.6	83.5	99.7	97.5	36.6
Hulu Perak	88.0	97.4	99.6	68.3	99.3	98.2	23.8
Perak Tengah	98.8	89.2	99.6	85.6	99.2	98.1	29.0
Kampar	92.7	93.1	100.0	65.7	99.2	96.3	16.7
Muallim	79.9	86.8	99.1	94.2	100.0	95.2	54.2
Bagan Datuk	88.8	86.0	98.8	88.1	99.4	97.5	36.6
Selama	93.2	100.0	100.0	69.9	97.3	95.9	8.2
PERLIS	95.6	89.3	99.6	78.0	99.1	99.9	34.6
SELANGOR	99.2	95.9	99.6	84.8	99.9	99.6	29.2
Gombak	99.2	94.3	100.0	95.2	100.0	99.6	34.5
Klang	99.3	88.2	98.9	70.0	99.6	99.6	15.7
Kuala Langat	98.9	90.1	100.0	83.6	100.0	99.3	29.6
Kuala Selangor	97.4	92.3	98.7	68.2	99.4	99.4	27.6
Petaling	99.7	99.0	99.7	81.4	100.0	99.7	28.7
Sabak Bernam	97.3	98.7	96.8	66.9	99.6	98.5	27.3
Sepang	98.2	98.0	100.0	96.3	99.8	99.8	34.4
Hulu Langat	99.3	98.2	100.0	95.2	100.0	99.5	35.8
Hulu Selangor	98.8	97.6	99.2	89.5	98.4	98.9	25.1

Table D3.1: Percentage of Households with Access to ICT Services and Equipment by State and Administrative District, Malaysia, 2023 (cont'd)

State	Internet	Computer	Mobile phone	Pay TV channel	Television	Radio	Fixed-line telephone
TERENGGANU	94.6	89.8	98.5	70.0	99.6	99.7	23.5
Besut	96.7	86.9	97.4	72.2	99.7	100.0	20.3
Dungun	98.1	93.8	100.0	60.8	99.4	100.0	24.7
Kemaman	96.6	89.9	99.2	70.2	99.7	100.0	19.4
Kuala Terengganu	99.0	92.3	98.4	69.8	99.6	100.0	24.9
Marang	95.0	87.9	98.6	70.1	99.3	99.3	30.2
Hulu Terengganu	90.6	84.4	97.2	79.3	99.1	99.5	21.3
Setiu	88.0	86.7	98.7	78.1	99.6	99.6	17.2
Kuala Nerus	81.1	90.3	97.6	70.2	99.7	98.7	28.5
SABAH	90.4	83.8	99.4	66.3	97.6	97.9	17.7
Tawau	93.0	94.2	100.0	65.9	98.1	99.2	7.8
Lahad Datu	91.1	84.8	100.0	85.7	99.5	100.0	9.6
Semporna	86.2	77.4	100.0	76.3	99.1	99.0	14.4
Sandakan	93.4	90.0	100.0	38.4	96.2	98.8	17.4
Kinabatangan	63.9	36.7	96.5	33.0	98.0	96.4	6.5
Beluran	65.3	69.4	100.0	34.7	96.8	96.8	4.8
Kota Kinabalu	97.4	92.0	99.6	82.8	97.7	99.0	35.0
Ranau	80.8	93.8	99.3	68.5	100.0	98.6	28.5

Table D3.1: Percentage of Households with Access to ICT Services and Equipment by State and Administrative District, Malaysia, 2023 (cont'd)

State	Internet	Computer	Mobile phone	Pay TV channel	Television	Radio	Fixed-line telephone
Kota Belud	87.0	90.0	99.0	70.8	99.5	96.4	14.4
Tuaran	88.8	88.1	100.0	88.6	98.5	97.0	4.6
Penampang	98.2	91.1	99.1	73.1	98.5	97.9	17.8
Papar	95.0	89.1	100.0	83.7	95.9	96.8	29.9
Kudat	83.7	72.6	98.1	45.9	97.6	97.7	23.4
Kota Marudu	80.9	74.2	98.6	57.1	94.0	94.9	17.4
Pitas	97.1	65.2	98.6	49.3	95.7	95.7	5.8
Beaufort	77.7	78.4	97.7	82.0	98.5	96.9	30.0
Kuala Penyu	92.5	91.3	100.0	86.3	96.3	96.3	3.8
Sipitang	89.8	92.1	98.4	69.2	96.8	96.1	16.6
Tenom	81.7	75.0	99.0	41.3	97.1	100.0	7.7
Nabawan	96.4	94.6	98.2	46.4	96.4	100.0	1.8
Keningau	91.5	86.4	99.2	59.3	94.8	99.1	13.1
Tambunan	97.9	66.7	100.0	56.3	97.9	100.0	1.0
Kunak	95.8	72.8	100.0	78.9	98.6	95.8	11.2
Tongod	95.9	67.3	100.0	42.9	91.8	93.9	18.4
Putatan	100.0	99.2	99.2	85.0	99.2	98.3	30.8
Telupid	100.0	92.1	100.0	39.5	97.4	94.7	7.9
Kalabakan	87.5	25.0	100.0	75.0	100.0	81.3	12.5

Table D3.1: Percentage of Households with Access to ICT Services and Equipment by State and Administrative District, Malaysia, 2023 (cont'd)

State	Internet	Computer	Mobile phone	Pay TV channel	Television	Radio	Fixed-line telephone
SARAWAK	90.6	88.2	97.4	63.2	98.1	97.5	17.3
Kuching	97.7	88.7	98.8	64.1	99.0	99.4	19.7
Bau	75.2	91.7	98.2	33.0	99.1	97.2	4.6
Lundu	83.3	72.2	90.0	33.3	97.8	95.6	3.3
Samarahan	100.0	90.8	97.5	74.1	97.6	98.1	7.2
Serian	82.2	82.2	96.8	40.9	99.2	97.6	10.3
Simunjan	64.4	69.0	83.9	32.2	97.7	96.6	3.4
Sri Aman	76.8	97.7	98.8	66.5	96.7	96.7	22.5
Lubok Antu	79.0	77.8	91.4	43.2	97.5	96.3	13.6
Betong	79.2	88.1	97.0	63.4	99.0	98.0	1.0
Saratok	80.2	83.0	99.1	51.9	99.1	97.2	2.8
Sarikei	88.7	82.0	94.1	75.0	98.0	97.0	16.9
Maradong	80.2	80.3	91.8	58.0	98.1	92.8	7.3
Daro	77.8	81.1	97.8	45.6	97.8	94.4	6.7
Julau	87.9	82.8	98.3	50.0	96.6	93.1	5.2
Sibu	99.2	98.3	99.6	70.7	98.0	98.3	28.1
Dalat	73.5	93.9	98.0	46.9	98.0	93.9	2.0
Mukah	88.2	90.7	98.8	59.8	95.4	95.2	6.8

Table D3.1: Percentage of Households with Access to ICT Services and Equipment by State and Administrative District, Malaysia, 2023 (cont'd)

State	Internet	Computer	Mobile phone	Pay TV channel	Television	Radio	Fixed-line telephone
Kanowit	60.7	85.2	98.4	44.3	96.7	96.7	11.5
Bintulu	99.6	94.4	99.6	82.7	98.2	97.2	30.3
Tatau	78.1	84.4	93.8	54.7	96.9	92.2	1.6
Kapit	87.3	83.1	96.8	60.2	97.7	97.3	6.8
Song	63.8	91.3	95.0	51.3	97.5	100.0	12.5
Belaga	82.8	84.4	98.4	67.2	98.4	96.9	14.1
Miri	97.7	88.9	99.7	92.6	97.8	98.7	36.0
Marudi	78.9	93.0	97.2	64.8	97.2	95.8	2.8
Limbang	92.7	92.6	98.1	64.2	98.0	98.1	13.1
Lawas	85.9	85.9	98.7	52.6	98.7	96.2	6.4
Matu	77.6	81.6	94.7	40.8	97.4	94.7	7.9
Asajaya	76.1	90.1	94.4	50.7	97.2	95.8	1.4
Pakan	78.8	88.5	92.3	53.8	98.1	88.5	1.9
Selangau	70.9	90.9	90.9	47.3	98.2	94.5	9.1
Tebedu	65.9	75.0	84.1	42.0	97.7	93.2	1.1
Pusa	77.5	76.4	95.5	44.9	97.8	96.6	1.1
Kabong	81.3	81.3	96.3	45.0	98.8	96.3	2.5
Tanjung Manis	86.3	83.6	93.2	37.0	97.3	97.3	11.0
Sebauh	79.6	86.0	96.8	20.4	97.8	93.5	9.7

Table D3.1: Percentage of Households with Access to ICT Services and Equipment by State and Administrative District, Malaysia, 2023 (cont'd)

State	Internet	Computer	Mobile phone	Pay TV channel	Television	Radio	Fixed-line telephone
Bukit Mabong	78.8	75.8	81.8	51.5	93.9	100.0	30.3
Subis	72.4	65.0	93.5	39.0	98.4	97.6	5.7
Beluru	82.4	83.8	100.0	42.6	97.1	94.1	14.7
Telang Usan	92.5	77.4	92.5	30.2	96.2	92.5	3.8
WILAYAH PERSEKUTUAN							
Kuala Lumpur	99.8	99.6	100.0	96.1	100.0	99.8	42.9
Labuan	99.7	97.2	99.6	90.6	99.6	99.3	36.8
Putrajaya	100.0	99.6	100.0	96.8	100.0	100.0	54.4

Table D3.2: Percentage of Individuals Using ICT Services and Equipment by State and Administrative District, Malaysia, 2023

State	Internet	Computer	Mobile phone	(%)
JOHOR	98.6	84.1	99.8	
Batu Pahat	99.4	80.8	99.4	
Johor Bahru	99.3	87.2	99.9	
Kluang	98.5	85.8	99.4	
Kota Tinggi	99.0	73.1	99.3	
Mersing	99.4	73.5	99.8	
Muar	98.0	86.1	99.9	
Pontian	88.9	76.7	99.8	
Segamat	98.7	79.0	99.9	
Kulai	99.3	88.4	99.9	
Tangkak	97.5	81.7	99.7	
KEDAH	96.9	73.3	99.2	
Baling	97.2	65.2	99.1	
Bandar Baharu	96.7	66.9	99.2	
Kota Setar	96.2	78.1	99.7	
Kuala Muda	97.1	71.2	98.8	
Kubang Pasu	96.7	79.1	99.3	
Kulim	98.2	75.9	99.4	

Table D3.2: Percentage of Individuals Using ICT Services and Equipment by State and Administrative District, Malaysia, 2023 (cont'd)

State	Internet	Computer	Mobile phone
Langkawi	97.0	67.7	99.2
Padang Terap	96.0	72.1	99.0
Sik	95.2	70.8	98.8
Yan	97.4	67.5	99.0
Pendang	95.5	69.2	99.1
Pokok Sena	96.2	72.3	98.9
KELANTAN	96.6	73.8	99.3
Bachok	95.7	74.8	98.6
Kota Bharu	97.6	79.1	99.7
Machang	95.4	75.7	99.2
Pasir Mas	95.9	69.6	99.3
Pasir Puteh	96.3	71.5	97.9
Tanah Merah	97.2	73.4	99.4
Tumpat	96.4	72.6	99.5
Gua Musang	97.8	64.0	99.9
Kuala Krai	96.1	69.1	99.6
Jeli	95.3	71.0	99.7
Lojing	89.1	48.9	90.8

Table D3.2: Percentage of Individuals Using ICT Services and Equipment by State and Administrative District, Malaysia, 2023 (cont'd)

State	Internet	Computer	Mobile phone
MELAKA	98.0	86.0	99.5
Alor Gajah	97.6	87.7	99.7
Jasin	97.8	77.4	99.3
Melaka Tengah	98.3	87.5	99.4
NEGERI SEMBILAN	98.4	76.5	99.3
Jelebu	93.7	58.2	98.1
Kuala Pilah	93.1	66.5	96.5
Port Dickson	99.4	72.4	99.8
Rembau	96.6	60.3	96.1
Seremban	99.8	85.4	99.9
Tampin	96.2	64.6	97.4
Jempol	96.5	58.5	99.7
PAHANG	97.0	77.8	99.5
Bentong	96.5	80.6	99.1
Cameron Highlands	96.5	79.4	99.6
Jerantut	96.0	74.1	98.9
Kuantan	96.7	81.2	100.0
Lipis	97.4	74.4	99.6

Table D3.2 :Percentage of Individuals Using ICT Services and Equipment by State and Administrative District, Malaysia, 2023 (cont'd)

State	Internet	Computer	Mobile phone
Pekan	97.8	78.2	98.6
Raub	97.1	77.2	99.5
Temerloh	96.7	74.9	99.6
Rompin	98.6	74.6	99.3
Maran	97.5	73.4	99.3
Bera	96.7	74.0	99.7
PULAU PINANG	99.0	85.4	99.9
Seberang Prai Tengah	99.6	87.0	99.7
Seberang Prai Utara	98.8	84.7	99.9
Seberang Prai Selatan	99.0	87.3	99.6
Timur Laut	98.7	83.9	100.0
Barat Daya	99.0	85.3	100.0
PERAK	96.3	78.0	98.6
Batang Padang	96.8	75.5	98.1
Manjung	97.3	82.1	99.1
Kinta	96.1	78.8	99.0
Kerian	95.8	73.7	97.6
Kuala Kangsar	96.1	76.5	98.5

Table D3.2: Percentage of Individuals Using ICT Services and Equipment by State and Administrative District, Malaysia, 2023 (cont'd)

(%)

State	Internet	Computer	Mobile phone
Larut Dan Matang	96.4	76.0	98.2
Hilir Perak	94.1	76.0	97.2
Hulu Perak	96.2	75.1	98.1
Perak Tengah	96.4	79.1	97.9
Kampar	96.7	77.8	98.5
Muallim	99.1	87.2	99.6
Bagan Datuk	96.2	81.0	98.4
Selama	94.8	69.6	99.3
PERLIS	96.0	74.8	98.8
SELANGOR	98.8	91.3	99.7
Gombak	99.8	92.2	100.0
Klang	98.0	90.1	99.3
Kuala Langat	98.0	90.5	99.9
Kuala Selangor	99.3	90.7	99.9
Petaling	99.0	90.9	99.6
Sabak Bernam	97.3	89.3	99.4
Sepang	99.7	95.0	99.9
Hulu Langat	98.6	92.1	100.0

Table D3.2: Percentage of Individuals Using ICT Services and Equipment by State and Administrative District, Malaysia, 2023 (cont'd)

State	Internet	Computer	Mobile phone
TERENGGANU	97.2	80.4	99.1
Besut	96.6	83.5	99.6
Dungun	97.5	85.2	99.3
Kemaman	98.6	83.9	99.7
Kuala Terengganu	97.4	84.8	98.9
Marang	97.0	71.0	98.2
Hulu Terengganu	96.7	75.9	99.2
Setiu	98.2	74.2	99.2
Kuala Nerus	95.6	72.4	98.5
SABAH	97.2	60.6	99.3
Tawau	98.0	70.7	99.8
Lahad Datu	99.1	59.2	99.7
Semporna	98.3	58.5	99.4
Sandakan	98.8	77.2	99.8
Kinabatangan	98.3	44.6	98.9
Beluran	99.6	26.2	99.8
Kota Kinabalu	99.4	80.1	99.4
Ranau	95.9	61.3	99.3

Table D3.2: Percentage of Individuals using ICT Services and Equipment by State and Administrative District, Malaysia, 2023 (cont'd)

State	Internet	Computer	Mobile phone	(%)
Kota Belud	98.2	60.6	99.6	
Tuaran	97.7	41.8	98.1	
Penampang	96.2	63.7	99.5	
Papar	97.4	61.1	99.2	
Kudat	96.7	50.9	98.5	
Kota Marudu	92.5	44.2	98.7	
Pitas	92.0	44.7	99.2	
Beaufort	91.6	60.2	97.6	
Kuala Penyu	94.3	55.7	99.2	
Sipitang	94.4	54.3	99.2	
Tenom	94.6	45.9	98.8	
Nabawan	94.6	44.0	98.5	
Keningau	95.7	49.5	98.9	
Tambunan	93.9	41.2	99.3	
Kunak	89.4	54.8	98.6	
Tongod	66.0	0.0	99.4	
Putatan	97.4	52.4	99.7	
Telupid	99.6	31.3	99.3	
Kalabakan	100.0	8.4	100.0	

Table D3.2: Percentage of Individuals using ICT Services and Equipment by State and Administrative District, Malaysia, 2023 (cont'd)

State	Internet	Computer	Mobile phone	(%)
SARAWAK	94.2	67.9	98.2	
Kuching	98.6	76.3	99.4	
Bau	97.6	53.5	99.0	
Lundu	92.3	67.8	100.0	
Samarahan	93.5	74.2	99.0	
Serian	82.4	48.4	97.4	
Simunjan	82.4	63.6	99.2	
Sri Aman	90.7	50.9	96.7	
Lubok Antu	78.6	49.3	95.8	
Betong	85.2	71.2	97.0	
Saratok	84.1	54.7	97.7	
Sarikei	92.3	64.3	95.8	
Maradong	82.4	58.6	97.2	
Daro	85.0	59.1	96.7	
Julau	71.0	29.0	96.5	
Sibu	97.6	71.4	98.2	
Dalat	87.4	28.8	97.5	
Mukah	91.4	56.7	96.6	

Table D3.2: Percentage of Individuals using ICT Services and Equipment by State and Administrative District, Malaysia, 2023 (cont'd)

State	Internet	Computer	Mobile phone	(%)
Kanowit	81.9	48.1	95.6	
Bintulu	97.7	75.9	99.4	
Tatau	92.3	51.4	97.8	
Kapit	93.1	65.3	96.9	
Song	93.0	13.1	92.9	
Belaga	95.6	27.1	97.7	
Miri	98.7	79.7	99.2	
Marudi	67.0	31.0	90.6	
Limbang	96.0	62.8	97.7	
Lawas	95.6	67.5	97.1	
Matu	88.3	47.6	96.0	
Asajaya	91.7	68.2	95.0	
Pakan	84.8	49.8	93.9	
Selangau	86.8	54.3	95.2	
Tebedu	91.5	81.9	94.5	
Pusa	86.7	57.5	96.4	
Kabong	91.9	60.3	95.1	
Tanjung Manis	95.5	71.9	96.0	
Sebauh	98.0	60.2	98.4	

Table D3.2: Percentage of Individuals using ICT Services and Equipment by State and Administrative District, Malaysia, 2023 (cont'd)

State	Internet	Computer	Mobile phone	(%)
Bukit Mabong	54.6	25.7	78.0	
Subis	96.9	82.6	97.3	
Beluru	92.5	58.3	98.5	
Telang Usan	82.1	42.0	96.8	
WILAYAH PERSEKUTUAN				
Kuala Lumpur	99.9	95.6	99.9	
Labuan	97.4	88.3	99.9	
Putrajaya	99.9	97.1	99.9	

Table D4.1: ICT Services and Equipment Penetration Rate, Malaysia, 2019 - 2023

ICT Services and Equipment	2019	2020	2021	2022	2023
Broadband	131.7	n.a.	n.a.	n.a.	n.a.
Mobile	n.a.	118.7	126.4	131.0	134.5
Fixed	n.a.	37.2	40.8	47.6	50.6
Mobile-cellular	135.4	133.6	144.0	145.3	148.7
Pay TV	86.4	83.4	81.1	80.6	76.4

Note.

1. Fixed-broadband refers to penetration rate per 100 premises
2. Mobile-broadband and mobile-cellular refer to penetration rate per 100 inhabitants
3. Pay TV refers to penetration rate per 100 households

Table D4.2: Number of Pay TV Subscriptions, Malaysia, 2019 -2023

	2019	2020	2021	2022	2023
Pay TV channel					
Total household subscriptions	7,103.4	6,880.5	6,699.60	6,509.4	6,303.1

Note.

Pay TV is inclusive of IPTV

Source: Communications and Multimedia, Pocket Book of Statistics (Malaysian Communications and Multimedia Commission)

Table D4.3: Number of Broadband Subscriptions, Malaysia, 2019 - 2023

Broadband	2019	2020	2021	2022	2023
Mobile	40,430.9	38,837.2	42,016.0	43,239.5	45,336.7
Fixed	2,947.0	3,349.5	3,727.4	4,220.5	4,574.1

Table D4.4: Number of Mobile-Cellular Subscriptions, Malaysia, 2019 - 2023

Mobile-cellular	2019	2020	2021	2022	2023
Prepaid	31,260.8	30,152.9	33,023.0	33,657.9	35,311.3
Postpaid	13,340.6	13,570.7	14,178.6	14,294.2	14,825.2

Note.

Commencing 2017, the mobile-cellular penetration rate is based on secondary data

Source: Communications and Multimedia, Pocket Book of Statistics (Malaysian Communications and Multimedia Commission)

Table D5.1: Percentage of Households with Internet Access by Selected Countries, 2019 - 2022

Year	Malaysia	Singapore	Thailand	Republic of Korea	Japan	Hong Kong	Indonesia
2022	96.0	98.7	90.4	100.0	89.5	96.1	86.5
2021	94.9	99.3	88.7	99.9	88.2	94.4	82.1
2020	91.0	98.4	85.2	99.7	97.3	93.9	78.2
2019	89.6	98.4	74.6	99.7	96.9	94.1	73.7

Table D5.2: Percentage of Households with Access to Computer by Selected Countries, 2019 - 2022

Year	Malaysia	Singapore	Thailand	Republic of Korea	Japan	Hong Kong	Indonesia
2022	91.3	90.0	24.5	81.0	75.4	75.1	18.0
2021	88.3	91.8	25.8	73.6	75.5	75.8	18.2
2020	77.6	89.1	19.3	71.6	75.9	75.3	18.8
2019	71.3	88.8	15.9	71.7	74.6	77.6	18.8

Note.

Source: International Telecommunication Union (ITU)

Table D5.3: Percentage of Individuals Using the Internet by Selected Countries, 2019 - 2022

Year	Malaysia	Singapore	Thailand	Republic of Korea	Japan	Hong Kong	Indonesia
2022	97.4	96.0	88.0	97.2	84.9	95.6	66.5
2021	96.8	96.9	85.3	97.6	82.9	93.1	62.1
2020	89.6	92.0	77.8	96.5	90.2	92.4	53.7
2019	84.2	88.9	66.7	96.2	92.7	91.7	47.7

Table D5.4: Percentage of Individuals Using Computer by Selected Countries, 2019 - 2022

Year	Malaysia	Singapore	Thailand	Republic of Korea	Japan	Hong Kong	Indonesia
2022	80.2	-	-	-	-	-	-
2021	83.5	-	-	79.9	-	78.6	11.7
2020	80.0	-	26.4	82.3	-	79.8	14.1
2019	72.1	73.5	25.3	83.0	75.5	82.7	14.5

Note.

Source: International Telecommunication Union (ITU)

Table D5.5: Percentage of Individuals Using the Internet by Sex and Selected Countries, 2022

Sex	Malaysia	Singapore	Thailand	Republic of Korea	Japan	Hong Kong	Indonesia
Male	98.8	96.9	89.3	97.8	87.9	96.6	69.4
Female	95.9	95.0	86.7	96.6	82.1	94.7	63.5

Table D5.6: Ranking of ICT-Related Indices for Selected Countries, 2017 and 2022

Rank	Malaysia	Singapore	Thailand	Republic of Korea	Japan	Hong Kong	Indonesia
ICT Development Index (IDI) 2017 ¹	63	18	78	2	10	6	111
E-Government Development Index (EGDI) 2022 ²	53	12	55	3	14	-	77

Note.

ICT Development Index (IDI) is a unique benchmark of the level of ICT development in countries across the world. The IDI combines 11 indicators on ICT access, use and skills, capturing key aspects of ICT development in one measure that allows for comparisons to be made between countries and over time. IDI 2017 covers 176 economies worldwide.

E-Government Development Index (EGDI) is a composite index based on the weighted average of three normalize indices. One-third is derived from a Telecommunication Infrastructure Index (TII) based on data provided by the International Telecommunication Union (ITU), one-third from a Human Capital Index (HCI) based on data provided by the United Nations Educational, Scientific and Cultural Organisation (UNESCO), and one-third from the Online Service Index (OSI), based on data collected from an independent survey questionnaire, conducted by UNDESA. The EGDI is used to measure the readiness and capacity of national institutions to use ICTs to deliver public services. This measure is useful for government official, policy maker, researchers and representatives of civil society and the private sector to gain a deeper understanding of the relative position of a country in utilising e-Government for the delivery of public services.

Source:

¹ Measuring the Information Society Report 2017 Volume 1, International Telecommunication Union (ITU)

² United Nation e-Government Survey 2022, United Nation

Table D6.1: Percentage of Households with Access to Mobile Phone by State and Strata, Malaysia, 2020 - 2023

(%)

State	2020			2021			2022			2023		
	Total	Urban	Rural	Total	Urban	Rural	Total	Urban	Rural	Total	Urban	Rural
MALAYSIA	98.6	99.0	96.8	99.6	99.6	99.2	99.3	99.6	98.2	99.3	99.6	98.4
Johor	99.4	99.5	99.1	99.9	99.9	99.6	99.5	99.6	99.2	99.5	99.6	99.1
Kedah	98.6	98.7	98.0	99.7	99.7	99.6	99.4	99.6	99.2	99.4	99.5	99.2
Kelantan	97.3	98.2	96.3	99.8	99.7	99.8	99.2	99.4	99.1	99.2	99.4	99.0
Melaka	98.5	98.5	97.0	98.8	98.8	98.8	99.6	99.6	99.6	99.6	99.6	99.5
Negeri Sembilan	98.4	99.4	95.3	99.6	99.8	99.1	99.3	99.7	98.2	99.3	99.7	98.4
Pahang	98.0	98.7	96.9	98.7	98.8	98.6	99.1	99.3	98.9	99.1	99.2	99.0
Pulau Pinang	98.9	98.9	98.1	99.8	99.8	99.7	99.8	99.9	99.5	99.8	99.8	100.0
Perak	97.4	97.6	96.1	98.5	98.7	97.7	99.1	99.1	99.3	99.3	99.2	99.6
Perlis	97.7	97.6	97.8	99.3	99.3	99.3	99.6	99.5	99.7	99.6	99.5	99.7
Selangor	99.3	99.4	98.7	99.9	99.9	99.4	99.7	99.7	99.1	99.6	99.7	98.4
Terengganu	98.2	98.4	97.6	99.2	99.3	98.9	98.0	98.5	97.3	98.5	99.0	97.8
Sabah	98.6	98.8	98.2	99.8	99.8	99.8	99.2	99.6	98.8	99.4	99.8	99.0
Sarawak	96.6	99.0	92.8	99.4	99.8	98.8	97.2	99.8	93.8	97.4	99.6	94.5
W.P. Kuala Lumpur	99.5	99.5	n.a.	99.9	99.9	n.a.	100.0	100.0	n.a.	100.0	100.0	n.a.
W.P. Labuan	98.6	98.6	99.2	99.0	99.0	99.3	99.3	99.6	96.8	99.6	99.6	100.0
W.P. Putrajaya	99.5	99.5	n.a.	100.0	100.0	n.a.	100.0	100.0	n.a.	100.0	100.0	n.a.

Table D6.2: Percentage of Households with Access to Feature Phone by State and Strata, Malaysia, 2020 - 2023

(%)

State	2020			2021			2022			2023		
	Total	Urban	Rural	Total	Urban	Rural	Total	Urban	Rural	Total	Urban	Rural
MALAYSIA	22.7	20.1	33.7	15.2	13.1	24.5	16.2	13.5	25.4	16.3	13.6	25.5
Johor	18.9	17.2	25.8	16.1	15.3	19.8	21.1	21.3	20.4	21.2	21.4	20.4
Kedah	28.0	24.2	39.2	20.3	16.4	31.9	21.3	15.7	33.0	21.4	15.8	33.1
Kelantan	34.8	32.1	38.0	21.2	17.0	26.2	25.8	21.5	29.4	25.8	21.5	29.4
Melaka	25.8	26.0	22.7	19.9	19.8	22.7	19.5	19.1	24.3	19.6	19.2	24.1
Negeri Sembilan	13.9	11.8	21.2	11.6	10.7	14.9	12.4	9.4	19.8	12.4	9.4	19.9
Pahang	27.3	23.6	33.7	18.8	16.4	23.1	17.1	16.3	18.1	17.1	16.3	18.1
Pulau Pinang	15.7	15.4	24.4	11.4	11.2	19.3	14.1	14.0	14.7	14.1	14.0	14.7
Perak	34.6	34.0	37.2	20.2	19.0	26.3	19.5	16.8	27.2	19.5	16.8	27.2
Perlis	24.9	21.1	33.8	21.3	19.6	25.4	23.3	23.3	23.2	23.3	23.3	23.2
Selangor	18.6	18.1	28.7	9.0	8.8	12.4	9.1	8.8	16.9	9.2	8.8	16.9
Terengganu	36.9	37.2	36.2	17.3	15.2	22.3	15.9	13.3	20.7	16.1	13.4	20.9
Sabah	26.1	21.4	34.3	21.5	17.2	29.4	20.0	13.9	27.4	20.2	14.1	27.6
Sarawak	24.1	16.0	37.2	17.9	13.1	26.1	21.1	13.8	30.7	21.2	14.0	30.9
W.P. Kuala Lumpur	9.9	9.9	n.a.	8.6	8.6	n.a.	7.8	7.8	n.a.	7.9	7.9	n.a.
W.P. Labuan	21.7	21.1	27.2	10.4	9.9	14.8	4.7	3.8	12.9	4.9	4.1	12.9
W.P. Putrajaya	10.1	10.1	n.a.	4.2	4.2	n.a.	10.9	10.9	n.a.	11.2	11.2	n.a.

Table D6.3: Percentage of Households with Access to Smart Phone by State and Strata, Malaysia, 2020 - 2023

(%)

State	2020			2021			2022			2023		
	Total	Urban	Rural	Total	Urban	Rural	Total	Urban	Rural	Total	Urban	Rural
MALAYSIA	95.9	97.1	91.0	96.6	97.7	91.8	97.3	98.4	93.7	97.6	98.6	94.1
Johor	98.9	99.0	98.5	98.9	99.0	98.6	99.0	99.1	98.6	99.1	99.2	98.9
Kedah	93.9	95.2	90.3	94.8	96.1	91.2	96.0	96.9	94.2	96.1	97.0	94.3
Kelantan	93.0	94.0	91.8	93.6	95.0	91.9	94.3	95.8	93.0	94.5	96.0	93.2
Melaka	96.1	96.1	94.9	96.3	96.4	95.8	97.2	97.3	96.1	97.3	97.4	96.2
Negeri Sembilan	96.9	99.0	89.8	97.2	99.0	90.4	97.5	99.1	93.4	97.9	99.5	93.9
Pahang	92.1	94.3	88.3	93.8	95.2	91.4	94.8	95.6	93.9	94.9	95.6	94.1
Pulau Pinang	97.3	97.3	95.3	97.6	97.6	95.9	98.0	98.1	96.9	98.2	98.1	99.1
Perak	92.0	92.2	90.8	93.8	94.2	91.8	95.9	96.1	95.2	96.2	96.5	95.5
Perlis	94.4	95.8	91.2	95.0	96.2	92.2	96.6	96.3	97.0	97.0	96.8	97.3
Selangor	97.8	98.0	94.7	98.5	98.6	95.8	99.2	99.3	96.3	99.4	99.5	96.7
Terengganu	94.3	94.9	92.9	94.6	95.2	93.1	96.9	97.4	95.9	97.4	98.0	96.5
Sabah	96.4	97.8	93.8	96.5	97.8	94.1	96.7	98.2	94.7	97.2	98.7	95.3
Sarawak	91.9	97.8	82.1	92.7	98.3	83.2	93.0	99.1	84.8	93.6	99.6	85.3
W.P. Kuala Lumpur	99.1	99.1	n.a.	99.7	99.7	n.a.	99.8	99.8	n.a.	99.8	99.8	n.a.
W.P. Labuan	99.1	99.0	99.2	99.0	99.0	99.3	99.3	99.6	96.8	99.6	99.6	100.0
W.P. Putrajaya	99.7	99.7	n.a.	100.0	100.0	n.a.	100.0	100.0	n.a.	100.0	100.0	n.a.

Table D6.4 Percentage of Households with Internet Access by State and Strata, Malaysia, 2020 - 2023

(%)

State	2020			2021			2022			2023		
	Total	Urban	Rural	Total	Urban	Rural	Total	Urban	Rural	Total	Urban	Rural
MALAYSIA	91.0	93.4	81.3	94.9	96.8	86.7	96.0	98.1	89.1	96.4	98.4	89.8
Johor	92.9	93.7	89.5	98.0	98.5	95.7	98.5	98.9	97.3	98.8	99.1	97.4
Kedah	90.8	92.1	86.9	95.1	96.3	91.5	95.8	97.2	92.8	95.9	97.3	93.0
Kelantan	89.3	91.2	87.1	92.6	94.3	90.6	93.9	95.2	92.9	94.6	95.8	93.6
Melaka	93.1	93.2	91.6	95.1	95.3	91.6	96.2	96.4	94.2	96.3	96.5	94.3
Negeri Sembilan	93.3	95.8	85.0	94.4	96.3	87.7	95.9	98.2	90.1	96.0	98.3	90.4
Pahang	86.8	88.7	83.6	93.8	94.9	91.7	94.9	95.8	94.0	95.4	96.4	94.2
Pulau Pinang	94.7	94.8	92.3	97.4	97.4	96.4	99.2	99.3	96.9	99.3	99.3	99.1
Perak	81.1	82.5	74.5	89.1	89.4	87.7	94.4	95.9	90.3	95.0	96.4	91.2
Perlis	93.0	94.7	89.2	93.8	95.0	90.9	94.6	97.3	91.4	95.6	98.3	92.3
Selangor	94.6	94.9	88.9	98.4	98.6	96.2	99.0	99.1	96.3	99.2	99.3	97.4
Terengganu	90.5	91.0	89.4	92.7	94.2	89.3	93.9	95.0	92.1	94.6	95.7	92.7
Sabah	87.1	94.0	74.8	89.4	96.0	77.2	89.6	97.1	80.6	90.4	97.9	81.3
Sarawak	85.4	95.8	68.5	89.3	97.4	75.6	89.8	97.9	79.1	90.6	98.4	79.9
W.P. Kuala Lumpur	98.0	98.0	n.a.	99.8	99.8	n.a.	99.8	99.8	n.a.	99.8	99.8	n.a.
W.P. Labuan	98.1	98.1	98.4	99.9	100.0	99.3	99.7	100.0	96.8	99.7	100.0	96.8
W.P. Putrajaya	99.2	99.2	n.a.	100.0	100.0	n.a.	100.0	100.0	n.a.	100.0	100.0	n.a.

Table D6.5: Percentage of Households with Fixed (Wired) Broadband Access by State and Strata, Malaysia, 2020 - 2023

(%)

State	2020			2021			2022			2023		
	Total	Urban	Rural	Total	Urban	Rural	Total	Urban	Rural	Total	Urban	Rural
MALAYSIA	34.2	39.2	12.9	41.2	46.5	18.1	46.4	53.3	23.7	47.1	54.0	24.2
Johor	30.4	32.0	23.8	47.4	50.7	33.3	52.3	55.8	39.4	53.5	57.2	39.8
Kedah	18.2	21.6	8.8	32.5	38.4	14.8	34.3	42.9	16.4	34.5	43.1	16.5
Kelantan	13.5	19.3	6.8	17.8	21.2	13.8	23.7	32.7	16.3	24.8	34.4	16.9
Melaka	39.9	40.3	28.9	48.3	48.9	32.7	55.2	57.1	35.1	55.3	57.2	35.6
Negeri Sembilan	33.5	37.7	19.0	45.9	52.3	22.6	46.8	52.8	32.4	47.2	53.1	32.6
Pahang	22.3	27.5	13.4	23.8	28.7	15.0	31.1	38.9	22.0	31.9	39.7	22.5
Pulau Pinang	37.1	37.7	20.2	42.6	42.9	33.8	54.9	55.6	44.9	55.3	56.1	45.1
Perak	25.6	28.1	14.4	37.2	40.4	21.6	39.5	44.6	25.5	40.2	45.3	25.9
Perlis	28.5	34.1	15.7	29.5	35.0	16.1	31.5	37.7	23.8	32.0	38.5	24.1
Selangor	52.3	53.1	38.6	52.9	53.6	39.2	59.3	59.9	43.7	59.9	60.5	43.8
Terengganu	23.6	27.6	14.5	25.9	28.2	20.6	27.9	29.2	25.6	28.5	29.8	26.1
Sabah	23.9	35.0	4.3	24.3	31.3	11.4	30.6	42.0	16.7	31.2	42.6	17.2
Sarawak	23.2	34.4	4.8	25.3	35.8	7.2	32.2	43.6	17.0	32.8	44.1	17.5
W.P. Kuala Lumpur	68.2	68.2	n.a.	72.6	72.6	n.a.	73.6	73.6	n.a.	73.7	73.7	n.a.
W.P. Labuan	32.8	34.0	22.4	41.1	41.1	40.7	41.6	41.5	41.9	41.7	41.6	41.9
W.P. Putrajaya	61.7	61.7	n.a.	66.2	66.2	n.a.	73.7	73.7	n.a.	75.6	75.6	n.a.

Table D6.6: Percentage of Households with Mobile Broadband Access by State and Strata, Malaysia, 2020 - 2023

(%)

State	2020			2021			2022			2023		
	Total	Urban	Rural	Total	Urban	Rural	Total	Urban	Rural	Total	Urban	Rural
MALAYSIA¹	89.1	91.4	79.5	94.0	95.3	88.1	95.5	97.1	90.1	95.3	97.4	88.5
Johor	91.1	92.1	86.7	96.4	97.0	93.4	97.3	97.7	95.9	97.4	97.8	96.2
Kedah	90.6	92.0	86.4	94.7	96.1	90.8	95.4	96.8	92.5	95.6	97.0	92.8
Kelantan	88.8	90.5	86.9	90.9	91.8	89.7	93.0	93.9	92.2	93.7	94.5	93.1
Melaka	92.3	92.4	89.5	95.1	95.3	91.3	95.5	95.7	92.6	95.6	95.9	93.3
Negeri Sembilan	91.0	93.5	82.6	94.0	96.3	85.7	94.4	97.0	88.2	94.7	97.2	88.4
Pahang	84.4	85.9	81.9	91.8	92.4	90.9	92.9	93.1	92.6	93.5	93.9	93.0
Pulau Pinang	94.3	94.4	90.6	96.3	96.4	96.0	96.9	97.0	96.2	97.3	97.4	96.5
Perak	76.3	77.4	71.6	82.5	82.0	85.2	91.3	93.0	86.4	91.8	93.5	86.8
Perlis	89.4	91.2	85.2	92.2	93.2	89.7	94.6	97.3	91.4	94.8	97.3	91.7
Selangor	94.0	94.3	88.4	97.9	98.0	95.9	99.0	99.1	97.1	99.1	99.2	97.4
Terengganu ¹	87.7	89.0	84.7	92.3	93.7	89.0	92.5	94.1	89.5	92.9	94.6	90.0
Sabah ¹	86.9	94.0	74.4	89.4	96.0	77.2	88.7	97.1	78.4	90.4	97.9	81.3
Sarawak	83.3	94.2	65.4	88.7	97.2	74.4	89.1	97.8	77.6	89.7	98.3	78.1
W.P. Kuala Lumpur	90.1	90.1	n.a.	95.9	95.9	n.a.	97.1	97.1	n.a.	97.3	97.3	n.a.
W.P. Labuan	97.2	97.1	97.6	98.1	98.0	99.3	93.9	94.3	90.3	94.6	94.7	93.5
W.P. Putrajaya	88.6	88.6	n.a.	99.2	99.2	n.a.	99.2	99.2	n.a.	99.6	99.6	n.a.

Note.¹ revised

Table D6.7: Percentage of Households with Access to Computer by State and Strata, Malaysia, 2020 - 2023

(%)

State	2020			2021			2022			2023		
	Total	Urban	Rural	Total	Urban	Rural	Total	Urban	Rural	Total	Urban	Rural
MALAYSIA	77.6	82.8	55.5	88.3	91.0	76.3	91.3	94.0	82.4	91.6	94.2	82.8
Johor	81.4	85.9	62.9	91.7	93.3	85.0	92.4	94.0	86.8	92.6	94.1	86.9
Kedah	62.1	65.8	51.6	85.6	87.7	79.3	86.3	89.3	80.1	86.5	89.4	80.3
Kelantan	56.6	68.5	42.7	87.5	89.9	84.5	87.5	90.3	85.2	87.7	90.4	85.4
Melaka	87.2	87.2	87.8	90.9	90.8	91.8	91.6	91.6	92.2	91.8	91.7	92.3
Negeri Sembilan	74.1	80.9	50.7	85.5	88.9	73.0	85.7	90.2	74.7	85.8	90.2	74.8
Pahang	71.2	77.1	60.9	87.2	91.3	80.1	87.2	91.5	82.2	88.1	92.0	83.4
Pulau Pinang	86.7	87.2	72.6	89.6	89.6	90.7	95.1	95.0	97.2	95.9	95.8	97.6
Perak	69.0	71.7	57.1	86.0	86.8	82.5	90.6	90.1	92.1	91.0	90.3	93.0
Perlis	70.6	75.0	60.5	88.0	89.0	85.7	88.7	90.4	86.6	89.3	91.2	86.9
Selangor	91.4	91.8	83.6	94.7	94.7	96.1	95.7	95.9	90.1	95.9	96.1	90.8
Terengganu	74.2	81.1	58.4	87.1	89.6	81.1	89.4	92.4	84.1	89.8	92.8	84.7
Sabah	60.7	67.2	49.4	73.1	77.3	65.4	83.4	91.7	73.2	83.8	92.2	73.6
Sarawak	64.8	74.0	49.7	77.1	87.7	58.9	87.7	93.5	79.9	88.2	94.0	80.4
W.P. Kuala Lumpur	94.5	94.5	n.a.	99.1	99.1	n.a.	100.0	100.0	n.a.	99.6	99.6	n.a.
W.P. Labuan	89.3	90.0	84.0	93.8	94.1	91.1	97.0	97.7	90.3	97.2	98.0	90.3
W.P. Putrajaya	99.2	99.2	n.a.	100.0	100.0	n.a.	100.0	100.0	n.a.	99.6	99.6	n.a.

Table D6.8: Percentage of Households with Access to Pay TV Channel by State and Strata, Malaysia, 2020 - 2023

State	2020						2021						2022						2023					
	Total			Urban			Rural			Total			Urban			Rural			Total			Urban		
MALAYSIA	78.9	81.9	66.5	83.2	85.8	71.9	76.9	80.8	63.9	77.0	80.8	64.1	77.0	80.8	64.1	77.0	80.8	64.1	77.0	80.8	64.1	77.0	80.8	64.1
Johor	78.6	80.1	72.3	83.5	85.3	75.7	82.8	83.7	79.2	82.8	83.8	79.2	82.8	83.8	79.2	82.8	83.8	79.2	82.8	83.8	79.2	82.8	83.8	79.2
Kedah	69.7	73.9	57.5	71.7	73.9	65.1	57.7	60.5	52.0	57.7	60.5	51.9	57.7	60.5	51.9	57.7	60.5	51.9	57.7	60.5	51.9	57.7	60.5	51.9
Kelantan	63.1	67.4	58.0	67.7	69.2	65.9	57.2	57.1	57.2	57.1	57.2	57.1	57.2	57.2	57.1	57.2	57.2	57.1	57.1	57.2	57.2	57.2	57.2	57.1
Melaka	89.7	90.3	75.8	92.6	92.8	85.3	82.1	82.3	79.9	82.1	82.3	79.7	82.1	82.3	79.7	82.1	82.3	79.7	82.1	82.3	79.7	82.1	82.3	79.7
Negeri Sembilan	82.2	84.6	73.9	86.3	87.0	83.9	77.4	77.9	76.1	77.4	78.0	75.9	77.4	78.0	75.9	77.4	78.0	75.9	77.4	78.0	75.9	77.4	78.0	75.9
Pahang	79.6	80.8	77.5	82.2	83.9	79.0	77.1	78.3	75.7	77.1	78.5	75.4	77.1	78.5	75.4	77.1	78.5	75.4	77.1	78.5	75.4	77.1	78.5	75.4
Pulau Pinang	80.3	80.7	67.9	83.0	83.3	73.8	81.3	82.0	72.4	81.3	82.2	72.4	81.3	82.2	72.4	81.3	82.2	72.4	81.3	82.2	72.4	81.3	82.2	72.4
Perak	74.8	76.9	65.6	84.3	86.0	76.4	76.0	77.9	70.5	76.3	77.9	71.8	76.3	77.9	71.8	76.3	77.9	71.8	76.3	77.9	71.8	76.3	77.9	71.8
Perlis	74.5	76.2	70.6	82.2	84.5	76.6	78.0	81.1	74.1	78.0	81.1	74.1	78.0	81.1	74.1	78.0	81.1	74.1	78.0	81.1	74.1	78.0	81.1	74.1
Selangor	86.4	86.6	81.5	89.4	89.5	88.3	84.8	85.2	76.3	84.8	85.0	80.0	84.8	85.0	80.0	84.8	85.0	80.0	84.8	85.0	80.0	84.8	85.0	80.0
Terengganu	80.7	81.8	78.2	82.5	84.0	78.9	69.9	68.0	73.3	70.0	68.1	73.4	70.0	68.1	73.4	70.0	68.1	73.4	70.0	68.1	73.4	70.0	68.1	73.4
Sabah	70.9	77.5	59.3	73.3	77.7	65.2	66.2	73.0	57.9	66.3	73.1	57.9	66.3	73.1	57.9	66.3	73.1	57.9	66.3	73.1	57.9	66.3	73.1	57.9
Sarawak	68.7	72.9	61.9	76.6	83.6	64.6	63.0	77.2	44.1	63.2	77.3	44.2	63.2	77.3	44.2	63.2	77.3	44.2	63.2	77.3	44.2	63.2	77.3	44.2
W.P. Kuala Lumpur	91.4	91.4	n.a.	95.9	95.9	n.a.	96.0	96.0	n.a.	96.1	96.1	n.a.	96.0	96.1	n.a.	96.1	96.1	n.a.	96.1	96.1	n.a.	96.1	96.1	n.a.
W.P. Labuan	92.0	91.4	97.6	97.1	97.0	97.8	90.5	90.6	90.3	90.6	90.6	90.3	90.5	90.6	90.3	90.6	90.6	90.3	90.6	90.6	90.3	90.6	90.6	90.3
W.P. Putrajaya	96.5	96.5	n.a.	96.6	96.6	n.a.	96.8	96.8	n.a.	96.8	96.8	n.a.	96.8	96.8	n.a.	96.8	96.8	n.a.	96.8	96.8	n.a.	96.8	96.8	n.a.

Table D6.9: Percentage of Households with Access to Television by State and Strata, Malaysia, 2020 - 2023

(%)

State	2020			2021			2022			2023		
	Total	Urban	Rural	Total	Urban	Rural	Total	Urban	Rural	Total	Urban	Rural
MALAYSIA	98.5	99.0	96.3	99.0	99.2	98.0	99.2	99.5	98.4	99.4	99.6	98.6
Johor	99.7	99.7	99.4	99.5	99.6	99.2	99.6	99.7	99.3	99.7	99.8	99.3
Kedah	99.1	99.2	98.7	99.3	99.5	98.8	99.4	99.7	98.9	99.4	99.6	98.9
Kelantan	98.2	98.4	98.0	98.2	99.1	97.1	99.0	99.5	98.5	99.1	99.6	98.7
Melaka	99.0	99.1	98.5	99.6	99.6	99.3	99.9	100.0	99.2	99.9	100.0	99.5
Negeri Sembilan	99.2	99.7	97.3	99.2	99.5	98.4	99.7	99.7	99.8	99.7	99.7	99.8
Pahang	98.1	98.7	97.2	98.1	99.1	96.4	99.0	99.4	98.6	99.1	99.4	98.8
Pulau Pinang	99.0	99.0	98.6	99.6	99.6	99.4	99.7	99.6	100.0	99.8	99.8	100.0
Perak	99.0	99.4	97.3	99.3	99.7	97.4	99.2	99.7	98.0	99.5	99.7	99.0
Pertlis	96.5	96.6	96.2	98.9	98.8	99.2	98.8	98.8	98.8	99.1	99.0	99.1
Selangor	98.9	99.0	98.1	99.3	99.2	99.5	99.8	99.8	99.3	99.9	99.9	99.2
Terengganu	98.9	99.5	97.8	99.8	99.8	99.7	99.8	99.9	99.4	99.6	99.7	99.3
Sabah	95.4	97.5	91.8	96.3	96.3	96.2	97.1	96.8	97.5	97.6	97.4	97.8
Sarawak	96.2	97.8	93.6	98.4	98.3	98.6	97.6	98.3	96.7	98.1	98.8	97.2
W.P. Kuala Lumpur	99.9	99.9	n.a.	99.9	99.9	n.a.	100.0	100.0	n.a.	100.0	100.0	n.a.
W.P. Labuan	98.2	98.1	99.2	99.0	99.0	99.3	99.0	98.9	100.0	99.6	99.6	100.0
W.P. Putrajaya	99.5	99.5	n.a.	99.8	99.8	n.a.	100.0	100.0	n.a.	100.0	100.0	n.a.

Table D6.10: Percentage of Households with Access to Radio by State and Strata, Malaysia, 2020 - 2023

(%)

State	2020			2021			2022			2023		
	Total	Urban	Rural	Total	Urban	Rural	Total	Urban	Rural	Total	Urban	Rural
MALAYSIA	98.5	98.9	97.0	98.9	99.2	97.6	99.1	99.4	98.0	99.2	99.6	98.2
Johor	99.0	99.2	98.5	99.6	99.6	99.3	99.9	100.0	99.8	99.9	100.0	99.8
Kedah	97.9	98.4	96.4	99.3	99.6	98.4	99.6	99.9	99.1	99.7	99.9	99.4
Kelantan	98.0	98.7	97.1	98.7	99.2	98.1	99.7	99.8	99.6	99.7	99.8	99.7
Melaka	98.5	98.5	96.9	98.5	98.5	98.1	99.6	99.7	98.8	99.7	99.7	99.0
Negeri Sembilan	98.4	99.1	95.8	98.6	99.1	96.5	99.5	99.6	99.5	99.6	99.6	99.5
Pahang	97.8	98.7	96.2	97.6	98.2	96.5	99.7	99.8	99.5	99.7	99.7	99.6
Pulau Pinang	99.4	99.4	98.6	99.8	99.8	99.4	99.9	99.9	100.0	99.9	99.9	99.4
Perak	97.6	97.6	97.4	97.3	97.4	96.6	97.4	97.6	96.8	97.9	98.2	97.0
Perlis	97.7	98.3	96.2	98.2	98.0	98.7	99.2	99.3	99.1	99.9	100.0	99.7
Selangor	99.2	99.3	96.7	99.4	99.6	97.2	99.5	99.6	97.7	99.6	99.7	97.2
Terengganu	97.0	96.6	97.8	99.8	99.7	99.9	99.8	99.8	99.9	99.7	99.7	99.8
Sabah	97.2	98.2	95.5	97.3	98.4	95.4	97.4	98.2	96.3	97.9	98.7	97.0
Sarawak	98.7	99.2	97.9	98.9	99.3	98.2	97.0	98.8	94.7	97.5	99.3	95.2
W.P. Kuala Lumpur	99.9	99.9	n.a.	99.8	99.8	n.a.	99.8	99.8	n.a.	99.8	99.8	n.a.
W.P. Labuan	99.1	99.0	99.2	99.5	99.5	99.3	99.3	99.6	96.8	99.3	99.6	96.8
W.P. Putrajaya	99.5	99.5	n.a.	99.8	99.8	n.a.	100.0	100.0	n.a.	100.0	100.0	n.a.

Table D6.11: Percentage of Households with Access to Fixed-Line Telephone by State and Strata, Malaysia, 2020 - 2023

(%)

State	2020			2021			2022			2023		
	Total	Urban	Rural	Total	Urban	Rural	Total	Urban	Rural	Total	Urban	Rural
MALAYSIA	22.4	25.5	9.2	31.3	34.9	15.7	27.3	30.7	15.8	27.4	30.8	27.4
Johor	18.8	20.1	13.4	31.2	31.3	30.8	30.5	31.9	25.1	30.5	32.0	25.1
Kedah	14.0	16.4	7.1	17.3	20.6	7.6	16.0	18.6	10.7	16.0	18.6	10.6
Kelantan	7.7	10.7	4.2	19.0	24.8	12.1	16.3	20.4	12.9	16.4	20.5	13.0
Melaka	36.3	36.9	23.7	57.5	58.8	25.9	53.4	56.1	25.7	53.4	56.1	25.9
Negeri Sembilan	30.7	33.5	21.2	53.1	61.6	22.0	48.5	57.3	27.1	48.6	57.3	26.9
Pahang	15.1	18.2	9.8	21.0	23.1	17.3	21.8	25.8	17.1	21.8	24.0	19.3
Pulau Pinang	31.9	32.0	29.6	37.0	36.9	38.9	28.6	28.1	35.7	29.3	28.8	35.7
Perak	20.9	21.8	16.5	25.7	28.0	14.4	20.1	20.7	18.2	20.1	20.0	20.3
Perlis	24.4	27.7	16.8	33.3	41.4	13.3	34.6	43.9	23.2	34.6	43.9	23.2
Selangor	28.1	28.4	23.5	32.9	33.4	24.5	29.2	29.2	30.0	29.2	29.6	21.0
Terengganu	13.0	15.7	6.9	29.6	31.9	24.3	23.2	22.0	25.4	23.5	22.3	25.4
Sabah	9.2	12.7	3.0	24.9	32.8	10.4	17.4	26.2	6.6	17.7	26.4	7.1
Sarawak	15.0	22.6	2.5	18.8	25.9	6.7	17.0	24.5	7.0	17.3	24.5	7.4
W.P. Kuala Lumpur	42.7	42.7	n.a.	54.4	54.4	n.a.	42.9	42.9	n.a.	42.9	42.9	n.a.
W.P. Labuan	36.6	37.3	30.4	38.1	38.6	34.1	36.2	37.4	25.8	36.8	38.0	25.8
W.P. Putrajaya	36.1	36.1	n.a.	59.9	59.9	n.a.	54.3	54.3	n.a.	54.4	54.4	n.a.

Table D6.12: Percentage of Individuals Using Mobile Phone by State and Strata, Malaysia, 2020 - 2023

(%)

State	2020			2021			2022			2023		
	Total	Urban	Rural	Total	Urban	Rural	Total	Urban	Rural	Total	Urban	Rural
MALAYSIA	98.2	98.5	97.2	98.7	99.0	97.7	99.1	99.4	98.3	99.4	99.6	98.6
Johor	98.7	99.0	97.6	99.0	99.3	98.0	99.4	99.5	99.1	99.8	99.9	99.4
Kedah	97.4	97.8	96.2	97.7	98.2	96.3	98.9	99.1	98.4	99.2	99.4	98.7
Kelantan	97.8	97.5	98.2	98.6	98.7	98.4	99.1	99.7	98.6	99.3	99.8	98.9
Melaka	97.2	97.3	95.6	97.7	97.8	97.5	99.2	99.2	99.6	99.5	99.4	99.8
Negeri Sembilan	97.4	97.8	96.3	98.3	98.8	97.0	99.1	99.8	97.7	99.3	99.8	98.0
Pahang	98.5	98.8	98.1	98.9	99.2	98.5	99.2	99.2	99.1	99.5	99.6	99.4
Pulau Pinang	97.4	97.5	96.7	99.0	99.1	96.9	99.6	99.7	99.0	99.9	99.9	99.3
Perak	97.1	97.3	96.2	98.1	98.2	97.4	98.4	98.7	97.7	98.6	98.8	97.8
Perlis	97.3	97.7	96.5	98.0	98.2	97.6	98.4	98.8	98.0	98.8	99.0	98.4
Selangor	99.0	99.1	97.1	99.5	99.5	98.8	99.6	99.6	98.9	99.7	99.7	99.4
Terengganu	97.4	97.7	96.6	98.3	98.3	98.5	98.8	98.8	98.6	99.1	99.2	98.9
Sabah	99.0	99.1	98.7	99.0	99.1	98.8	99.0	99.3	98.7	99.3	99.6	99.0
Sarawak	97.1	98.3	95.3	97.5	98.7	95.7	97.9	99.0	96.4	98.2	99.3	96.7
W.P. Kuala Lumpur	99.6	99.6	n.a.	99.7	99.7	n.a.	99.8	99.8	n.a.	99.9	99.9	n.a.
W.P. Putrajaya	99.8	99.8	n.a.	99.8	99.8	n.a.	99.9	99.9	n.a.	99.9	99.9	n.a.

Table D6.13: Percentage of Individuals Owning Mobile Phone by Sex, Malaysia, 2020 - 2023

Sex	2020	2021	2022	2023
Total	96.4	97.4	98.2	98.4
Male	97.7	98.2	99.1	98.7
Female	95.0	96.6	97.2	98.0

Note.

Goal 5: Achieve gender equality and empower all women and girls

Target 5.b: Enhance the use of enabling technology, in particular information and communications technology, to promote the empowerment of women

Indicator 5.b.1: Proportion of individuals who own a mobile telephone, by sex

Table D6.14: Percentage of Individuals Owning Mobile Phone by State and Strata, Malaysia, 2020 - 2023

(%)

State	2020			2021			2022			2023		
	Total	Urban	Rural	Total	Urban	Rural	Total	Urban	Rural	Total	Urban	Rural
MALAYSIA	96.4	97.2	93.4	97.4	98.1	95.1	98.2	98.9	96.1	98.4	99.0	96.3
Johor	98.8	99.2	97.3	98.9	99.3	97.4	99.6	99.9	98.7	99.6	99.9	99.0
Kedah	93.7	94.8	91.0	96.6	97.1	95.4	98.0	98.6	97.0	98.3	98.8	97.2
Kelantan	93.2	95.2	90.9	94.7	95.8	93.5	96.6	98.5	94.9	96.7	98.6	95.3
Melaka	95.7	95.9	93.7	96.7	96.7	96.9	98.9	99.0	98.0	99.1	99.3	98.0
Negeri Sembilan	95.3	96.4	91.8	96.4	96.8	95.1	97.8	99.1	95.1	98.3	99.4	95.6
Pahang	96.0	97.8	93.1	97.0	99.1	93.7	98.7	99.2	98.2	99.0	99.5	98.4
Pulau Pinang	96.8	96.8	95.3	98.4	98.6	95.8	98.7	98.8	97.9	99.0	99.0	98.6
Perak	94.5	95.3	91.4	95.0	95.4	93.5	97.1	97.8	95.1	97.5	98.2	95.4
Perlis	95.7	96.0	95.1	96.0	96.2	95.5	96.4	97.1	95.6	96.8	97.7	95.7
Selangor	98.1	98.2	96.0	99.3	99.3	98.0	99.3	99.4	98.1	99.5	99.5	98.3
Terengganu	95.9	95.8	96.3	97.2	97.4	96.8	97.5	97.6	97.4	97.8	97.8	97.6
Sabah	95.7	95.9	95.4	96.8	96.9	96.7	95.9	96.2	95.5	96.1	96.4	95.7
Sarawak	94.5	97.4	89.9	95.5	97.7	92.0	96.4	98.9	92.9	96.5	99.1	93.0
W.P. Kuala Lumpur	99.2	99.2	n.a.	99.7	99.7	n.a.	99.8	99.8	n.a.	99.9	99.9	n.a.
W.P. Labuan	99.5	99.6	99.0	99.7	99.8	99.0	99.1	99.2	98.3	99.7	99.7	99.0
W.P. Putrajaya	99.6	99.6	n.a.	99.6	99.6	n.a.	99.7	99.7	n.a.	99.8	99.8	n.a.

Table D6.15: Percentage of Individuals Using Computer by State and Strata, Malaysia, 2020 - 2023

(%)

State	2020			2021			2022			2023		
	Total	Urban	Rural	Total	Urban	Rural	Total	Urban	Rural	Total	Urban	Rural
MALAYSIA	80.0	85.3	61.0	83.5	88.2	66.7	80.2	85.7	63.1	80.4	86.0	63.6
Johor	86.9	90.7	73.5	89.2	92.1	79.9	83.7	86.9	72.9	84.1	87.5	74.1
Kedah	68.5	70.6	63.1	76.6	80.1	66.4	73.0	76.9	65.5	73.3	77.0	65.7
Kelantan	73.2	82.0	62.6	78.8	84.4	72.1	73.7	81.3	67.4	73.8	81.6	67.7
Melaka	86.1	86.5	81.1	88.1	88.7	81.6	86.0	86.9	77.6	86.0	87.0	77.8
Negeri Sembilan	74.7	80.1	58.3	80.1	84.9	66.2	75.8	81.8	62.7	76.5	81.9	63.6
Pahang	79.2	85.7	68.9	81.6	87.7	72.6	77.6	83.7	70.5	77.8	83.9	70.8
Pulau Pinang	87.1	87.5	77.6	87.5	87.8	79.9	84.8	85.5	78.1	85.4	86.0	78.4
Perak	76.8	79.5	65.4	80.4	82.0	73.6	77.5	80.5	69.1	78.0	81.0	69.9
Perlis	76.8	80.6	68.5	79.2	80.8	75.3	74.4	75.0	73.8	74.8	75.6	74.0
Selangor	93.2	93.7	84.8	95.0	95.4	87.4	91.2	91.6	80.5	91.3	91.8	80.8
Terengganu	82.4	88.5	69.2	85.3	88.7	77.1	80.2	84.1	73.1	80.4	84.4	73.5
Sabah	59.3	67.7	44.1	65.2	75.4	48.0	60.3	73.4	44.6	60.6	73.6	45.1
Sarawak	69.8	81.8	50.7	74.2	84.2	58.4	67.7	78.5	52.9	67.9	78.7	53.5
W.P. Kuala Lumpur	94.3	94.3	n.a.	96.0	96.0	n.a.	94.9	94.9	n.a.	95.6	95.6	n.a.
W.P. Labuan	88.4	90.0	80.4	91.6	93.3	82.9	87.3	88.7	77.3	88.3	89.1	77.9
W.P. Putrajaya	99.9	99.9	n.a.	99.9	99.9	n.a.	97.0	97.0	n.a.	97.1	97.1	n.a.

Table D6.16: Percentage of Individuals Using Computer by State and Type of ICT Skills, Malaysia, 2021- 2023

(%)

State	Copying or moving a file or folder			Using copy and paste tools to duplicate or move information within a document			Sending an e-mail with attached files			Using basic arithmetic formulas in spreadsheet		
	2021	2022	2023	2021	2022	2023	2021	2022	2023	2021	2022	2023
MALAYSIA	94.6	97.0	97.5	93.2	96.3	96.7	78.7	89.4	89.9	52.6	67.1	67.7
Johor	96.4	96.4	96.8	93.4	94.3	94.6	78.6	92.3	92.6	48.1	71.8	72.2
Kedah	96.3	98.6	98.9	91.5	99.6	99.7	75.7	94.2	94.5	59.5	72.4	73.0
Kelantan	96.5	98.3	98.6	91.5	95.8	96.1	70.2	90.7	90.9	40.1	52.0	52.3
Melaka	99.4	99.5	99.7	93.7	94.9	95.2	76.8	85.2	85.4	53.9	71.1	71.4
Negeri Sembilan	96.5	98.1	98.4	93.5	94.5	94.9	73.6	96.2	96.6	62.7	75.4	75.8
Pahang	94.6	96.8	97.3	94.5	96.6	97.1	74.3	91.0	91.2	51.0	69.2	69.7
Pulau Pinang	90.1	94.6	95.4	87.6	97.0	97.2	73.5	79.2	79.7	55.0	63.1	63.9
Perak	89.5	94.1	94.8	93.4	96.0	96.2	80.2	85.6	86.0	42.7	53.6	54.3
Perlis	90.7	97.7	98.0	92.0	97.0	97.4	62.1	96.6	97.0	45.6	47.5	47.8
Selangor	92.6	96.5	97.4	93.0	96.2	96.8	85.2	90.8	91.6	53.2	67.4	68.2
Terengganu	96.8	98.4	98.6	92.1	94.8	95.1	69.1	78.0	78.3	52.0	59.1	59.4
Sabah	94.8	97.0	97.2	94.7	97.3	97.6	77.0	88.7	89.0	58.8	72.7	73.1
Sarawak	95.6	97.4	97.6	91.7	95.4	95.6	74.8	81.2	81.5	50.6	61.9	62.2
W.P. Kuala Lumpur	99.4	99.6	99.7	99.6	99.7	99.8	89.2	96.6	97.0	60.2	76.0	76.8
W.P. Labuan	97.7	99.0	99.3	98.2	99.5	99.7	83.6	92.1	92.9	56.8	89.2	90.6
W.P. Putrajaya	98.5	98.8	99.2	98.6	98.9	99.2	93.2	95.2	95.9	75.4	77.4	77.9

Note.

Goal 4 : Ensure inclusive and equitable education and promote lifelong learning opportunities for all

Target 4.4: By 2030, substantially increase the number of youth and adults who have relevant skills, including technical and vocational skills, for employment, decent jobs and entrepreneurship

Indicator 4.4.1 : Proportion of youth and adults with information and communications technology (ICT) skills, by type of skill

Table D6.16: Percentage of Individuals Using Computer by State and Type of ICT Skills, Malaysia, 2021- 2023 (cont'd)

(%)

State	2021	2022	2023	2021	2022	2023	2021	2022	2023	2021	2022	2023
	Connecting and installing new device			Searching, downloading, installing and configuring software			Creating electronic presentations using computer software			Transferring files between a computer and other devices		
										Writing a computer program using a specialised programming language		
MALAYSIA	76.0	79.2	79.4	67.0	72.5	73.0	51.8	62.9	63.3	74.4	83.1	83.5
Johor	71.9	73.9	74.1	56.9	70.6	70.8	42.0	64.2	64.5	72.6	80.9	81.5
Kedah	78.8	82.4	82.7	61.9	78.3	78.6	59.4	60.3	60.7	75.5	86.9	87.3
Kelantan	67.5	74.4	74.7	62.7	70.0	70.4	50.3	63.2	63.5	59.3	86.8	87.1
Melaka	75.1	75.4	75.6	59.0	75.7	75.8	49.1	60.5	60.6	67.5	84.7	85.0
Negeri Sembilan	78.2	75.4	75.7	67.5	75.1	75.4	56.0	74.7	75.2	73.7	84.7	85.1
Pahang	71.0	73.7	73.9	67.4	70.3	70.4	45.9	59.2	59.7	70.9	87.1	87.7
Pulau Pinang	78.5	79.6	80.1	67.8	69.4	70.1	50.3	53.5	54.0	65.5	72.4	72.7
Perak	74.3	79.3	79.5	63.2	63.9	64.6	42.7	47.8	48.0	67.2	71.7	72.3
Perlis	76.2	74.0	74.3	63.2	65.3	65.8	48.3	49.9	50.3	64.7	87.7	88.5
Selangor	78.3	83.7	83.7	72.3	73.6	74.2	54.2	59.4	59.8	84.6	87.5	87.6
Terengganu	71.1	71.9	72.2	60.0	63.5	63.9	52.7	69.0	69.3	63.8	71.1	71.5
Sabah	77.4	79.2	79.5	71.9	73.8	74.1	55.7	74.4	74.6	77.0	84.4	84.7
Sarawak	75.6	77.0	77.3	70.4	71.4	71.7	51.4	65.8	66.0	70.1	74.9	75.2
W.P. Kuala Lumpur	81.8	85.2	85.7	75.3	83.5	84.4	65.9	76.6	76.8	83.8	92.0	92.7
W.P. Labuan	84.4	88.5	89.5	72.7	76.4	76.7	51.7	92.4	92.5	75.6	97.6	98.1
W.P. Putrajaya	88.6	89.6	90.1	85.7	87.0	87.1	86.3	90.3	90.5	97.1	98.8	99.1

Note.

Goal 4 : Ensure inclusive and equitable education and promote lifelong learning opportunities for all

Target 4.4: By 2030, substantially increase the number of youth and adults who have relevant skills, including technical and vocational skills, for employment, decent jobs and entrepreneurship

Indicator 4.4.1 : Proportion of youth and adults with information and communications technology (ICT) skills, by type of skill

Table D6.17: Percentage of Youth Using Computer by State and Type of ICT Skills, Malaysia, 2021 - 2023

State	Connecting and installing new device			Searching, downloading, installing and configuring software			Creating electronic presentations using computer software			Transferring files between a computer and other devices			Writing a computer program using a specialised programming language		
	2021	2022	2023	2021	2022	2023	2021	2022	2023	2021	2022	2023	2021	2022	2023
MALAYSIA	86.0	85.8	89.3	73.7	84.4	88.1	50.6	76.9	84.8	77.4	87.5	91.6	20.9	31.1	51.1
Johor	84.3	78.6	85.2	63.6	83.0	84.9	44.1	69.3	84.4	78.3	81.4	86.5	14.8	28.8	26.8
Kedah	89.5	95.4	94.8	63.4	88.1	98.2	63.1	82.3	87.1	80.3	91.5	90.0	13.2	31.7	46.9
Kelantan	75.7	83.8	73.9	65.0	80.9	82.4	49.8	82.5	81.8	68.4	82.3	86.4	18.6	38.7	41.6
Melaka	88.3	76.5	78.3	65.7	89.6	91.3	50.1	77.1	81.9	69.7	82.8	88.2	28.3	46.8	54.1
Negeri Sembilan	80.5	81.1	80.2	72.1	86.8	92.3	55.9	80.2	95.6	82.8	75.2	87.3	22.7	49.5	52.2
Pahang	70.7	81.8	89.8	74.8	84.5	88.1	47.5	82.4	82.7	79.3	84.9	91.7	19.2	32.7	41.8
Pulau Pinang	91.6	86.7	91.0	77.2	89.6	85.9	56.7	72.4	87.1	70.7	89.3	91.8	27.9	25.4	47.7
Perak	91.2	86.0	90.2	72.5	79.5	89.4	49.9	62.9	88.7	77.6	88.3	95.4	33.6	31.8	67.9
Perlis	86.8	87.9	75.5	78.8	80.2	72.1	41.6	59.6	58.2	67.1	81.8	84.8	24.2	20.8	36.5
Selangor	91.4	92.0	93.4	90.1	88.4	84.4	53.7	75.6	81.9	77.6	95.5	92.3	18.5	28.6	87.1
Terengganu	85.7	91.3	91.1	66.4	80.9	95.2	51.8	92.1	90.3	68.8	92.0	97.4	25.1	27.5	24.8
Sabah	82.0	90.7	95.7	66.1	78.4	93.4	40.6	86.0	89.0	84.2	91.9	96.5	17.5	29.9	28.7
Sarawak	85.3	88.2	87.6	70.5	92.3	85.2	48.1	80.6	78.3	77.7	88.2	91.2	20.7	28.5	21.3
W.P. Kuala Lumpur	95.6	68.9	95.7	96.7	72.1	92.0	62.3	65.6	86.3	75.4	81.5	95.8	26.5	13.6	64.2
W.P. Labuan	84.9	96.3	99.7	83.6	94.2	95.6	64.3	97.1	100.0	81.7	98.5	99.7	57.3	23.2	33.9
W.P. Putrajaya	90.2	94.3	100.0	90.7	75.8	93.8	82.2	94.3	100.0	95.4	98.9	100.0	71.1	22.4	59.6

Note.

Goal 4 : Ensure inclusive and equitable education and promote lifelong learning opportunities for all

Target 4.4: By 2030, substantially increase the number of youth and adults who have relevant skills, including technical and vocational skills, for employment, decent jobs and entrepreneurship

Indicator 4.4.1 : Proportion of youth and adults with information and communications technology (ICT) skills, by type of skill

Table D6.17: Percentage of Youth Using Computer by State and Type of ICT Skills, Malaysia, 2021 - 2023 (cont'd)

(%)

State	2021	2022	2023	2021	2022	2023	2021	2022	2023	2021	2022	2023
	Copying or moving a file or folder			Using copy and paste tools to duplicate or move information within a document			Sending an e-mail with attached files			Using basic arithmetic formulas in spreadsheet		
MALAYSIA	95.1	98.8	98.6	95.6	97.5	97.6	85.9	95.9	94.1	45.0	74.6	79.7
Johor	94.2	97.9	98.8	94.2	93.8	97.0	86.4	98.8	96.0	42.6	71.6	83.0
Kedah	92.2	98.2	98.9	92.2	99.4	99.5	81.8	98.2	98.4	44.6	87.3	89.4
Kelantan	93.1	99.4	99.3	93.1	96.9	95.6	89.0	99.2	90.3	36.9	75.8	61.8
Melaka	97.9	99.9	99.8	97.9	97.4	96.1	82.7	97.1	88.6	50.7	88.8	86.7
Negeri Sembilan	91.4	99.7	99.2	91.4	96.0	96.8	77.5	98.9	96.9	53.3	80.1	93.6
Pahang	92.0	96.8	99.0	96.9	96.0	97.2	82.8	97.8	76.8	41.0	85.3	64.0
Pulau Pinang	94.5	99.8	98.7	94.5	99.2	99.8	90.3	93.6	94.9	54.9	74.2	76.5
Perak	98.1	99.4	98.2	98.1	97.7	97.5	92.7	94.4	94.1	48.5	60.4	91.6
Perlis	91.9	97.3	100.0	94.3	96.8	99.3	78.7	94.7	100.0	41.5	42.0	65.6
Selangor	99.2	99.8	97.0	98.5	99.4	95.7	89.4	95.6	94.4	47.9	77.5	79.1
Terengganu	94.6	100.0	99.8	94.6	99.2	99.8	84.7	94.5	99.0	49.1	63.8	71.2
Sabah	92.9	96.3	98.6	95.2	98.4	98.4	79.1	94.7	98.8	42.9	75.6	89.3
Sarawak	94.1	99.7	98.8	94.1	96.9	100.0	84.6	92.4	92.9	36.7	70.8	67.7
W.P. Kuala Lumpur	96.6	100.0	100.0	97.9	100.0	100.0	90.3	86.2	96.1	47.2	53.1	77.3
W.P. Labuan	94.7	100.0	99.2	98.5	97.0	100.0	91.5	78.1	96.8	53.7	97.6	99.7
W.P. Putrajaya	98.2	97.6	100.0	98.2	92.1	100.0	83.8	70.7	100.0	54.7	69.7	82.0

Note.

Goal 4 : Ensure inclusive and equitable education and promote lifelong learning opportunities for all

Target 4.4: By 2030, substantially increase the number of youth and adults who have relevant skills, including technical and vocational skills, for employment, decent jobs and entrepreneurship

Indicator 4.4.1 : Proportion of youth and adults with information and communications technology (ICT) skills, by type of skill

Table D6.18: Percentage of Individuals Using the Internet by State and Strata, Malaysia, 2020 - 2023

(%)

State	2020			2021			2022			2023		
	Total	Urban	Rural	Total	Urban	Rural	Total	Urban	Rural	Total	Urban	Rural
MALAYSIA	89.6	92.4	79.4	96.8	97.7	93.5	97.4	98.3	94.5	97.7	98.6	95.0
Johor	93.9	95.3	89.2	98.1	98.6	96.4	98.3	99.0	96.3	98.6	99.2	96.6
Kedah	82.9	84.8	77.8	95.5	96.6	92.4	96.5	97.5	94.8	96.9	97.8	95.1
Kelantan	81.6	85.3	77.2	95.9	96.9	94.7	96.3	97.5	95.3	96.6	97.9	95.6
Melaka	92.2	92.3	90.8	96.4	96.5	95.6	97.7	97.8	97.3	98.0	98.1	97.5
Negeri Sembilan	88.9	92.7	77.4	95.5	97.1	90.8	98.0	99.2	95.3	98.4	99.6	95.7
Pahang	88.8	93.3	81.6	94.9	96.8	92.2	96.5	97.5	95.3	97.0	97.9	96.0
Pulau Pinang	90.2	90.2	88.2	97.8	97.9	95.6	98.7	98.9	96.6	99.0	99.2	96.8
Perak	87.5	88.6	82.9	95.7	95.9	94.6	96.1	96.4	95.3	96.3	96.6	95.6
Perlis	90.2	93.9	82.3	95.0	95.4	94.1	95.5	96.2	94.7	96.0	96.4	95.6
Selangor	96.1	96.8	85.8	98.0	98.1	96.1	98.5	98.5	96.7	98.8	98.9	96.9
Terengganu	84.2	85.8	80.5	95.5	96.0	94.4	97.0	97.2	96.7	97.2	97.3	97.1
Sabah	85.8	88.6	80.7	97.3	98.0	96.2	96.8	98.0	95.4	97.2	98.2	95.9
Sarawak	81.3	91.0	65.8	93.6	98.0	86.7	93.9	98.4	87.7	94.2	98.6	88.3
W.P. Kuala Lumpur	97.3	97.3	n.a.	99.6	99.6	n.a.	99.8	99.8	n.a.	99.9	99.9	n.a.
W.P. Labuan	95.9	98.3	84.2	99.8	99.8	99.5	96.6	98.2	85.7	97.4	98.3	86.6
W.P. Putrajaya	99.7	99.7	n.a.	99.8	99.8	n.a.	99.9	99.9	n.a.	99.9	99.9	n.a.

Note.

Goal 17: Strengthen the means of implementation and revitalize the Global Partnership for Sustainable Development

Target 17.8: Fully operationalize the technology bank and science, technology and innovation capacity-building mechanism for least developed countries by 2017 and enhance the use of enabling technology, in particular information and communications technology

Indicator 17.8.1: Proportion of individuals using the Internet

Table D6.19: Percentage of Individuals Using the Internet by State and Type of Activity, Malaysia, 2021 - 2023

(%)

State	Access to Information						Professional								
	Finding information about goods/ services			Reading newspaper/ magazines online			Applying for jobs			Participating in professional networks			Work from home		
	2021	2022	2023	2021	2022	2023	2021	2022	2023	2021	2022	2023	2021	2022	2023
MALAYSIA	89.4	92.5	92.8	78.0	68.5	68.9	33.0	35.8	36.3	12.4	11.7	12.2	18.1	15.9	16.4
Johor	97.3	97.6	98.1	76.8	67.1	67.3	29.9	34.3	35.0	10.1	9.3	10.2	14.9	8.3	8.9
Kedah	92.4	93.6	94.3	84.5	71.0	71.4	28.6	31.4	31.9	1.7	4.9	5.5	10.0	3.7	4.5
Kelantan	89.6	90.3	90.7	69.5	67.3	67.7	36.7	38.5	39.2	12.2	2.5	3.0	11.0	4.7	5.3
Melaka	91.6	94.5	94.9	76.1	71.3	71.6	31.2	34.3	35.2	9.0	4.6	5.1	21.2	4.2	4.8
Negeri Sembilan	89.0	91.0	91.6	79.6	66.7	67.2	33.8	40.2	40.9	6.7	9.8	10.4	18.7	5.5	6.1
Pahang	88.8	90.6	91.1	72.9	69.8	69.9	34.9	35.8	35.9	13.9	3.3	4.0	14.6	5.0	5.6
Pulau Pinang	93.8	96.0	96.2	86.3	74.6	74.9	29.5	32.5	33.1	9.6	11.6	11.9	18.0	20.0	20.6
Perak	90.4	95.8	96.3	79.3	72.4	72.9	31.9	34.7	35.3	7.5	2.1	2.5	14.7	18.6	19.5
Perlis	85.8	78.1	78.2	65.3	56.0	56.6	27.9	29.3	29.6	4.4	3.4	3.9	10.0	5.8	6.0
Selangor	93.1	98.2	98.3	83.9	71.9	72.6	28.7	32.6	32.9	16.8	20.2	20.8	24.6	28.6	29.1
Terengganu	96.5	97.6	97.7	74.9	70.7	71.2	33.9	35.4	36.0	22.4	24.3	24.8	16.8	19.1	19.4
Sabah	74.1	78.1	78.5	74.6	55.7	56.2	42.2	45.4	45.9	9.8	10.3	10.7	12.2	13.2	13.7
Sarawak	78.3	79.8	80.1	68.3	56.2	56.6	38.7	39.2	39.7	12.4	11.2	11.7	17.7	17.8	18.1
W.P. Kuala Lumpur	95.0	93.5	94.4	79.4	80.0	80.3	32.4	36.3	36.6	25.4	19.6	19.8	34.4	22.0	22.4
W.P. Labuan	98.3	95.0	96.8	91.0	82.4	82.9	34.8	36.3	36.6	30.4	7.1	7.2	28.4	14.9	15.0
W.P. Putrajaya	95.1	96.6	96.9	74.0	89.4	89.6	24.1	29.9	30.5	18.9	15.9	16.2	50.0	27.3	28.1

Note.

Refer to technical notes page 155 - 157 for detailed activities

Table D6.19: Percentage of Individuals Using the Internet by State and Type of Activity, Malaysia, 2021 - 2023 (cont'd)

(%)

	2021	2022	2023	2021	2022	2023	2021	2022	2023	2021	2022	2023			
	2021	2022	2023	2021	2022	2023	2021	2022	2023	2021	2022	2023			
State	Communication														
	Participating in social networks			Sending e-mail			Telephoning over the Internet			Uploading content to a website			Managing personal homepage		
MALAYSIA	99.0	99.2	99.4	79.6	81.7	82.0	89.2	85.2	85.9	10.3	17.6	18.4	7.2	10.3	10.9
Johor	99.0	99.2	99.2	78.2	80.5	80.5	88.2	84.3	85.3	10.9	18.7	22.4	2.8	3.8	4.5
Kedah	99.2	99.2	99.4	84.9	85.6	86.3	96.9	87.6	88.2	1.1	16.1	16.8	0.4	0.4	0.9
Kelantan	99.4	99.4	99.6	78.1	79.1	79.3	94.6	89.5	90.0	4.7	26.0	26.7	1.3	5.8	6.2
Melaka	98.4	99.1	99.4	75.5	83.0	83.8	91.9	87.4	88.0	5.2	18.2	19.0	3.7	2.1	2.4
Negeri Sembilan	98.5	99.4	99.6	76.2	77.7	78.2	93.1	87.3	87.9	12.6	20.6	21.3	11.5	7.2	7.7
Pahang	98.7	98.9	99.0	79.4	81.0	81.4	86.2	87.6	87.9	3.6	15.0	15.4	0.9	1.4	2.2
Pulau Pinang	99.2	99.5	99.7	74.6	76.6	76.8	82.0	82.9	83.0	12.9	14.9	15.5	12.7	16.8	17.1
Perak	98.3	98.5	98.6	70.4	72.0	72.8	84.1	77.9	78.7	12.8	15.7	15.8	8.8	17.2	17.8
Perlis	99.2	99.5	99.2	76.2	78.4	78.2	86.8	82.3	82.1	7.5	8.7	9.0	7.0	0.7	0.8
Selangor	99.2	99.2	99.3	86.3	88.3	88.5	88.0	85.1	85.8	14.1	23.3	23.7	11.7	14.8	15.7
Terengganu	99.8	99.4	99.5	89.9	91.3	91.8	86.2	93.7	90.5	3.4	8.7	9.1	2.0	10.6	11.0
Sabah	99.2	99.4	99.6	77.7	77.9	78.3	94.0	92.5	92.9	8.8	10.1	10.5	5.6	14.3	14.7
Sarawak	98.9	99.5	99.6	73.1	74.2	74.5	82.4	73.5	74.1	2.3	3.7	4.0	1.5	1.5	2.0
W.P. Kuala Lumpur	98.8	99.5	99.8	85.1	85.6	86.2	92.9	87.0	87.1	28.7	28.1	28.7	23.9	22.6	23.0
W.P. Labuan	99.1	99.5	99.6	82.2	83.9	85.1	99.4	98.0	98.4	30.7	23.6	24.2	29.5	29.8	30.6
W.P. Putrajaya	99.9	99.9	99.9	96.1	97.8	98.2	97.2	97.9	98.0	3.3	22.4	22.9	2.9	21.4	21.8

Table D6.19: Percentage of Individuals Using the Internet by State and Type of Activity, Malaysia, 2021 - 2023 (cont'd)

(%)

State	2021	2022	2023	2021	2022	2023	2021	2022	2023	2021	2022	2023	2021	2022	2023
	Communication						Performing tasks to generate income			Using services related to travel/ accommodation			Selling goods/ services other than e-Commerce		
	Managing blog			Accessing online discussion											
MALAYSIA	5.3	5.5	6.1	38.2	39.3	39.7	10.9	15.5	15.9	40.8	36.6	37.0	11.3	14.2	14.9
Johor	2.6	5.7	6.3	33.7	34.7	34.8	9.9	16.0	16.4	36.3	37.8	38.5	11.4	12.6	13.2
Kedah	0.3	0.4	1.1	20.3	22.2	22.7	3.6	12.0	12.5	41.4	19.1	19.6	5.5	11.2	11.7
Kelantan	1.2	3.0	3.4	34.2	36.2	36.5	10.4	12.4	12.8	31.5	22.9	23.4	9.9	11.7	12.2
Melaka	5.1	2.1	2.5	46.7	47.1	47.9	9.5	15.7	16.3	39.8	23.6	24.4	10.2	13.0	18.2
Negeri Sembilan	11.2	7.4	7.9	42.0	42.8	43.2	8.1	17.3	18.0	46.9	18.0	18.5	5.7	10.0	10.4
Pahang	1.1	1.6	2.4	24.0	29.0	29.3	6.1	12.8	13.2	26.7	29.9	30.6	6.7	10.8	11.1
Pulau Pinang	5.0	4.2	5.1	28.4	27.4	27.5	8.6	9.8	10.7	44.9	35.3	36.2	6.7	8.4	9.0
Perak	8.0	4.8	5.1	26.1	27.6	28.2	7.5	13.5	14.4	32.0	32.2	32.4	11.5	12.9	13.8
Perlis	5.8	0.5	1.3	28.4	32.0	32.5	5.0	6.4	7.0	14.6	25.2	25.8	5.4	9.3	9.5
Selangor	9.0	10.9	11.8	53.1	52.0	52.7	17.2	18.6	18.7	52.1	53.2	53.3	16.0	21.9	22.5
Terengganu	0.9	0.6	1.1	16.2	19.0	19.4	20.0	21.4	21.9	60.3	49.3	49.7	20.6	23.5	24.0
Sabah	4.0	3.0	3.4	39.0	38.0	38.4	9.1	11.9	12.3	32.2	30.2	30.7	10.1	12.6	13.1
Sarawak	1.3	1.5	2.0	38.5	35.7	36.1	9.8	12.2	12.6	28.9	24.7	25.1	9.6	11.4	11.9
W.P. Kuala Lumpur	13.4	10.1	10.3	62.3	66.4	66.9	12.6	24.4	25.1	61.4	51.9	52.6	13.7	9.5	10.4
W.P. Labuan	28.9	22.3	23.1	30.0	33.9	34.8	28.4	29.4	30.0	59.8	33.9	34.1	30.7	10.8	10.9
W.P. Putrajaya	4.6	10.6	10.8	60.8	64.8	65.3	10.2	21.9	22.5	52.2	33.8	34.0	16.2	16.5	17.0

Note.

Refer to technical notes page 155 - 157 for detailed activities

Table D6.19: Percentage of Individuals Using the Internet by State and Type of Activity, Malaysia, 2021 - 2023 (cont'd)

(%)

State	Using Internet banking					Other Online Services					Learning Activities				
	2021	2022	2023	2021	2022	2023	2021	2022	2023	2021	2022	2023	2021	2022	2023
	Using software for editing texts					Downloading software/ applications					Ordering goods/ services online other than e-commerce				
MALAYSIA	70.5	74.8	75.2	39.9	35.9	36.3	86.3	89.1	89.6	60.6	50.4	50.8	29.9	26.4	27.0
Johor	72.0	75.6	76.0	34.2	33.7	33.9	79.9	85.6	85.9	60.7	53.2	53.5	28.0	22.8	23.3
Kedah	72.4	73.3	74.1	27.2	25.4	26.0	95.7	96.7	97.1	59.7	46.3	47.0	24.5	19.4	20.2
Kelantan	61.3	66.6	67.2	37.4	24.5	25.0	83.4	85.4	85.8	49.3	38.1	38.7	30.9	21.5	21.7
Melaka	69.2	74.2	74.7	45.1	27.5	27.9	82.7	84.8	85.4	67.9	50.6	51.5	24.3	22.5	22.6
Negeri Sembilan	69.0	72.5	73.5	59.9	45.8	46.4	92.3	93.1	93.7	61.4	45.9	47.1	17.7	22.4	23.1
Pahang	66.7	73.6	74.0	35.0	21.4	22.0	80.3	85.5	85.6	52.3	40.0	40.7	25.2	21.8	22.6
Pulau Pinang	75.4	78.1	78.9	32.2	31.8	32.5	86.3	86.4	86.7	58.0	52.5	53.2	22.7	16.1	16.8
Perak	66.2	67.6	68.5	30.4	32.6	33.2	73.3	79.6	80.4	50.4	40.7	41.3	33.7	23.7	24.4
Perlis	52.7	53.6	54.0	15.6	13.0	13.3	78.2	72.4	72.6	45.4	41.0	41.1	26.7	21.5	21.8
Selangor	84.6	89.8	90.0	63.2	55.7	56.5	93.4	94.7	95.2	79.3	68.7	68.8	40.1	37.6	38.3
Terengganu	81.0	83.2	83.6	39.1	37.8	38.3	85.8	89.6	90.2	80.2	70.4	70.8	46.3	43.9	44.4
Sabah	49.2	52.9	53.4	22.4	23.0	23.5	91.7	97.6	98.1	49.7	40.3	40.8	21.4	20.1	20.6
Sarawak	59.5	60.1	60.4	28.2	24.0	24.4	83.0	84.4	84.7	34.2	25.1	25.5	28.9	20.8	21.2
W.P. Kuala Lumpur	85.8	85.9	86.3	54.2	42.8	42.9	83.2	83.3	83.7	78.0	50.1	50.8	29.0	32.9	33.6
W.P. Labuan	85.5	86.7	87.6	59.2	21.3	22.2	83.6	50.4	50.5	82.0	39.2	39.3	38.7	18.0	18.2
W.P. Putrajaya	89.5	90.9	91.3	36.2	42.6	43.0	95.3	95.9	96.2	72.4	72.7	73.3	61.1	31.1	32.0

Note.

Refer to technical notes page 155 - 157 for detailed activities

Table D6.19: Percentage of Individuals Using the Internet by State and Type of Activity, Malaysia, 2021 - 2023 (cont'd)

(%)

State	2021	2022	2023	2021	2022	2023	2021	2022	2023	2021	2022	2023	2021	2022	2023
	Learning Activities						Entertainment								
	Consulting websites for formal learning purposes			Doing an informal online course			Listening to radio online			Watching television online			Downloading pictures/ movie/ games		
MALAYSIA	59.0	52.9	53.3	28.7	26.1	26.7	64.9	72.8	73.1	65.0	68.1	68.4	91.8	93.5	93.9
Johor	59.3	52.8	53.4	21.9	22.6	22.9	78.3	79.7	80.5	63.1	64.5	65.2	88.9	92.7	93.2
Kedah	56.0	48.7	49.3	18.5	17.7	18.1	68.2	79.1	79.6	63.8	67.8	68.5	96.7	97.5	98.0
Kelantan	47.4	39.3	39.6	29.2	22.9	23.3	48.0	66.7	67.6	49.5	62.8	63.6	90.0	90.8	91.5
Melaka	61.7	57.5	58.1	31.3	22.2	22.6	73.6	79.0	79.3	72.6	77.9	78.3	92.1	94.9	95.5
Negeri Sembilan	56.2	48.4	48.9	25.3	19.2	19.8	73.7	78.7	79.4	65.5	70.1	70.9	93.9	96.0	96.4
Pahang	56.7	49.5	49.7	20.3	21.5	22.2	38.3	64.8	65.1	50.8	59.0	59.3	85.5	88.8	88.9
Pulau Pinang	60.3	56.1	56.4	20.6	15.6	16.5	80.3	82.5	82.6	84.5	88.8	89.0	92.6	93.2	93.4
Perak	54.7	46.4	46.6	38.0	30.4	30.8	55.1	60.8	61.2	67.4	67.8	68.1	86.1	86.9	87.3
Perlis	50.1	42.8	43.2	17.4	26.2	26.6	67.8	71.7	71.8	55.1	34.9	35.5	85.7	86.3	86.5
Selangor	69.4	62.9	63.5	46.3	39.5	40.4	71.8	77.9	78.1	66.9	71.6	71.8	96.6	97.3	97.4
Terengganu	60.6	53.1	53.5	49.0	38.2	38.7	94.5	96.4	96.9	78.0	78.9	79.3	96.6	97.2	97.7
Sabah	51.8	45.9	46.4	17.4	17.8	18.2	45.5	54.0	54.5	54.3	56.9	57.4	92.5	95.1	95.6
Sarawak	52.7	48.0	48.4	16.2	12.5	12.9	49.3	56.4	56.9	67.8	68.7	69.1	86.0	86.4	86.8
W.P. Kuala Lumpur	65.9	57.6	58.3	28.2	33.8	34.7	78.7	78.9	79.7	69.4	65.5	65.8	92.2	93.2	94.1
W.P. Labuan	62.3	60.4	61.2	37.8	14.1	14.2	83.2	85.3	86.2	98.4	53.8	53.9	98.5	99.6	99.7
W.P. Putrajaya	76.0	67.6	68.1	33.7	20.5	21.1	76.8	96.9	97.0	83.3	82.3	82.5	96.2	98.2	98.5

Note.

Refer to technical notes page 155 - 157 for detailed activities

Table D6.19: Percentage of Individuals Using the Internet by State and Type of Activity, Malaysia, 2021 - 2023 (cont'd)

(%)

State	Civic and Politics			e-Commerce			Safety, Online Protection and Awareness		
	2021	2022	2023	2021	2022	2023	2021	2022	2023
	Posting opinions/ voting			Purchasing goods/ services via e-Commerce			Selling goods/ services via e-Commerce		
MALAYSIA	41.2	43.3	43.7	64.7	70.4	70.6	7.0	8.2	8.7
Johor	43.5	43.2	43.8	65.8	69.7	69.9	5.7	8.0	8.4
Kedah	29.2	29.7	30.4	71.2	75.2	76.0	1.6	6.4	6.9
Kelantan	50.6	51.4	51.9	61.5	65.9	66.3	5.7	4.6	5.1
Melaka	53.9	57.9	58.2	66.7	77.7	78.1	6.4	3.4	3.9
Negeri Sembilan	29.7	30.1	30.6	64.2	72.4	73.4	4.9	3.2	3.6
Pahang	27.1	35.0	35.1	58.8	71.6	71.9	4.2	2.4	3.1
Pulau Pinang	40.6	42.7	43.6	56.3	66.2	67.0	3.5	5.6	6.0
Perak	24.9	26.6	26.9	53.3	54.6	55.2	3.8	5.8	6.3
Perlis	13.0	27.4	27.7	43.8	52.6	52.9	3.4	4.6	4.8
Selangor	59.0	61.3	62.1	83.7	87.9	88.0	13.9	14.3	14.8
Terengganu	70.3	71.9	72.3	79.5	81.9	82.3	4.2	4.6	5.2
Sabah	22.7	24.8	25.2	47.1	48.3	48.8	7.0	7.9	8.4
Sarawak	35.9	36.2	36.6	45.4	48.1	48.5	4.7	5.8	6.3
W.P. Kuala Lumpur	46.9	37.1	37.3	79.5	79.7	80.2	8.3	12.3	12.9
W.P. Labuan	49.4	43.5	44.2	91.4	92.8	93.1	27.9	24.4	25.0
W.P. Putrajaya	55.8	49.9	50.3	90.9	96.7	97.0	9.5	5.2	5.8

Note.

Refer to technical notes page 155 - 157 for detailed activities

Table D6.19: Percentage of Individuals Using the Internet by State and Type of Activity, Malaysia, 2021 - 2023 (cont'd)

(%)

State	2021	2022	2023	2021	2022	2023	2021	2022	2023	2021	2022	2023			
	Storage Space			e-Health			e-Government								
	Using storage space on the Internet			Seeking health information			Making a medical appointment			Getting information from government organisations			Interacting with government organisations		
Malaysia	64.6	51.2	51.8	73.8	62.3	62.9	43.5	31.7	32.3	68.1	54.8	55.4	51.9	38.4	38.7
Johor	65.5	51.7	52.3	75.7	65.7	66.1	41.7	24.7	25.3	74.9	67.4	67.7	62.3	47.2	47.8
Kedah	68.0	50.8	51.7	87.6	67.5	68.3	22.8	16.9	17.4	95.8	84.4	85.0	67.5	45.9	46.3
Kelantan	60.8	41.3	41.9	77.7	50.7	51.3	63.3	19.4	20.1	60.7	39.2	39.8	29.4	29.3	29.6
Melaka	64.9	44.9	45.6	74.6	54.2	54.9	29.3	18.3	18.8	63.3	55.9	56.5	43.1	30.2	30.8
Negeri Sembilan	62.4	55.2	56.0	81.8	52.4	53.3	24.8	22.4	23.3	71.5	43.9	44.5	29.8	28.1	28.7
Pahang	62.7	40.9	41.4	63.5	51.4	52.0	38.6	17.2	17.9	59.3	35.2	35.6	40.8	30.3	30.6
Pulau Pinang	58.7	46.7	47.4	66.2	57.9	58.1	22.0	21.1	21.8	68.6	59.1	59.9	65.9	43.9	44.4
Perak	59.5	55.4	56.0	71.1	62.6	63.2	37.2	27.5	28.1	68.9	51.6	52.1	69.9	42.5	43.2
Perlis	54.9	26.3	26.5	70.9	46.7	47.0	11.9	9.6	10.0	74.9	46.6	46.8	60.2	35.4	35.7
Selangor	75.1	57.7	58.4	74.7	65.7	66.3	56.5	49.6	49.9	65.4	53.8	54.8	44.5	42.4	42.6
Terengganu	67.2	49.4	49.7	91.5	71.1	71.5	75.5	64.6	65.0	93.6	63.9	64.2	90.8	69.4	69.9
Sabah	54.6	45.9	46.4	79.9	76.4	76.8	47.8	41.7	42.1	66.3	57.1	57.6	41.2	24.2	24.7
Sarawak	58.3	51.3	51.7	57.9	45.5	45.9	39.2	24.4	24.8	46.6	32.4	32.8	45.4	20.9	21.3
W.P. Kuala Lumpur	70.1	55.7	56.2	65.6	63.7	64.3	43.7	23.9	24.4	66.6	54.5	55.1	54.2	38.1	38.9
W.P. Labuan	76.5	28.2	28.3	79.3	49.2	49.3	49.7	22.9	24.0	54.8	48.7	48.8	29.6	39.8	40.0
W.P. Putrajaya	86.2	77.7	77.9	71.4	81.2	82.0	31.3	15.2	15.6	94.8	61.6	62.2	87.7	56.1	56.7

Note.

Refer to technical notes page 155 - 157 for detailed activities

Table D6.19: Percentage of Individuals Using the Internet by State and Type of Activity, Malaysia, 2021 - 2023 (cont'd)

(%)

State	Safety, Online Protection and Awareness				Cyber crime awareness			
	2021	2022	2023		2021	2022	2023	
	Verifying the reliability of information found online				Changing privacy settings on your devices, accounts or app			
	Setting up effective measure to protect devices and online accounts							
MALAYSIA	-	28.6	29.0	-	79.1	79.6	77.8	78.3
Johor	-	24.9	25.5	-	86.8	87.2	83.0	83.4
Kedah	-	27.3	28.1	-	78.4	79.0	76.0	76.7
Kelantan	-	24.5	25.1	-	78.3	79.1	77.0	77.4
Melaka	-	23.9	24.3	-	81.7	82.1	78.8	79.4
Negeri Sembilan	-	26.6	27.0	-	65.8	66.5	63.1	63.7
Pahang	-	24.4	25.1	-	68.6	69.1	75.4	75.5
Pulau Pinang	-	37.8	38.2	-	89.1	89.8	79.9	80.2
Perak	-	28.7	29.1	-	77.6	78.2	76.4	77.1
Perlis	-	26.3	26.6	-	72.9	73.2	66.3	66.4
Selangor	-	36.5	36.7	-	83.5	84.0	82.8	83.2
Terengganu	-	26.1	26.5	-	68.5	69.0	74.3	74.7
Sabah	-	19.4	19.9	-	73.0	73.5	77.6	78.1
Sarawak	-	20.5	20.9	-	71.3	71.7	64.8	65.2
W.P. Kuala Lumpur	-	36.3	37.1	-	82.4	82.5	80.3	81.1
W.P. Labuan	-	24.5	25.0	-	79.8	80.6	77.0	77.4
W.P. Putrajaya	-	37.1	37.7	-	92.2	92.4	84.0	84.4

Note.

Refer to technical notes page 155 - 157 for detailed activities

Table D7.1: Relative Standard Error of Estimates for Percentage of Households with Access to ICT Services and Equipment by strata, Malaysia, 2023

ICT services and equipment	Percentage of ICT access by households			Standard error of estimates (%)						Percentage of ICT access by households at 95% confidence interval		
				Relative value			Standard error					
				Malaysia	Urban	Rural	Malaysia	Urban	Rural			
Internet	Malaysia	Urban	Rural	0.1	0.1	0.3	0.1	0.1	0.3	96.2	98.2	90.3
	96.4	98.4	89.8	0.1	0.1	0.3	0.1	0.1	0.3	- 96.6	- 98.6	- 90.3
Computer	91.6	94.2	82.8	0.2	0.2	0.4	0.2	0.2	0.4	91.2	93.8	83.5
										- 91.9	- 94.6	- 83.5
Mobile phone	99.3	99.6	98.4	0.1	0.1	0.1	0.1	0.1	0.1	99.2	99.5	98.6
										- 99.4	- 99.7	- 98.6
Pay TV channel	77.0	80.8	64.1	0.4	0.5	0.7	0.3	0.4	0.4	76.3	80.0	65.0
										- 77.6	- 81.6	- 65.0
Television	99.4	99.6	98.6	0.0	0.0	0.1	0.0	0.0	0.1	99.3	99.5	98.8
										- 99.4	- 99.7	- 98.8
Radio	99.2	99.6	98.2	0.1	0.1	0.1	0.1	0.1	0.1	99.1	99.4	98.4
										- 99.3	- 99.7	- 98.4
Fixed-line telephone	27.4	30.8	16.0	1.5	1.7	2.1	0.4	0.5	0.3	26.6	29.8	16.7
										- 28.2	- 31.8	- 16.7

Table D7.2: Relative Standard Error of Estimates for Percentage of Individuals Using ICT Services and Equipment by Strata, Malaysia, 2023

ICT services and equipment	Percentage of individuals using ICT			Standard error of estimates (%)						Percentage of individuals using ICT at 95% confidence interval		
	Malaysia	Urban	Rural	Relative value			Standard error			Malaysia	Urban	Rural
				Malaysia	Urban	Rural	Malaysia	Urban	Rural			
Internet	97.7	98.6	95.0	0.1	0.1	0.1	0.1	0.1	0.1	97.5	98.4	94.7
										98.7	94.7	95.2
Computer	80.4	86.0	63.6	0.4	0.4	0.9	0.3	0.3	0.6	79.8	85.3	62.5
										86.6	62.5	64.7
Mobile phone	99.4	99.6	98.6	0.0	0.0	0.1	0.0	0.0	0.1	99.3	99.5	98.5
										99.7	98.5	98.8

TECHNICAL NOTES



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A) CONCEPT AND DEFINITION OF DIGITAL ECONOMY

The **Malaysia Digital Economy 2024** publication presents a comprehensive overview of the nation's digital economy, compiling data from the Economic Census 2023 Usage of ICT and E-Commerce by Establishment (ICTEC), Economic Census 2023 Information and Communication Services, ICT Use and Access by Individuals and Households Survey Report (ICTHS) 2023, Information and Communication Technology Satellite Account (ICTSA) 2023, Quarterly Services Statistics (QSS), and digital economy indicators by the Department of Statistics Malaysia (DOSM) and relevant agencies. The publication integrates both monetary and non-monetary indicators to highlight how businesses, households, and individuals are embracing the digital age. The publication plays a crucial role in supporting the formulation of informed policies and strategies for the advancement of ICT and e-commerce in Malaysia.

CONCEPT OF DIGITAL ECONOMY

The digital economy has advanced as a result of ICT advancements, cloud computing, artificial intelligence, and other breakthroughs. In this economy, both individuals and businesses are increasingly dependent on digital mechanisms of exchange for economic and social purposes.

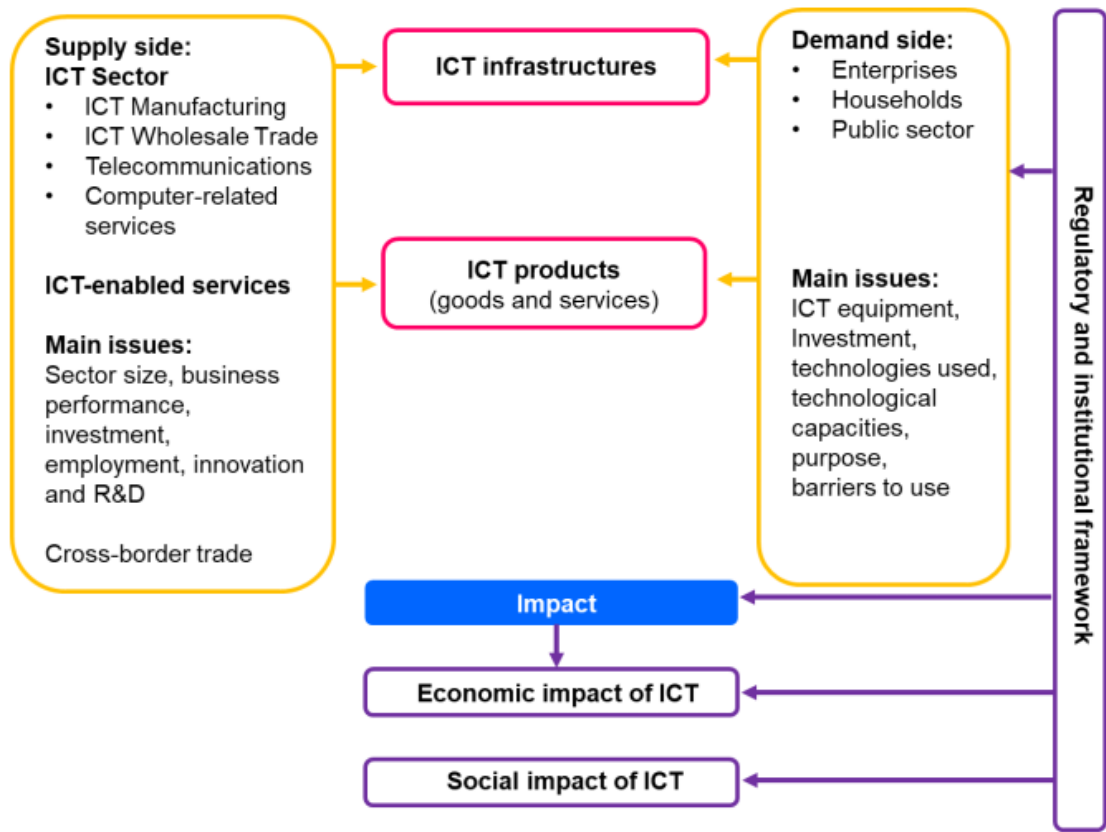
The term "digital economy" has become widely used to describe how digital technology is altering production (supply) and consumption (demand) patterns. The different technologies and economic aspects of the digital economy can be broken down into three broad components (UNCTAD, 2019):

- i. Core aspects or foundational aspects of the digital economy, which comprise fundamental innovations (semiconductors, processors), core technologies (computers, telecommunication devices) and enabling infrastructures (Internet and telecoms networks).
- ii. Digital and information technology (IT) sectors, which produce key products or services that rely on core digital technologies, including digital platforms, mobile applications and payment services. The digital economy is to a high degree affected by innovative services in these sectors, which are making a growing contribution to economies, as well as enabling potential spillover effects to other sectors.
- iii. A wider set of digitalising sectors, which includes those where digital products and services are being increasingly used (e.g., for e-commerce). Even if change is incremental, many sectors of the economy are being digitalised in this way. This includes digitally enabled sectors in which new activities or business models have emerged and are being transformed as a result of digital technologies. Examples include finance, media, tourism and transportation. Moreover, although less often highlighted, digitally literate or skilled workers, consumers, buyers and users are crucial for the growth of the digitalised economy.



At present, specific elements of the digital economy can be quantified according to the components or 'building blocks' of supply and demand (Figure a).

Figure a: Building Blocks of The Digital Economy



Note.
Source: Adapted from OECD (2005)

In terms of sector, there is not yet a broadly recognised definition of the digital economy, however the G20 Roadmap offers a first effort to a definition by distinguishing between three levels of measurement. In its broadest sense, the digital economy currently encompasses every economic sector; it has been described as;

“All economic activity reliant on, or significantly enhanced by the use of digital inputs, including digital technologies, digital infrastructure, digital services and data. It refers to all producers and consumers, including government, that are utilising these digital inputs in their economic activities” (OECD, 2020).

The OECD definition of the digital economy provided above is translated in a measurement perspective built around four layers, moving from the centre towards broader definitions in its outer layers.

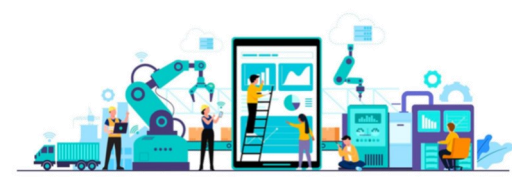
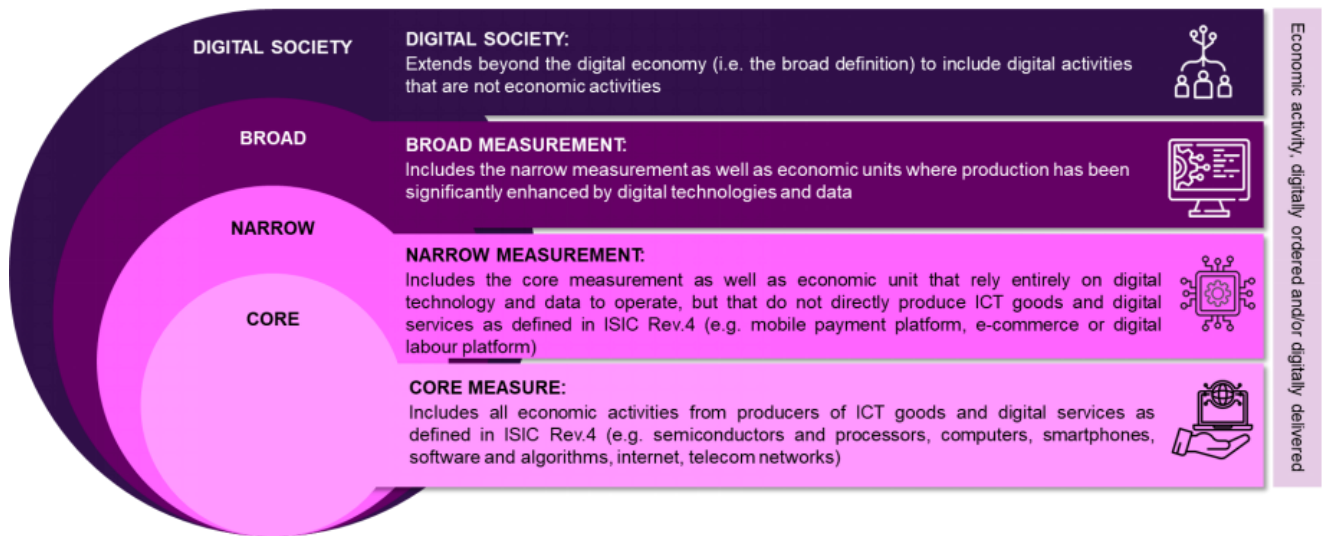


Figure b: Different Layers of Digital Economy



Note.

Source: OECD, 2020, A G20 Roadmap toward a Common Framework for Measuring the Digital Economy: A Report for the G20 Digital Economy Task Force (DETF), OECD Publishing, Paris.

Recent analysis in the Digital Economy Report 2024 by UNCTAD underscores the critical intersection of digitalisation and sustainability. UNCTAD emphasises the need to address the environmental impacts of digital technologies across their life cycle, from resource extraction to energy consumption and waste management. Simultaneously, digital innovations are widely acknowledged as tools to enhance efficiency, reduce emissions, and support environmental preservation efforts. The digital economy serves as a vital driver for equitable and sustainable development, potentially bridging digital divides and fostering environmentally conscious growth when guided by coordinated global efforts.

In Malaysia, the concept of the digital economy is defined as the economic and social activities that involve the production and utilisation of digital technology by individuals, businesses, and government (MyDIGITAL, 2021). This encompasses a wide range of activities facilitated by digital tools and platforms, from e-commerce to digital public services. The goal of Malaysia's digital transformation, as outlined in the MyDIGITAL initiative, is to leverage this digital economy to foster economic growth, improve productivity, and create more high-paying jobs while ensuring inclusive and sustainable development across all sectors of society.



B) INFORMATION AND COMMUNICATION TECHNOLOGY SATELLITE ACCOUNT (ICTSA)

1. Introduction

Information and Communication Technology Satellite Account (ICTSA) of Malaysia 2023 is based on the System of National Accounts (SNA) 2008, the OECD Guide to Measuring the Information Society 2011 and the OECD Internet Economy Outlook 2012. The concepts and definitions are adapted to Malaysia's requirement.

2. Establishment of ICTSA

The compilation of ICTSA is made possible due to the well established of System of National Accounts in Malaysia. The term "satellite account" is adopted to reflect the nature of the account developed. It is a "satellite" to the core set of National Accounts that presents additional information which is beyond the available information provided in the National Accounts.

This satellite information focuses on a particular aspect of the economy for example contribution of ICT to the nation. It also permits further linkages to additional information specific to ICT such as income, exports, imports and employment. ICT consists of industries such as manufacturing, trade, services and content & media.

The development of satellite account is a systematic statistical measurement that applies concepts, definitions and classification which are based on international standard to enable comparison among countries. Various information available in different agencies is compiled to provide holistic and better picture of the impact of ICT industry in Malaysia.

3. Concepts and Definitions

- a. Information and Communication Technology (ICT)** refers to the technologies and services that enable information to be accessed, stored, processed, transformed, manipulated and disseminated, including the transmission or communication of voice, image and/or data over a variety of transmission media.



b. ICT industry refers to the industries which produce ICT products as primary activities. Details of ICT industry are described in the Classification Section. The main categories of ICT industry in the compilation of ICTSA are as follows:

1. ICT manufacturing
2. ICT trade
3. ICT services
4. Content and media

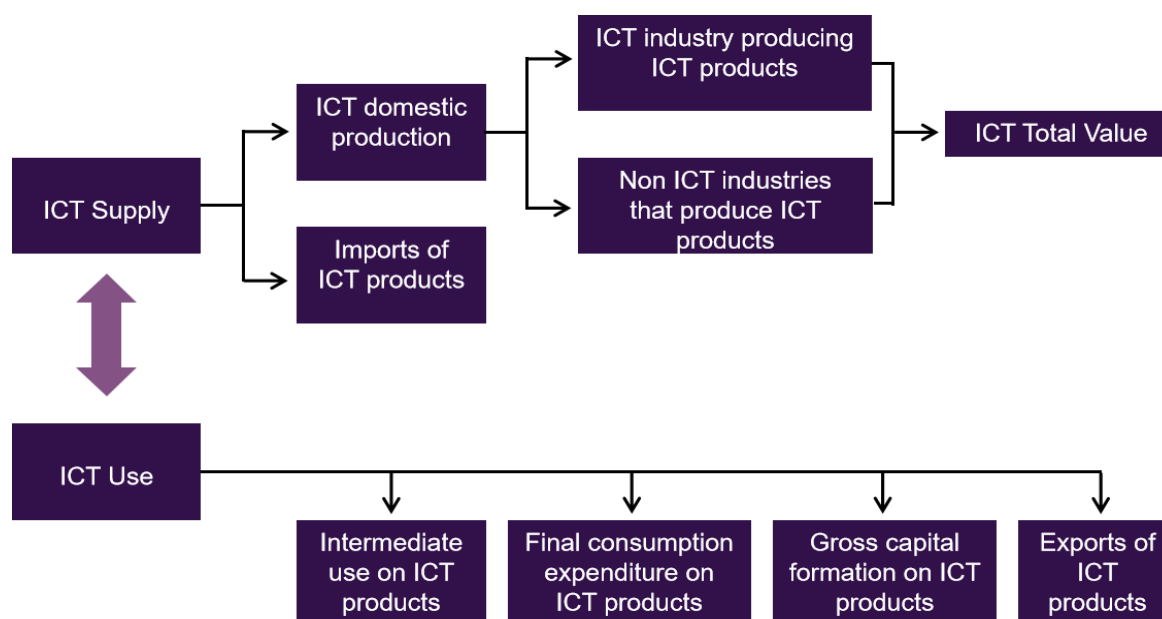
c. Non ICT industries refers to the industries other than ICT industries that produce ICT products.

d. The details of ICT products are listed in the Classification Section. The main categories of ICT products are as follows:

1. ICT goods
 - 1.1. Computers and peripheral equipment
 - 1.2. Communication equipment
 - 1.3. Consumer electronic equipment
 - 1.4. Miscellaneous ICT components and goods
2. ICT services
 - 2.1. Manufacturing services for ICT equipment
 - 2.2. Business and productivity software and licensing services
 - 2.3. Information technology consultancy and services
 - 2.4. Telecommunications services
 - 2.5. Leasing or rental services for ICT equipment
 - 2.6. Other ICT services
3. Content and media products
 - 3.1. Printed and other text-based content on physical media, and related services
 - 3.2. Motion picture, video, television and radio content, and related services
 - 3.3. Music content and related services
 - 3.4. Games software
 - 3.5. Online content and related services
 - 3.6. Other content and related services



e. Schematic view of ICTSA

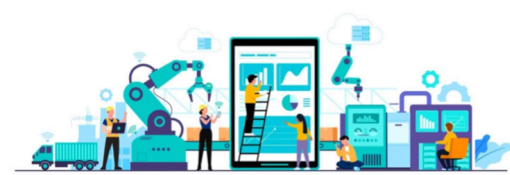


- f. **E-commerce** transaction is the sale or purchase of goods or services, conducted over computer networks by methods specifically designed for the purpose of receiving or placing of orders. E-commerce transaction can be between enterprises, households, individuals, governments and other public or private organisations.

Method of payment and the ultimate delivery of the e-commerce goods or services might be done through computer network/internet or traditionally.

E-commerce transactions include orders made in web pages, extranet or Electronic Data Interchange (EDI). Nevertheless, orders made by telephone calls, facsimile or manually typed e-mail are not categorised as an e-commerce transactions.

- g. **E-commerce of non ICT industries** is an industries that is not categorised under the ICT industry classification.
- h. **ICT to economy** consists of ICT industry plus e-commerce of non ICT industry.



4. Production Accounts of ICT Industry

- a. **Gross Domestic Product (GDP)** is the total value of all goods and services produced in a certain period after deducting the cost of goods and services used up in the process of production. This value is before deducting the allowances for consumption of fixed capital i.e. the sum of value added of resident producer in producers' prices plus import duties. GDP is equivalent to expenditure on the GDP (in purchasers' prices) i.e. the sum of all components of final expenditure on goods and services less imports of goods and services.

GDP can be measured by using three approaches namely Production, Expenditure and Income Approach.

- b. **Value added** is the difference between output and intermediate consumption. It represents the added value of goods and services by economic activity. Hence, it is approximately equivalent to commercial profit, salaries and wages, depreciation and indirect taxes; plus interest paid less interest received.
- c. **Gross Value Added of ICT Industry (GVAICT)** is the sum of Gross Value Added of all ICT industry.

5. Generation Income Accounts of ICT Industry

- a. **Compensation of employees** includes remuneration, in cash or in kind, payable by an enterprise to an employee in return for work done during the accounting period.
- b. **Gross operating surplus** refers the operating surplus before deducting the consumption of fixed capital and mixed income.
 - i. **Operating surplus** refers to measures the surplus or deficit accruing from processes of production before deducting any explicit or implicit interest charges, rent or other property income payable on the financial assets, land or other natural resources required to carry on the production. By definition, operating surplus can only be earned by industries.



- ii. **Mixed income** includes an unknown element of remuneration for work done by the owner of the enterprise or other members of the household, as well as operating surplus accruing from the production.
- iii. **Consumption of fixed capital** is defined as the decline in the current value of the stock of fixed assets owned and used by a producer during the course of the accounting period as a result of physical deterioration, normal obsolescence or nominal accidental damage.
- c. **Taxes less subsidies on production and imports** consists of taxes on products and other taxes on production less subsidies on product and other subsidies on production.

- i. **Taxes on products**

Taxes that are payable per unit of some goods or services and usually become payable when they are produced, delivered, sold, transferred or otherwise disposed by their producer. The tax may be a specific amount of money per unit of quantity of a good or service, or it may be calculated ad valorem as a specified percentage of the price per unit or value of the goods or services transacted. For example, sales taxes, excise taxes, import duties, export duties, etc.

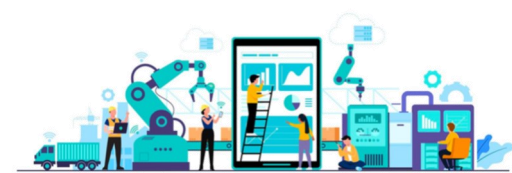
- ii. **Other taxes on production**

Other taxes on production consists of all taxes except taxes on products that enterprises incur as a result of engaging in production such as taxes payable on land, fixed assets or labour employed in the production process or certain activities or transactions. Examples of other taxes on production are taxes payable by enterprises for business licenses, payroll taxes, stamp duties, etc.

- iii. **Subsidies on products**

A subsidy payable per unit of a good or service. The subsidy may be a specific amount of money per unit of quantity of a good or service, or it may be calculated ad valorem as a specified percentage of the price per unit of the goods or services. A subsidy on products usually becomes payable when the good or service is produced, sold or imported, but it may be also payable in other circumstances such as when a good is transferred, leased, delivered or used for own consumption or own capital formation.

The subsidy may be designed to influence resident enterprises' levels of production or the prices at which their outputs are sold.



iv. Other subsidies on production

Other subsidies on production consists of subsidies except subsidies on products that resident enterprises may receive as a consequence of engaging in production such as subsidies on payroll or workforce. The subsidy may be designed to influence the remuneration of the institutional units engaged in production.

6. Framework of ICTSA

The basis of ICTSA compilation in Malaysia is the framework of supply and use tables (SUT). However, it only focuses on ICT products and industries. The supply table indicates the goods and services of ICT products that are supplied by each producer. Meanwhile, use table tracks the usage of those ICT products by industries, government, households and exports.

Supply of each product (valued at purchasers' prices) consists of;

- Domestic production by industry (valued at basic prices);
- Imports;
- Transport, retail and wholesale trade margins; and
- Taxes less subsidies on production and imports.

Use of each product (valued at purchasers' prices) consists of:

- Intermediate use by industries (products that are consumed by industries in the process of producing other products); and
- Final use by type of expenditure. Final use includes consumption households and government, products that have been capitalised, changes in inventories and exports.

A comprehensive use table includes primary inputs of production namely compensation of employees, gross operating surplus and other taxes less subsidies on products and production for each industry.

The SUT are used to assemble and integrate all data required to produce estimates of economic aggregates related to ICT. Output consists of those goods and services produced within an establishment which become available for use outside that establishment. The value of ICT output is the market value of ICT goods and services. Value added will be computed for ICT industry and non ICT industries which produce ICT products. The following table illustrates the basic structure of SUT.



SUPPLY TABLE

Supply of product	Output of industries at basic prices* (economic activities)				Imports	Total supply at basic prices	Trade and transport margins	Taxes less subsidies on products	Total supply at purchasers' prices**
	Industry A	Industry B	Industry ...	Total industry (1)	(2)	(3) = (1) + (2)	(4)	(5)	(6) = (3) + (4) + (5)
ICT product A	Output by product and by industry				Imports by product	Supply by product			
ICT product B									
ICT product C									
ICT product									
Total Supply (ICT product)	Total output by industry				Total imports	Total supply by product			

USE TABLE

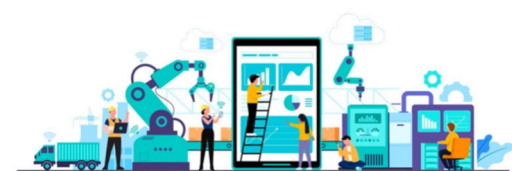
Use of product	Intermediate use by industry (economic activities)				Final consumption expenditure	Gross capital formation	Exports	Total use at purchasers' prices**
	Industry A	Industry B	Industry ...	Total intermediate use (1)	(2)	(3)	(4)	(5) = (1) + (2) + (3) + (4)
ICT product A	Intermediate consumption by product and by industry				Final use by product and by type of expenditure***			
ICT product B								
ICT product C								
ICT product ...								
Total use (ICT product)	Total intermediate consumption by industry				Total final use by product and by type of expenditure***			
Compensation of employees	Value added by component and by industry							
Gross operating surplus								
Taxes less subsidies on production and imports								
Industry output at basic prices*								

Note.

* Basic prices is the price received by the producer for a unit of good and service produced as output, excluding any tax payable or including any subsidy receivable on the product as a subsequent of its sales or use. It also excludes any delivery charges invoiced separately by the producer.

** Purchasers' prices is the price paid by the purchaser to take delivery of a good and service at the time and place required by the purchaser. It includes any transport charges paid separately by the purchaser.

*** Type of expenditure refers to the final consumption expenditure, gross capital formation and exports.



7. Measurement of e-commerce

Measurement of e-commerce value added is based on the manual OECD Internet Economy Outlook 2012. There are two recommended approaches, which are narrow and broad approaches. Narrow approach only takes into account value added from the wholesale and retail sectors. While, broad approach includes all industries across the economy.

It is assumed that the share of revenue from e-commerce to total revenue for each industry is proportional to the percentage of value added from e-commerce to the total value added for the same industry. Broad approach is used in measuring the e-commerce in Malaysia. E-commerce consists of the value of ICT industry and non ICT industries.

8. Data sources

The data sources in compiling ICT Satellite Account are as follows:

INDUSTRY / DATA	DATA SOURCES
ICT manufacturing industries	• GDP
ICT trade industries	• Economic Census
ICT services industries	• Annual Survey
Publishing of books, periodicals and other publishing activities	• SUT
Motion picture, video and television programme activities	
Sound recording and music publishing activities	
Programming and broadcasting activities	
Other information service activities	
Non ICT industries	
Exports and imports of ICT goods and services	• External Trade Statistics
	• Statistics of International Trade in Services
Tax and subsidies	• GDP Income Approach



INDUSTRY / DATA	DATA SOURCES
Government final consumption expenditure	Financial Accounts of Federal Government, State Government, Local Authorities and Statutory Bodies
Private final consumption expenditure	- GDP - Household Expenditure Survey
Gross capital formation	GDP
Compensation of employees	GDP Income Approach
Gross operating surplus	GDP Income Approach
Employment	- Annual Labour Force Survey - Annual Economic Survey - Quarterly Survey of Services - Monthly Manufacturing Survey - Monthly Survey of Wholesale & Retail Trade

9. Main Tables ICTSA

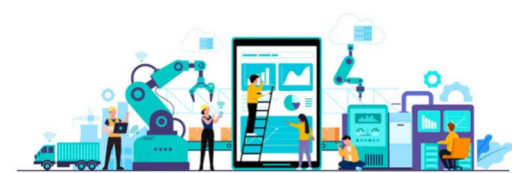
ICTSA comprises of nine (9) tables of each table and the explanation are as follows:

Table 1: ICT industry and non ICT industries that produce ICT products

Table 1 contains the statistics on all industries that produce ICT products. This table derived from SUT 2015 according to the ICT product classification. For the subsequent years, data is based on published Annual GDP.

Table 2A, 2B and 2C: Supply and use of ICT products

Table 2A, 2B and **2C** present the statistics on the supply and use of ICT products. The value of supply must be equal to the value of use of ICT product. The data on the supply and use of ICT products are derived from the SUT 2015. For the subsequent years, data are based on published Annual GDP. Industry and products have been selected based on the ICTSA classification. Supply of ICT products data comprises of domestic production of ICT products,



imports of ICT products and tax less subsidies on ICT products. Use of ICT products data consists of intermediate use of ICT products, final consumption expenditure of ICT products by households and governments, gross capital formation for ICT products and export of ICT products.

Table 3 and Table 4: Exports and imports of ICT products

Tables 3 and 4 consists the exports and imports statistics for ICT products. Data from goods extracted from the customs declaration (International Trade Statistics) where the compilation is based on the Harmonized Commodity Description and Coding Systems (HS) code. Meanwhile, the value of the exports and imports services is derived from the balance of payments statistics. The arrangement also took into account the recommendations by the 2008 SNA and Balance of Payments and International Investment Position Manual Sixth Edition (BPM6) particularly in implementation on treatment of Goods for Processing from Abroad (GFP) and Manufacturing Services (MS).

Net exports are one of the important variables used to calculate the GDP. When net exports are positive, it shows a trade surplus and when it is negative, it represents a trade deficit.

$$\text{Net Exports} = \text{Exports Value} - \text{Imports Value}$$

Table 5: Income components of ICT industry

Table 5 consists statistics on Income components of ICT industry comprises of compensation of employees, gross operating surplus and taxes less subsidies on production and imports. This statistics is derived using on SUT 2015 according to the ICT industry. For the subsequent years, data is based on published Annual GDP Income Approach.

Table 6: Employment in the ICT industry

Table 6 is statistics on employment data in the ICT industry. The statistics is compiled using Annual Labor Force Survey, Annual Economic Survey, Quarterly Survey of Services, Monthly Manufacturing Survey and Monthly Survey of Wholesale & Retail Trade are obtained by the Department of Statistics Malaysia.

Table 7A, 7B and 7C: Gross Value Added of ICT Industry

Table 7A, 7B and 7C comprise the Value Added statistics of ICT Industry at current prices. The measurement of Gross Value Added of ICT Industry is the sum of Gross Value Added of all ICT industry. Statistics is obtained from published Annual GDP.



Table 8A and 8B: Gross Value Added of e-commerce

There are two table for e-commerce. Table 8A are present the Gross Value Added of e-commerce by ICT industry while Table 8B was Gross Value Added of e-commerce by main sector. Measurement of e-commerce value added is based on the OECD Internet Economy Outlook 2012. Data are based on the percentage of e-commerce revenues by industries from the Economic Census 2016. For the subsequence years, data is based on Usage of ICT and E-Commerce (ICTEC).

Table 9: ICT contribution to economy

Table 9 is statistics to economy which is comprises Gross Value Added of the ICT Industry (Table 7) and the Gross Value Added of e-commerce by non ICT industries (Table 8A).

8. Publication and Data Revision

This publication presents ICTSA for the year 2015 to 2023. The series will be updated whenever any latest data available.

9. Symbols

- : negative
- .. : not applicable
- e : estimate
- p : preliminary
- 0 : value less than 0.05
- % : per cent



C) ECONOMIC CENSUS 2023

INFORMATION AND COMMUNICATION SERVICES

1. SCOPE AND COVERAGE

The census covered all registered establishments engaged in **Information and Communication Services** which included main activities as follows:

- i. Publishing;
- ii. Motion picture, video & television programme production, sound recording & music publishing;
- iii. Programming & broadcasting;
- iv. Telecommunication services;
- v. Computer programming, consultancy & related activities; and
- vi. Information services.

Overall, coverage of the survey for Information and Communication Services was 35 industries at 5-digit level under the Malaysia Standard Industrial Classification (MSIC), 2008.

Coverage for year 2010 and above are not the same as the coverage in 2009 and below, due to differences in the classification of activity (2010 and above - MSIC 2008; 2009 and below - MSIC 2000). Publishing activities are not covered in Information and Communication Services prior to 2009 and motion picture, video and television programme production, sound recording and music publishing activities are covered only in this services after 2010.

2. SOURCE OF FRAME

The main source for the establishment statistics frame is from the Malaysia Statistical Business Register (MSBR), while for the Accommodation sub-sector, includes unregistered homestay. MSBR is a list of establishments/ enterprises operating in Malaysia that includes the Register of Companies (ROC), Register of Business (ROB) and Limited Liability Partnership (LLP) registered with the Companies Commission of Malaysia (CCM) as well as establishments registered with local authorities (LA) and professional bodies. The list in the MSBR is updated regularly based on surveys and censuses conducted by the Department of Statistics Malaysia (DOSM) and administrative data sources from various agencies. The main source of administrative data is from the CCM.

In addition DOSM also works together to obtain the latest information from other agencies such as the Employees' Provident Fund (EPF), the Royal Malaysian Customs Department, the Inland Revenue Board (IRB), LA and professional bodies. The frame is updated by taking into account new establishments and any changes in the status of the establishments such as closed down, not in operation, change in activity and location/ correspondence address so as to ensure that the frame is at the most current status.



3. TYPE OF BUSINESS ACTIVITY

Type of business activity refers to both principal and secondary activities. The principal activity refers to the activity to which the establishment devoted most of its resources or activity which derived most of its income. Secondary activities are defined as those incidental or ancillary to the principal activity. The classification of the industry of the establishment is based on the principal activity and is in accordance with the Malaysia Standard Industrial Classification (MSIC) 2008 Ver. 1.0 conforms to the International Standard Industrial Classification of All Economic Activities (ISIC), Rev. 4, United Nations, with modifications to suit local conditions.

4. CONCEPTS AND DEFINITIONS

Concepts and definitions of Information and Communication Services adopted in this publication is based on the recommendations of the Malaysia Standard Industrial Classification (MSIC) 2008 Ver. 1.0:

i. Publishing activities

Publishing includes the acquisition of copyrights to content (information products) and making this content available to the general public by engaging in (or arranging for) the reproduction and distribution of this content in various forms. All the feasible forms of publishing (in print, electronic or audio form, on the internet, as multimedia products such as CD-ROM reference books, etc.), are included in this division except publishing of motion pictures.

ii. Motion picture, video and television programme production, sound recording and music publishing activities

Motion picture, video and television programme production, sound recording and music publishing activities include production of theatrical and non-theatrical motion pictures whether on film, video tape or disc for direct projection in theatres or for broadcasting on television; supporting activities such as film editing, cutting, dubbing, etc; distribution of motion pictures and other film productions projection to other industries; as well as motion picture or other film production projection.

Also included is buying and selling of motion picture or other film productions distribution rights. Besides, it also includes the sound recording activities, i.e. produce, release, promote and distribute the original sound master recordings, publishing of music as well as sound recording service activities in a studio or elsewhere.



iii. Programming & broadcasting activities

Programming & broadcasting activities includes the activities of creating content or acquiring the right to distribute content and subsequently broadcasting that content, such as radio, television and data programme of entertainment, news, talk, and the like. Also included is data broadcasting, typically integrated with radio or TV broadcasting. The broadcasting can be performed using different technologies, over-the-air, via satellite, via a cable network or via internet. This division also includes the production of programme that are typically narrowcast in nature on a subscription or fee basis, to a third party, for subsequent broadcasting to the public (limited format, such as news, sports, education, or youth-oriented programming).

iv. Telecommunication services

Telecommunication services includes the activities of providing telecommunication and related service activities, i.e. transmitting voice, data, text, sound and video. The transmission facilities that carry out these activities may be based on a single technology or a combination of technologies. The commonality of activities classified in this division is the transmission of content, without being involved in its creation. The breakdown in this division is based on the type of infrastructure operated.

v. Computer programming, consultancy and related activities

Computer programming, consultancy and related activities includes the following activities of providing expertise in the field of information technologies such as writing, modifying, testing and supporting software to meet the needs of a particular customer; planning and designing computer systems that integrate computer hardware, software and communication technologies; on-site management and operation of clients' computer systems and/ or data processing facilities; providing infrastructure for hosting or data processing services; and other professional and technical computer related activities.

5. CENSUS YEAR

Refers to the year in which a census was conducted.

6. REFERENCE YEAR

The reference year of the census was the calendar year 2022. Establishments whose accounting year differed from calendar year were requested to report according to the accounting year or financial year covering at least six (6) months in the reference year.



7. METHOD OF COLLECTION

This census was generally conducted through three (3) methods of data collection, namely:

7.1 Online method through the e-BE portal

This method targets respondents who have used this method for previous routine surveys.

7.2 Data collection method via e-mail, post, fax and telephone

This method targets respondents who have used this method for previous routine surveys. Respondents were given a period of one month to complete and return the questionnaire to the DOSM.

7.3 Face-to-face data collection method

Field work operation is carried out to get feedback from establishments that have not yet given answers from the two methods above and this method also targets establishments that have never been involved in a routine survey of DOSM.

8. REPORTING UNIT

The reporting unit used in the Economic Census 2023 is the establishment. An establishment is defined as "an economic unit engaged in one activity, under a single legal entity and operating in a single physical location". Each establishment is assigned an industry classification based on its principal activity and not according to the activities of the parent company.

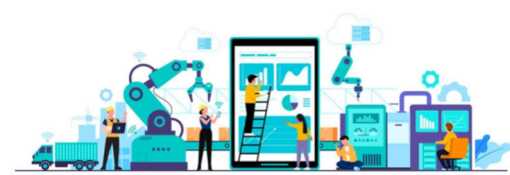
Thus, each branch of a multi-branch organisation at a different location was conceptually treated as a different establishment. The establishment is requested to give separate returns for each activity in terms of value. However, if in practice, the accounts are centrally kept such that it was not possible to obtain separate data for each individual unit or branch. That entity or enterprise is treated as a single reporting unit and allowed to submit a consolidated questionnaire covering all units or branches.

9. LEGAL STATUS

The legal status of an establishment is defined as follows:

9.1 Individual proprietorship

This refers to a business, owned and operated by one person for his own profit. The owner has the exclusive right to control the operation of the establishment.



9.2 Partnership

This refers to a group of individuals who agree to contract and to carry out a business with the objective of profit making. All shareholders or anyone could manage the business for all parties. A trading partnership must comprise of at least two members and should not exceed a maximum of twenty members.

9.3 Limited liabilities partnership

Refers to business entity regulated under the Limited Liability Partnerships Act 2012. It is featured with the protection of limited liability to its partners similar to the limited liability enjoyed by shareholders of a company coupled with flexibility of internal business regulation through partnership arrangement similar to a conventional partnership; and

9.4 Private limited company

A private company established to undertake a business with the objective of making a profit. The shares are closely held by the shareholders of the company who have control over its operation.

Characteristics:

- i. Regulated under the Companies Act 1965 and is a legal entity separate from the owners;
- ii. Number of its shareholders between 2 - 50 members;
- iii. Company owners have limited liability;
- iv. Shareholders who own 51 per cent or more of the total shares shall be entitled to manage the company. The company's shares can be traded but not in the open market;
- v. Trading of share must be with the consent of the other shareholders;
- vi. Not listed on the Stock Exchange; and
- vii. Business life expectancy is longer and can be identified by the words "Sendirian Berhad" (Sdn. Bhd.) at the end of the company name.

9.5 Public limited company

A public limited company is a company established with limited liability, by a minimum of two persons to operate the business with the objective of making a profit. The shares in a public limited company are openly held and in the case of company listed on the Bursa Malaysia, the shares are freely transferable.



Characteristics:

- i. Regulated under the Companies Act 1965 and is a legal entity separate from the owner;
- ii. Owned by the shareholders and there is no limit to the shareholder;
- iii. Management of the company is under the board of director responsibilities as appointed by shareholders; and
- iv. Listed on Bursa Malaysia.

9.6 Co-operative

This refers to a voluntary association with unrestricted number of members and registered under the Co-operatives Act 1993. Funds are collectively owned to meet the needs of members.

9.7 Public corporation

This refers to an undertaking set up under a Special Act Parliament or by the State Legislature.

9.8 Private non-profit making organisation

This is non-stock company set up with limited liability. It comprises mainly welfare, religious, educational, health, cultural, recreational and other organisations providing social and community services to households. These services are provided free of charge or at prices, which do not necessarily or fully cover the cost of providing such services (subsidy). Any profit made is reinvested in the organisation.



10. OWNERSHIP

The ownership of an establishment is classified by the residential status of the owner (s) of the majority (more than 50%) of the paid-up capital and not by their citizenship status. In instances where each party (Malaysian Resident and Non- Malaysian Resident) held equal shares in the business, the establishments were classified as "Joint Ownership".

A Malaysian Resident is any individual, company or other organization ordinarily domiciled in Malaysia for a period of at least one year. Malaysian registered branches and incorporated subsidiaries of foreign based/origins are also regarded as Residents.

A Non-Malaysian Resident is any individual, company or other organization ordinarily domiciled in a country other than Malaysia. Foreign branches and/or subsidiaries abroad owned by Malaysian Residents are also regarded as Non-Residents.

11. VALUE OF GROSS OUTPUT

The value of gross output of **Information and communications services** is defined to include the following items:

- + Income from services rendered
- + Income from repair and maintenance services for telecommunication services and installation services for telecommunication networks
- + Income from advertising and online advertising space
- + Subscription income and income from providing program to other broadcasting establishments
- + Royalties, copyrights, licensing, franchise fees and licensing of rights to use syndicated media content
- + Income from commissions and brokerage earned and management services
- + Rental income received (except for rent of land) and leasing of computer hardware
- + Value of sales (good / materials purchased for resales without undergoing further processing)
- + Other operating income
- + In-house research and development expenditure
- + Built / self-produced fixed assets
- Cost of goods sold (goods/material purchased for resale without undergoing further processing)



12. VALUE OF INTERMEDIATE INPUT

The value of intermediate input of **Information and communications services** is defined to include the following elements:

- + Purchase of goods, materials and services
- + Payment for data processing and other services related to information technology
- + Cost of material used includes materials for repairs and maintenance
- + Costs of films purchased for projection, payment for programmed provider and payment for rental of films
- + Amount paid for outsourcing, payment for current repairs & maintenance work done by others and payment for providing workers
- + Domestic interconnect and international out payment
- + Royalties paid to non-government organizations / corporate sponsorship (local and foreign)
- + Telecommunication, printing cost and advertising and promotion
- + Expenditure for electricity, water, fuel, lubricants, gas, stationery, office supplies and others
- + Payment for security services and warranty claim
- + Operation expenditure and Operational lease
- + Fees paid to non-working directors for their attendance at Board of Directors' meetings
- + Other operating expenditure
- Changes in stock (Closing stocks - Opening stocks)

Effective 2014, research and development expenditure has been removed from calculation of intermediate input and treated as capital asset in line with the Recommendation of System of National Accounts (SNA) 2008.

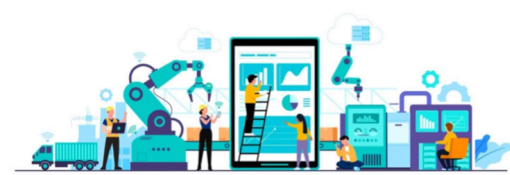
13. VALUE ADDED

Value added is increment to the value of commodities and services contributed by the establishment. Value added is derived as the difference between the value of gross output and value of intermediate input.

14. NUMBER OF PERSONS ENGAGED

Labour force statistics employ various terminologies to explain the labour market, depending on the definition, scope, and coverage of the published statistics.

The term number of **employed persons** in the statistics published by DOSM through the Labour Force Survey (LFS) refers to all persons aged 15 to 64 years who, at any time during the reference week, worked at least one hour for pay, profit, or family gain (as an employer, employee, own-account worker, or unpaid family worker).



On the other hand, the number of **filled jobs** in the Employment Statistics refers to the persons employed at the end of each reference quarter, including full-time and part-time employees, permanent, short-term or seasonal employees, employees paid with monthly salaries or based on hours worked, employees on short vacation such as sick leave or annual leave, and newly hired employees to fill the vacancy in the current quarter. These statistics exclude proprietors and partners of unincorporated businesses, unpaid family workers, employees on strike during the quarter, employees on unpaid leave during the entire quarter, and employees provided by other agencies such as subcontractors and consultants.

Meanwhile, the number of **formal employees** in Employee Wages Statistics is refer to the person who works under a contract of service or apprenticeship with the employer and receives remuneration for the work completed. Formal employees do not include those who fall under non-standard employment, including self-employed, gig-workers, own-account workers, unpaid family workers, etc.

In the Economic Census 2023 publication, the number of persons engaged refers to all working persons who worked for the establishments which has been censused; in December or the last pay period of the reference year. The number of persons engaged was classified under the following categories:

14.1 Working proprietors and active business partners

This category refers to all individual proprietors and partners, part-time or full-time, who are actively engaged in the work of the establishment. Therefore, it excludes silent and inactive partners.

14.2 Unpaid family workers

This is defined as all persons (full-time or part-time) in the household of any of the owners of the establishment who perform a specified job and work for a minimum of one third of the normal working time for the establishment, but do not receive regular payment either in cash or in kind for the work done. Such workers generally receive food, shelter and other support as part of the household of an owner but this would continue whether they worked in the establishment or not.

14.3 Paid employees (full-time)

Refer to all paid workers (full-time) who work for at least six hours a day and/or 20 days a month. All such employees are to be categorised according to Malaysia Standard Classification of Occupations 2020 (MASCO) as follows:



14.3 Paid employees (full-time) (cont'd.)

i. Manager, professional and researcher included:

a. Manager

Refer to those who devise, analyse, formulate, direct and advise on government policy, and make, amend and repeal laws, public rules and regulations, and represent and act on behalf of the government, and oversee the interpretation and implementation of policies and government legislation, or carry out similar tasks on behalf of special interest organisations, or plan, organise, lead, control and coordinate the policies and activities of enterprises, organisations, departments or the internal section; and

b. Professional

Refer to those responsible for increase the existing stock of knowledge, apply scientific or artistic concepts and theories, teach about the foregoing in a systematic manner, or engage in any combination of these three activities.

ii. Technicians and associate professionals

Refer to those who perform technical and related tasks connected with research and the application of scientific or artistic concepts and operational methods, and government or business regulations.

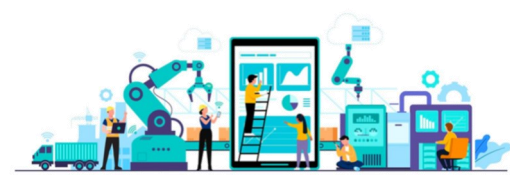
iii. Clerical, services & sales workers, craft workers, plant & machine operators and related occupations includes:

a. Clerical support workers

Refer to those who record, organise, store and retrieve related information and perform clerical duties especially in connection with administrative operations, handling of money, travel arrangements and requests for information and appointments;

b. Service and sales workers

Refer to those who provide personal services related to travel, housekeeping, catering, personal care, or protection against fire and unlawful acts, or demonstrate and sell goods in wholesale or retail shops and similar establishments as well as at stalls and markets;



c. Craft and related trades workers

Refer to those who apply their specific knowledge and skills in the fields of mining and construction, metal forming, and erect metal structures, make, fit, maintain and repair machinery, equipment or tools, carry out printing work as well as produce or process foodstuffs, textiles, or wooden, metal and other articles including handicraft goods; and

d. Plant & machine operators and assemblers

Refer to those who operate and monitor industrial and agricultural machinery and equipment, drive and operate trains, motor vehicles and mobile machinery and equipment, or assemble product component parts according to strict specifications and procedures

iv. Elementary occupations

Refer to those who perform simple, routine and non-systematic tasks which mainly require the use of handheld tools or with the assistance of simple machines, and in some cases considerable physical effort.

14.4 Paid part-time employees

This is defined as all paid workers who work for less than 6 hours a day and/or less than 20 days a month.

15. CATEGORY OF SKILLS

Category of skills has been categorised according to Malaysia Standard Classification of Occupations (MASCO) 2020 as follow:

i. High-skilled workers

Managers and professionals, researcher, technician and associate professionals;

ii. Semi-skilled workers

Clerical support, service and sales, craft and related trades workers and plant and machine operators and assemblers; and

iii. Low-skilled workers

Elementary occupations.



16. SALARIES & WAGES

All payments (salaries, wages, bonuses, commissions, overtime pay and cash allowances including cost of living, housing, car, food, etc.) made throughout the reference year to all paid employees in each category. For all directly employed workers, total payments made before deductions for income tax and employees' contributions to Employees' Provident Fund (EPF)/ Social Security Organisation (SOCSO)/ Other provident/ Retirement Funds Incorporated (KWAP). The employer's contribution to such funds as mentioned above should be excluded.

17. VALUE OF FIXED ASSETS

Fixed assets covers all goods, new or used, tangible, which have a normal economics life span of more than one year. For instance land, building & structure, transport equipment, computer, machinery & equipment, furniture & fittings and other assets. Other assets also include biological assets namely trees/ crops (except for logging trees that intended for logging), livestock and aquaculture fisheries which can produce products repeatedly and have a life expectancy of more than one year.

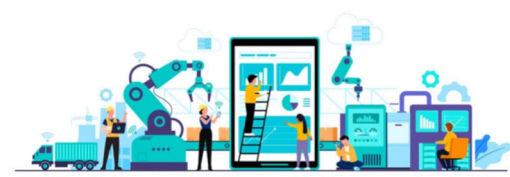
Value of assets as at the beginning and end of 2021 were based on net book value. Purchases, alterations and major repairs or capital expenditure during the year valued at actual cost incurred. Value of assets sold during the year refers to the realized value. Research and development expenditure also treated as capital asset in line with the recommendation of System of National Accounts (SNA) 2008.

18. WOMEN-OWNED ESTABLISHMENT

Women-owned establishment refers to a minimum of 51 per cent of the equity held by a women OR the biggest shareholders are women and the establishment is managed by a women OR the Chief Executive Officer or Managing Director is women that owns at least 10 per cent of the equity.

19. ROUNDING

The sum of the component figures may not tally with the sub-total or total figures due to rounding.



20. COMPOUND ANNUAL GROWTH RATE (CAGR)

The calculation of compound annual growth rate (r) is based on the following formula:

$$y_t = y_0 (1+r)^t$$

Where,

$$r = \left[e^{\frac{1}{t} \ln\left(\frac{y_t}{y_0}\right)} - 1 \right] \times 100$$

y_t = Value at current year

y_0 = Value at previous year

t = Number of years, $y_t - y_0$

r = Annual growth rate

21. SYMBOLS AND ABBREVIATIONS

-	: nil
%	: per cent
&	: and
>	: more than
<	: less than
}	: combined
b	: billion
CAGR	: Compounded annual growth rate
m	: million
RM	: Ringgit Malaysia
etc.	: et cetera
cont.	: continue
i.e	: that is
n.a	: Not available
n.e.c	: not elsewhere classified
W.P.	: Federal Territory



D) ECONOMIC CENSUS 2023 - USAGE OF ICT AND E-COMMERCE BY ESTABLISHMENT (ICTEC)

1. INTRODUCTION

This report provides information on usage of ICT and e-commerce by establishment for reference year 2022. The data were collected and compiled from Economic Census conducted in 2023.

The ICT indicators has been developed by the World Summit on the Information Society (WSIS) and was launched in June 2004. The purpose of the core list as a guidance/ input to countries that are conducting ICT surveys. The core list also assists in produce quality and internationally comparable ICT data.

There are 48 ICT indicators in six groups as follows:

• ICT infrastructure and access	- 10 indicators
• Usage and access of ICT by households and individuals	- 13 indicators
• Usage of ICT by businesses	- 12 indicators
• ICT sector (producing)	- 2 indicators
• International trade in ICT goods	- 2 indicators
• ICT in education	- 9 indicators

2. LEGAL AUTHORITY

The Economic Census 2023 was conducted under the **Statistics Act 1965 (Revised 1989)**. **Section 5** under this Act requires any establishment operating in Malaysia to provide actual or best estimate information to the Department. According to the Act, the contents of the questionnaire are **confidential** and only aggregate figures are published.

3. SCOPE AND COVERAGE

This publication used data from Economic Census 2023 (reference year 2022). The census collected information from registered establishments in Agriculture, Mining & quarrying, Manufacturing, Construction and Services sectors. The classifications for industries were referring to Malaysia Standard Industrial Classification (MSIC) 2008 Version 1.0, which is in accordance with the International Standard Industrial Classification of All Economic Activities (ISIC), Revision 4 United Nations. The coverage for all sectors encompasses 1,200 categories of industries as shown in **Table 1**.

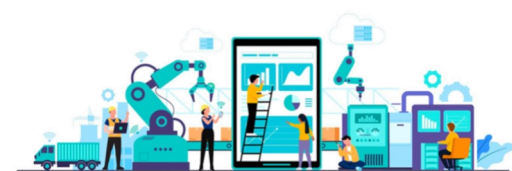


Table 1: Category of industries by sector

Sector	Category of Industries
Agriculture*	142
Mining & quarrying	56
Manufacturing	259
Construction	72
Services	645
Total	1,174

Note: (*) Entrepreneurs in the Agriculture sector which registered with relevant government agencies for the purpose of receiving aid were **NOT** covered except palm oil's entrepreneurs.

4. SOURCE OF FRAME

The main source for the establishment statistics frame is from the Malaysia Statistical Business Register (MSBR), while for the Accommodation sub-sector, includes unregistered homestay. MSBR is a list of organisations/ enterprises operating in Malaysia that includes the Register of Companies (ROC), Register of Business (ROB) and Limited Liability Partnership (LLP) registered with the Companies Commission of Malaysia (CCM) as well as organisations registered with local authorities (LA) and professional bodies. The list in MSBR is updated regularly based on surveys and censuses conducted by the Department of Statistics Malaysia (DOSM) and administrative data sources from various agencies. The main source of administrative data is from the CCM.

In addition, DOSM also works together to obtain the latest information from other agencies such as the Employees' Provident Fund (EPF), the Royal Malaysian Customs Department, the Inland Revenue Board (IRB), Social Security Organisation (SOCSO), LA and professional bodies. The frame is updated by taking into account new establishments and any changes in the status of the establishments such as closed down, not in operation, change in activity and location/ correspondence address so as to ensure that the frame is at the most current status.



5. TYPE OF BUSINESS ACTIVITY

Type of business activity refers to both principal and secondary activities. The principal activity refers to the activity to which the establishment devoted most of its resources or activity which derived most of its income. Secondary activities are defined as those incidental or ancillary to the principal activity. The classification of the industry of the establishment is based on the principal activity and accordance with the Malaysia Standard Industrial Classification (MSIC), 2008 Ver. 1.0. The MSIC 2008 conforms to the International Standard Industrial Classification of All Economic Activities (ISIC), Revision 4, published by United Nations Statistics Division, with modifications to suit local conditions.

6. CONCEPT AND DEFINITIONS

The industries are categorised into five main sectors namely Agriculture, Mining & quarrying, Manufacturing, Construction and Services. The sectoral definitions include the following activities:

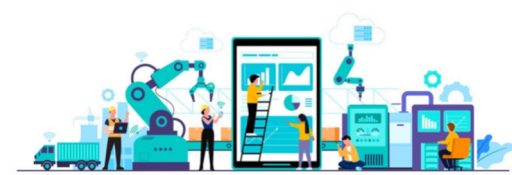
6.1 Agriculture

Agriculture comprising the activities of growing, breeding and rearing of animals and production of animal products, felling of trees and other plants, as well as capture fishery and aquaculture includes the use/ utilisation of plants/ vegetal and animals natural resources. There are four subsectors:

6.1.1 Crops refer to production of crops products including organic farming. Crops also include the growing of non-perennial and perennial crops for the purpose of seed production;

6.1.2 Livestocks refer to animals or bird that are preserved for commercial and breeding purposes. Livestock production includes raising (farming) and breeding of all animals, also production of livestock products such as eggs, milk, honey, etc;

6.1.3 Forestry and logging includes the production of round wood for the forest based manufacturing industries as well as the extraction and gathering of wild growing non-wood forest product. Besides the production of timber, forestry activities which produce the product through the minimum process, such as fire wood, charcoal, wood chips and round wood used in unprocessed form are also included. These activities can be carried out in natural or forests plantation. This also includes part of the forestry operation based on fee or contract basis; and



6.1.4 Fisheries comprise of fishing and aquaculture, covering the use of fishery resources from marine, brackish or freshwater, with the purpose of capturing or gathering fish, crustaceans, molluscs and other marine organisms and products. Aquaculture refers to the production process involving the culturing or farming (including harvesting) of aquatic organisms using techniques designed to increase the production of the organisms beyond the natural capacity of the environment.

6.2 Mining & Quarrying

Mining and quarrying include the extraction of minerals occurring naturally as solids (coal and ores), liquids (petroleum) or gases (natural gas). Extraction can be achieved by different methods such as underground or surface mining, well operation, seabed mining, etc. However, the sub-sector of mineral mining and quarrying was not covered in this publication.

6.3 Manufacturing

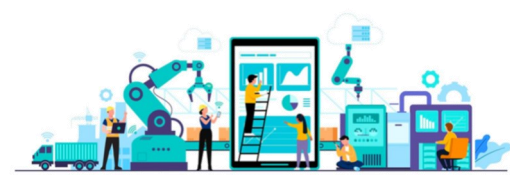
The physical or chemical transformation of materials or components into new products, whether the work is performed by power-driven machines or by hand, whether it is done in a factory or in the worker's home, and whether the products are sold at wholesale or retail.

The classification of eight (8) sub-sectors by division are as follows:

Division	Description
Food products	
10	Manufacture of food products
Beverages and tobacco products	
11	Manufacture of beverages
12	Manufacture of tobacco products
Textiles, wearing apparel and leather products	
13	Manufacture of textiles
14	Manufacture of wearing apparel
15	Manufacture of leather and related products



Division	Description
Wood products, furniture, paper products and printing	
16	Manufacture of wood and products of wood and cork, except furniture; manufacture of articles of straw and plaiting materials
17	Manufacture of paper and paper products
18	Printing and reproduction of recorded media
31	Manufacture of furniture
Petroleum, chemical, rubber and plastic products	
19	Manufacture of coke and refined petroleum products
20	Manufacture of chemicals and chemical products
21	Manufacture of basic pharmaceutical, medicinal chemical and botanical products
22	Manufacture of rubber and plastics products
Non-metallic mineral products, basic metal & fabricated metal products	
23	Manufacture of other non-metallic mineral products
24	Manufacture of basic metals
25	Manufacture of fabricated metal products, except machinery and equipment
Electrical, electronic and optical products	
26	Manufacture of computer, electronics and optical products
27	Manufacture of electrical equipment
28	Manufacture of machinery and equipment n.e.c.
Transport equipment, other manufacturing and repair	
29	Manufacture of motor vehicles, trailers and semi-trailers
30	Manufacture of other transport equipment
32	Other manufacturing
33	Repair and installation of machinery and equipment



6.4 Construction

New construction, alteration, repair and demolition. The installation of any machinery or equipment installed which is built-in at the time of the original construction is included, as well as installation of machinery or equipment after the original construction but which requires structural alteration in order install.

6.5 Services

Services related to Electricity, gas, steam & air conditioning supply; Water supply, sewerage, waste management & remediation activities, Wholesale & retail trade; Transportation & storage; Information & communication; Accommodation; Food & beverage; Finance; Real estate; Professional, scientific & technical; Administrative & support services; Private education; Private health & social work; Art, entertainment & recreation and Personal services & other activities.

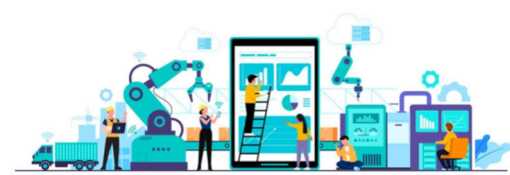
6.5.1 Electricity, gas, steam & air conditioning are defined as an activity of providing electric power, natural gas, steam, hot water and the like through a permanent infrastructure (network) of lines, mains and pipes. The dimensions of the network is not decisive; also included are the distribution of electricity, gas, steam, hot water and the like in industrial parks or residential buildings. This section therefore includes the operation of electric gas utilities, which generate, control and distribute electric power or gas. Also included is the provision of steam & air-conditioning supply;

6.5.2 Water supply; sewerage, waste management & remediation activities comprised of activities related to waste management includes collection, treatment & disposal such as scheduled waste, solid waste and waste water from industrial and household, including recovery materials & contaminated sites. The waste from the treatment process can be disposed of or used as input for other production process. Related activities in water treatment and supply are also included in this sector;

6.5.3 Wholesale & retail trade encompasses of wholesale and retail trades, sales and repair of motor vehicles & motorcycles;



- 6.5.4 Transportation & storage** includes all establishments provided land transport, freight transport by road, other land transport, water transport, warehousing & supporting activities such as storage & warehousing, terminal operations, car parking services, highway operations, port operations, cargo handling/stevedoring, shipping agencies & forwarding of freight and other supporting activities for transportation services;
- 6.5.5 Information & communication** comprises activities of publishing, motion picture, video & television programme production, sound recording & music publishing, programming & broadcasting, telecommunication services, computer programming, consultancy & related activities and information services;
- 6.5.6 Accommodation services** refer to the provision on a fee of short-term lodging, whether open to the general public or restricted to members of a particular organisation. It excludes rental of long term furnished accommodation which is classified in Real Estate;
- 6.5.7 Food & beverages** services include food and beverage serving activities providing complete meals or drinks fit for immediate consumption, whether in traditional restaurants, self-service or take-away restaurants, whether as permanent or temporary stands with or without seating;
- 6.5.8 Financial services** include monetary intermediation activities; other financial service activities and activities auxiliary to financial services; insurance/ takaful, reinsurance/ retakaful and pension & provident funding activities; and activities auxiliary to insurance/ takaful and pension funding;
- 6.5.9 Real estate services** include acting as lessors, agents and/or brokers in one or more of the following: selling or buying real estate, renting real estate, providing other real estate services such as appraising real estate, property management or acting as real estate escrow agents. Activities in this division may be carried out on own or leased property and may be done on a fee or contract basis. Also included is the building of structures, combined with maintaining ownership of leasing of such structures;



- 6.5.10 Professional, scientific & technical** includes specialised professional, scientific & technical activities which require a high degree of expertise and training, and specialised knowledge and skills available to users. Activities performed include legal & accounting activities, activities of head offices, management consultancy activities, architecture & engineering activities, technical testing & analysis, scientific research & development, advertising & market research, other professional, scientific & technical activities and veterinary activities;
- 6.5.11 Administrative & support services** includes a variety of activities that support general business operations, including rental & leasing activities, employment activities, travel agency, tour operator & other reservation service activities, security & investigation activities, services to buildings and landscape activities & office administrative, office support & other business support activities;
- 6.5.12 Private educational services** refer to establishments registered with the Ministry of Education, Malaysia and the Ministry of Higher Education that provides academic, pre-primary & primary education, secondary education, higher education, other education and educational support activities;
- 6.5.13 Private health & social work services** include hospital services, medical & dental practice activities, other human health activities, residential care activities and social work activities without accommodation;
- 6.5.14 Arts, entertainment & recreation services** include a wide range of activities to meet varied cultural, entertainment & recreational interests of the general public, including live performances, operation of museum sites, gambling, sport and recreation activities; and
- 6.5.15 Personal services & other activities** includes activities of membership organisations, activities of business, employers and professional membership organisations, activities of trade unions, activities of others membership organisations, repair of computers and personal & household goods and other personal services activities such as washing and dry-cleaning of textiles and fur products; hairdressing and other beauty treatment and funeral and other services activities.



7. CENSUS YEAR

Refers to the year in which a census was conducted.

8. REFERENCE YEAR

The reference year of the census was the calendar year 2022. Establishments whose accounting year differed from calendar year were requested to report according to the accounting year or financial year covering at least six (6) months in the reference year.

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This method targets respondents who have used this method for previous routine surveys.

9.2 Data collection method via e-mail, post, fax and telephone

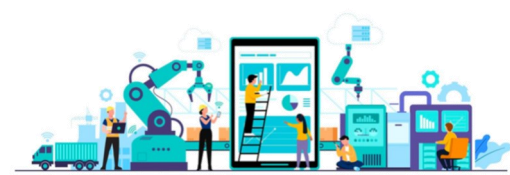
This method targets respondents who have used this method for previous routine surveys. Respondents were given a period of one month to complete and return the questionnaire to the DOSM.

9.3 Face-to-face data collection method

Field work operation is carried out to get feedback from establishments that have not yet given answers from the two methods above and this method also targets establishments that have never been involved in a routine survey the DOSM.

10. REPORTING UNIT

The reporting unit used in the Economic Census 2023 was the establishment. An establishment is defined as "an economic unit engaged in one activity, under a single legal entity and operating in a single physical location". Each establishment is assigned an industry classification based on its principal activity and not according to the activities of the parent company.



Each branch of a multi-branch organisation at a different location is conceptually treated as a different establishment. The establishment is requested to give separate returns for each activity in terms of value. However, if in practice, the accounts are centrally kept such that it is not possible to obtain separate data for each individual unit or branch, the entity or enterprise is treated as a single reporting unit and allowed to submit a consolidated questionnaire covering all the units or branches.

11. ICT DEFINITION

Based on Organisation for Economic Co-operation and Development (OECD) 2015 definition:

(a) Computer

Computer includes personal computer, portable computer (e.g. laptop), tablet and other devices such as *smartphone.

(b) Intranet

Refers to the internal communications network using internet protocols and allowing communication within the organisation.

(c) Extranet

Refers to a closed network that uses internet protocols to secure the sharing of business information with suppliers, vendors, customers or other business partners. It also can be part of a personal website business, where business partners can navigate after being confirmed in the login page.

(d) Local area network (LAN)

A network connecting computers and associated devices within a localized area such as a single building, department or site; it may be wireless.

(e) Wireless local area network (WLAN)

Local area network using high frequency radio waves instead of wires to communicate between networks-enabled devices. WLAN allows users to move around a small area within a radius of 20 to 91 meters.

Note.

* Malaysia including smartphone



(f) Wide area network (WAN)

A network that connects computers and associated devices within a wide geographic area, such as a region or country.

(g) Fixed broadband

Refers to a technology with a speed of at least 256 kbit/s in one or both directions. It consists of wired fixed broadband and fixed wireless broadband.

Wired fixed broadband internet access most commonly used to send/ receive information via cable/ fiber optic (ADSL, SDSL, VDSL), fiber optic technology/ cable technology.

(h) Mobile broadband

Refers to technology at speeds of not less than 256 kbit/s in one or both directions. It covers technologies such as 3G/ LTE/ 4G, UMTS, CDMA2000 and future technologies including both standard and dedicated data subscriptions. Typically used by mobile devices (e.g. laptops, tablets, USB wireless modems, smart phones and other mobile device).

Mobile broadband connection to the internet refers to access via WIFI hotspot (tethering) and not through a router (e.g. USB dongle/ modem/ surfstick such as YES dongle etc.).

(i) Website

A website is a collection of network-related web resources such as a website, multimedia content that is usually identified by a common domain name and published by at least one web server. Websites can be accessed through public Internet Protocol (IP) networks such as the Internet or private local area network (LAN) by the URL that identifies the site. A website can be a personal website, a corporate website for a company, a government website, an organization website and so on.

(j) Social media

Refers to those who have a user profile, account or user license depending on the needs and types of social media. Types of social media are social networks (e.g. Facebook and Instagram), enterprise blogs or enterprise microblogs (e.g. Twitter) and multimedia content sharing websites (e.g. YouTube).



- (a) E-commerce income means the total income of establishments with e-commerce transactions. Income for wholesale and retail trade establishments refers to the value of sales of goods and services. Sales value means the value of all items for which ownership or effective right to use with a view to ultimate purchase, has been transferred to others.
- (b) E-commerce expenditure means the amount of expenses for establishments that have e-commerce transactions.
- (m) E-commerce by type of market

- (i) Other business

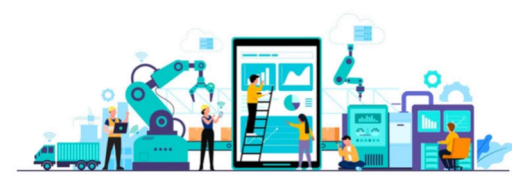
Business to Business (B2B) is related to e-commerce transaction between businesses which sell/ buy products or services to/ from another business. For example, a manufacturer can sell to a wholesaler or a wholesaler can sell to a retailer.

- (ii) Individual consumers

Business to Consumer (B2C) is related to e-commerce transaction between businesses and consumers which sell/ buy products or services. For example, business sells garment to consumer (income) or business provide discount coupon to consumers through e-commerce platform (expenditure).

- (iii) Government and other non-business organisations

Business to Government (B2G) is a business model that refers to businesses selling/ paying for products, services or information governments or government agencies. B2G networks or models provide a way for businesses to bid on government projects or products that governments might purchase or need for their organisations. This can encompass public sector organisations that propose the bids. B2G activities are increasingly being conducted via the internet through real-time bidding. B2G is also referred to as public sector marketing



13. MICRO, SMALL AND MEDIUM ENTERPRISES (MSMEs)

The definition of MSMEs used is based on the new definition that came into effect on 1 January 2014 as shown in **Table 2**.

Table 2 : MSMEs Definition

Sector	MSMEs Size	Annual Turnover	Number of Full-Time Employees
Manufacturing	Micro	Less than RM300,000	Less than 5 employees
	Small	Between RM300,000 to less than RM15 million	From 5 to less than 75 employees
	Medium	Between RM15 million to not exceeding RM50 million	From 75 to not exceeding 200 employees
Agriculture, Mining and Quarrying, Construction and Services	Micro	Less than RM300,000	Less than 5 employees
	Small	Between RM300,000 to less than RM3 million	From 5 to less than 30 employees
	Medium	Between RM3 million to not exceeding RM20 million	From 30 to not exceeding 75 employees

Source: Guideline for New MSMEs Definition, SME Corp. Malaysia, October 2013



14. USAGE OF ICT PERCENTAGE CALCULATION

(a) Usage of Computer, Internet and Web Presence

- (i) Percentage of computer usage

$$= \frac{\text{Number of establishment used computer}}{\text{Number of establishment operating}} \times 100$$

- (ii) Percentage of internet usage

$$= \frac{\text{Number of establishment used internet}}{\text{Number of establishment operating}} \times 100$$

- (iii) Percentage of business having web presence

$$= \frac{\text{Number of establishment having web presence}}{\text{Number of establishment operating}} \times 100$$

(b) Usage of Computer, Internet and Web Presence by State

- (i) Percentage of computer usage by state

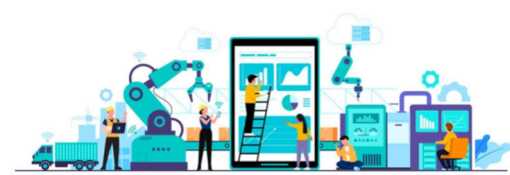
$$= \frac{\text{Number of establishment used computer by state}}{\text{Number of establishment operating by state}} \times 100$$

- (ii) Percentage of internet usage by state

$$= \frac{\text{Number of establishment used internet by state}}{\text{Number of establishment operating by state}} \times 100$$

- (iii) Percentage of businesses web presence by state

$$= \frac{\text{Number of establishment having web presence by state}}{\text{Number of establishment operating by state}} \times 100$$



(c) Type of Web Presence Owned

- (i) Percentage of owned website

$$= \frac{\text{Number of establishment with owned website}}{\text{Number of establishment operating having web presence}} \times 100$$

- (ii) Percentage of presence on another entity's website

$$= \frac{\text{Number of establishment with web presence on another entity's website}}{\text{Number of establishment operating having web presence}} \times 100$$

- (iii) Percentage of social media

$$= \frac{\text{Number of establishment with social media}}{\text{Number of establishment operating having web presence}} \times 100$$

- (iv) Percentage of e-marketplace

$$= \frac{\text{Number of establishment with e – marketplace}}{\text{Number of establishment operating having web presence}} \times 100$$

(d) Type of Computer Network Infrastructure Used

- (i) Percentage of intranet

$$= \frac{\text{Number of establishment owned intranet}}{\text{Number of establishment operating using internet}} \times 100$$

- (ii) Percentage of extranet

$$= \frac{\text{Number of establishment owned extranet}}{\text{Number of establishment operating using internet}} \times 100$$

- (iii) Percentage of Local Area Network (LAN)

$$= \frac{\text{Number of establishment owned LAN}}{\text{Number of establishment operating using internet}} \times 100$$



(iv) Percentage of wireless local area network (WLAN)

$$= \frac{\text{Number of establishment owned WLAN}}{\text{Number of establishment operating using internet}} \times 100$$

(v) Percentage of wide area network (WAN)

$$= \frac{\text{Number of establishment owned WAN}}{\text{Number of establishment operating using internet}} \times 100$$

(vi) Percentage of others area network

$$= \frac{\text{Number of establishment owned others infrastructure network}}{\text{Number of establishment operating using internet}} \times 100$$

(e) Type of Internet Access

(i) Percentage of fixed broadband usage

$$= \frac{\text{Number of establishment owned fixed broadband}}{\text{Number of establishment operating using internet}} \times 100$$

(ii) Percentage of mobile broadband usage

$$= \frac{\text{Number of establishment owned mobile broadband}}{\text{Number of establishment operating using internet}} \times 100$$

(iii) Percentage of both types of broadband usage

$$= \frac{\text{Number of establishment owned both types of broadband}}{\text{Number of establishment operating using internet}} \times 100$$

(f) Purpose of Internet Usage

(i) Percentage of sending or receiving email

$$= \frac{\text{Number of establishment used for sending or receiving email}}{\text{Number of establishment operating using internet}} \times 100$$



(ii) Percentage of telephoning over the internet usage

$$= \frac{\text{Number of establishment used telephoning over the internet}}{\text{Number of establishment operating using internet}} \times 100$$

(iii) Percentage of posting information or instant messaging

$$= \frac{\text{Number of establishment posting information or instant messaging}}{\text{Number of establishment operating using internet}} \times 100$$

(iv) Percentage of getting information about goods or services

$$= \frac{\text{Number of establishment getting information about goods or services}}{\text{Number of establishment operating using internet}} \times 100$$

(v) Percentage of getting information from government organisations

$$= \frac{\text{Number of establishment getting information from gov. organisations}}{\text{Number of establishment operating using internet}} \times 100$$

(vi) Percentage of interacting with government organisations usage

$$= \frac{\text{Number of establishment interacting with government organisations}}{\text{Number of establishment operating using internet}} \times 100$$

(vii) Percentage of internet banking usage

$$= \frac{\text{Number of establishment used internet banking}}{\text{Number of establishment operating using internet}} \times 100$$

(viii) Percentage of accessing other financial services

$$= \frac{\text{Number of establishment accesing other financial services}}{\text{Number of establishment operating using internet}} \times 100$$

(ix) Percentage of providing customer service

$$= \frac{\text{Number of establishment providing customer service}}{\text{Number of establishment operating using internet}} \times 100$$



(x) Percentage of delivering products online

$$= \frac{\text{Number of establishment delivering product online}}{\text{Number of establishment operating using internet}} \times 100$$

(xi) Percentage of internal or external recruitment

$$= \frac{\text{Number of establishment used internal or external recruitment}}{\text{Number of establishment operating using internet}} \times 100$$

(xii) Percentage of staff training usage (e-learning applications)

$$= \frac{\text{Number of establishment used for staff (e – learning)}}{\text{Number of establishment operating using internet}} \times 100$$

(xiii) Percentage of internet usage for others

$$= \frac{\text{Number of establishment used for others}}{\text{Number of establishment operating using internet}} \times 100$$

(g) Usage of Digital Technology

(i) Percentage of website usage

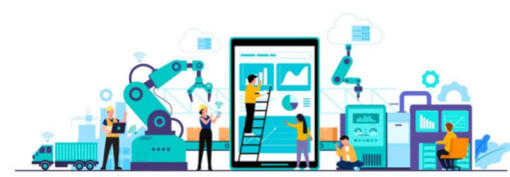
$$= \frac{\text{Number of establishment used for website}}{\text{Number of establishment operating using internet}} \times 100$$

(ii) Percentage of social media usage

$$= \frac{\text{Number of establishment used for social media}}{\text{Number of establishment operating using internet}} \times 100$$

(iii) Percentage of mobile internet and technologies usage

$$= \frac{\text{Number of establishment used for mobile internet and technologies}}{\text{Number of establishment operating using internet}} \times 100$$



(iv) Percentage of cloud computing usage

$$= \frac{\text{Number of establishment used for cloud computing}}{\text{Number of establishment operating using internet}} \times 100$$

(v) Percentage of data analytics usage

$$= \frac{\text{Number of establishment used for data analytics}}{\text{Number of establishment operating using internet}} \times 100$$

(vi) Percentage of managements software usage

$$= \frac{\text{Number of establishment used for management software}}{\text{Number of establishment operating using internet}} \times 100$$

(vii) Percentage of online collaborative platforms usage

$$= \frac{\text{Number of establishment used for online collaborative platforms}}{\text{Number of establishment operating using internet}} \times 100$$

(viii) Percentage of digital technology usage for other purposes

$$= \frac{\text{Number of establishment used for other purposes}}{\text{Number of establishment operating using internet}} \times 100$$

(ix) Percentage of not using digital technologies

$$= \frac{\text{Number of establishment not using digital technologies}}{\text{Number of establishment operating using internet}} \times 100$$

15. ROUNDING

The sum of the component figures may not tally with the sub-total or total figures due to rounding.



16. SUPRA STATE

Based on the System of National Accounts (SNA) 2008, categorisation of institutional units based on their economic interest and geographical activities can be as follows; (1) most activities are within a single region; (2) multi-provincial units with centers of interest in multiple provinces or regions but do not operate on a nationwide scale; and (3) units operating at the national level, with their centre of interests not confined to any specific geographical position (e.g. Supra State). Supra State at the state level is equivalent to an overseas organisation at the national level. In Malaysia, Supra State covers production activities beyond the centre for the key economic interest of any state.

17. COMPOUND ANNUAL GROWTH RATE (CAGR)

The calculation of annual growth rate (r) is based on the following formula:

$$y_t = y_0 (1 + r)^t$$

Solving for r ,

$$r = \left[e^{\frac{1}{t} \ln\left(\frac{y_t}{y_0}\right)} - 1 \right] \times 100$$

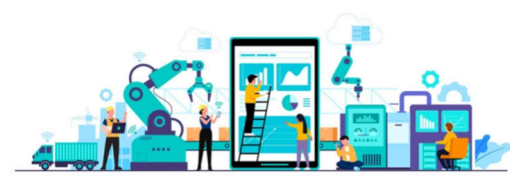
where,

y_t = Value at current year

y_0 = Value at previous year

t = Value at previous year, $y_t - y_0$

r = Annual growth rate



17. REVISION

Revision will be made to the published figures based on the latest census.

18. SYMBOLS AND ABBREVIATIONS

-	:	data not available
&	:	and
%	:	per cent
b	:	billion
etc.	:	et cetera
e.g.	:	example
CAGR	:	Compound annual growth rate
RM	:	Ringgit Malaysia
ISIC	:	International Standard Industrial Classification
MSIC	:	Malaysian Standard Industry Classification
n.e.c.	:	not elsewhere classified
Ver.	:	Version
W.P.	:	Federal Territory



E) ICT USE AND ACCESS BY INDIVIDUALS AND HOUSEHOLDS SURVEY (ICTHS)

1. INTRODUCTION

The statistics released in this report are findings of the ICT Use and Access by Individuals and Households Survey (ICTHS) 2023. It provides data at national, state and administrative district levels. The guidelines, concepts and definitions used in this publication are based on the Manual for Measuring ICT Access and Use by Households and Individuals, 2020 Edition published by the International Telecommunication Union (ITU).

ICTHS was carried out starting reference year 2013, followed by 2015 and 2017. Since 2018, this survey is conducted annually. These technical notes will facilitate users with better understanding pertaining to the published statistics.

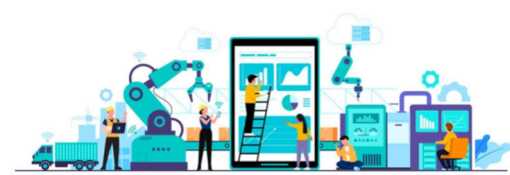
2. OBJECTIVES OF SURVEY

The main objectives are as follows:

- i. To collect the latest and specific information on ICT use and access by individuals and households (HH);
- ii. To serve as an input in the compilation of ICT Satellite Account (ICTSA); and
- iii. To calculate ICT indicators to measure development of national ICT and Digital Economy.

3. METHOD OF DATA COLLECTION

- 3.1 ICTHS uses the personal interview method using the questionnaire form to obtain information from respondents. During the survey period, trained interviewers visit households in selected living quarters (LQs) to collect demographic information on all household members and detailed information on the use and access of ICT equipment and services.
- 3.2 Quality checks were done by experienced officers from the DOSM State office to detect and correct any possibility of errors or omissions at the time when the survey is conducted. The review processes were also implemented for selected HH to ensure the quality of the data collected.



4. REFERENCE PERIOD

ICTHS 2023 was conducted for three months from September to November 2023. The reference period for ICT use by individuals was for the last three months prior to the interview. Example, if the survey month is in October 2023, then the reference period for individuals is calculated from 1st July 2023 until 30th September 2023.

5. SCOPE AND COVERAGE

- 5.1 The selection of the sample of this survey has taken into consideration both urban and rural areas in administrative district for all states in Malaysia.
- 5.2 The coverage of the survey is HH living in private LQs only and excluding those who are living in residential institutions such as hostels, hotels, hospitals, old folk's homes, military barracks and police, prisons, welfare homes and other institutions.
- 5.3 This survey involved individuals aged five years and above. However, to enable the comparison to be made with the previous survey, the analysis for the use of ICT only involves individuals aged 15 years and above.

6. SAMPLING FRAME

- 6.1 The sampling frame used for the selection of ICTHS 2023 sample are based on the Household Sampling Frame which is made up of enumeration blocks (EBs) created for the 2020 Population and Housing Census which was updated from time to time. EBs are geographical contiguous areas of land with identifiable boundaries created for survey operation purposes, which on average, contains about 80 to 120 LQs. All EBs are formed within gazette boundaries i.e. within administrative, districts or local authority areas.
- 6.2 The EBs in the sampling frame is classified by urban and rural areas. Urban areas are defined as in 2020 Population and Housing Census. Urban areas are gazetted areas with their adjoining built-up areas which had a combined population of 10,000 or more. Meanwhile, gazetted area with population less than 10,000 and not gazetted area are classified as rural area.
- 6.3 Built-up areas are the areas contiguous to a gazetted area and have at least 60 per cent of their population (aged 15 years and above) engaged in non-agricultural activities.
- 6.4 The definition of urban areas also takes into account the special development areas i.e. areas that are not gazetted and development can be identified and separated from the gazetted areas or built-up area of more than five kilometres and has a population of at least 10,000 people with 60 per cent of the population (aged 15 years and above) engaged in non-agricultural activities



6.5 Urbanisation is a dynamic process and keeps changing with development and growth. Thus, the urban areas for 2010 and 2020 Population and Housing Censuses do not necessarily refer to the same areas, as areas fulfilling the above criteria of urban continue to expand and grow within the time.

6.6 The classification of areas by strata is as follows:

Strata	Population of gazette, built-up areas and special development area
Metropolitan	75,000 and above
Urban large	10,000 to 74,999
Urban small	1,000 to 9,999
Rural	All other areas

6.7 For sampling purposes, classification of areas as stated in item 6.6 is used for all states and federal territories. For Sabah and Sarawak, due to inaccessibility, the rural strata had to be further stratified based on the time taken to reach the area from the nearest urban centre.

6.8 For the purpose of tabulation, the strata reclassified were combined as follows:

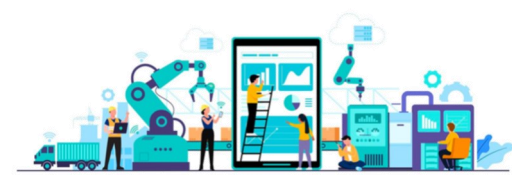
$$\begin{aligned} \text{Urban} &= \text{Metropolitan} + \text{urban large} \\ \text{Rural} &= \text{Urban small} + \text{all rural} \end{aligned}$$

7. SAMPLE DESIGN

7.1 The two-stage stratified sampling design was used in ICTHS 2023. The first level sampling unit were EBs, randomly selected using Probability Proportionate to Size Sampling.

7.2 EBs were selected separately according to the following strata:

Primary strata	State
Secondary strata	Administrative district by state
Tertiary strata	Urban/ rural area by administrative district



7.3 Next, the second level sampling unit were LQs and sample for LQs were selected from the EBs by using Systematic Random Sampling method that generates random number and interval class to ensure every LQs have an equal probability to be selected as a sample. This procedure is performed systematically and scientifically to produce an unbiased sample and can represent the entire populations of HH in Malaysia.

8. SAMPLE SIZE

8.1 The sample of ICTHS 2023 represents the population of the analysis level. The sample size calculation has considered the following elements:

- i. Selected statistics from previous surveys;
- ii. The level of sampling design;
- iii. Desired error; and
- iv. Respond rate

8.2 The distribution of sample size for ICTHS 2023 is as follows:

State	Number of selected EBs	Number of selected LQs
Johor	336	2,675
Kedah	374	2,967
Kelantan	335	2,483
Melaka	152	1,206
Negeri Sembilan	267	2,119
Pahang	354	2,824
Pulau Pinang	198	1,446
Perak	388	3,126
Perlis	93	744
Selangor	314	2,510
Terengganu	284	2,272
Sabah	514	4,010
Sarawak	584	4,251
W.P. Kuala Lumpur	71	520
W.P. Labuan	37	276
W.P. Putrajaya	32	249
MALAYSIA	4,333	33,678



9. DATA EVALUATION

9.1 Data obtained from probability sample survey are subject to two types of error i.e. sampling error and non-sampling error.

i. Sampling Error

Sampling error is a result of estimating data based on a probability sampling. This error can be measured by estimating the Relative Standard Error (RSE) and expressed as a percentage. It is used as an indicator of the precision of the estimated parameters studied. This estimate reflects the level of variation that was estimated through a survey variables compared with the population parameter.

For instance, in ICTHS 2023, the percentage of Internet access by household for Malaysia was 96.0 per cent with RSE of 0.1 per cent. In other words, the standard error (SE) is approximately 0.1 per cent. Based on a 95 per cent confidence level ($\alpha=0.05$), the percentage of Internet access by household was found to be in the range of 95.8% - 96.3%.

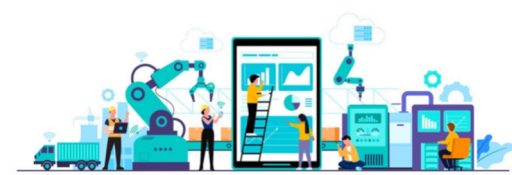
ii. Non-Sampling Error

These errors may arise through incomplete survey coverage, weaknesses in the frame, response errors, non-response errors and also errors during processing such as editing, coding and data capture. To ensure high quality data, several administrative procedures were taken to keep non-sampling errors to a minimum. Intensive training was conducted for the supervisors and enumerators. In addition, close supervision and random checks were carried out on households which were covered by the enumerators to ensure the validity of the information recorded.

In order to resolve the case of non-response error due to several reasons such as vacant house, no one at home, refusal to co-operate or not qualified LQ, the sample size estimation for ICTHS 2023 has taken into account all the possibilities.

The survey frame is updated regularly to overcome the problem of non-response due to vacant home. Wide publicity was carried out through electronic and printed media to minimise the case of 'no one at home' and refusal to cooperate.

In addition, at the data processing stage, each variable's consistency checking and validation process has been systematically implemented in order to minimise the non-sampling error.



10. LIMITATIONS OF SURVEY

Several challenges and limitations occurred during the implementation of this survey. Among them are:

- i. This survey was conducted among selected households and individuals throughout Malaysia. However, it can also be used to provide an overview of ICT accessibility and usage.
- ii. The coverage of this survey only covers the state level for strata 1 and 2 for urban areas, whereas for strata 3 to 6 for rural areas.
- iii. A detailed analysis of ICT use and access by individuals and households by administrative district level is based on a relative value reliability of not more than 20 per cent tolerance interval.
- iv. The findings of the survey should be used with high precaution, and DOSM will not be responsible for any implications resulting from the use of these statistics.

11. CONCEPTS AND DEFINITIONS

11.1 LIVING QUARTERS

Living quarters are defined as **independent** and **separate** structures and are usually used as place of abode. The terms separate and independent mean the following:

- i. **Separate:** A structure is considered separate if it is surrounded by walls, fence, etc. and is covered by roof.
- ii. **Independent:** A structure is said to be independent if it has direct access via public path, communal passageway or space (that is, occupants can come in or go out of their LQs without passing through others' premises).

11.2 HOUSEHOLD

A person or group of people, whether related or unrelated who usually live together in a living quarter and make provisions (expenses) for food and necessities of life together.

11.3 HEAD OF HOUSEHOLD

Head of household is defined as any members whether male or female which is considered as head of HH by other members. The Head of HH must be an income recipient and is aged 15 years and above.



11.4 ICT ACCESS AND USAGE

11.4.1 ICT access by households: In order for a household to have access to ICT services or equipment, it should be able to be used during interview.

11.4.2 ICT access by individuals:

- Use of ICT services and equipment by one or more individuals in a household, either it was used in LQ or elsewhere;
- Individuals in a household aged 15 years and above; and
- Use of mobile phone, computer and Internet for the last three months.
- The youth age is based on the concepts and guidelines from the Manual for Measuring ICT access and Use by Households and Individuals, 2020 Edition published by the International Telecommunication Union (ITU).

11.4.3 Core ICT Indicators

i. Radio

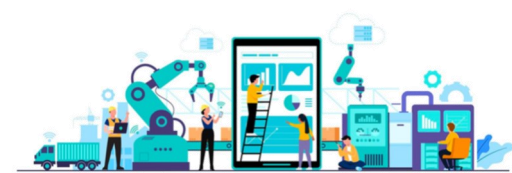
A radio is defined as a device capable of receiving broadcast radio signals, using common frequencies, such as FM, AM, LW and SW. A radio may be a stand-alone device, or it may be integrated with another device, such as an alarm clock, an audio player, a mobile phone or a computer. It includes radio in a car.

$$\frac{(\text{number of in-scope household with a radio})}{(\text{total number of in-scope households})} \times 100$$

i. Television

A television (TV) is a device capable of receiving broadcast television signals, using popular access means such as over-the-air, cable and satellite. A television set is typically a stand-alone device, but it may also be integrated with another device, such as a computer or a mobile phone.

$$\frac{(\text{number of in-scope household with a television})}{(\text{total number of in-scope households})} \times 100$$



iii. Fixed-line telephone

A fixed telephone refers to a telephone line connecting a customer's terminal equipment (e.g. telephone set, facsimile machine) to the Public Switched Telephone Network (PSTN) and which has a dedicated port on a telephone exchange. This term is synonymous with the terms main station or Direct Exchange Line (DEL) that are commonly used in telecommunication documents. It may not be the same as an access line or a subscription.

$$\frac{(\text{number of in-scope household with a fixed-line telephone})}{(\text{total number of in-scope households})} \times 100$$

iv. Mobile phone

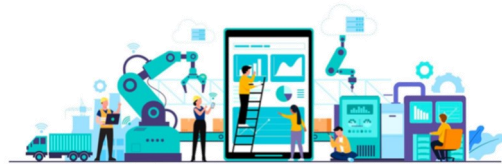
A mobile phone refers to a portable telephone subscribing to a public mobile phone service using cellular technology, which provides access to the PSTN. This includes analogue and digital cellular systems and technologies such as IMT-2000 (3G) and IMT-Advanced. Users of both postpaid subscriptions and prepaid accounts are included.

$$\frac{(\text{number of in-scope household with a mobile phone})}{(\text{total number of in-scope households})} \times 100$$

v. Computer

A computer refers to a desktop, a laptop (portable) computer or a tablet (or similar handheld computer). It does not include equipment with some embedded computing ability such as mobile phones, Personal Digital Assistant (PDA) or a TV set.

$$\frac{(\text{number of in-scope household with a computer})}{(\text{total number of in-scope households})} \times 100$$



vi. Internet

The Internet is a worldwide public computer network. It provides access to a number of communication services including the World Wide Web and carries e-mail, news, entertainment and data files, irrespective of the device used (not assumed to be only via a computer - it may also be by mobile phone, tablet, PDA, games machine, digital TV etc.).

Internet can be accessed via a fixed or mobile network.

$$\frac{(\text{number of in-scope household with a Internet})}{(\text{total number of in-scope households})} \times 100$$

vii. Internet Activities

Internet activities are categorised as follows:

a) Access to information

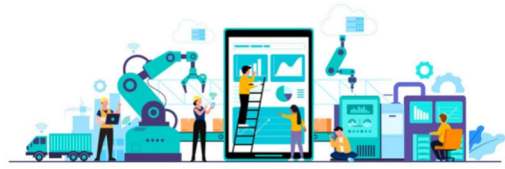
- Finding information about goods or services
- Reading or downloading online newspaper or magazines, electronic books

b) Communication

- Participating in social networks (e.g. Facebook, WhatsApp, Instagram, X etc.)
- Sending or receiving e-mail
- Telephoning over the Internet/ VoIP
- Uploading self - created content to a website
- Managing personal homepage
- Blogging: Maintaining or adding contents to a blog
- Accessing chat sites, blogs, newsgroups or online discussions

c) Professional

- Looking for a job or submitting a job application
- Participating in professional networks (e.g. LinkedIn and Xing)
- Accessing office's computing system for the purpose of doing work from home



j) Entertainment

- Listening to radio online
- Watching television online
- Downloading images, movies, videos or music; playing or downloading games

k) e-Commerce

- Purchasing or ordering goods or services (e-Commerce)
- Selling goods or services via e-commerce

l) Safety, Online Protection and Awareness

- Owning online security tools & adopt measures to ensure online protection
- Verifying the reliability of information found online
- Setting up effective measure (E.g: strong password, log-in attempt notifications) to protect devices and online accounts
- Changing privacy settings on devices, accounts or app to limit the sharing of personal data and information (E.g: name, contact information, photos)
- As an Internet user are you aware of the following cybercrimes: (E.g: spam, hacking, online, fraud stalking, phishing, cyber-bullying, catfish, fake news and spreading of computer virus)

11.4.4 Selected Statistics of Malaysia from Malaysian Communications and Multimedia Commission (MCMC)

i. Broadband

The broadband penetration rate per 100 inhabitants is calculated by dividing the sum of fixed and mobile-broadband subscriptions by total number of population and multiplying by 100. Public Wi-Fi subscriptions are not taken into account.



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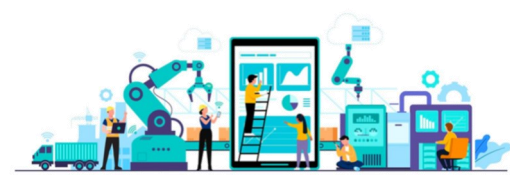
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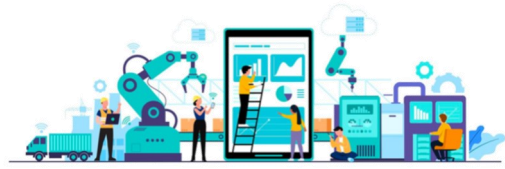
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