



Summary Pocket Book

Thailand Digital Outlook

(The Thailand Digital Outlook 2nd Phase Project)

2020





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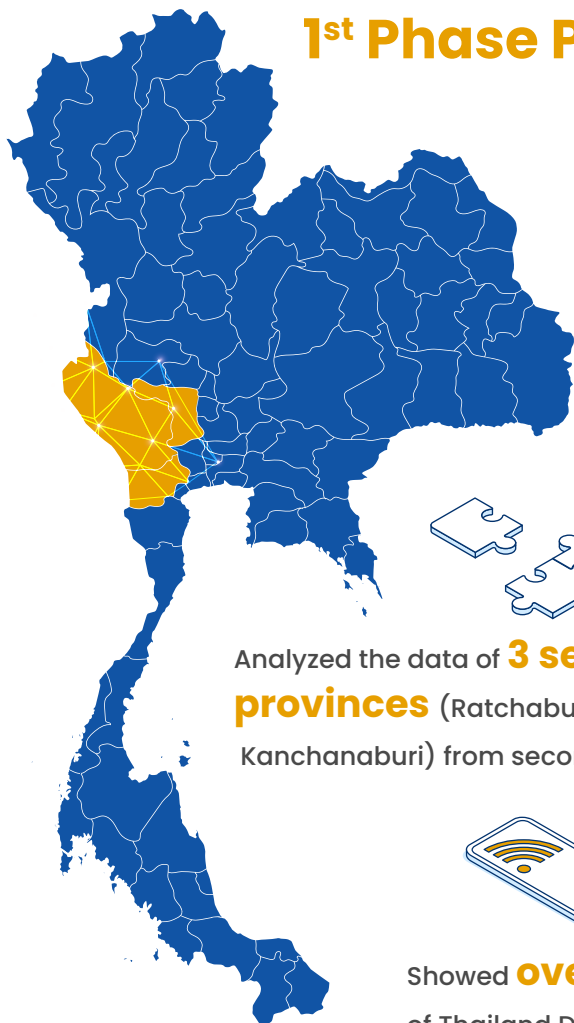
Summary of Thailand Digital Outlook Indicators in 2020

The Thailand Digital Outlook

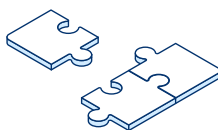
2nd Phase Project

The study continued to follow 1st phase project and expand the scope to survey nationwide and collect indicators of Organisation for Economic Co-operation and Development (OECD) Framework.

1st Phase Project (2019)



Selected
13 pilot indicators
of OECD framework.



Analyzed the data of **3 selected pilot provinces** (Ratchaburi, Suphan Buri, and Kanchanaburi) from secondary sources.



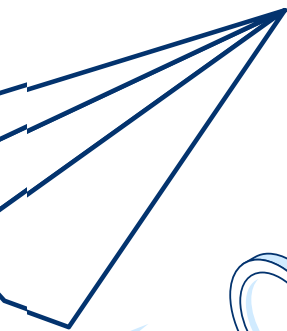
Showed **overall image**
of Thailand Digital Outlook

2nd Phase Project (2020)

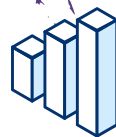
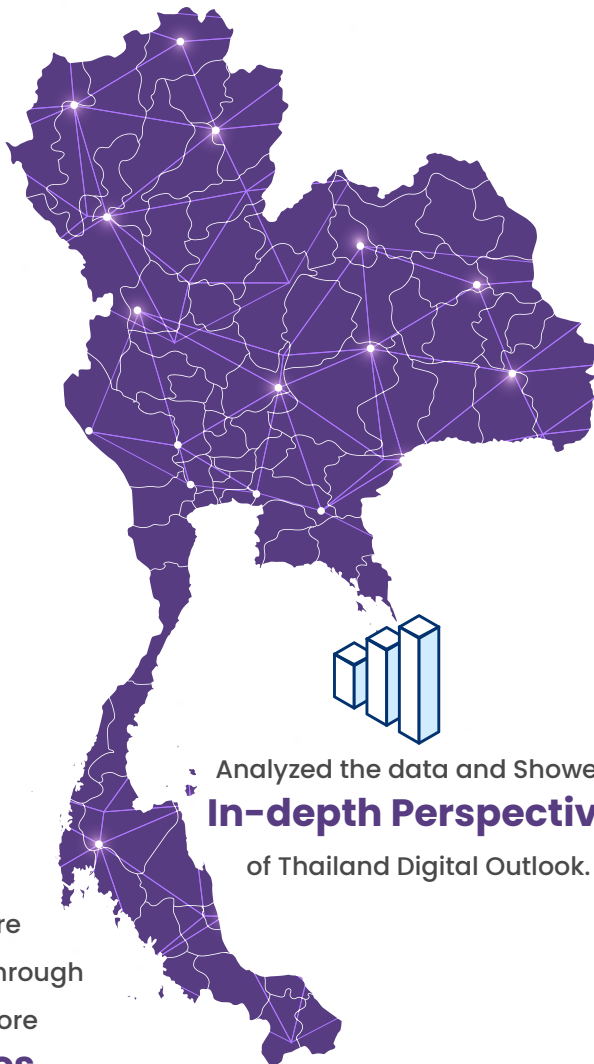
The study continued to follow 1st phase project and expand the scope to survey nationwide and collect indicators of OECD Framework.



Increased number
of selected indicators to
36 indicators.



Developed a questionnaire
and used for data collecting through
77 provinces with more
than **35,000 samples.**



Analyzed the data and Showed
In-depth Perspective
of Thailand Digital Outlook.

Project Objectives



To conduct policy recommendations to enhance Thailand's digital economy and society development.



To study and assess current state of Thailand Digital Outlook.

Expected Results



The study results display current state of Thailand Digital Outlook.



The research methodology is consistent with OECD framework.



There is data integration among relevant authorities, as mentioned in National Strategy, and the integrated data can be used for Thailand's digital transformation policy improvement and digital ecosystem enhancement.

OECD Going Digital Toolkit Framework and Selected Indicators in 2nd Phase Project

OECD has developed Going Digital Toolkit Framework to help countries assess the results from digital development policies which consists of **8 policy dimensions**.



Thailand Digital Outlook 2nd Project selected **36 indicators of OECD Framework**, then surveyed and collected the data to analyze and summarize current state of Thailand Digital Outlook

Research Methodology of the Thailand Digital Outlook Phase 2 Project

Research methodology is as followed:



Reviewed Thailand digital transformation policy and current state of digital development through the study of economic indicators.

Studied selected indicators of OECD framework and defined the data collection methods of each indicator.



Surveyed and Collected Thailand data by using questionnaire and data collection from secondary sources.

Analyzed and Summarized Thailand Digital Outlook state in 2020 and compared to OECD countries.



Conducted policy recommendations to improve Thailand's digital transformation policy as international standard.

In 2020, ONDE developed the questionnaires and used for data collecting through 77 provinces

32,967 samples

were surveyed from individuals.

3,178 samples

were surveyed from entrepreneurs



ONDE also collaborated with 19 strategic partners, both public and private authorities, to collect data and indicators for the 2nd Phase Project.



Overview of Individual Survey Response



32,967 samples

covered 77 provinces of Thailand.

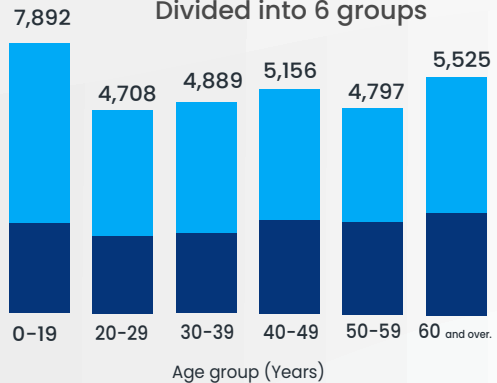
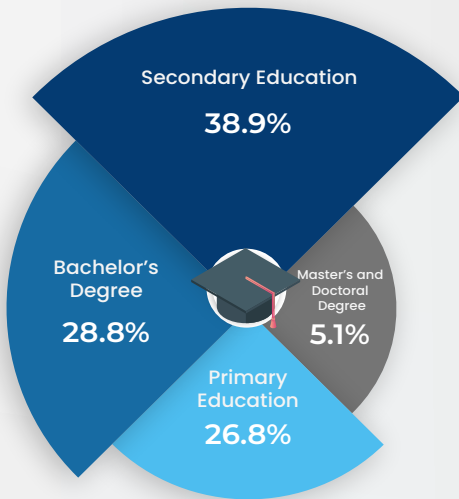


MALE

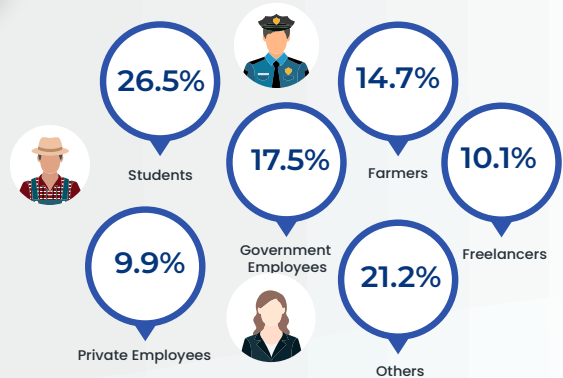


FEMALE

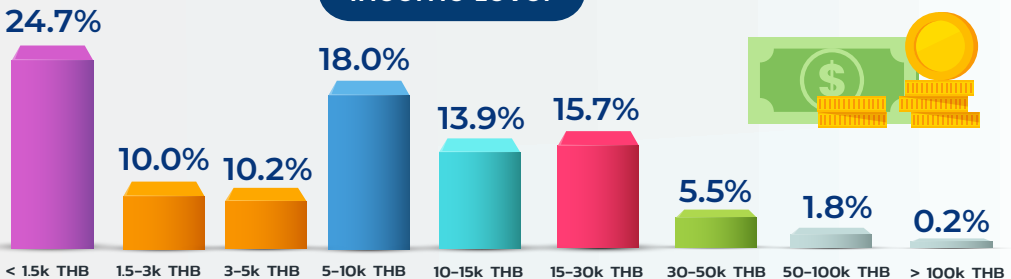
Educational Stages



Occupations



Income Level

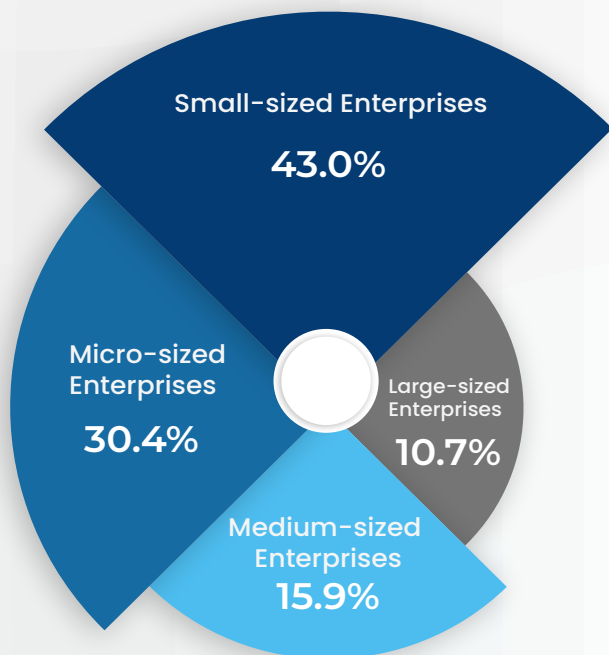




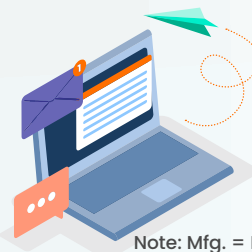
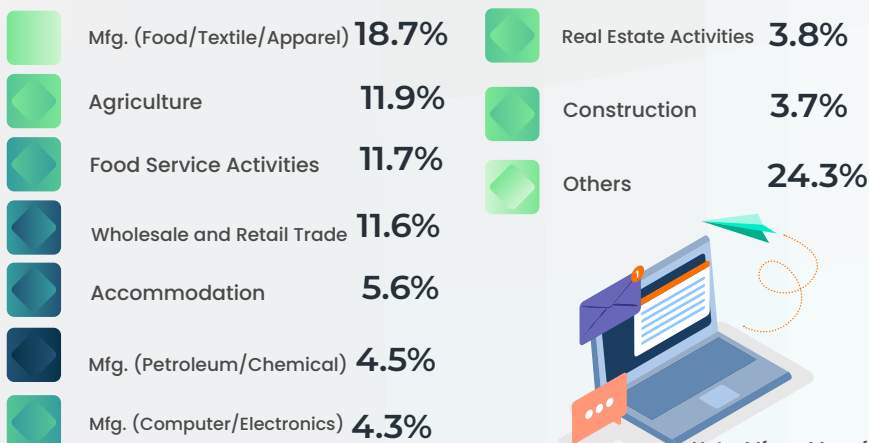
Overview of Enterprise Survey Response

3,178 samples

covered 7 areas/regions
of Thailand.



Business Groups



Note: Mfg. = Manufacturing

Thailand Digital Outlook 2020 Result



Dimension 1: Access

Access to internet is one of factors used to assess digital development state of the country. Higher accessibility means that private sector and citizen can access more digital services.



37.3%

of individuals access to
a fixed broadband connection.

82.2%

of individuals access to
a mobile broadband connection.



52.2%

of individuals access to a high-speed
fixed broadband connection with
over 30 Mbps download speed



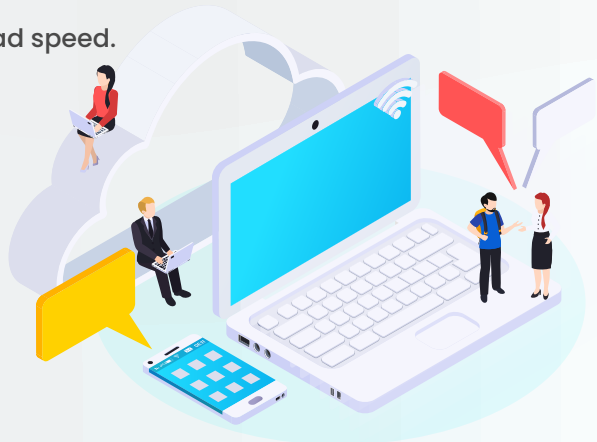


85.1%

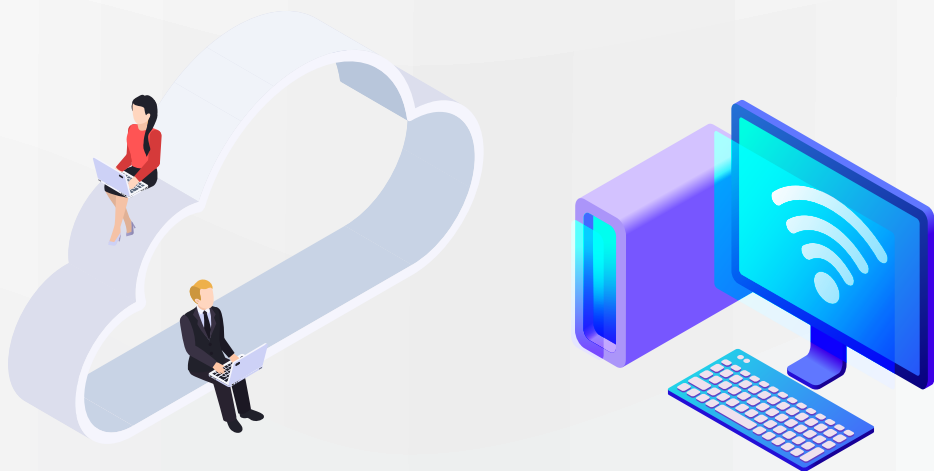
of enterprises access to
a fixed broadband connection.

78.4%

of enterprises access to a high-speed
fixed broadband connection with
over 30 Mbps download speed.



Presently, Thailand has **9.7** million
fixed broadband subscriptions*.



Also, Thailand has over **58.6** million
mobile broadband subscriptions.



Note: * The measure unit is according to OECD.



Thailand's fixed broadband subscriptions
grow rapidly during the past 5 years at

a CAGR of **13.8%**
during 2015 – 2019

Thailand's mobile broadband
subscriptions also increase at

a CAGR of **7.2%**
during 2015 – 2019



In 2020, Thailand's Average mobile data usage is

11.8 GB per month per mobile
broadband subscription.

Note: CAGR = Compound Annual Growth Rate.

Thailand Digital Outlook 2020 Result

Dimension 2: Use



Internet usage indicate online activities used by people and business

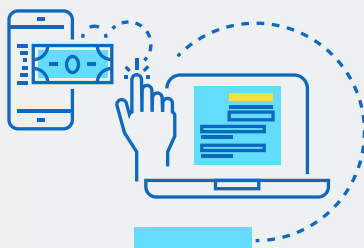
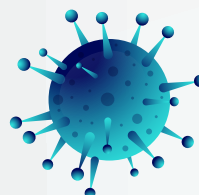


According the survey result, Individuals who are

0-19 years, **20-29** years, and **30-39** years use internet the most.

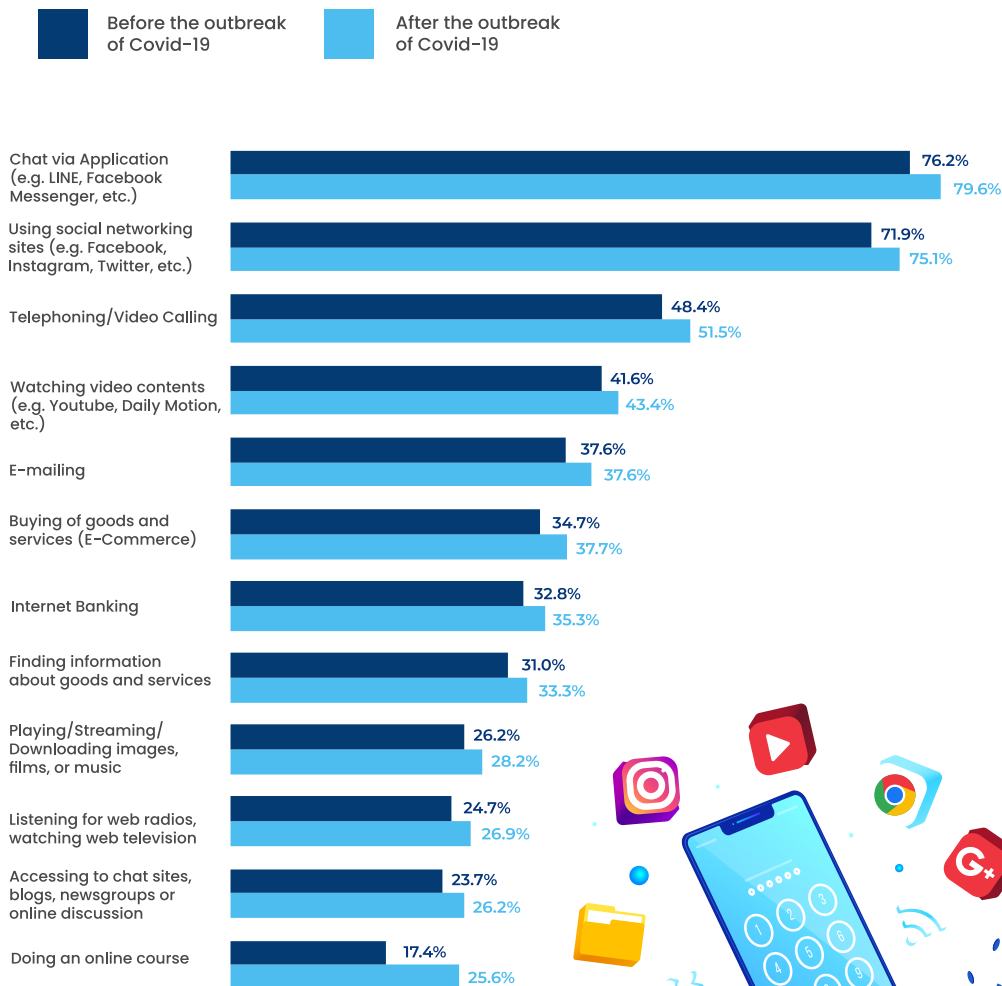
Covid-19 outbreak makes Thai people increase

using the internet for **1 hour a day**.



Share of individuals using the internet to interact with public authorities is **35.3%**. The most used online public services are utility bill payment and income tax declaration.

The most popular online activities are Social Media, Chat, online shopping, etc.





Share of enterprises using the internet to interact with public authorities is

48.2%

The most used online public services are tax declaration, employee information registration, and utility bill payment.

29.9%

of enterprises making e-commerce sales, especially in Accommodation, Manufacturing in Computer and Electronics Product, Information and Communication, Wholesale and Retail Trade, Food Service Activities, and Manufacturing in Food, Textile, and Apparel Product.





Some Thai enterprises start using digital technology, such as cloud technology and Big data analytics, to improve business processes and increase productivity.

1 of 4 enterprises adopt digital technology, especially in financial and insurance activities, Information and Communication, Accommodation, etc.





The Village Broadband Internet Project (Net Pracharat)

The project is one of infrastructure development project implemented by Ministry of Digital Economy and Society and Thailand Public Company Limited (TOT).

The object is to strengthen National Broadband Network by expanding high-speed Internet network to reach **24,700 villages** in the country, so that local Thai people can access broadband and online services.

According to Net Pracharat data during January to June 2020,

57%

of total use is for Facebook application.

Other popular applications include YouTube, Google Search, etc.





According to survey results, **33.4%** of individuals access to **Net Pracharat** internet service.



However, only **51.6%** of those who access use the internet provided by the project.



Most internet users registered to access **Net Pracharat** internet service use the internet for **Online learning and Information searching**, Information Announcement, Selling of goods and services, and Using with smart agriculture services, respectively.

Thailand Digital Outlook 2020 Result

Dimension 3: Innovation



Investment in digital technology and R&Ds can measure ICT diffusion throughout the economy.



In 2018, total value of investment in Thailand ICT sector, including investment in computer and electronics parts, software, and telecommunication equipment, was **258,311 million THB**,

which is equal to **1.53%** of GDP

For R&D, Thailand's ICT sector invested up to **12,721 million THB**,

which is equal to **0.078%** of GDP





In 2018, total value of investment in
venture capital for digital tech-startup
in ICT sector was

2,229 million THB,

which is equal to
0.014% of GDP



Thailand Digital Outlook 2020 Result

Dimension 4: Jobs



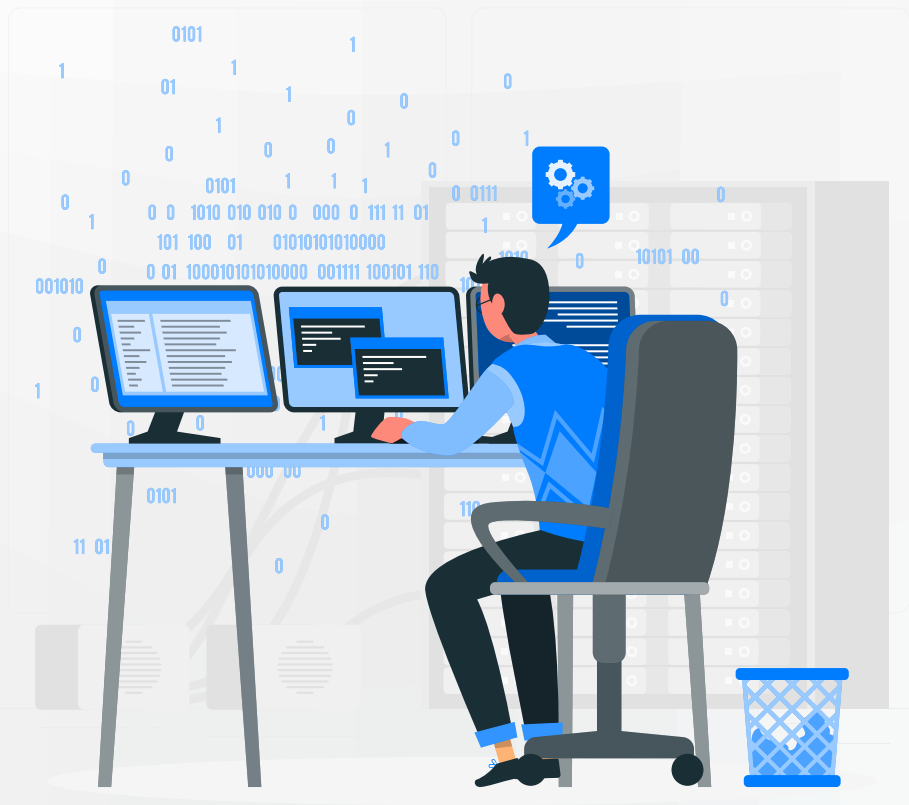
Digital technology drive business and industrial sectors to demand more workers with ICT and digital skills.

In 2020, there are **1.3 million workers** with ICT task-intensive occupations in Thailand, which is equal to **3.5%** of total employment.



Employment in digital-intensive sectors is equal to **12.9 million workers**, which is **34.6%** as a share of total employment

In 2020, new tertiary graduates in science, technology, engineering and mathematics (STEM) in Thailand is equal to **76,478 people**



According to survey results, around **1 to 4 enterprises recruit ICT specialists** to work for the company. The average number of ICT specialists is **3.6 people per 100 employees**.

Moreover, the survey results show that Thai enterprises, especially Large company, place important on ICT specialist recruitment and employee training.

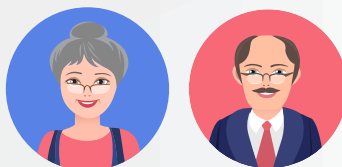
Thailand Digital Outlook 2020 Result



Dimension 5: Society

Digital technology improve people's quality of life. However, wrong use in internet and technology might affect society adversely.

According to survey results,
percentage of individuals
aged 55-74 using the internet
in Thailand is **67.4%**



Percentage of students using
the internet in Thailand
is **90.0%**

Teleworking is one way of digital technology adoption.
According to survey results,



17.4% of individuals can work
remotely from home (Work From Home: WFH)
or out-of-office.

According to Programme for International Student Assessment (PISA Test),



Thai students aged 15-16

perform at **medium to low level** comparing to global ranking, even though percentage of Thai students using the internet is very high.

Moreover, there is **digital skill gap among Thai men and women**. The survey result shows that for some digital tasks, such as modifying internet browsers, installing software, and computer programming.





For creative use of the internet,
21.9% of individuals create contents and upload
 into the internet for entertainment purposes,
 knowledge sharing purposes, and income-earning purposes.

However, there are lots of online gambling problem in
 Thailand. In 2019, there are over **800 thousand**
people playing online gambling and over **1.07**
million Thai people facing
 gambling debt problems.

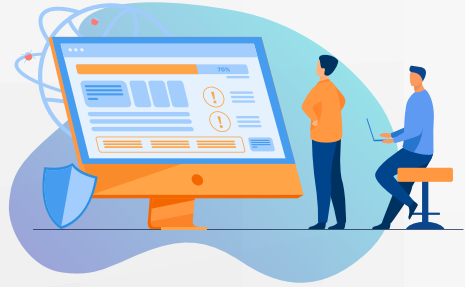




Digital technology development also cause an increase in electronic waste (e-waste). In 2019, Thailand's electronic waste is over **621 kilotons per year**, or **9.2 kilogram per person**.



Thailand Digital Outlook 2020 Result



Dimension 6: Trust

Cyber threat and digital security incidents can affect trust of internet users.



According to survey results,
Thai individuals who not
buying online are
about **62.3%**

There are reasons such as not interested, prefer to shop in person, trust concerns, security concerns, etc.

According to survey results, **29.8%** of individuals experiencing abuse of personal information or privacy violations,



while **13.6%** of enterprises experiencing digital security incidents.



To response the digital security incidents, **69.0%** of individuals choose to solve the problems by Anti-virus software installing and stop uploading and sharing pictures, videos or personal data,

while **69.7%** of enterprises choose to solve the problems by Anti-virus software installing and spam filtering software installing.

Thailand Digital Outlook 2020 Result



Dimension 7: Market Openness

Digital technologies help businesses reach customers all over the country and around the world. The cross-border trade also fosters competition and reap the benefits to economic growth.

21.6% of

Thai business use e-commerce to export products to customers in other countries.

The main export goods via e-Commerce are food and beverages, beauty products, and vehicle parts.

In addition, Thailand's value of imported digital services is almost 9-fold to export value, especially telecommunication services, financial and insurance services, and intellectual property services.





Share of businesses making e-commerce sales that
sell across borders is **20.8%** The main destinations of Thailand
cross-border e-commerce trade consist of Republic of China, United States,
Laos, Japan, and Malaysia.



Thailand Digital Outlook 2020 Result

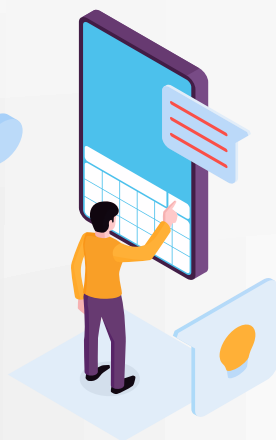
Dimension 8 Growth & Well-being

Digital technologies can boost economic growth and improve social well-being. Businesses can gain value added from technology adoption. People can access to information and new forms of services using technologies.



During 2015–2019, value added growth contributed from digital-intensive sectors in Thailand is equal to **3.7%** and the growth is expected to increase to **4.0%** in **2020**.

Most contribution of value-added growth come from growth in high digital intensive sectors such as financial service, and telecommunication service, and growth in medium-to-high sectors such as wholesale and retail trade, and printing and reproduction of recorded media.





There might be some people who

According to survey results, **76.1%** of individuals feel bad if no internet connection is available, especially those who use internet most of the time or for working

Moreover, **55.7%** of individuals experience stress from using computer for long time, especially those who aged 0-19.



Summary of Thailand Digital Outlook Indicators in 2020

(Access)

indicator	value	unit	sources
A1: Fixed broadband subscription per 100 habitants	14.6	%	Network operators, Network operators Annual reports in 2019 and NBTC's calculation
A2: M2M (machine-to-machine) SIM cards per 100 inhabitants	1.8	%	Network operators' Annual reports in 2019
A3: Mobile broadband subscriptions per 100 inhabitants	88.0	%	Network operators, Network operators Annual reports in 2019
A4: Average monthly mobile data usage per mobile broadband subscription	11.8	GB/ Month/ Subscription	Network operators, Network operators Annual reports in 2019 and ONDE's calculation
A5: Share of households with broadband connections	67.2	%	Household ICT Access and Usage Survey 2018 by National Statistics Office
A6: Share of businesses with broadband contracted speed of 30 Mbps or more	78.4	%	Survey of Thailand Digital Outlook 2nd Phase Project

Summary of Thailand Digital Outlook Indicators in 2020

(Use)

indicator	value	unit	sources
U1: Internet users as a share of individuals	66.7	%	Network operators, Network operators Annual reports in 2019 and NBTC's calculation
U2: Share of individuals using the Internet to interact with public authorities	35.3	%	Survey of Thailand Digital Outlook 2nd Phase Project
U3: Share of Internet users who have purchased online in the last 12 months	38.6	%	Survey of Thailand Digital Outlook 2nd Phase Project
U4: Share of small businesses making e-commerce sales in the last 12 months	29.2	%	Survey of Thailand Digital Outlook 2nd Phase Project
U5: Share of businesses purchasing cloud services	25.6	%	Survey of Thailand Digital Outlook 2nd Phase Project

Summary of Thailand Digital Outlook Indicators in 2020

(Innovation)

indicator	value	unit	sources
I1: ICT investment as a percentage of GDP	1.53	%	Table of Thailand National Accounts, as of 2020Q2, by NDESC
I2: Business R&D expenditure in Information Industries as a percentage of GDP	0.08	%	Thailand's R&D in Industry Sector Survey Report 2018 by NXPO
I3: Venture capital investment in the ICT sector as a percentage of GDP	0.014	%	Thailand Tech Startup Ecosystem Report 2019 by Techsauce Media Co.,Ltd.
I4: Share of start-up firms (up to 2 years old) in the business population	8.9	%	DBD DataWharehouse+ by Department of Business Development, as of 2019.

Summary of Thailand Digital Outlook Indicators in 2020

(Jobs)

indicator	value	unit	sources
J1: ICT task-intensive jobs as a percentage of total employment	3.5	%	Employment Survey Report 2019 by National Statistics Office
J2: Digital-intensive sectors' share in total employment	34.4	%	Employment Survey Report 2019 by National Statistics Office
J3: Workers receiving employment based training, as a percentage of total employment	21.1	%	Survey of Thailand Digital Outlook 2nd Phase Project
J4: New tertiary graduates in science, technology, engineering and mathematics, as a percentage of new graduates	21.6	%	Statistics of new tertiary graduates during 2015-2019 by Office of the Higher Education Commission
J5: Public spending on active labour market policies, as a percentage of GDP	0.05	%	Annual Financial Report in 2019 of related authorities, compiled by ONDE

Summary of Thailand Digital Outlook Indicators in 2020

(Society)

indicator	value	unit	sources
S1: Percentage of individuals aged 55–74 using the Internet	67.4	%	Survey of Thailand Digital Outlook 2nd Phase Project
S2: Percentage of individuals who live in households with income in the lowest quartile using the Internet	60.8	%	Survey of Thailand Digital Outlook 2nd Phase Project
S3: Percentage of individuals who use digital equipment at work that telework from home once a week or more	35.7	%	Survey of Thailand Digital Outlook 2nd Phase Project
S4: Women as a share of all 16–24 year-olds who can program	6.0	%	Survey of Thailand Digital Outlook 2nd Phase Project
S5: Top-performing 15–16 year old students in science, mathematics and reading	2.7	%	Programme for International Student Assessment Results in 2019 by IPST collaborating with OECD
S6: E-waste generated	9.2	kilograms per inhabitant	Global E-waste Monitoring Report 2019 by ITU

Summary of Thailand Digital Outlook Indicators in 2020

(Trust)

indicator	value	unit	sources
T1: Percentage of Internet users experiencing abuse of personal information or privacy violations	11.5	%	Survey of Thailand Digital Outlook 2nd Phase Project
T2: Percentage of individuals not buying online due to payment security concerns	9.5	%	Survey of Thailand Digital Outlook 2nd Phase Project
T3: Percentage of individuals not buying online due to concerns about returning products	12.7	%	Survey of Thailand Digital Outlook 2nd Phase Project
T4: Percentage of businesses in which ICT security and data protection tasks are mainly performed by own employees	26.0	%	Survey of Thailand Digital Outlook 2nd Phase Project

Summary of Thailand Digital Outlook Indicators in 2020

(Market Openness)

indicator	value	unit	sources
M1: Share of businesses making e-commerce sales that sell across borders	20.8	%	E-Commerce Value Survey 2018, by ETDA
M2: Share of predominantly digitally -delivered services in commercial services trade	9.0	%	Import and Export Value of Services in 2019 by Bank of Thailand
M3: Digital-intensive services value added embodied in manufacturing exports, as a percentage of manufacturing export value	23.1	%	OECD Database, as of 2015

(Growth & Well-being)

G2: Workers experiencing job stress associated with frequent computer use at work	52.6	%	Quarterly Gross Domestic Product Chain Volume Measures Statistics during 2010-2015, by NDESC
G2: Workers experiencing job stress associated with frequent computer use at work	16.4	%	Survey of Thailand Digital Outlook 2nd Phase Project
G3: Students aged 15-16 who feel bad if no Internet connection is available	65.2	%	Survey of Thailand Digital Outlook 2nd Phase Project





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