Confidential

National Statistical Office Thailand

The 2019 Establishment Survey on The Use of Information and Communication Technology

The objectives of data collecting

The National Statistical Office (NSO) has conducted the Establishment Survey on the Use of Information and Communication Technology (ICT) since 2004. The survey has been conducted annually in order to collect data on ICT usage in establishments toward their business operation, employment, as well as the requirement of ICT personnel.

The coverage of the survey is establishments operating in the following activities: wholesale trade, retail trade, service, manufacturing, construction, land transport, storage, private hospital, and Information and communication. It covers establishments located in municipal and non-municipal areas, within the whole country.

Expected results

The information from this survey can be used by public sector and entrepreneurs for the following purposes:

Public sector : to use the information on ICT usage in establishments for formulating a policy, planning, enhancing, developing the establishment's potential on ICT usage, training ICT personnel, amending a law and regulations. These would facilitate the promotion of ICT usage and development in establishments as follows:

- To support and push forward a reasonable price of hardware, software and devices from manufacturing, by the Ministry of Digital Economy and Society cooperating with the Ministry of Industry. This is for thoroughly distributing and employing ICT products, in accordance with establishment's requirement.
- To plan and promote employment in the appropriate field, by the Ministry of Labour.
- To plan and produce ICT personnel sufficiently, in accordance with establishment's requirement, by the Ministry of Education.

Entrepreneur : according to the promotion and development from public sector, establishments could invest in ICT equipment to enhance their management and expand their business. As a result, this leads to cost reduction and an increase in revenue of establishments.

The National Statistical Office (NSO) would keep your information secret and would not disclose individual information. The NSO is grateful for your kind cooperation. Your information would be the precise direction for policy formulation and the operation of both public and private sectors leading to a success.

Be confident in the National Statistical Office, public and private step forward constantly.

Interviewer's name..... Telephone number.....

Address.....

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National Statistical Office Thailand

ICT 19
(Enumeration form)

The 2019 Establishment Survey on
The Use of Information and Communication Technology

Recording data on business operation in the last year (during 1st January – 31st December 2018)

ID 1-15

Name of an establishment.....

Address

No.....Building.....Road.....Soi.....

Tambon/Sub-district.....Amphur/District.....

Province.....Postcode.....

Telephone.....Fax.....

E-mail.....Web site.....

Social Network (such as Facebook, Line, and Instagram) .....

Administrative area *(Mark ✓in ❑ only one choice)*

❑ 1 Municipal area ❑ 2 Non-municipal area

For official use

REG 16 ❑

CWT 17-18 ❑❑

AMP 19-20 ❑❑

TAM 21-22 ❑❑

MUN 23 ❑ EA 24-26 ❑❑❑

What type of economy activity did this establishment do?

(Mark ✓in ❑ only one choice, and fill the business details in the dashed line.....

If this establishment carries out more than one activity, choose the one with highest revenue)

❑ 1 Wholesale and retail trade; repair of motor vehicles, and motorcycles (45) ; .....

❑ 2 Wholesale trade (46) ; .....

❑ 3 Retail trade (47) ; .....

❑ 4 Accommodation, food and beverage service activities (55 – 56) ; .....

❑ 5 Information, computer and communication (58 – 63) ; .....

❑ 6 Real estate activities (68) ; .....

❑ 7 Professional, scientific and technical activities (69 – 74) ; .....

❑ 8 Rental, travel service, and support service activities (77 – 82) ; .....

❑ 9 Arts, entertainment and recreation (90 – 93) ; .....

❑ 10 Other service activities (95 – 96) ; .....

❑ 11 Manufacturing (10 – 33) ; .....

❑ 12 Water supply; sewerage, waste management and remediation activities (37 – 39) ; .....

❑ 13 Construction (41 – 43) ; .....

❑ 14 Land transport and storage (49, 52) ; .....

❑ 15 Private hospital activities (8610) ;.....

❑ 16 Others; .....

VIL 27-28 ❑❑

TYPE 29-30 ❑❑

TSIC_R 31-35 ❑❑❑❑❑

TSIC_L 36-40 ❑❑❑❑❑

SIZE_R 41-42 ❑❑

SIZE_L 43-44 ❑❑

NO 45-49 ❑❑❑❑❑

YR 50-51 1 9

ENU 52-53 ❑❑

For more information on how to fill in a questionnaire, please contact

Enumerating result

(Encircle only one choice)

1 Enumerated
2 Transferred/ Not found
3 Closed down
4 Demolished / fired
5 Non-cooperation
6 Temporarily close
7 Duplicate with No. .....
8 Establishment but out of coverage
9 Data available at the head office
10 Not establishment

Section 1 : General Information on the Establishment

No.1 What is the legal status of this establishment? *(Mark ✓in ❑ only 1 choice)*

Rec. 1 Col. 54-55: 0 1

A01 56:

- ❑ 1 Individual proprietor
- ❑ 2 Juristic partnership
- ❑ 3 Company limited, public company limited
- ❑ 4 Government, State-enterprise
- ❑ 5 Cooperative
- ❑ 6 Community enterprise
- ❑ 7 Association
- ❑ 8 Foundation
- ❑ 9 Others (Specify).....

No.2 What is the economic form of this establishment? *(Mark ✓in ❑ only one choice)*

A02 57:

- ❑ 1 Single unit (that is, no branch and not a branch of other establishments)
- ❑ 2 Head office (that is, a head office owning or controlling branch offices)
- ❑ 3 Branch (that is, a branch of other establishment's head office)

No.3 How long did this establishment start operations?

A03 58-60: ___ Years

(Record total number of years since this establishment has operated the business. Month figure should be rounded up to a year. If this establishment changes economic activity, please record total number of years since it has operated the economic activity recorded on a cover page)

No.4 Did this establishment have registered capital? *(Mark ✓in ❑ only one choice)*

A04 61:

- ❑ 1 No
- ❑ 2 Yes ⇨ Amount of registered capital

A05 62-73: _____ Baht

No.5 Did this establishment have foreign investors or shareholders? *(Mark ✓in ❑ only one choice)*

A06 74:

- ❑ 1 No
- ❑ 2 Yes ⇨ Percentage of foreign investors or shareholders (sum of all countries) is

A07 75-77: ___

No.6 Please record the number of full-time workers of this establishment (It includes both regular and temporary employments)

	Male		Female	
1 Unpaid worker	A08 78-82		A11 93-97	
2 Employee	A09 83-87		A12 98-102	
Total (1 + 2)	A10 88-92		A13 103-107	

Definition in Section 1

- **Worker**

Worker is defined as a person who normally work for an establishment **both receiving and not receiving salary**, including a person who work for an establishment and receiving wage/salary but he/she is absent on the interview's date because of sickness or vacation. **Workers are composed of**

1 **Unpaid worker** means a person who is the business owner, shareholder, or family member working for an establishment, or a worker who works at least 20 hours per week and receiving money, food, clothing or any help instead of receiving wage in accordance with a law.

2 **Employee** means a person who works for an establishment and receives regular salary or wage. This includes management level, scholar, clerk, and other officer such as manager, director, lab officer, seller, employee in manufacturing. Wage could be paid twice a month, weekly, daily, hourly, or piece rate. Employee also includes a person the establishment sends to work in other establishments such as security officer, cleaner, and seller in department store.

Excluding the workers as follows:

- Managers or directors paid solely for their attendance at meeting of the board of director.
- Persons from other establishment working at this establishment.
- Freelancers who work at home and return work piece to establishments without any investment in material and instrument.
- Workers who are on long-term leave such as military service leave.
- Persons who are employed to work occasionally such as labour and sale agents who do not receive regular pay.

Continue asking questions on page 4

Section 2 : Use of Computers for Business in the Establishment

No.7 Did this establishment use computers for business?

Rec. 2 Col. 54-55: 0 2

B01 56

(Mark ✓in ❑ only one choice)

❑ 1 No. (Skip to Section 3)

❑ 2 Yes, this establishment used computers in the office, then record No. 2.1 – 2.2 ⇩

2.1 Number of Computers

■ Personal Computer such as Desktop Computer, Notebook/Netbook, Workstation, and Terminal

Total Number B02 57-61 ⇨ ■ Number of personal computers connected to the Internet B03 62-66

■ Tablet PC (sizes: 7 inches or larger)

Total Number B04 67-71 ⇨ ■ Number of tablet PC connected to the Internet B05 72-76

■ Service and Central Processing Computer such as Sever, Mainframe, Minicomputer, and Supercomputer

Total Number B06 77-81 ⇨ ■ Number of service and central processing computers connected to the Internet B07 82-86

2.2 Number of personnel in this establishment who routinely used computers at work

On average, at least once a week. If they use computers less than once a week, then record 0)

Total Number B08 87-91

❑ 3 Yes, this establishment used computers outside the office such as home, Internet cafe, and Community ICT Learning Center

■ **Computer** refers to a computer which an establishment uses for business and it is available.A computer is divided into:

1 **Personal Computer (PC) which is composed of**

1.1 A Desktop Computer means a computer used at home and the office. It is designed for placing on a desk and comprised of CPU, a monitor, and keyboard. It also includes all-in-one desktop computer which is designed for placing on a desk but integrates CPU into the monitor.

1.2 Notebook/Netbook means a portable computer which is suitable for mobile use and typically weighs 1 – 3 kilograms. It can be powered either from an internal battery or by an external power supply from a power plug.Normally, Netbook screen is around 10 inches and its processing capability is lower than Notebook. However, Netbook saves more battery than Notebook. Netbook is suitable for accessing wireless Internet, running applications, and programs which require less amount of computing power. On the other hand, Notebook screen is around 13 – 17 inches and its processing capability for video and graphics is greater than Netbook.

1.3 Tablet PC means a mobile computer working with a touch screen display. Tablet PC screen is between 7 – 10 inches. Tablet PC supports wireless access. It is suitable for using Internet and application as same basic capability with Netbook.Tablet PC is divided into two types: convertible and state tablets.First, convertible tablet as a physical keyboard which is usually concealable and rotatory detachable. Second, slate tablet does not have a physical keyboard, and usually accept input by a virtual keyboard shown on a touchscreen-enabled display. Users can input or send commands through their finger or a stylus pen.

1.4 Workstation refers to a computer designed for placing on a desk. It has advanced computing capability in engineering and architecture, or advanced graphics capability.For example, workstation is used as computer-aided graphic design in an industry for new manufactured components of automobiles. Workstation has a faster processor and also has a mass storage device.Some user calls workstation as supermicro because it is designed for placing on a desk but a chip is totally different. Most workstations employ a reduced instruction set computer (RISC) chip which reduces the number of instructions into a highly optimized set of instructions leading to faster processing.

1.5 Terminal is defined as a computer which cannot process information by itself. Terminal has slow operation because it depends on a host computer for its processing power.Terminal consists of monitor, keyboard, and mouse which these are used for displaying from and entering data into the host computer. As a result of less computer components, terminal leads to cost saving.However, when terminal does not connect to a computer network, it will not be able to work. In addition, the maintenance of network system connected to terminal is easier than one connected to workstation.

2 **Service and Central Processing Computer** is defined as a central computer used for controlling and serving other ones. For example, Server, Mainframe, Minicomputer, and Supercomputer.

No.8 **Did this establishment have an intranet?** *(Mark ✓in ❑ only one choice)*

❑ 1 No

❑ 2 Yes

B09 92 [ ]

No.9 **Did this establishment have an extranet?** *(Mark ✓in ❑ only one choice)*

❑ 1 No

❑ 2 Yes

B10 93 [ ]

No.10 **Did this establishment have a local area network (LAN)?** *(Mark ✓in ❑ only one choice)*

❑ 1 No

❑ 2 Yes

B11 94 [ ]

- **An intranet** refers to an internal communications network using Internet protocols and allowing communication within an organization.
- **An extranet** refers to an intranet using Internet protocols to connect external computer system. It is a private and secure intranet.It can take the form of a secure extension of an intranet that allows external users to access some parts of the business's intranet.
- **A local area network (LAN)** means a network connecting computers within a localized area such as single building, department or site.

No.11 **Did this establishment use open source software?** *(Mark ✓in ❑ only one choice)*

❑ 1 No

❑ 2 Yes

❑ 3 Do not know

B12 95 [ ]

No.12 **Which types of software did this establishment usually use?** *(Multiple choice are allowed, mark ✓in ❑)*

❑ 1 Self-development software — B13 96 [ ]

❑ 2 Software package — B14 97 [ ]

❑ 3 Tailor-made software — B15 98 [ ]

❑ 4 Open source software — B16 99 [ ]

❑ 5 Software as a Service : SaaS — B17 100 [ ]

❑ 6 Others (specify)..... — B18 101 [ ]

- **Tailor-made software** is software which is specially developed for some specific organization or user. It is to hire a software developer for building a specific software which is different from general software packages.
- **Open source software** is software with its source code made available with a license such as General Public License (GPL) or Berkeley Software Distribution (BSD). Open source software is free software implying that there is no cost for using it.Moreover, users or software developers can use the software, modify source code, and distribute their own versions of software. They also have the ability to modify for private using, or selling and marketing.There are the examples of open source software:operating system (Linux-Ubuntu, RedHat, CentOS,Debain), office suite (OpenOffice.org, LibreOffice), development tools (PHP, Java, Netbeen, Eclipse), web content management (Joomla, Drupal), web server (Apache), database (MySQL, PostGreSQL), CRM (SugarCRM, vTigerCRM), web browser (Firefox), open source ERP (Adempiere, OfBiz, Open ERP, OrangeGears, Saeree ERP), utilities (PDFCreater, Gimp, Freemind).
- **Software as a Service (SaaS)**is application software providing on a web which users typically access the services through a web browser.Generally, SaaS is kept in the server of third-party provider, or can be downloaded into a client's computer. However, SaaS will be unavailable when software license expires or when users finish the project.

Section 3 : Use of the Internet for Business in the Establishment

No.13 **Did this establishment use the Internet for business?**

Rec. 3 Col. 54-55	0	3
C01 56		

(Mark ✓in ❑ only one choice)

❑ 1 No, then record No. 1.1⇩ skip to Section 6

1.1 Limitations against to use the internet for business *(encircle more than one choice)*

▪ High expense.....1	C02 57
▪ Unnecessary / Not appropriate business's form.....2	C03 58
▪ Personal lack of skill.....3	C04 59
▪ Difficult to find personal who have a lot of skill.....4	C05 60
▪ Technology change too fast.....5	C06 61
▪ Lack of perceive benefits.....6	C07 62
▪ Reluctant to use.....7	C08 63
▪ Lack of security system from Viruses or Hacker.....8	C09 64
▪ No service Network in this area.....9	C10 65
▪ Others (specify).....10	C11 66

❑ 2 Yes

▪ **Number of personnel in this establishment who routinely used the Internet at work Total Number** — C12 67-71

(On average, at least once a week. If they use the Internet less than once a week, then record 0)

No.14 **For Which of the following activities did this establishment use the Internet?** *(Multiple choice are allowed, mark ✓in ❑)*

❑ 1 Sending or receiving e – mail	C13 72
❑ 2 Getting information about goods and services	C14 73
❑ 3 Getting information from general government organization	C15 74
❑ 4 Interacting with general government organization such asreturning tax,downloading/requesting forms online	C16 75
❑ 5 Purchase/Sale goods and services or trading with partner	C17 76
❑ 6 Delivering products online in digitized form such as software, music, videos, computer game, and travel booking	C18 77
❑ 7 Performing Internet banking or accessing other financial services	C19 78
❑ 8 Staff training in an establishment / training via e – learning system	C20 79
❑ 9 Telephoning /conferencing over the Internet/VoIP, including video conferencing such as Skype, and iTalk.	C21 80
❑ 10 Instant Messaging (IM) such as Line, WeChat, MSN Messenger, and Google Talk /Bulletin Boards	C22 81
❑ 11 Internal or external recruitment	C23 82
❑ 12 Others (Specify).....	C24 83

No.15 How did this establishment connect to the Internet? *(Multiple choice are allowed, mark ✓ in ❑)*

1. Low Speed (at speeds below 256 Kbit/s) :

❑ 1.1 Analogue modem (dial – up via standard phone line)	C25 84	
❑ 1.2 ISDN (Integrated Services Digital Network)	C26 85	
❑ 1.3 Mobile phone with 2G, 2.5G technologies such as GSM, CDMA, GPRS	C27 86	

2. High Speed (at speeds of at least 256 Kbit/s) :

❑ 2.1 xDSL (ADSL, SDSL, VDSL)	C28 87	
❑ 2.2 Leased Line	C29 88	
❑ 2.3 Cable modem	C30 89	
❑ 2.4 Frame Relay or VPN	C31 90	
❑ 2.5 Other broadband (Satellite, FTTX, Fixed Wireless, WLAN, WiMAX)	C32 91	
❑ 2.6 Mobile phone with 3G or higher technologies such as WCDMA, EV-DO	C33 92	

❑ **3. Do not know**	C34 93	
❑ **4. Others (Specify)**	C35 94	

Definition in Section 3

- **VoIP (Voice over Internet Protocol)**is voice communication over Internet Protocol (IP) network such as the Internet. VoIP converts analog voice signals into digital data packets, and transmits them across the network instead of using a traditional telephone system.
- **Analogue modem** is an Internet-connected system which connects to the Internet through analog telephone lines.
- **ISDN (Integrated Standard Digital Network)** is an Internet-connected system which can send pictures and voice data through one telephone line. It is also an international-standard system, with a speed of64 Kbps.
- **xSDL (x Digital Subscriber Line)** is a high-speed Internet connection with similar technology to ISDN.However, xSDL provides greater speed than ISDN. The regular types are ADSL and SDSL.
- **Cable Modem** is a modem which connects a computer or local network to the Internet service through a local cable TV line.Generally, an Internet connection is conducted through a modem with a standard telephone line. However, if it is conducted through a modem with a local cable TV line, data sending and receiving would be more rapid because the cable TV line provides much greater bandwidth.
- **Leased Line** is the Internet connection using a leased line. This leased line is a line that has been leased for private use. As a result, a leased line leads to high-speed Internet access. Thus, it can receive and send data rapidly and efficiently.
- **Frame Relay.** Generally, a leased line is a point-to-point connection, for instance, the connection between customer and Internet provider. On the other hand, Frame Relay provides multiple connections over a single physical circuit.For instance, the simultaneous remote connections between a head office and its four branch-offices.
- **VPN (Virtual Private Network).** Regularly, when an establishment would like to connect its head office to its numerous branches and each branch connects to each other, it would use many leased line leading to a high cost. Nevertheless, VPN can connect a head office with its numerous branches over the Internet. VPN allows an establishment to create a virtual and secure connection between locations. It would require a password for every connected branch as it has a private network over time.
- **FTTX** is a collective term for any broadband network architecture using optical fiber. It is a broadband Internet service through optical fiber cable. FTTX can be used for business and private unlimitedly at speeds between 10 Mb to 100 Mb. Its service covers area around 20 kilometers from telephone exchange. Then, distance problem affecting Internet speed is eliminated. Moreover, FTTX also leads to Triple Play which connects voice, data and video simultaneously.

Section 4 : Use of a Web Site for Business in the Establishment

No.16 **Did this establishment have a Web Site for business?**

Rec. 4 Col. 54-55	0	4

(Mark ✓in ❑ only one choice)

D01 56	

❑ 1 No, then record No. 1.1⇩ skip to Section 5

1.1 Limitations against to use Web Site for business *(encircle more than one choice)*

▪ High expense.....1	D02 57
▪ Unnecessary / Not appropriate business's form.....2	D03 58
▪ Personal lack of skill.....3	D04 59
▪ Difficult to find personal who have a lot of skill.....4	D05 60
▪ Technology change too fast.....5	D06 61
▪ Lack of perceived benefits.....6	D07 62
▪ Reluctant to use.....7	D08 63
▪ Others (specify).....8	D09 64

❑ 2 Yes, this establishment has its own web site or other web portal.

No.17 **For Which of the following activities did this establishment use web site ?** *(Multiple choice are allowed, mark ✓in ❑)*

❑ 1 Monitory the establishment products	D10 65
❑ 2 Customized Webpage or information provided for repeat clients	D11 66
❑ 3 Receiving purchased order	D12 67
❑ 4 Providing after sales services	D13 68
❑ 5 Online payment	D14 69
❑ 6 Information networking at the back office (e.g. Inventory System)	D15 70
❑ 7 Others (Specify).....	D16 71

No.18 **Did this establishment use Social Network (Facebook, Line, Twitter, Google Plus, Blogger, Instagram) for business?** *(Mark ✓in ❑ only one choice)*

D17 72	

❑ 1 No

❑ 2 Yes

- **Web site** is information on the World Wide Web which is a collection of many web pages. The first web page is called a homepage.Then, a Web Site is like a book which has a homepage as its cover and has web pages as book pages. It is kept in a vast library on the Internet called the World Wide Web.
- **World Wide Web** or shortly as Web is a big data source on the Internet. It can be accessed via a computer connected to the Internet. The data could be letters, pictures, video and even voice.

Section 5 : Placing / Receiving Orders for Goods or Services over the Internet

5.1 Placing orders over the Internet (purchases)

Rec. 5 Col. 54-55 | 0 | 5

No.19 **Did this establishment place orders for goods or services (that is, make purchases) via the Internet?**

(orders placed include order placed via websites, Social Network, Extranet, EDI or e – mail)

(Mark ✓in ❑ only one choice)

E01 56

❑ 1 No, then record No. 1.1 ⇩ skip to No.21

1.1 Limitation against to placing orders via internet *(encircle more than one choice)*

- There are concerns about the safety of the service..... 1 — E02 57
- There is more convenient service through other channels..... 2 — E03 58
- There is no need to use the service via internet..... 3 — E04 59
- There is no confidence in technology..... 4 — E05 60
- Others (Specify)..... 5 — E06 61

❑ 2 Yes

No.20 **Which of the following factors did the establishment use for decision making related to placing orders via internet?** *(Mark ✓in ❑)*

Factors for decision making		Not important	Slightly important	Moderately important	Very important	Do not know/ Not relevant
1 To simplify transactions for goods and services	E07 62	❑ 0	❑ 1	❑ 2	❑ 3	❑ 4
2 To simplify payment for goods/ services	E08 63	❑ 0	❑ 1	❑ 2	❑ 3	❑ 4
3 Save time and Expense decrease	E09 64	❑ 0	❑ 1	❑ 2	❑ 3	❑ 4
4 The popularity of purchase- sale via internet	E10 65	❑ 0	❑ 1	❑ 2	❑ 3	❑ 4
5 To select goods/ services range	E11 66	❑ 0	❑ 1	❑ 2	❑ 3	❑ 4
6 Website has registered a business in e-Commerce (DBD register)	E12 67	❑ 0	❑ 1	❑ 2	❑ 3	❑ 4
7 Website has trustmark	E13 68	❑ 0	❑ 1	❑ 2	❑ 3	❑ 4
8 Others (Specify).....	E14 69	❑ 0	❑ 1	❑ 2	❑ 3	❑ 4

No.21 **Did this establishment make any payment for goods or services via the Internet?**

(Mark ✓in ❑ only one choice)

E15 70

❑ **1 No,** Reasons of non-payment for goods and services via internet *(encircle more than one choice)*

- There are concerns about the safety of the service..... 1 — E16 71
- There is more convenient service through other channels..... 2 — E17 72
- There is no need to use the service via internet..... 3 — E18 73
- There is no confidence in technology..... 4 — E19 74
- High fee is to be paid for using the services..... 5 — E20 75
- Trading partners do not accept payment for goods and services via internet... 6 — E21 76
- Others (Specify)..... 7 — E22 77

❑ **2 Yes,** Factor for payment goods and services via internet *(encircle more than one choice)*

- To simplify transactions for goods and services..... 1 — E23 78
- To simplify payment for goods/ services..... 2 — E24 79
- Expense Decrease..... 3 — E25 80
- To purchase goods at lower cost..... 4 — E26 81
- To speed up business processes..... 5 — E27 82
- Regulator trade partner's regulation..... 6 — E28 83
- Others (Specify)..... 7 — E29 84

5.2 Receiving orders for goods or services over the Internet (sales) (measuring e – Commerce)

No.22 Did this establishment receive orders for goods or services (that is, make sales) via the Internet? *(Mark ✓in ❑ only one choice)*

❑ 1 No — E30 85

❑ 2 Yes ⇨ Did this establishment receive any payment for goods or services via the Internet? *(Mark ✓in ❑ only one choice)*

❑ 1 No — E31 86

❑ 2 Yes

- **E – Commerce** means the selling of goods or services by an establishment over the Internet, or refers to placing orders for goods and services by customers over the Internet.(orders received include order received via websites, Social Network, Extranet, EDI or e – mail). A payment or delivery can be made either online or offline, or both.

Definition in Section 6

- **The field of Information and Communication Technology (ICT) is divided into 6 groups as follows:**

1 **Computer Engineering** such as Computer, Computer Science, Computer Technology, Computer Engineering, Electrical and Computer Engineering.

2 **Electronics** such as Electronics Technology, Electronics Physics, Electronics and Computer, Power Electronics Technology, Electronics.

3 **Information** such as Information System Management, Business Information Technology, Accounting Information Technology, Computer and Information Technology, Information Technology for Industry, Management Information System, Technology of Information System Management, Statistical Information Technology, Computer Science and Information, Information Technology, Computer Information System, Information Technology in Business, Information Technology System in Management, Information Science.

4 **Applied Computer** such as Business Computer, Applied Computer Science, Industrial Computer Technology, Applied Computer Science-Multimedia.

5 **Telecommunication** such as Telecommunication Management, Telecommunication, Electronics and Telecommunication Engineering, Telecommunication Technology, Telecommunication Engineering.

6 **Statistics**. This includes data compiling by a computer, Statistical Science, Applied Statistics, Mathematical Statistics.

Section 6 : ICT Personnel in the Establishment

Ask only Company limited and Public company limited

No.23 Does this establishment have any personnel who graduated in Information and Communication Technology or related field in ICT? *(Mark ✓in ❑ only one choice)*

Rec. 6 Col. 54-55: 0 6 | F01 56

❑ 1 No

❑ 2 Yes ■ Total — Amount — F02 57-61 — Persons

- Below the high vocational certificate — Amount — F03 62-66 — Persons
- High vocational certificate — Amount — F04 67-71 — Persons
- Bachelor's degree — Amount — F05 72-76 — Persons
- Master's degree — Amount — F06 77-81 — Persons
- Higher than master's degree — Amount — F07 82-86 — Persons

No.24 Does this establishment have any ICT personnel (workers who are in charge of ICT) in the following occupation/ position groups?

ICT occupation/ position groups		No	Yes	Field of Education: ICT (Persons)	Field of Education: Other (Persons)
1 Chief Information Officer (CIO)	F08 87	❑ 1	❑ 2	F09 88-91	F10 92-95
2 Information Technology Department Managers	F11 96	❑ 1	❑ 2	F12 97-100	F13 101-104
3 Computer System Designers and Analysts	F14 105	❑ 1	❑ 2	F15 106-109	F16 110-113
4 Computer Programmers	F17 114	❑ 1	❑ 2	F18 115-118	F19 119-122
5 5 Computer Associate Professionals	F20 123	❑ 1	❑ 2	F21 124-127	F22 128-131
6 Others[1/]	F23 132	❑ 1	❑ 2	F24 133-136	F25 137-140

[1/] Others refers to other occupation related to ICT such as IT product sale/service officer, IT sale/service/marketing manager, IT Supply officer, Service officer who serves the service by using IT, Data entry officer, etc.

No.25 In 2019, Does this establishment require more ICT Personnel?

ICT occupation/position groups		Not Require	Require	Required amount of ICT Personnel (persons)		
1 Chief Information Officer (CIO)	F26 141	❑ 1	❑ 2	Amount	F27 142-145	Persons
2 Information Technology Department Managers	F28 146	❑ 1	❑ 2	Amount	F29 147-150	Persons
3 Computer System Designers and Analysts	F30 151	❑ 1	❑ 2	Amount	F31 152-155	Persons
4 Computer Programmers	F32 156	❑ 1	❑ 2	Amount	F33 157-160	Persons
5 Computer Associate Professionals	F34 161	❑ 1	❑ 2	Amount	F35 162-165	Persons
6 Others[1/]	F36 166	❑ 1	❑ 2	Amount	F37 167-170	Persons

Definition in Section 6 (Continued)

■ ICT Occupation / Position groups

1 Chief Information Officer (CIO). The officer controlling, coordinating, assigning, monitoring, evaluating, and being responsible for Information Technology tasks of the organization

2 Information Technology Department Manager consists of

- **2.1 Project Manager.**The officer controlling, coordinating, assigning, monitoring, evaluating, and being responsible for Information Technology tasks of the project.
- **2.2 System Manager.**The officer controlling, coordinating, assigning, monitoring, evaluating, and being responsible for Information Technology tasks of the system.

3 Computer System Designer and Analyst consist of

- **3.1 System Analyst & Designer.**The officer planning, studying, analyzing, designing, implementing, testing, evaluating and maintaining a computer system for user satisfaction.
- **3.2 Application Software Officer.**The officer planning, studying, analyzing, designing, implementing, testing, evaluating, maintaining application software, and also solving any related problem that occurs.
- **3.3 Computer Graphics and Multimedia Software Officer.**The officer planning, studying, analyzing, designing, implementing, testing, evaluating, maintaining computer graphics and multimedia software, and also solving any related problem that occurs.
- **3.4 Data Communication Officer**.The officer planning, studying, analyzing, designing, implementing, testing, evaluating, maintaining a network system and other data communication system, and also solving any related problem that occurs.
- **3.5 Database Officer.**The officer planning, studying, analyzing, designing, implementing, testing, evaluating, maintaining a database and database management system, and also solving any related problem that occurs.
- **3.6 IT Security Officer.**The officer planning, studying, analyzing, designing, implementing, testing, evaluating IT security, and also solving any related problem that occurs.
- **3.7 IT Quality Assurance Officer.**The officer planning, studying, analyzing, designing, implementing, testing, evaluating IT quality assurance, and also solving any related problem that occurs.
- **3.8 Software Engineer**. The officer researching, analyzing, designing, implementing, and testing method/process and technology in order to support high-quality software development.
- **3.9 Computer Aided Design & Computer Aided Manufacturing (CAD & CAM) Officer.**The officer planning, studying, analyzing, and using a computer to design and produce manufactured goods. The officer is also responsible to test, evaluate, and provide technical advice.

4 Computer Programmer consists of

- **4.1 Programmer.** The officer coding, modifying, testing, developing application software and/or system software under the program's regulations, and also solving any related problem that occurs.
- **4.2 Web Master.**The officer designing, coding, modifying, testing and developing a website and updating data on a website.
- **4.3 Computer Trainer.**The instructor teaching others about computer hardware and software in short-courses and specific courses, and also provides academic and technical advice.

5 Computer Associate Professional consists of

- **5.1 System Technician.** The officer maintaining and solving problems related to a computer system.
- **5.2 System Operator**.The officer operating, controlling, maintaining, and checking the operation of a computer system.

Section 7 : Comments of ICT in the Establishment

No.26 **Does this establishment need to support/ help for ICT from** general **government organization**? *(Mark ✓in ❑ only one choice)*

Rec. 7 Col. 54-55: 0 7

G01 56:

❑ 1 No

❑ 2 Yes, and **which of needs** *(encircle more than one choice)*

▪ Training to use ICT to the private sector free of charge	1	G02 57
▪ To find sources of low interest loans	2	G03 58
▪ Supporting to protected viruses	3	G04 59
▪ Advice/ encourage of ICT	4	G05 60
▪ IT infrastructure services thoroughly	5	G06 61
▪ Measures/ penalties for Infringement of intellectual property	6	G07 62
▪ Improve laws/ regulations regarding ICT	7	G08 63
▪ Security data	8	G09 64
▪ Get source data	9	G10 65
▪ Database establishment	10	G11 66
▪ Development of ICT Personal	11	G12 67
▪ The complaint's center about problem of transaction via online	12	G13 68
▪ The complaint's center about computer related crime act	13	G14 69
▪ Others (Specify)	14	G15 70

Name of a person providing information .....

Position ..... **Telephone number** ..... **e – mail** .....

For official use

Rec. 8 Col. 54-55: 0 8

Name – Surname	Enumerator	⇒ Code	H01 56-62
Name – Surname	Data Editor	⇒ Code	H02 63-69
Name – Surname	Data Entry Officer	⇒ Code	H03 70-76
Name – Surname	Supervisor	⇒ Code	H04 77-83