

# **VOORBURG GROUP ON SERVICES STATISTICS**

17th meeting

Nantes, 23 – 27 September, 2002

## **Japanese ICT Statistics and New JSIC with the Information and Communications Division**

**Hiroyuki KITADA**

Director of International Statistical Affairs Division,  
Statistical Standards Department, Statistics Bureau,  
Ministry of Public Management, Home Affairs,  
Posts and Telecommunications (MPHPT), Japan

PARALLEL SESSION 1 – Information Society Statistic

## Japanese ICT Statistics and New JSIC with the Information and Communications Division

Hiroyuki KITADA  
Director of International Statistical Affairs Division,  
Statistical Standards Department, Statistics Bureau,  
Ministry of Public Management, Home Affairs,  
Posts and Telecommunications (MPHPT), Japan

In Japan, the Basic Law on Formation of an Advanced Information and Telecommunications Network Society (Basic Law on IT) was enforced on January 6, 2001, in which the Government is obliged to prepare official statistics related to ICT.

In Japan, at least 41 kinds of official statistical surveys including questions related to ICT have been conducted in the past five years (including one survey which was determined to be carried out in 2002). Their main purpose, survey items and survey methods are various and different each other. To grasp the new development in IT as a whole, "IT Indicators in Japan", which is a new compendium on ICT, was compiled in 2001. And "Information and Communications in Japan", which is a white paper published in 2001, presented basic data on the extent to which IT has permeated the economic activity and people's lives.

In addition, the 11<sup>th</sup> revision of the Standard Industrial Classification for Japan (JSIC) was published by the Statistical Standards Department, Statistics Bureau, Ministry of Public Management, Home Affairs, Posts and Telecommunications (MPHPT) in March 2002 in response to the change of economy and society including the development of ICT.

In this paper, an overview of the present situation of Japanese official statistics related to ICT is given with some analysis.

The views expressed herein are those of the author, and are not necessarily those of the Statistical Standards Department or any other Japanese government authorities.

### 1 Japanese ICT Statistics

#### (1) Introduction

1. The development of ICT in recent years is sometimes called the new Industrial Revolution, and the speed of its development is extremely rapid. ICT also spreads widely and influences deeply not only economic activities of businesses, households and governments but also various areas of people's daily life. On this account the preparation of official statistics related to ICT has been an urgent matter for national statistical offices of many countries and the needs of ICT statistics extends over various fields, too.

2. In Japan, the Basic Law on Formation of an Advanced Information and Telecommunications Network Society was enforced on January 6, 2001, which obliges the government to work out a basic strategy to promote the formation of advanced IT network society.<sup>1</sup> And the Law also obliges the government in its article 14 to compile statistics and other documents concerning an advanced IT network society and to publish them on the Internet and by using other appropriate means.

3. In Japan, the decentralized statistical system is adopted based on the idea that the basic and common statistical surveys such as the Population Census are conducted by the Statistical Survey Department of Statistics Bureau, Ministry of Public Management, Home Affairs, Posts and Telecommunications (MPHPT), while other statistical surveys necessary for the policy making of the ministries and agencies are conducted by themselves within their jurisdiction. Under this system, statistics related to ICT are also developed and prepared by themselves within their jurisdiction.

---

<sup>1</sup> The "E-Japan Strategy" was established by Japanese Government in January 2001.

## **(2) Overview of Official Statistical Surveys related to ICT in Japan**

4. There are three methods to prepare ICT statistics and related data as follows.

- i) Using existing administrative data,
- ii) Adding questions on ICT to existing statistical surveys / censuses or improving them,
- iii) Planning and conducting new surveys/censuses on ICT.

In my country, some data on enterprises supplying telecommunications services such as the number of telecommunications companies, the situation of their management and facilities/machinery, the number of their subscribers are available in the administrative data. And also the data on import and export of ICT related products are available in the data of the custom services.

5. In Japan, at least 41 kinds of official statistical surveys containing questions related to ICT have been conducted in the past five years (including one survey which was determined to be carried out in November 2002). The main purpose, survey items, coverage, survey unit and other survey methods of these 41 statistical surveys are various and different each other..

Dividing these surveys according to the survey target, 26 are surveys for enterprise/establishment, 13 are those for household/individual and 9 are those for government, university, school, etc.<sup>2</sup>

In addition there are a number of statistics on ICT that are compiled based on the administrative reports concerning telecommunications carriers, telecommunications services and so on.

6. Statistical surveys and survey items for enterprise/establishment are divided into some types as follows.

- i) Statistical surveys on the state of specific ICT related industries such as electronic communications businesses or information service businesses,
- ii) Statistical surveys on production of ICT facilities/equipments such as the Manufacturing Census,
- iii) Statistical surveys on investment in plant and equipment related to ICT or possession of ICT facilities/equipments by various enterprises/establishments,
- iv) Statistical surveys on the use of ICT facilities/equipments in various enterprises/establishments,
- v) Statistical surveys on the introduction of e-commerce in various enterprises/establishments,
- vi) Statistical surveys on the situation of information processing in various business processes and effects of introduction of ICT/e-commerce in various enterprises/establishments

7. Statistical surveys and their survey items for household/individual are divided into some types as follows.

- i) Statistical surveys on the possession of ICT facilities and the use of PC/the Internet by households/individuals,
- ii) Statistical surveys on the purchases of telecommunications facilities such as PC, mobile phone and the expenditure for their use such as telecommunications charge by households/individuals,
- iii) Statistical surveys on time, purpose, place etc., for which households/individuals use PC or the Internet,

8. Statistical surveys and their survey items for the government or other public entities are divided into some types as follows.

- i) Statistical surveys on installation of ICT facilities/equipments, especially main computers and their related works and systems, the number of related operators, installation of LAN systems etc., in the government, public corporations and so on.
- ii) Statistical surveys on installation of PC and software in schools, practical use of PC by teacher etc.,
- iii) Statistical surveys on installation of computer in the university libraries, establishment of the homepage and digitization of information about the book collection etc.

9. In most cases, ICT related questions are added in the existing statistical surveys as a part of each survey. But there are several statistical surveys in which most part of questions consist of those related to ICT such as the possession of ICT facilities/equipments, their use and other related matters to enterprise/establishment, household/individual, and government organizations or public entities. Main examples consisting of ICT related questions are as follows.

---

<sup>2</sup> (There are some surveys targeting on more than 2 categories, so that the sum of surveys in each category is not equal to the total number of surveys.)

i) Statistical surveys to enterprise/establishment consisting of ICT related questions.

a) Communications Usage Trend Survey (Companies-Enterprises)

The Information and Communications Policy Bureau of MPHPT carries out this survey annually as a nation wide sample survey to 3,000 enterprises, with more than 100 regular employees, belonging to the industries "Construction", "Manufacturing", "Electricity, Gas, Heat Supply and Water", "Transport and Communications", "Wholesale and Retail Trade, Eating and Drinking places", "Finance and Insurance", "Real Estate", "Services" of JSIC.

Main survey items are the state of establishment of telecommunication network, the use of the Internet, security measures, cost for communication network, etc. The latest survey results have been released on the website at <http://www.johotsusintokei.soumu.go.jp>.

b) Communications Usage Trend Survey (Offices-Establishments)

The information and Communications Policy Bureau of MPHPT carries out this survey annually as a nation wide sample survey to 5,600 establishments, with more than 5 regular employees, belonging to the industries "Agriculture", "Forestry", "Fisheries", "Mining", "Construction", "Manufacturing", "Electricity, Gas, Heat Supply and Water", "Transport", "Wholesales and Retail Trade", "Eating and Drinking Places", "Finance and Insurance", "Real Estate", "Services" and "public services" of JSIC. The establishments belong to "Communications" of JSIC are excluded.

Main survey items are the state of possession of ICT facilities/equipments, the use of the Internet, charges paid for use of communications services, etc. The latest survey results have been released on the website at <http://www.johotsusintokei.soumu.go.jp>.

c) Survey on ICT Workplaces

The Ministry of Economy, Trade and Industry (METI) carries out this survey annually to the listed 9,500 enterprises using computer.

Main survey items are cost for ICT work and its prospect, ICT operators, possession of computer, PC and ICT network, operation of LAN and its application for business, self-development of software, state of outsourcing. The latest survey was conducted on the end of March 2001 and its results were released in January 2002.

d) Questionnaire concerning Corporate Activities

The Economic and Social Research Institute (ESRI) of the Cabinet Office carries out this survey annually to 2,270 enterprises listed in the three big stock exchange markets in Japan namely Tokyo, Osaka and Nagoya except banking and insurance business.

Main survey items in the survey are questions on business environment and on fundamental management policies including the results of investment in plant and equipment in the past three years and prospect in the coming three years, prospect of exchange rate, overseas production etc.. And other questions related to enterprise's action are selected every year in accordance with a selected supplementary theme. In the survey conducted January 2001, the corporate activities related to ICT were investigated as follows. Survey results were published in May 2001 in Japanese. (The results are contained in "Statistical Note of Japan (No.50)"(November 2001, Statistical Standards Department, Statistics Bureau, MPHPT)). Main survey items in January 2001 were as follows.

-ICT investment (results and plans, contents, areas and business processes, purpose, effects, barriers and measures to them)

-The new management techniques brought into enterprise's management by ICT (results and plans of the introduction of information clearing house system using ICT for the inside use and for the joint use with the outside, results and plans for introducing e-commerce (BtoB/BtoC), effects of its introduction.)

-Effects on enterprise organization by introducing ICT (necessity of organization reform, establishment of specified sections for ICT strategy, practical use of e-mail, results and plans of organization reform, results and plans on the change of employment)

e) Establishment and Enterprise Census 2001

The Census is conducted every five years by the Statistical Survey Department of the Statistics Bureau, MPHPT with the aim to clarify the industrial structure of the country as well as to provide the basic statistical framework for sample surveys on establishments and enterprises. It covers all establishments with a little exception (un-incorporated establishments belonging to agriculture, etc. of JSIC). The Census held in October 2001 asked enterprises about use of e-commerce, its type (BtoB/BtoC), its

contents (sending orders, receiving orders, delivery of goods and service). The Census provides data that users can make analysis by region, industry and size of establishment. Its provisional results about use of e-commerce were released in April 2002. (refer to Annex 1)

f) Report of Incorporated Enterprises Statistics

The Ministry of Finance carries out this survey quarterly as a nationwide sample survey to about 26,000 enterprises with an aim to gather financial data and other related data. Since April 2001 the sum of purchased software as assets has been added as a new survey item.

g) Census of Commerce

METI carries out the Census every five years with the aim to clarify the actual condition of domestic trade. Its coverage is all establishments running wholesale and retail trade. A supplementary census is conducted two years after the Census. The latest Census conducted in June 2002 investigated e-commerce including annual merchandise sales and purchases over electronic networks, the Internet, etc.

h) Survey on Private Enterprise Economy

The Statistical Survey Department carries out the Survey quarterly as a sample survey to 4,000 private enterprises running manufacturing, wholesale, retail trade, restaurant and services, in order to gather data about their management. From the Survey in April 2002, usage of PC, Internet connection, etc. has been added as new questions.

ii) Statistical surveys to household/individual consisting of ICT related questions.

a) Communications Usage Trend Survey (Households)

The information and Communications Policy Bureau of MPHPT conducts this survey annually as a nation wide sample survey to 6,400 households with householders aged 20 and older as of April every year.

Main survey items are the possession of ICT facilities, the use of the Internet, charges paid for use of communications and broadcasting services, etc. Especially, the latest survey researched not only householders but also individuals (those making the households) on the Internet usage. The survey results have been released on the website at <http://www.johotsusintokei.soumu.go.jp>.

b) Survey of Household Economy

The Survey which has been launched since October 2001 by the Statistical Survey Department inquires about 30,000 households of the purchases of expensive and infrequently purchased goods and services and consumption for ICT, which supplements the monthly Family Income and Expenditure Survey initiated in 1954 covering about 8,000 households. The 2001 Survey collected data on purchasing and ownership of ICT related goods and services and usage of the Internet, which presented the trend of ICT use in a timely manner. Its preliminary results about usage of the Internet were released in May 2002. (refer to Annex 2)

c) Survey on Time Use and Leisure Activities

The Survey covering about 100,000 households is conducted every five years by the Statistical Survey Department with the aim to clarify the distribution of time spent on daily activities by people as well as on their activities during spare time. The Survey in October 2001 was conducted with new questions about the use of the Internet. The Survey asked to about 200,000 individuals of the inquired households such questions as purpose, frequency and place of accessing to the Internet. The results produce data needed for extensive analysis on ICT use by individual attributes (sex, age, region, occupation, etc.) and by household attribute (type, income, etc.). It is the first practical material for the evaluation of ICT usage by Japanese people, including the evaluation of the state of digital divide. The results will be released in September 2002.

iii) Statistical surveys to government organizations and other public entities consisting of ICT related questions

a) Basic Survey on the Progress of Government IT Use<sup>3</sup>

The Administrative Management Bureau of MPHPT carries out this survey annually to all organizations of the central government.

Main survey items are installation of ICT facilities/equipments, installation of computers and their works and systems, the state of related operators, etc..

The Survey is conducted as of April 1 and its results are usually released in November.

b) Basic Survey on the Progress of IT Use in Public Corporations<sup>3</sup>

The Administrative Management Bureau of MPHPT carries out this survey annually to all public corporations according to the survey above mentioned in a).

c) Survey on Information Education in Public School

The Ministry of Education, Culture, Sports, Science and Technology (MEXT) carries out the survey annually to all public elementary schools, all public junior high schools and all public senior high schools.

Main survey items are questions concerning installation of PC and software, use of the Internet, and practical use of PC by teachers. The Survey is conducted in March and May and the results are usually published in September.

10. Questions on e-commerce except possession and use of ICT facilities/equipments, namely questions on conducting e-commerce, barriers to e-commerce, sum of sales and purchase via the Internet etc. are contained in 11 surveys which have been conducted in the past five years. Main examples which contain questions on e-commerce are as follows.

i) Survey for enterprises/establishments

a) Questionnaire concerning Corporate Activities (ESRI, January 2001)

Please see the above explanation and survey items in para.9) as for the main survey items related to e-commerce.

b) Establishment and Enterprise Census 2001 (Statistical Survey Department, October 2001)

Main survey items related to e-commerce are the use of e-commerce, its type (BtoB/BtoC) and contents of e-commerce (sending orders, receiving orders, delivery of goods and service).

c) Basic Survey of Business Structure and Activities (METI, June 2001))

This is an annual sample survey carried out by METI with the aim to obtain the basic business information needed for formulating its industrial policies. The coverage of this survey is enterprises with establishments running mining, manufacturing, wholesale and retail trade.

Main survey items related to e-commerce added in the 2001 survey are the use of e-commerce, type of e-commerce (BtoB, BtoC and BtoG) and kinds of economic activities performed over networks, outsourcing of data processing, etc. Its preliminary report was released in April 2002.

d) Survey on ICT Workplaces (METI, the latest results are released in January 2002.)

Main survey items related to e-commerce are the use of information systems in e-commerce processes for BtoB and BtoC, amount of sales and purchases of BtoB e-commerce, amount of sales of BtoC e-commerce, amount of purchases and sales of high ranked items in BtoB e-commerce by electronic network/the Internet, and amount of sales of high ranked items in BtoC by electronic network/ the Internet.

e) Census of Commerce (METI, June 2002)

Main survey items related to e-commerce are the use of e-commerce, annual amount of merchandise purchases and sales and those over electronic networks, the Internet etc.

ii) Survey for households/individuals

a) Survey of Household Economy (launched in October 2001 by the Statistical Survey Department)

Main survey items related to e-commerce are the possession of facilities/equipments for the Internet, telecommunications means for the Internet, use of the Internet and its purpose, use of e-commerce, amount of e-commerce purchases in a month.

b) Survey on Time Use and Leisure Activities (Statistical Survey Department, October, 2001)

Main survey items related to e-commerce are contents, frequency, place and purpose of the Internet use, frequency, place and purpose of e-commerce such as shopping, banking, ticket reservation or purchase,

---

<sup>3</sup> Both surveys were reconstructed in April 2001 according to the reorganization of the central government conducted in this January. Data on ICT use of local public entities are collected as administrative data by the Local Administration Bureau of MPHPT.

stock exchange etc.

## **2 New JSIC with the Information and Communications Division**

### **(1) Introduction**

11. Although developing new surveys on ICT is important, it is also important to revise statistical standards such as industrial classification, products classifications corresponding to the development of ICT and economic and social changes caused by it in order to make existing statistical surveys more analytical vehicles for ICT development.

12. In Japan, the 11th revision of JSIC was published by Statistical Standards Department, Statistics Bureau, Ministry of Public Management, Home Affairs, Posts and Telecommunications (MPHPT) in March 2002. It will come into effect in October 2002. In this revision the sector “Information and Communications” has been created based on the growth of related industries through the development of telecommunications and computer technology and the fusion of both technologies. This sector is composed of “Communications”, “Broadcasting”, “Information Services”, “Internet Based Services” and “Video Picture, Sound Information, Character Information Production and Distribution”.

### **(2) Background of the revision**

13. Since the latest revision of JSIC (10<sup>th</sup> revision: October 1993), we have faced the rapid changes in the structure of industry, owing to highly-developed information and communication technology (ICT), diversification in the service industries, declining fertility and an aging population.

Especially, a fusion of telecommunications industries and information processing industries, rapid technological innovation and diversification in the service industries affect the statistical availability to grasp accurate data through using the existing classifications.

14. Namely, former division “L-Service” was a comprehensive division which comprises various industries in providing services not specifically provided for elsewhere in JSIC. Therefore, L-Services consisted of various industries such as information service, broadcasting, professional service, goods rental and leasing, hotels, medical and other health services, social insurance and social welfare, education etc. As a result, in 1995, 26.3 percent of the employment was in L-Services. The proportion of the amount of the turnover of L-Service was 18.8 percent according to our Input-Output tables 1995.

15. After reorganizing former L-Service and other divisions concerned, four new divisions –“H Information and Communications”, “M Eating and Drinking Places”, “N Health Care and Welfare” and “O Education and Learning Support”- are added to new JSIC.

16. In consideration of this background, requirements for revision of JSIC were pointed out by many statistical experts in academic field and persons in administrative organs.

The basic points in the deliberation of the Statistics Council are as follows:

- i) Conformity to ongoing changes in the structure of industry owing to factors such as highly developed ICT and diversification in the service industries;
- ii) Establishing precise classifications and distinct concepts and definitions in order to improve statistical availability, taking into account statistical continuity; and
- iii) Improving comparability with international industrial classifications such as the International Standard Industrial Classification of All Economic Activities (ISIC), General Industrial Classification of Economic Activities within European Communities (NACE) and North American Industry Classification System (NAICS).

### **(3) Outline of the 11<sup>th</sup> revision of JSIC**

17. One of the major changes in this revision is the addition of new divisions to the present JSIC. The addition of new divisions is the first since the 4<sup>th</sup> revision in May 1957. As the result of the revision, the presentation by industrial groups of statistics derived from statistical surveys will be changed from the 14 divisions basis

to the 19 divisions basis after October 2002. The major groups (2-digit), groups (3-digit) and industries (4-digit) have also been reorganized completely, adding new ones and removing some existing ones. (See table below.)

|                                   | Divisions | Major Groups | Groups | Industries |
|-----------------------------------|-----------|--------------|--------|------------|
| Number of existing items (A)      | 14        | 99           | 463    | 1,322      |
| Number of revised items (B)       | 19        | 97           | 420    | 1,269      |
| increase and decrease (B-A)       | 5         | -2           | -43    | -53        |
| Number of newly-established Items | 5         | 22           | 76     | 162        |
| Number of abolished items         | 0         | 24           | 119    | 215        |

Annex 3 includes two correspondence tables between divisions of JSIC 1993 and JSIC 2002 and between ISIC and JSIC.

#### **(4) Why was the new division “ H Information and Communications” created?**

##### 1) Background of the creation

18. Two following major points play important roles in creation of new division on information and communication.

- i) Grasping the industrial structure on information and communication technology (ICT) is a critical issue for us to understand changing society. In order to consider the issue, Statistics Council had already asked us to explore new approaches to classifying economic activities owing to development of the ICT in 1993 when the 10th revision was published.
- ii) Information sector is designed as one of 20 sectors in NAICS. ISIC Rev 3.1 also includes Information section as a new alternative aggregation.

##### 2) Discussing points in the working group under the Statistics Council

19. Following items are considered and discussed in the working group meetings.

Until the 10<sup>th</sup> revision, main components of new division “Information and Communications” were classified in the existing divisions “H Transport and Communications” and “L Services”. In case where main economic activity of an establishment was telecommunications, its establishment was classified in the “H Transport and Communications”. On the contrary, in case where main economic activity of an establishment was data processing and information services, its establishment was classified in “L Services”

20. Recently, economic activities in both the telecommunications and the data processing and information services are fused within one industry. So, we understood it was appropriate for JSIC to create new one division “Information and Communications” integrating these two types of activities.

Firstly, information industries, generally speaking, include establishments engaged in processing and producing information such as newspaper publishers, publishers except newspapers, motion picture and video production, computer programming and other software services. In addition, commercial and engineering design services, authors and artists, and scientific research institutes might be also included in the information industries as their activities aim at producing information. We think, however, above-mentioned principles would not be appropriate to distinguish information industries from other industries because the component of information industries is too wide to grasp them. To identify the ICT industries is our emerging issue and it is required to consider the economic activities both of telecommunications and information processing. In the Working Group on Industrial Classifications under the Statistics Council, focusing on the means to transmit information using telecommunications, we considered the extent of the industry that was producing and processing information. Following issues were discussed in the working group.

- i) how to treat the newspaper publishers and other publishers  
The goods produced by the establishments classified under Newspaper publishing and other publishing are tangible materials printed in the paper. So, in the deliberation of the working group,



some experts pointed out they should be classified in manufacturing in the same way as the former classification. The new product of a manufacturing establishment may be purchased in the market in the sense that it is ready for utilization or consumption. However, the value of the newspaper and book lies in the information content, not in the paper in which it is distributed. It is the same to the function of the broadcasting. In revised classification, establishments printing newspapers and books are classified under information and communications. When the establishments do only printing and supplementary business without publishing, they are classified under division “F Manufacturing”.

- ii) creation of internet based services  
Establishments offering services incidental to internet emerged in the market recently. These services cover application service provider, server housing, operating web search portals, etc. which have both functions of communications and data processing and information services. In the revision, we added new major group to JSIC for them.
- iii) future issues  
Rapid growth in Information and Communications is expected in the future. It would be difficult to distinguish the video picture, sound information, character information production and distribution from activities relating to information produced by other industries. As for the components and contents involved in “Information and Communication”, we had better to consider in the future issues in the light of the changing circumstances such as the revisions of international classifications and our experience through conducting statistical surveys.

## **(5) Structure of “H Information and Communications”**

### 1) Structure

21. “H Information and Communications” comprises establishments engaged in processing information for communication, notifying information, processing and providing information, or offering services incidental to internet. It consists of 5 major groups, i.e., Communications, Broadcasting, Information services, Internet based services, Video picture, sound information, character information production and distribution, and 15 groups. (refer to Annex 4)

### 2) Differences from NAICS Information sector

22. There are some differences between our “Information and Communications” and NAICS “Information sector”.

- i) According to the NAICS’s definition, the Information sector comprises establishments engaged in the following processes: (a) producing and distributing information and cultural products, (b) providing the means to transmit or distribute these products as well as data or communications, and (c) processing data. The arrangement of sub-sectors of NAICS Information starts from information and cultural products, while JSIC Information and Communications arranges its major groups starting from communications, or means to transmit or distribute these products – thus, named “Information and Communications”.
- ii) Although NAICS Information sector covers “Motion Picture and Video Exhibition”, “Libraries and Archives”, in JSIC, the former is classified to “Q Services, nec.”, and the latter to “O Education and Learning Support”. JSIC definition does not cover establishments engaged in providing cultural products and services that normally have a limited audience because the definition focuses on mass distribution of information.
- iii) In NAICS, “Custom Computer Programming Services” is in “54 Professional, Scientific, and Technical Service”, and “Software Publishers” is in “51 Information”. We think it must be difficult to distinguish these two types of activities involved in software development in assignment of an establishment to an industry. Therefore, these activities are in the same division, major groups and groups, and are divided in industries or 4-digit’s groupings in JSIC.

### 3) Issues to be considered in upcoming discussion of ISIC Rev.4

23. We found that following issues should be considered in upcoming discussion of ISIC Rev.4

- i) It is needed to grasp the situation whether new technologies like internet are popular to the public in the developing countries or not, and whether establishments involved in ICT are popular or not. We

- think it is better to create comprehensive groupings involved in the transmission and processing of the information.
- ii) There are various opinions or views in academics and researchers on the definition and range of “information” including contents. It would be difficult to converge these opinions and to determine one definition and range of information. It would be appropriate to aggregate related establishments engaged in economic activities involved in technology of telecommunication, broadcasting and information processing. Considering stability of classification and international comparability of statistics, it is appropriate to classify information sector by communication means such as telecommunication and electromagnetic media, focusing on data processing and information services by means which use telecommunications.
  - iii) Although the activity of e-commerce is expanding in the area of distributive trade thanks to IT development, we object that the e-commerce is introduced as a new criterion of ISIC. Because, we think that it is a fundamental principle that the standard classification should be classified by “kinds of goods produced or services rendered” with which compensation is received in the trading activities in the market. Therefore, e-commerce is just a mean to sell goods. In contrast, in case where the compensation can be received for the mean of transmission such as telecommunications, it should not be classified as distributive trade but as telecommunications.

**(6) How do we grasp data on “Information and Communications” in the implementation of JSIC?**

24. The industrial classification should be intended at being used for determining the scope of industries in which the objects of statistical surveys fall and for presenting survey results organized by industrial grouping. Therefore, it should be essential to grasp available data in arranging classification groupings, and JSIC has never set new items for which data are not available in collection.

We have following issues on Information and Communications.

- It would be difficult to assign a classification item for an establishment not only because the value added is volatile in data processing and information services, communications, and internet based services but also because an establishment sometimes performs more than one activity on information.
- Considering the availability of data in collection for the statistics, we cannot arrange the Software services in the division for professional and technical services, but for “Information and Communications”. Although NAICS has already arranged it into “54 Professional, Scientific, and Technical Services”, we need much more time to consider the possibility to arrange it to such a division in the future.

Current Situation of the Spread of E-commerce  
(Establishment and Enterprise Census)

1. The Spread of E-commerce in Corporate Enterprises in Japan

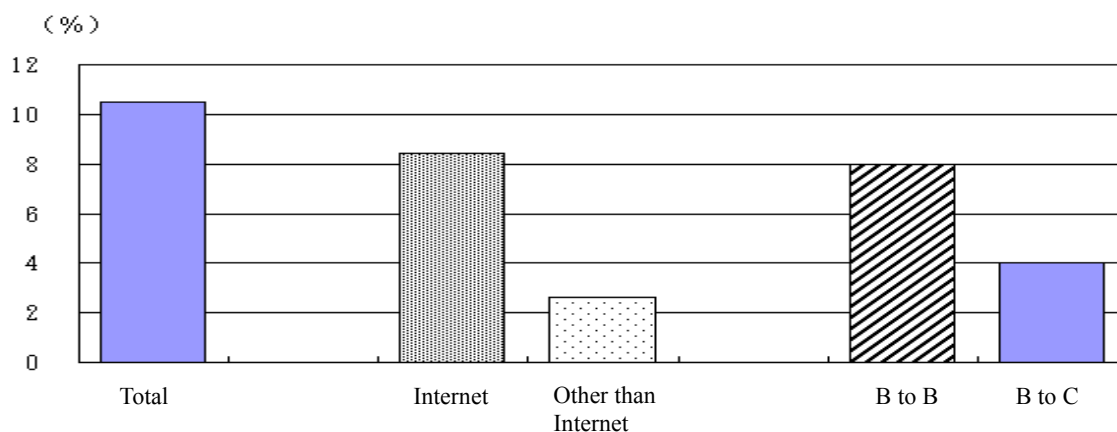
10.5% of Corporate Enterprises Have Introduced E-commerce

Among 1,617,250 incorporated enterprises (a stock company, a limited company, a limited or unlimited liability partnership, and a mutual insurance company) existing on October 1, 2001, 169,826 incorporated enterprises have introduced e-commerce (commerce using computer network). The ratio of the incorporated enterprises to the total is 10.5%.

As for the networks used for the e-commerce, Internet is 8.4% and networks other than Internet are 2.6%, i.e. 80% of incorporated enterprises which have introduced e-commerce use Internet.

As for the trade partners, businesses are 8.0% and consumers are 4.0%.

Introduction of E-commerce among Incorporated Enterprises



2. Introduction of E-commerce by Divisions of Industrial Classification for Enterprises

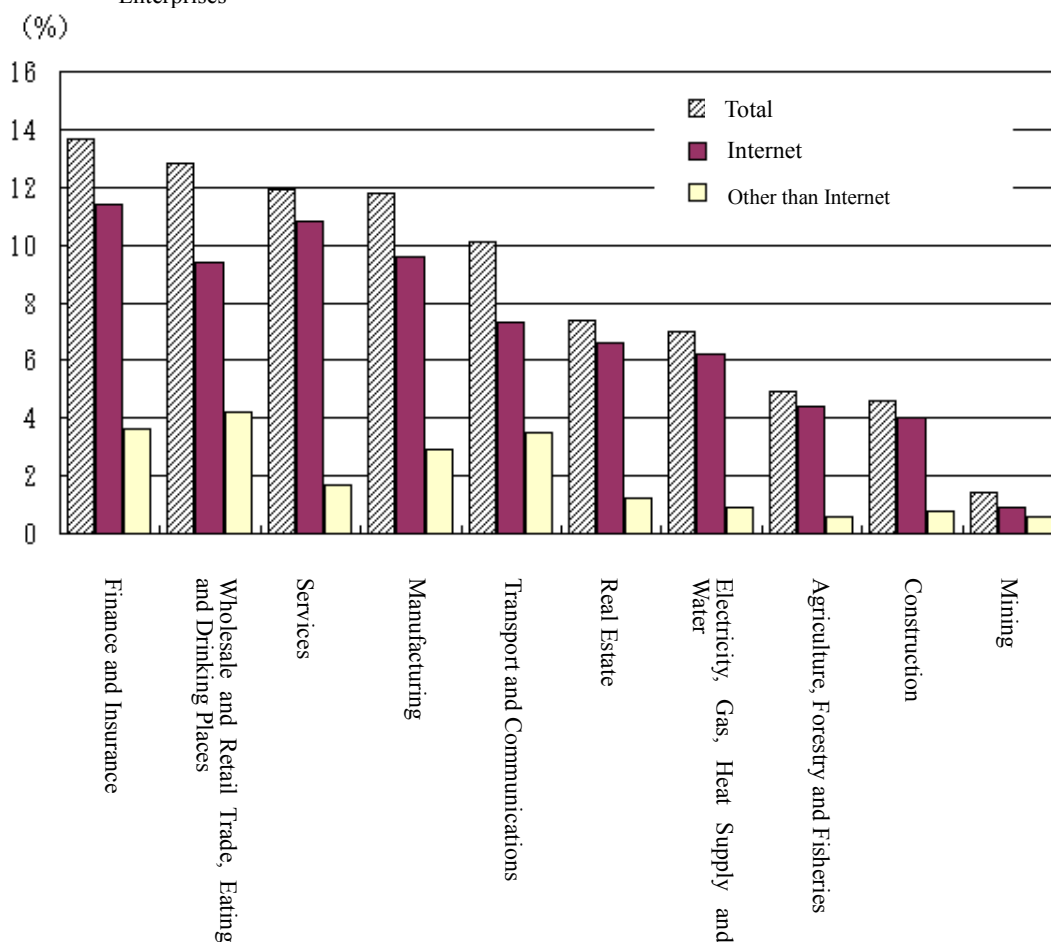
The Ratio of Introduction of E-commerce is the Highest in the Division "Finance and Insurance"

The ratio of introduction of e-commerce by divisions of industrial classification for enterprises is the highest in the division "finance and insurance" (13.7%), the next in "wholesale and retail trade, eating and drinking places" (12.8%), and the third in "services" (11.9%).

When classified by the networks used for the e-commerce, the highest division using Internet is "finance and insurance" (11.4%), the next is "services" (10.8%), and the third is "manufacturing" (9.6%). The highest division using networks other than Internet is "wholesale and retail trade, eating and drinking places" (4.2%), the next is "finance and insurance", and the third is "transport and communications" (3.5%).

When classified by the partners of trade, the highest division for business to business is "manufacturing" (10.0%), the next is "wholesale and retail trade, eating and drinking places" (9.4%), and the third is "services" (9.1%). The highest division for the trade to consumers is "finance and insurance" (7.9%), the next is "wholesale and retail trade, eating and drinking places" (5.4%), and the third is "real estate" and "services" (4.8% respectively).

The Ratio of Introduction of E-commerce by Divisions of Industrial Classification for Enterprises



Note:

1) Current situation of introduction of e-commerce was released on April 23, 2002, based on the results of the Establishment and Enterprise Census 2001.

2) The date of the Establishment and Enterprise Census 2001 was October 1, 2001. The Census covers all establishments with some exceptions such as individual proprietorships which belonged agriculture, forestry, and fishery.

3) Definition of terms:

a) Incorporated Enterprise

An incorporated enterprise is composed of a head establishment and branch establishments under its management, or a head establishment without its branch establishments, and the legal organization includes a stock company, a limited company, a limited or unlimited liability partnership, and a mutual insurance company.

b) E-commerce

E-commerce is a commercial trade using Internet or computer networks other than Internet. It excludes settlement and commercial trade among establishments within the same incorporated enterprise.

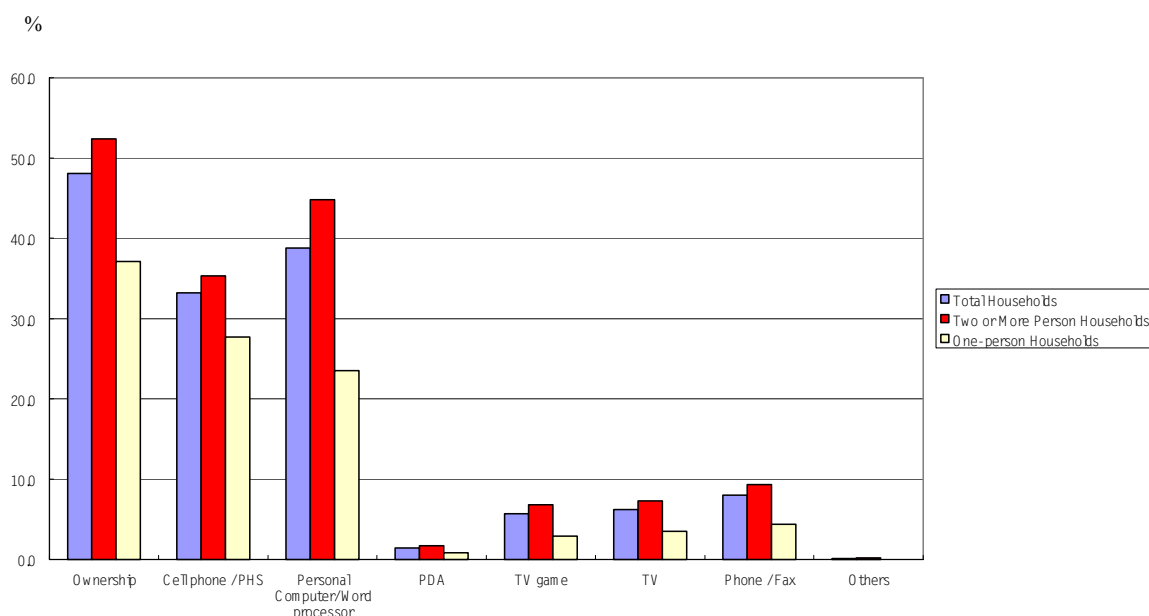
**The Results of Survey of Household Economy (IT Related Items)**  
(Average of January - March, 2002, Preliminary)

The ratio of households which own equipments that are able to use Internet is 48.1%. The most popular equipments available are PC/word processors (38.8%), and the second most popular ones are cell phones/PHS. Among the household categories, 52.5% of two or more person households and 37.1% of one-person households own equipments.

**Ownership of Equipments that are able to use Internet (%)**

|                               | Ownership of equipments that are able to use Internet |                                  |     |         |      |            |        |      | Do not own |
|-------------------------------|---|----------------------------------|-----|---------|------|------------|--------|------|------------|
|                               | Cell phone /PHS                                       | Personal Computer/Word processor | PDA | TV game | TV   | Phone /Fax | Others |      |            |
| Total Households              | 48.1  | 38.8                             | 1.4 | 5.7     | 6.2  | 8.0        | 0.1    | 51.3 |            |
| Two or More Person Households | 52.4  | 44.8                             | 1.7 | 6.8     | 7.3  | 9.3        | 0.2    | 47.0 |            |
| One-person Households         | 37.1  | 23.5                             | 0.8 | 2.9     | 3.5  | 4.4        | -      | 52.2 |            |
| <hr/>                         |   |                                  |     |         |      |            |        |      |            |
| Total Households              | 100.0   | 80.7                             | 2.9 | 11.9    | 12.9 | 16.6       | 0.2    |      |            |
| Two or More Person Households | 100.0   | 85.5                             | 3.2 | 13.0    | 13.9 | 17.7       | 0.4    |      |            |
| One-person Households         | 100.0   | 63.3                             | 2.2 | 7.8     | 9.4  | 11.9       | -      |      |            |

Note: The ratio is to the total of each type of households.



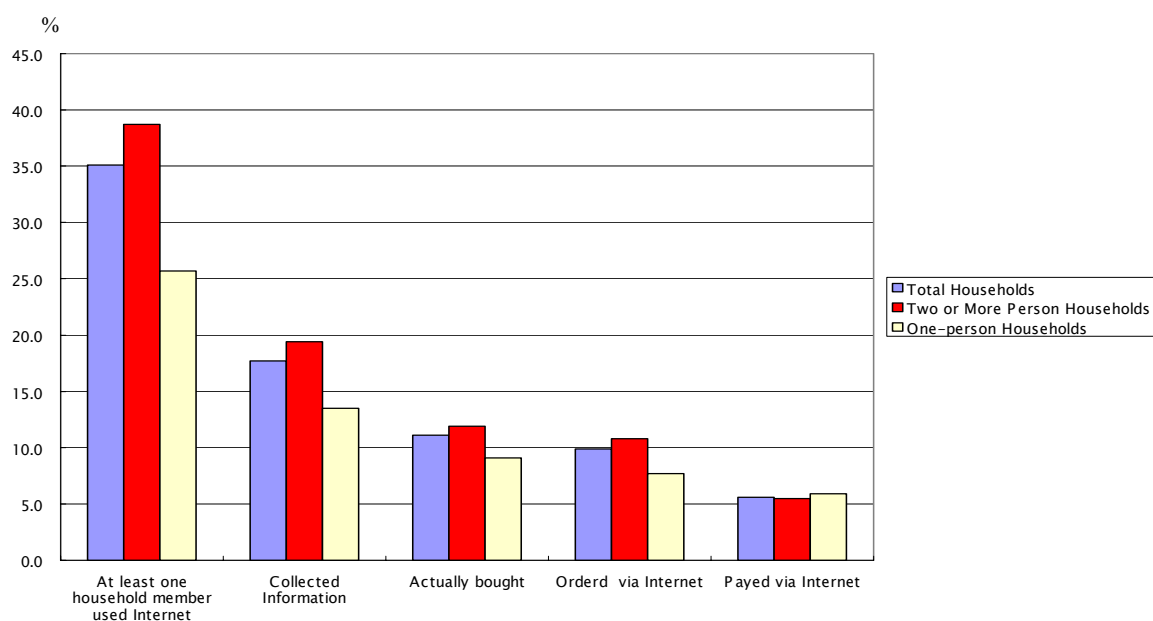
The ratio of households at least one member of which used Internet in one month surveyed is 35.1%. Among the household categories, the ratio is 38.7% for two or more person households and 25.7% for one-person households respectively.

As for the action taken when Internet is used for the purchase of goods and services, 17.7% of households have at least one member who collected information and 11.1% of households have at least one member who actually bought goods and services. 9.9% of households have at least one member who ordered via Internet and 5.6% of households have at least one member who paid via Internet.

### Usage of Internet and That for Purchase of Goods and Service (%)

|                               | At least one household member used Internet | Internet usage for purchases of goods and services |                 |                      |                    |
|-------------------------------|---|--|-----------------|----------------------|--------------------|
|                               |   | Collected Information                              | Actually bought | Ordered via Internet | Payed via Internet |
| Total Households              | 35.1  | 17.7   | 11.1            | 9.9                  | 5.6                |
| Two or More Person Households | 38.7  | 19.4   | 11.9            | 10.8                 | 5.5                |
| One-person Households         | 25.7  | 13.5   | 9.1             | 7.7                  | 5.9                |
| Total Households              | 100.0                                       | 50.4   | 31.6            | 28.2                 | 16.0               |
| Two or More Person Households | 100.0                                       | 50.1   | 30.7            | 27.9                 | 14.2               |
| One-person Households         | 100.0                                       | 52.5   | 35.4            | 30.0                 | 23.0               |

Note: The ratio is to the total of each type of households.

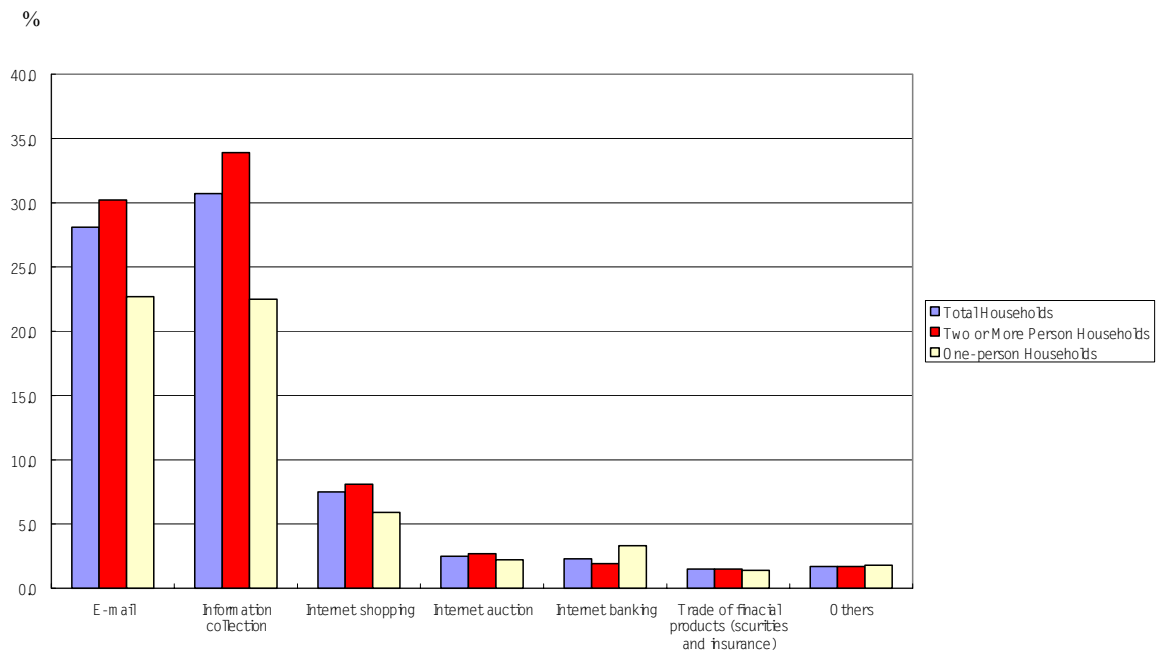


Major purposes of the usage of Internet is information collection (30.7%), e-mail (28.1%) and Internet shopping (7.5%). The ratio of households which used Internet for information collection by the type of households is 33.9% for two or more person households and 22.5% for one-person households.

### Purposes of the Usage of Internet (%)

|                               | E-mail | Usage of Internet      |                   |                  |                  |  |        |     |
|-------------------------------|--------|------------------------|-------------------|------------------|------------------|--|--------|-----|
|                               |        | Information collection | Internet shopping | Internet auction | Internet banking | Trade of financial products (securities and insurance) | Others |     |
| Total Households              | 34.8   | 28.1                   | 30.7              | 7.5              | 2.5              | 2.3  | 1.5    | 1.7 |
| Two or More Person Households | 38.4   | 30.2                   | 33.9              | 8.1              | 2.7              | 1.9  | 1.5    | 1.7 |
| One-person Households         | 25.5   | 22.7                   | 22.5              | 5.9              | 2.2              | 3.3  | 1.4    | 1.8 |
| Total Households              | 100.0  | 80.7                   | 88.2              | 21.6             | 7.2              | 6.6  | 4.3    | 4.9 |
| Two or More Person Households | 100.0  | 78.6                   | 88.3              | 21.1             | 7.0              | 4.9  | 3.9    | 4.4 |
| One-person Households         | 100.0  | 88.7                   | 87.9              | 23.0             | 8.6              | 12.9   | 5.5    | 7.0 |

Note: The ratio is to the total of each type of households.



Note: The coverage of Survey of Household Economy is approximately 30,000 households per month. Each household is surveyed for consecutive 12 month. The results for IT related items were released on March 23, 2002.

**The JSIC (2002) Structure as compared to JSIC(1993)**

| JSIC(1993)   |          | items | JSIC(2002)   |          | items |
|--------------|----------|-------|--------------|----------|-------|
| Divisions    | Letter   | 14    | Divisions    | Letter   | 19    |
| Major Groups | 2-digits | 99    | Major Groups | 2-digits | 97    |
| Groups       | 3-digits | 463   | Group        | 3-digits | 420   |
| Industries   | 4-digits | 1,324 | Industries   | 4-digits | 1,269 |

**Correspondence table between Divisions of JSIC(1993) and JSIC(2002)**

| [JSIC:1993]   |      | [JSIC:2002]                                    |      |
|---|------|--|------|
| A Agriculture   | (1)  | A Agriculture                                  | (1)  |
| B Forestry  | (1)  | B Forestry                                     | (1)  |
| C Fisheries   | (2)  | C Fisheries                                    | (2)  |
| D Mining  | (4)  | D Mining                                       | (1)  |
| E Construction  | (3)  | E Construction                                 | (3)  |
| F Manufacturing   | (23) | F Manufacturing                                | (24) |
| G Electricity, Gas, Heat<br>Supply and Water                | (4)  | G Electricity, Gas, Heat                       | (4)  |
| H Transport and<br>Communications                           | (9)  | H Information and<br>Communications            | (5)  |
| I Wholesale and Retail Trade,<br>Eating and Drinking Places | (14) | I Transport                                    | (7)  |
| J Finance and Insurance                                     | (8)  | J Wholesale and Retail Trade                   | (12) |
| K Real Estate   | (2)  | K Finance and Insurance                        | (7)  |
| L Services  | (25) | L Real Estate                                  | (2)  |
| M Government, N.E.C.  | (2)  | M Eating and Drinking Places,<br>Accommodation | (3)  |
| N Establishments Not<br>Adequately Described                | (1)  | N Health care and Welfare                      | (3)  |
|   |      | O Education and Learning                       | (2)  |
|   |      | Support  |      |
|   |      | P Compound Services                            | (2)  |
|   |      | Q Services, N.E.C.                             | (15) |
|   |      | R Government, N.E.C.                           | (2)  |
|   |      | S Establishments Not<br>Adequately Described   | (1)  |



**The ISIC Structure as compared to JSIC (2002)**

| ISIC      |          | items | JSIC         |          | items |
|-----------|----------|-------|--------------|----------|-------|
| Sections  | Letter   | 17    | Divisions    | Letter   | 19    |
| Divisions | 2-digits | 60    | Major Groups | 2-digits | 97    |
| Group     | 3-digits | 159   | Groups       | 3-digits | 420   |
| Class     | 4-digits | 292   | Industries   | 4-digits | 1,269 |

**Correspondence table between Section of ISIC and Division of JSIC(2002)**

| [ISIC] |  | [JSIC : 2002] |   |
|--------|--|---------------|---|
| A      | Agriculture, Hunting and Forestry  | (2)           | ● A Agriculture (1)                               |
| B      | Fishing  | (1)           | ● B Forestry (1)                                  |
| C      | Mining and Quarrying   | (5)           | ● C Fisheries (2)                                 |
| D      | Manufacturing  | (23)          | ● D Mining (1)                                    |
| E      | Electricity, Gas and Water Supply  | (2)           | ● E Construction (3)                              |
| F      | Construction   | (1)           | ● F Manufacturing (24)                            |
| G      | Wholesale and Retail Trade; Repair of Motor Vehicles, Motorcycles and Personal and Household Goods | (3)           | ● G Electricity, Gas, Heat Supply and Water (4)   |
| H      | Hotels and Restaurants   | (1)           | ● H Information and Communications (5)            |
| I      | Transport, Storage and Communications  | (5)           | ● I Transport (7)                                 |
| J      | Financial Intermediation   | (3)           | ● J Wholesale and Retail Trade (12)               |
| K      | Real Estate, Renting and Business Activities   | (5)           | ● K Finance and Insurance (7)                     |
| L      | Public Administration and Defense; Compulsory Social Security                                      | (1)           | ● L Real Estate (2)                               |
| M      | Education  | (1)           | ● M Eating and Drinking Places, Accommodation (3) |
| N      | Health and Social Work   | (1)           | ● N Health care and Welfare (3)                   |
| O      | Other Community, Social and Personal Service Activities  | (4)           | ● O Education and Learning (2)                    |
| P      | Private Households with Employed Persons   | (1)           | ● P Support (2)                                   |
| Q      | Extra-Territorial Organizations and Bodies   | (1)           | ● Q Compound Services (2)                         |
|        |  |               | ● R Services, N.E.C. (15)                         |
|        |  |               | ● S Government, N.E.C. (2)                        |
|        |  |               | ● T Establishments Not Adequately Described (1)   |

Note : Full lines indicate main correspondence. Dotted lines indicate secondary correspondence.

The number in parenthesis indicates the number of division of ISIC and major group of JSIC.

H-INFORMATION AND COMMUNICATIONS

☐☐ COMMUNICATIONS

371 TRANSMISSION OF CORRESPONDENCE

3711 Transmission of correspondence

372 FIXED TELECOMMUNICATIONS

3721 Regional telecommunications, except wire broadcast telephones

3722 Long-distance telecommunications

3723 Wire broadcast telephones

3729 Miscellaneous fixed telecommunications

373 MOBILE TELECOMMUNICATIONS

3731 Mobile telecommunications

374 SERVICES INCIDENTAL TO TELECOMMUNICATIONS

3741 Services incidental to telecommunications

☐☐ BROADCASTING

381 PUBLIC BROADCASTING, EXCEPT CABLECASTING

3811 Public broadcasting

382 PRIVATE-SECTOR BROADCASTING, EXCEPT CABLECASTING

3821 Television broadcasting, except satellite broadcasting

3822 Radio broadcasting, except satellite broadcasting

3823 Satellite broadcasting

3829 Miscellaneous private-sector broadcasting

383 CABLECASTING

3831 Cable television broadcasting

3832 Cable radio broadcasting

☐☐ INFORMATION SERVICES

391 COMPUTER PROGRAMMING AND OTHER SOFTWARE SERVICES

3911 Custom software services

3912 Package software services

392 DATA PROCESSING AND INFORMATION SERVICES

3921 Data processing services

3922 Research and information services, except marketing or opinion research services

3929 Miscellaneous data processing and information services

☐☐ INTERNET BASED SERVICES

401 INTERNET BASED SERVICES

4011 Internet based services

☐☐ VIDEO PICTURE, SOUND INFORMATION, CHARACTER INFORMATION PRODUCTION AND DISTRIBUTION

411 VIDEO PICTURE INFORMATION PRODUCTION AND DISTRIBUTION

4111 Motion picture and video production, except television program production

4112 Television program production☐Teleproduction☐

4113 Motion picture, video and television program distribution

412 SOUND INFORMATION PRODUCTION

4121 Recording and disk production

4122 Radio program production

413 NEWSPAPER PUBLISHERS

4131 Newspaper publishers

414 PUBLISHERS, EXCEPT NEWSPAPERS

4141 Publishers, except newspapers

415 SERVICES INCIDENTAL TO VIDEO PICTURE, SOUND INFORMATION, CHARACTER INFORMATION  
PRODUCTION AND DISTRIBUTION

4151 News syndicates (News suppliers)

4159 Miscellaneous services incidental to video picture, sound information, character information production and  
distribution

Alphabetic code : division

2-digit figures : major groups

3-digit figures : groups

4-digit figures : industries