A New Direction in the Development of Information Society Statistics in Japan

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Summary

As to information society statistics in Japan, future directions for the development of ICT statistics and statistics on intellectual property were formulated in "New Directions in the Development of Government Statistical Services", which was decided in June 2003 as an agreement of Meeting of the Heads of the Statistical Departments of the Cabinet Office and Ministries.

In this paper we introduce the present situations and future directions of information society statistics in Japan based on the "New Directions" with some results of recent surveys on ICT.

1.　Introduction of some results of recent statistical surveys on ICT

As I introduced in the last Voorburg Group meeting, at least 41 kinds of official statistical surveys containing questions related ICT have been conducted in the past five years (refer to "Japanese ICT Statistics and New JSIC with the Information and Communications Division", H.Kitada, 17th Voorburg Group Meeting in 2002).

In this section we introduce some interesting results relating ICT from recent statistical surveys namely the Establishment and Enterprise Census (final results) and the Survey of Time Use and Leisure Activities. (As to the outlines of the surveys see Annex.)

(1) The Results of Establishment and Enterprise Census on E-commerce (2001)

Engagement Ratio in electronic commerce was 10.5%.

The number of enterprises which engaged in electronic commerce stood at 169,000 enterprises as of October 1, 2001, and the ratio of the number to the total number of enterprises is 10.5% (in this

section "enterprises" mean incorporated enterprises). From the viewpoint of trading partners, the engagement ratio of B to B (ratio of the number of enterprises engaged in electronic commerce with other enterprises) was 8.1%, and the one of B to C (ratio of the number of enterprises engaged in electronic commerce with consumers) was 4.0%.

Engagement ratio increased in proportion to the size of employees.
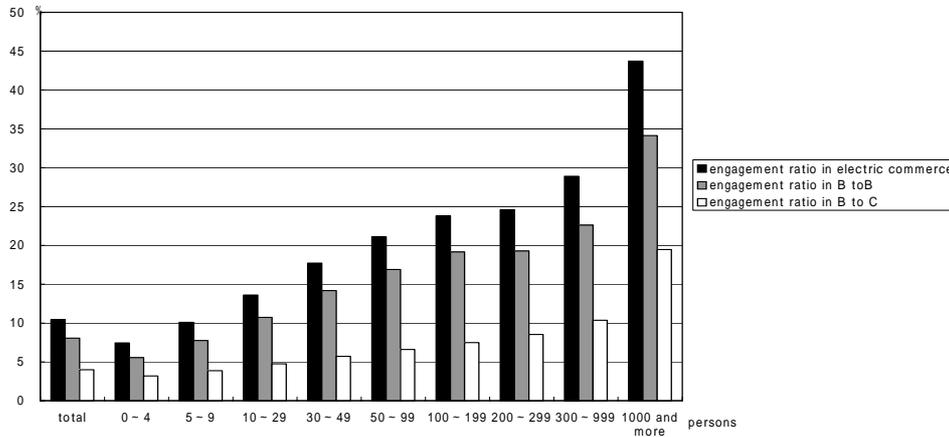
Regarding the engagement ratio in electronic commerce by size of regular employees, the ratio was 10% or less in "less than 10 persons" regular employee size, and between 10% and 20% in "10 to less than 50 persons" regular employee size. And the ratio grew in proportion to the capital sizes, such as 23.8% in "100 to less than 200 persons" regular employee size, 28.9% in "300 to less than 1000 persons" regular employee size, and 43.7% in "1000 persons or more" regular employee size (See Table 1-1 and Figure 1-1).

Table1-1: Engagement Ratio in Electronic Commerce of Enterprises by Size of Regular Employees (2001)

Size of regular employees	Total number of enterprises	Engagement ratio in electronic commerce (%)*	Transactions with other enterprises (B to B) (%)	Transactions with the consumers (B to C) (%)
Total number of enterprises	1,617,600	10.5	8.1	4.0
Less than 4 persons	829,625	7.5	5.6	3.2
5 to less than 10 persons	329,998	10.1	7.8	3.9
10 to less than 30 persons	301,085	13.6	10.7	4.8
30 to less than 50 persons	66,093	17.7	14.2	5.7
50 to less than 100 persons	48,144	21.1	16.9	6.6
100 to less than 200 persons	23,179	23.8	19.2	7.5
200 to 300 persons	7,491	24.6	19.3	8.5
300 to 1000 persons	9,139	28.9	22.6	10.4
1,000 persons or more	2,846	43.7	34.1	19.5

*: Summing up the ratio of each transaction does not equal the total, because plural answers were allowed.

Figure1-1: Engagement Ratio in Electronic Commerce of Enterprises by Size of Regular Employees (2001)

High engagement ratio in E-commerce in "Banks and trust banks" and "Information services and research"

Regarding the engagement ratio in electronic commerce of enterprises by medium industrial group with more than 100 enterprises, "Banks and trust banks" showed a remarkably high ratio of 59.9%, and, "Information services and research" marked 31.5%. Then "Retail trade, general merchandise" recorded 27.8%, followed by "Retail trade (motor vehicles and bicycles)" (27.5%) (See Table 1-2).

Table 1-2:Industry with High Engagement Ratio in E-Commerce by Medium Industrial Group (Top 10) (2001)

Ranking	Industry	Number of enterprises	Number of enterprises engaged in E-commerce	Engagement Ratio in E-commerce (%)
1	Banks and trust banks	157	94	59.9
2	Information services and research	18,445	5,818	31.5
3	Retail trade, general merchandise	1,144	318	27.8
4	Retail trade (motor vehicles and bicycles)	32,722	8,987	27.5
5	Wholesale trade, general merchandise	791	185	23.4
6	Telecommunications	3,142	681	21.7

7	Wholesale trade (machinery and equipment)	42,239	8,780	20.8
8	Hotels, boarding houses and other lodging places	19,453	4,010	20.6
9	Manufacture of beverages, tobacco and feed	4,366	888	20.3
10	Retail trade (furniture, household utensil and household appliance)	35,009	6,928	19.8

Note: Medium industrial groups with more than 100 enterprises

*1 Including insurance agents, brokers and services

## (2) The Results of Survey on Time Use and Leisure Activities (2001)

Early 20s years show the highest participation rate in using "Internet"

Approximately 50% of males and approximately 40% of females used the Internet.

In the past one year, approximately 52,450,000 people (10 years old and over) used the Internet. The user rate was 46.4%. Broken down by sex, 51.5% of males used the "Internet" and 41.5% of females did. The male user rate was therefore 10 percentage points higher than female.

When "Internet" user rate is broken down by age group, both males and females in their early 20s show the highest participation rate. In the younger generation of less than 30 years old, females show a higher participation rate than teenage males but males in the 30 years old and over age group show higher participation rate than females in the same age group (See Figure2-1).

Figure2-1: "Internet" User Rate by Sex and Age Group
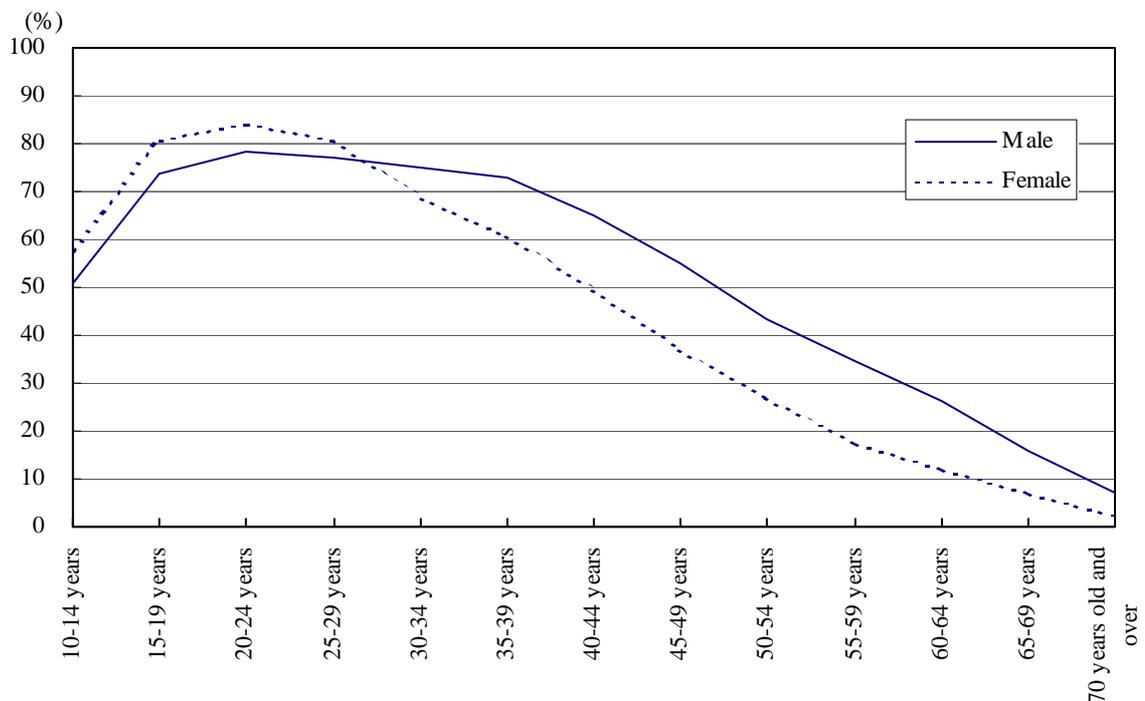
Approximately 40% of "Internet" use was for "exchanging information", and approximately 10% for "reserving or buying goods or services, making payment".

by type of use, 39.5% of people used it for "exchanging information" such as by e-mail, 32.4% people used it for "collecting information" such as viewing Web sites, and 5.6% people used it for "sending information" such as creating Web sites.

Also, 10.1% of people used the "Internet" for "reserving or buying goods or services, making payments".

　Broken down by age group, "exchanging information" (75.2%) and "collecting information" (59.2%) are the main reasons people in their early 20s used the "Internet".

　people in their late 20s use the "Internet" for "reserving or buying goods or services, making payments" the most at 21.9% (See Figure 2-2).

Figure2-2:　"Internet" user rate by age group and type of use
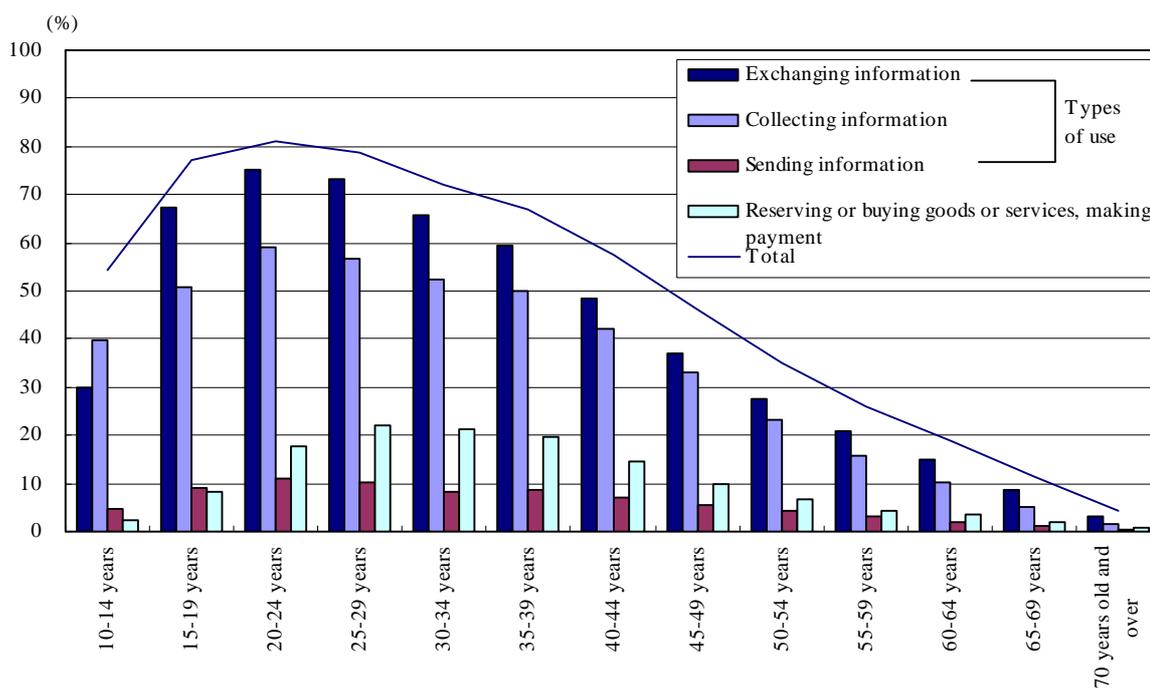
2. Development of IT related statistics

　"New Directions in the Development of Government statistical Services" (hereafter as "New Directions" in this paper), was decided in 27 June 2003 as an agreement of Meeting of the Heads of the Statistical Departments of the Cabinet Office and Ministries. The "New Directions" is a

guideline for government statistical services in coming 5 to 10 years.

The "New Directions" includes a chapter on development of statistics responding to social and economic changes. As to information society statistics, development of IT relating statistics (ICT statistics) and development of the statistics on intellectual property are dealt with in the chapter.

As to the background and present situation of ICT statistics the following are described.

In Japan, the Basic Law on Formation of an Advanced Information and Telecommunications Network Society was enforced on January 6, 2001, which obliged the government to work out a basic strategy to promote the formation of advanced IT network society. "e-Japan Strategy" and the "e-Japan Priority Plan" were formulated as the national IT strategy and as the nation's basic IT plan, respectively. Under these circumstances, aiming at the steady implementation of the e-Japan Priority Plan, and continuous monitoring of its progress and achievements, the IT Basic Law states in Article 14 that "the government shall compile statistics on the society of advanced information and telecommunication network, prepare other data that are instrumental to the formation of the society of advanced information and telecommunication network, and release them to the public from time to time using the Internet or other appropriate methods".

In the government statistical services, there is a strong need to accurately respond to the systematic development of these IT-related statistics, and to develop such statistics that will serve as indicators for the measurement and evaluation of the state of progress in the development of IT. Reflecting this, there has been progress on the development of statistics that cover the IT providers and statistics that are related to the status of progress in the development of an IT infrastructure. However, it has been pointed out that there are some fields in which necessary basic data are lacking: data for an in-depth grasp of the actual state of IT-oriented development and IT-based electronic commerce (including cross-border trading), and data on the analysis of the effects of IT-oriented development on the national life, society and economy.

Amid the rapid growth of IT in national life, society and the economy, in the international theater the Organization for Economic Co-operation and Development (OECD) has produced definitions and classifications in the Information and Communication Technology (ICT) sector based on the International Standard Industrial Classification of all Economic Activities (ISIC). Work on the definition and classification of ICT products and services is also under way at present. In our country too, in order to accurately understand the effect of IT-oriented development, it is necessary to clarify the scope of the IT field, and accordingly, with regard to IT-related statistics, definitions of "IT related industries" that are common to the Cabinet Office and ministries are required.

Based on these situations the following basic directions and concrete measures were decided.

\<Basic direction\>

(1)   In order to develop the basic data needed for understanding the actual state of IT-oriented development and for the analysis of its effect, the Cabinet Office and ministries concerned shall implement new statistical surveys and investigate the revision of existing statistical surveys.

(2)   Defining and classifying of "IT-related industries" that are well coordinated among the Cabinet Office and ministries shall be discussed.

\<Concrete measures\>

(1)   With regard to statistical areas and statistical data related to IT that are not yet developed, development shall be sought, as required, from fiscal 2003, including:

a)   Basic data used for the SNA estimation.

With regard to investment and the methods of depreciation of software (especially regarding in-house and general-purpose software), the Cabinet Office and ministries shall implement new basic surveys, and also study the development and strengthening of existing statistical surveys, taking account of adjustments with existing statistical surveys and the feasibility of conduction of the surveys.

b)   Basic data on the analysis of the effects of IT-oriented developments on the economy

In the areas described below, the Cabinet Office and ministries shall, on clarifying the shared role of the various statistical surveys, develop and strengthen existing statistical surveys, implement new surveys as necessary, and endeavor to ascertain the actual state of these areas:

- the actual state of services associated with the Internet, and services for creating and providing contents
- data for measuring capital services and the input of labor on a user basis (lease, dispatching workers, outsourcing, etc.)
- the actual state of changes in human capital and corporate organizations

c)   Statistics concerning security measures

In the area, in particular, of individuals and households using IT, the MPHPT shall develop and strengthen statistics in respect of security measures under the existing statistical surveys.

d)   Statistics concerning the use and dissemination of the IT in the public service areas such as medical services, welfare, education, culture, and transport.

The Cabinet Office and ministries shall take positive steps to study this subject.

(2)   With regard to the definition and classification of "IT-related industries", a meeting for deliberation between the Cabinet Office and ministries concerned shall be set up in fiscal 2003

to facilitate a prompt start of the study.

The issue of how to handle the matter of the definition and classification of "IT-related products" shall also be dealt with at the same meeting.

3. Development of the statistics on intellectual property

As to the background and present situation of the statistics on intellectual property the following are described.

To strengthen the industrial competitiveness of our country, it is necessary to reinforce the policy on intellectual property rights. Consequently in the "Intellectual Property Policy Outline" (Strategic Council on Intellectual Property – July 2002), it has recently been noted that, in order to develop policies that respond promptly and accurately to users' diverse intellectual property-related activities, statistical surveys related to intellectual property, which are the basis of the planning and designing of policies on intellectual property, shall be developed during fiscal 2002.

As a result, the Ministry of Economy, Trade and Industry (METI) has been implementing the Survey on Intellectual Property-Related Activities since 2002 as a full-dress statistical survey on intellectual property.

(see the note below)

In the Basic Survey on Japanese Business Structure and Activities (METI), "the state of owning and trading technology" has also been surveyed.

(Note) Outline of the Survey of Intellectual Property-Related Activities

(Characteristics of this survey)

1 The Survey of Intellectual Property-Related Activities is the first full-dress statistical survey which surveys the present situation of intellectual property-related activities of enterprises from the following viewpoints.

utilization of the industrial property right system

revenue and expenditure relating industrial property right

organization and costs for intellectual property-related activities

violation of intellectual property right

2 The survey made it possible to know the balance of license in intellectual property-related activities with overseas which had not been captured through previous surveys.

3 The survey is able to grasp the present situation of intellectual property-related activities quantitatively and useful for the planning of intellectual property-related policy.

4　The respondents of this survey are Japanese corporations, individuals and public organs which filed the following applications in 2000

　　　All corporations, individuals and public organs which filed 3 or more patent applications, 2 or more utility model applications, 4 or more design applications or 3 or more commercial symbol applications (16,136)

　　　1/100 samples among corporations, individuals and public organs which files any applications except

(Survey date)　October 2002

(response rate)　41.1%　(In terms of patent applications : 69:4%)

There are two types of software, namely those purchasable in the market (order-made software and general-purpose software) and those developed in-house (in-house type software). In the United Nation's 93 SNA recommendation, they are handled as intangible fixed assets, but under the existing statistical surveys, a comprehensive estimation is impossible for both general-purpose software and in-house-type software.

Similarly, royalties should be included in services, but they are not estimated in Japan's SNA. Furthermore, intangible assets such as amusement and hobbies, literature and artwork should be included in the formation of fixed assets, but they are not estimated in Japan's SNA. This is because there are no basic statistics available, or the collection of data is extremely difficult. Therefore, these procedures have not been introduced into the Japanese SNA.

Based on these situations the following basic directions and concrete measures were decided.

<Basic direction>
The development and strengthening of statistics related to the intellectual property shall be sought focusing on the implementation and strengthening of the survey on intellectual property activities.

<Concrete measures>
(1)　With regard to "Survey on Intellectual Property-Related Activities ", the METI shall seek to strengthen the survey, as necessary, depending on the results of the survey carried out in fiscal

2002.

(2) With regard to the SNA, an effort should be made to approximate it to the U.N. 93 SNA recommendations. To help improve the SNA, the Cabinet Office shall, from fiscal 2003, take following steps regarding intellectual property.

a) With regard to in-house-type software, in collaboration among the Cabinet Office and ministries as necessary, and from fiscal 2003, grasping the state level of acquisition of in-house-type software assets shall be sought through the development of IT-related statistical surveys.

The study into the state of acquisition of general-purpose software assets shall be continued together with a study on the possibility of grasping it.

b) With regard to royalties, the utilization of the results of the Survey on Intellectual Property-Related Activities shall be discussed.

c) With regard to how to evaluate acquisition amount of intangible assets such as amusement, literature or artwork, research and study shall be conducted including the state of handling these matters in other countries.

ANNEX

Data Sources

1. **Establishment and Enterprise Census**

    Purpose: To clarify the basic structure of establishments and enterprises at national and regional levels by type of industry and employment size as well as to provide a sampling frame for various statistical surveys concerning establishments and enterprises.

    Survey frequency: Twice every five years. The main census is conducted in the year ending with 1 or 6, and the simplified census is conducted in the year ending with 4 or 9. The last main census was conducted in 2001 and the last simplified census in 1999.

    Entities surveyed: All the establishments and enterprises operating in Japan excluding privately managed establishments engaged in agriculture, forestry and fisheries establishments belonging to domestic services, and foreign governments' and international agencies' offices in Japan (Around 6.5millions establishments).

    Survey method: Complete enumeration; by enumerator.

    Survey date: October 2001

2. **Survey on Time Use and Leisure Activities**

    Purpose: To obtain comprehensive data on how people allocate time to various activities, and on their leisure activities such as sports, studies, hobbies, social activities, and travel. It is designed to make clear the quality of life and the status of non-economic activities such as unpaid work or voluntary activities.

    Survey frequency: Quinquennial.

    Entities surveyed: About 210,000 members from 77,000 households.

    Survey method: Random sampling; by enumerator.

    Survey date: October 2001