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Memorandum of Survey on ICT workplaces

Ministry of Economy, Trade and Industry
Japan

This paper is a short memorandum to explain the Survey on ICT workplaces from the ICT
impact viewpoint. For further information about this survey, please contact:
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The Japanese government has a statistics for survey on ICT workplaces. One of the purposes of this survey is to get the statistical base to make a further analysis on the impact of ICT. This paper is a short memorandum to explain this survey from the ICT impact viewpoint.

1. Purpose of this survey

- There are strong need by the policy making sector of the Japanese government to evaluate the impact of ICT on business sector. To measure accurately the link between firm's changes in productivity and ICT use, quantitative approach rather than qualitative approach will be required in the future. Because the expanding of the computer stocks including software investment could not be sufficient to explain full elements of the growth of IT productivity.

- Ministry of Economy, Trade and Industry (METI) has strong concern about the smart IT governance which might be indispensable to improve IT productivity.
   For example, backyard systems, like accounting system and personnel management system, could be easily replaced by new information technology with less IT governance. On the other hand, a system for e-Commerce, which could make a new IT usage in front-yard processes with business customers, has a difficulty to introduce into business processes of IT users. In Japan, many ICT users in business sectors are not so successful to design and control their IT systems, and as a result, transaction cost has not decreased in many cases. The design and monitoring of ICT system architecture, which includes both of legacy systems in backyard and Internet based open systems in front-yard, is very difficult and, in some cases, makes a negative effect for IT productivity.
   Such low maturity in the ICT investment process might be one of the major elements to keep possible "Computer Paradox". To make ICT impact more clear, a detail survey of ICT usage in user's side will be required.

- METI is conducting a drastic enforcement of the Statistics on computerization from the User's viewpoint. The survey on ICT workplaces provides the statistical basis to know the details of computer stocks in ICT users. Binding this detail data with the result of Basic Survey of Japanese Business Structure and Activity, which is an annual census survey of the various activities of enterprises, could tell us the possible performance of each computer stock. This analysis might find the different performances of similar ICT investments. These differentials predict other supplemental factors to change IT productivity, which could be IT governance, business process design, internal organization, internal communication and others.

- The Japanese government will pursue more detail analysis on ICT impact in the future. This survey could be constituted of indispensable base of further analysis.
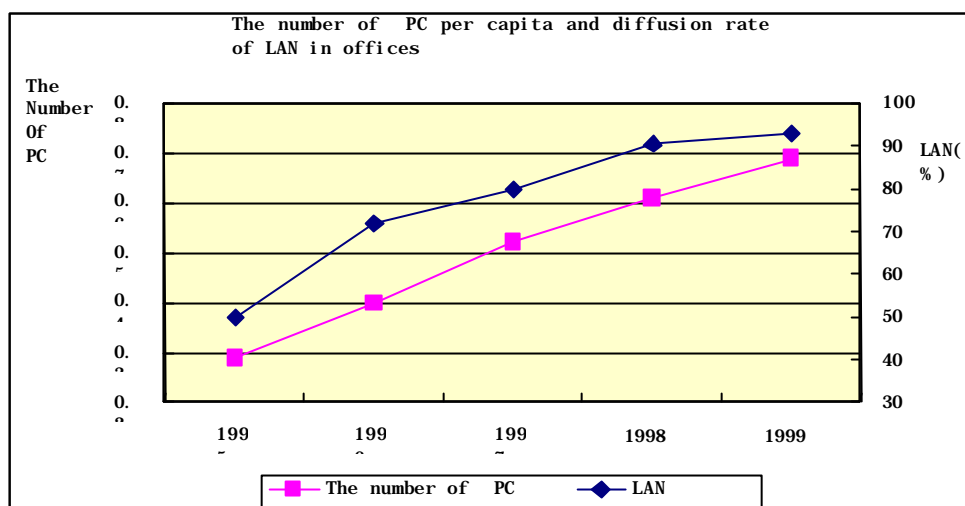
2. Sample questions

- Japan has asked detailed questions regarding the amount of ICT investment and kept high response rate.
  - ? Survey on 5000 businesses. Response rate: 65.7%

- The questions of this survey are constitute of

1	Company Profile
2 -1	ICT-Related Overhead Costs
2 -2	Estimate of Future ICT-Related Overhead Costs
3	ICT-Related Personnel
4	Number of Computers by Type of Installation
5 -1	Situation of Network Use
5 -2	Situation of the Internet Use
6	Use of Telecommunications Lines Connected to Computer Systems, by Type
7	Use and Development of Information Systems, by Business Application
8 -1	Use of Information Systems for E-Commerce
8 -2	Volume of transaction by e-commerce

  Please see Attached paper 1 for detail.

3. Sample Data

1) The number of PC per capita / Usage of LAN network

  ? The number of PC in the offices   1995: 0.3 per capita
                                                  1999: 0.7 per capita

   In the field of Electronics, Gas, and electronics   1999: Over 1.0 per capita
  ? 93% of offices use LAN network in 1999

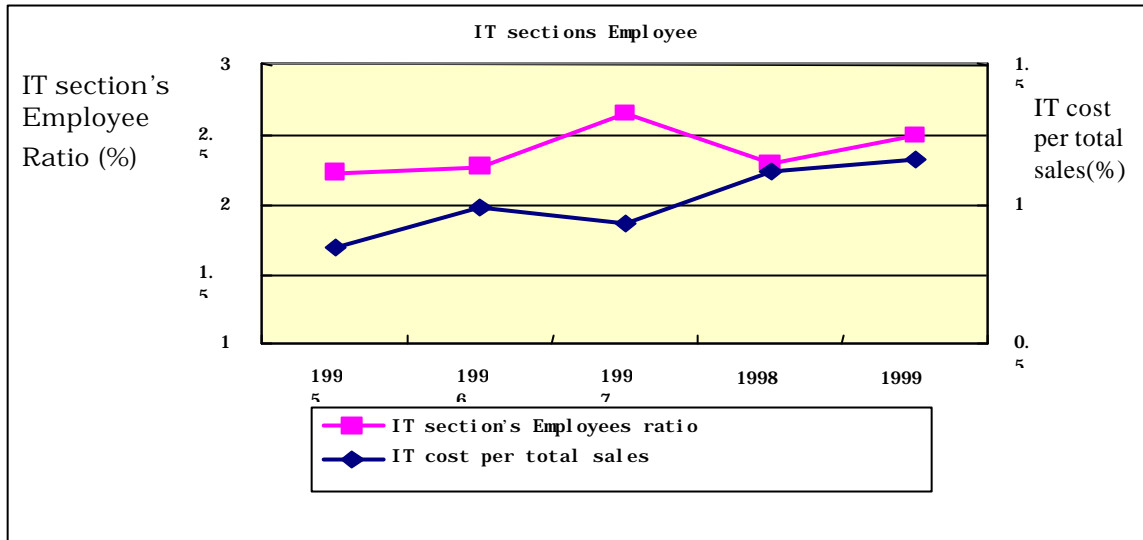The number of PC per capita and diffusion rate of LAN in offices

2) IT cost:

   IT section's Employee ratio imply the management and operation cost of IT systems in personnel expense. Its data in 1999 is about 2.5%.

   IT cost per total sales ratio imply the IT investment scale in cash flow. Its data in 1999 is about 1.2%, which has been slightly increasing in these 5
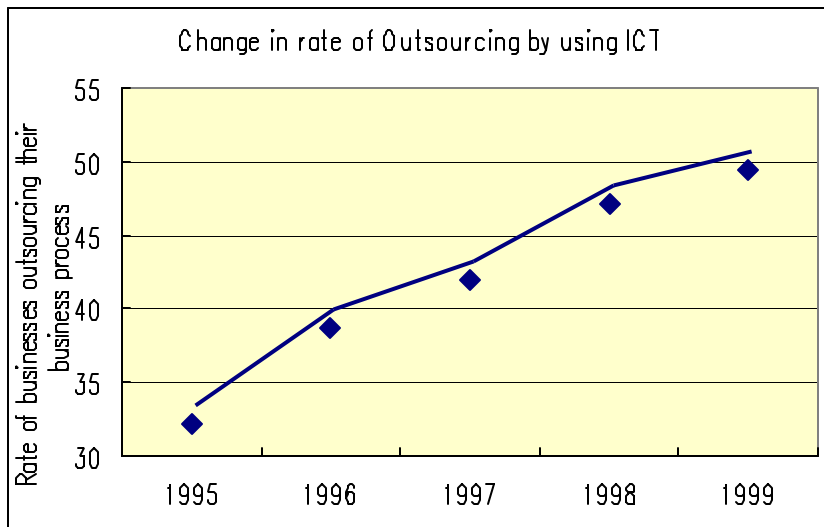
2

years.

IT sections Employee

IT section's
Employee
Ratio (%)

IT cost
per total
sales(%)

- IT section's Employees ratio
- IT cost per total sales

will

4. Outsourcing

- Japan proposes to add the question on "Outsourcing of Business Activities by ICT".
- The number of companies outsourcing its business activities (such as production management and client information management) by using ICT is increasing. (ex. ASP (Application Service Provider) industry is regarded as one of the most promising sector in ICT industries). The purpose for the companies to use such outsourcing ICT service is to make their business management efficient by concentrating their management resource into their most competitive business activities and outsourcing others.

- Counting the number of companies using such ICT outsourcing service will be a good index to evaluate the progress of the efficient ICT usage in the business activities.
- In fact, the number of Japanese businesses using ICT outsourcing service is increasing.

Change in rate of Outsourcing by using ICT

Rate of businesses outsourcing their business process

5. Sample Analysis

?   Professor Tanaka of Univ. of Tokyo has tried to make a joint analysis between this "Survey on ICT workplaces" and "Basic Survey of Japanese Business Structure and Activity" under the cooperation of METI. This analysis could predict very rough trend of ICT impact in Japan, as follows.
   - Sample : 150 companies
   - ICT positive companies get the higher growth of their sales
   - However, both of external and internal transaction cost has increased in many companies
   - This trend is more clear in large scale companies

?   This sample analysis is the first step to proceed our survey. METI will report a further progress of this research in the near future.