Section 2
Collaboration for Overcoming National Challenges

The comparison between seven countries conducted in chapter 2,section 2, showed that Japan is lagging behind other ICT advanced nations in terms of ICT utilization. Particularly, it was revealed that the utilization rate of ICT systems/services is low in public areas, such as healthcare/welfare, education/personnel and administrative services. In this section, we will present the forms of ʻcollaborationʼ that would facilitate ICT utilization and enable Japan to overcome its national problems.

1. Promotion of ICT utilization: emphasis on "horizontal development" and "vertical development"
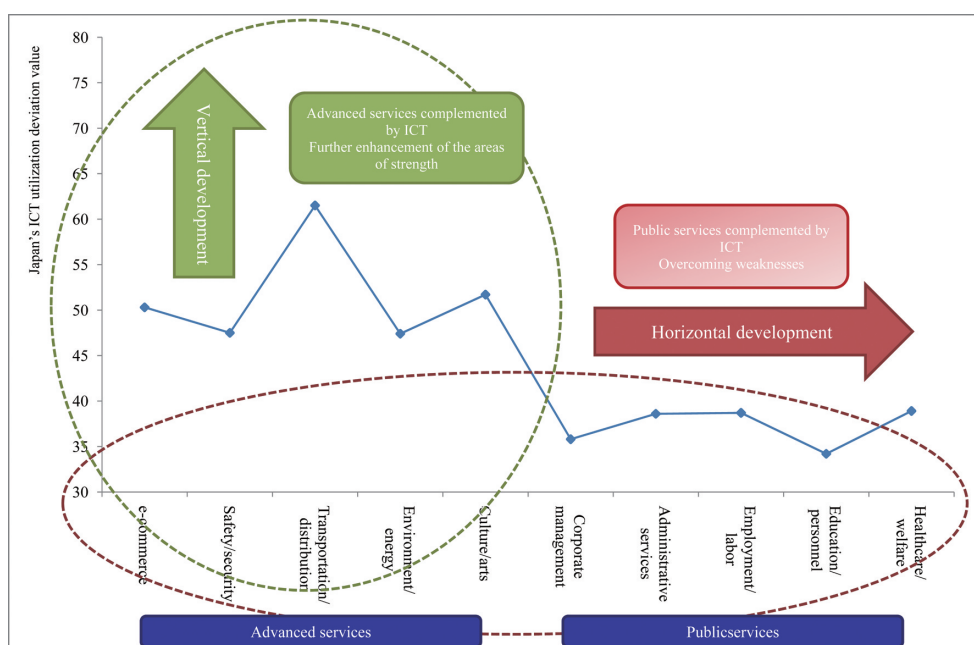
In order to proactively contribute to solutions to mounting social problems in an aging society with fewer children, the Ministry of Internal Affairs and Communications identifies the shift to ʻissue-solving oriented ICT utilization as the principle behind u-Japan policy. However, the matter for concern is the fact that ICT utilization is not progressing in public areas, such as healthcare/welfare, education/personnel, employment/labor and administrative services, which people are much interested in and are directly linked with peopleʼs lives. Therefore, it is important to highlight the sectors that are lagging behind in terms of

ICT utilization as priority sectors and horizontally spread ICT utilization in these sectors with the aim of raising the bottom.

At the same time, sectors with a high utilization rate, such as transportation/distribution and e-commerce, have nearly the same utilization rate as ICT advanced countries. It is necessary to further raise these strong sectors and to deepen and broaden the way ICT is used, in order to foster international competitiveness.

Therefore, the focal points for the promotion of ICT utilization, as figure 3-9 shows, are horizontal development and vertical development: horizontal development is overcoming the weaknesses of the lagging sectors and vertical development is enhancing the strengths of the advanced sectors.

Figure 3-9 "Horizontal development" and "vertical development" in the promotion of ICT utilization

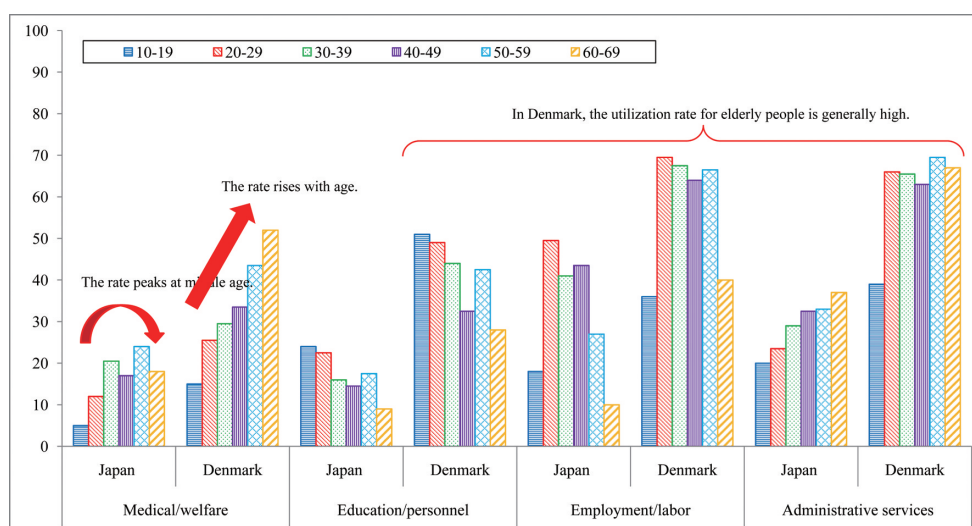## 2. ICT utilization to deal with national problems (horizontal development)

Figure 3-10 provides an analysis of utilization by age group in the lagging sectors, namely, healthcare/welfare, education/personnel, employment/labor and administrative services. What is noteworthy here is the high utilization rate among older people in Denmark. Compared with Japan, the utilization rate for those in their 50s and 60s is relatively high across all four sectors. In the healthcare/welfare sector, the demand for which is thought to be high among older people, more than 50% of users in their 60s receive healthcare/welfare-related services using ICT.

In order to upgrade Japan's ICT utilization, which will hopefully help to solve national problems in areas such as healthcare/welfare, education/personnel, employment/labor, and administrative services as well as eliminate worries from people's lives, Japan should study previous cases from countries considered advanced in ICT utilization, such as Northern Europe countries, as seen in chapter 2, section 2. Here, let us look at an Internet portal for citizens in Denmark.

Denmark created an portal for citizens (borger.dk) in 2007 as a one-stop site for access to public information by consolidating the e-administration services offered by the central and local governments with the aim of providing public digital solutions that can be easily used by citizens in their daily life as well as in business activities (figure 3-11). The weekly access figures reached 100,000 in the first quarter of 2008, a 40% year-on-year increase[40].

Features of the portal include (1) provision of cross-sectoral public information and services meeting the needs of users by setting up themes tailored to user groups of administrative services, such as family/children/young people, elderly people, Danes living abroad, and foreign nationals living in Denmark, (2) an advanced function which allows users to customize themes and services that they use frequently and to manage application procedures in an integrated manner. The provision of such user-oriented public services furthered the utilization of ICT systems/services in the public sector in Denmark, leading to high utilization by elderly people, who are often referred to as the vulnerable group of ICT users[41].

Figure 3-10 ICT utilization rate by age group in healthcare/welfare, education/personnel, employment/labor and administrative services

Source: International Comparison of ICT-related Developments (2009), Ministry of Internal Affairs and Communications

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[40] This effort has been recognized globally, and won the World Summit Award in the e-government category of the UN World Summit on Information Society held in November 2007.

[41] Sub-themes of the service for elderly people include inheritance/last will, jobs, nursery care, travel (daily mobility/travel), pension/retirement.

Figure 3-11 Home page of borger.dk

3. Advancement of ICT utilization that takes advantage of Japan's strengths (vertical development)

Figure 3-12 compares the top ranked country of the aforementioned comparison of seven countries with Japan in the categories of e-commerce and transportation/distribution with respect to the utilization rate of specific ICT systems/services.
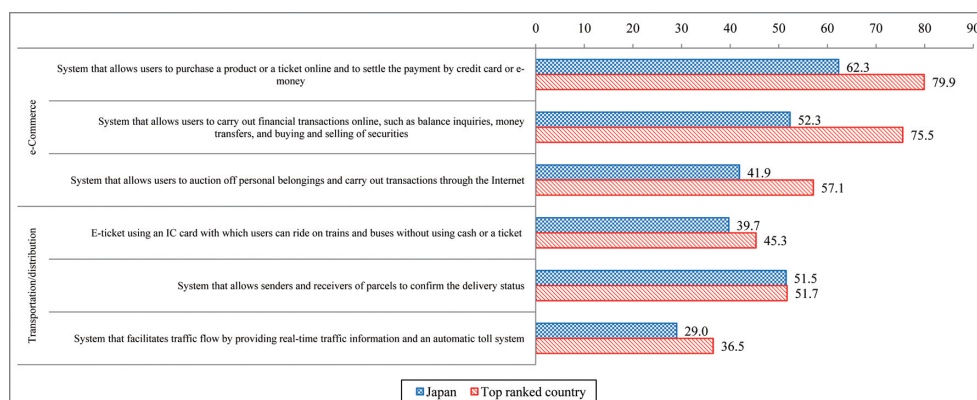
Although there is a gap between Japan and the top ranked country in terms the utilization rate of online shopping, online banking and online auctions, Japan' rates are relatively high at 62.3%, 52.3% and 41.9%, respectively.

Meanwhile, Japan is ranked 1st in transportation/distribution and its utilization rate in each category is by no means inferior to the top ranked country, with a particular high utilization rate of the delivery confirmation system for home-delivery services at 51.5%.

Figure 3-13 shows the number of the Internet users by terminal (people who have used the Internet in the previous year). The number of the Internet users from mobile terminals (mobile phones, PHS, etc.) is 75.06 million people, accounting for 82.6%. For the percentage of third generation mobile phones in mobile phone terminals, which enable the high-speed use of the Internet, Japan is ranked top in the aforementioned seven-country comparison (See figure 2-14). Thus, Japan is the most advanced nation in the world[42] in

Figure 3-12 Utilization rate for specific ICT systems/services in e-commerce, transportation/distribution

(Source) International Comparisons of ICT-related Developments (2009), Ministry of Internal Affairs and Communications

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[42] According to the World Internet Project (http://www.soc.toyo.ac.jp/˜mikami/wip/sympo2009.2/090219 mikami.pdf), the survey conducted in November 2008 showed that Japan's mobile Internet usage rate was 47.5%, ranked first among the 28 countries.
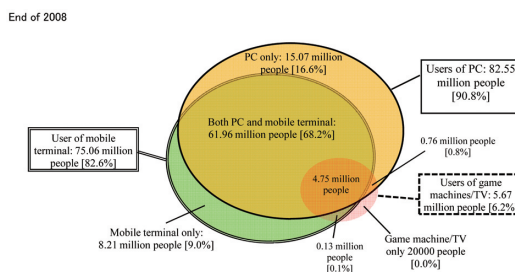
terms of mobile Internet usage.

Japan's mobile phones are not limited to the use of telephone, e-mail or Internet, but also provide various services, including audio-visual distribution, camera functions, mobile shopping, e-money, e-tickets and e-keys, serving as an attractive personal terminal to users. In recent years, attention has been drawn to the use of action history data of users called a lifelog[43], a dramatic development in mobile phone services, and services are being developed which use positional information, information on payment history, etc.

Figure 3-14 shows a comparison of the purposes of Internet use among the aforementioned seven coun-

tries. The characteristics of Japan is that use for communication purposes is high, for example, e-mail, writing on websites/blogs/BBS, SNS, and posting/sharing videos[44].
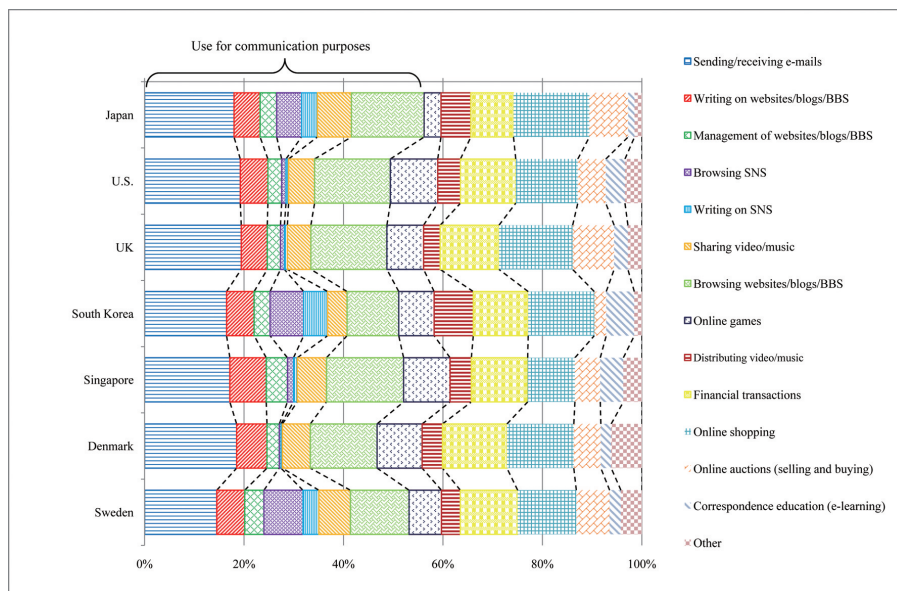
Furthermore, social media has exhibited remarkable growth in recent years. There are sites that compare product information, such as price and quality, by consumers and sending of product information via blog as word-of-mouth information for e-commerce, and there are often cases where manufacturers develop products while communicating directly with consumers via word-of-mouth information sites.

Figure 3-13 Types of Internet terminals used by users (individual users)

(Source) 2008 Communications Usage Trend Survey, Ministry of Internal Affairs

Figure 3-14 International comparison of the purpose of Internet use

*Percentage of responses by purpose, using the number of responses (multiple answers) by purpose of Internet use in each country as a parameter
(Source) International Comparison of ICT-related Developments (2009), Ministry of Internal Affairs and Communications

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43 In the world of the Internet, information on web-access, mail history or payment of users is collected as a lifelog, which is used for direct marketing and recommendations to send optimal advertisements or information in accordance with the needs of individual users.

44 According to Technorati, a blog search service in the U.S., in the fourth quarter of 2006, there were more blogs in Japanese (37%) than in any other language.

4. ICT serving as a catalyst in promoting collaboration, together with "horizontal development" and "vertical development"

What is commonly found in high utilization in both "horizontal development" and "vertical development" is that a platform of collaboration has been established where cross-sectoral business operators and users/consumers can interact with each other, with ICT tools, such as mobile phones and websites, acting as a catalyst. From this viewpoint, the ICT industry is expected to incorporate advanced technologies and provide ICT solutions that are easy to use for business operators of various kinds. In other words, it is a matter of course that the ICT industry keeps providing inexpensive and convenient ICT services. Besides that, we envision a kind of industry that promotes collaboration beyond business boundaries and between suppliers and users, behind the scenes. Figure 3-14 shows a summary of such a concept.

Figure 3-14 Collaboration between the ICT industry and other industries