



April 2023

## The Progress of Digitalization by Prefecture as Seen in the DCI —2022: The Year That Digitalization Made Progress in Rural Areas —

Takeshi Mori, General Manager, Digital Society Research Department, Center for Strategic Management & Innovation, Nomura Research Institute

#### Overview

- To visualize the level of digitalization in Japan, Nomura Research Institute (NRI) has released the DCI (Digital Capability Index) every year since 2019 to track the progress of digitalization in each prefecture.
- The DCI is comprised of four categories, namely: ① the use of internet by the public;
   ② digital public services; ③ connectivity (digital devices, communications infrastructure); and ④ human capital (the degree to which people possess digital skills, and ICT education).
- While 2022 saw remarkable progress in the digitalization of rural areas, it also showed that digitalization has stagnated in large urban areas. One factor potentially underlying this development could be a digitalization time lag. At the outset of the COVID-19 pandemic, digitalization made rapid advances particularly in large cities, but it has since been slowing down, whereas the rural areas have been undergoing digitalization following a time lag. As a result, the digitalization gap among prefectures is now shrinking more than last year.
- Out of the four DCI categories, the one that involves the most significant gap among





the prefectures is connectivity. Public assistance for providing people with mobile devices and the development of high-quality communications infrastructure is critical for regions where digitalization is lagging.

• Out of the four DCI categories, the one with the score that rose the most between 2021 and 2022 (national average) was human capital. The increase in the number of PCs owned per child/student and the percentage of persons who possess a variety of digital skills is rising in rural areas especially.





#### DCI (Digital Capability Index)

To visualize the progress of digitalization in each of Japan's prefectures, NRI began releasing an index called the DCI (Digital Capability Index) in 2019. This was because for the national and local governments to formulate digitalization policies and then evaluate their results, it is vital for them to be able to visualize the degree to which Japan has become digitalized, where progress has been made and where it has lagged behind, and how widely the progress of digitalization varies between urban areas and rural ones, for example.

The basis for the DCI is the DESI (Digital Economy and Society Index) published by the European Union (EU). The DESI evaluates the progress of digitalization made by EU member states across five major categories, with each country's digitalization score represented on a scale of 0-100 (higher scores indicating greater progress in digitalization). More details on the estimation method used for the DCI can be found in the publication, but essentially the DCI is prepared using a combination of the nationwide "Survey on the Use of Digital Technology in Japan" conducted by NRI and official statistics. The index is comprised of nearly 70 categories overall, and is broadly made up of the four components illustrated in Fig. 1. Similar to the DESI, the final score is shown on a scale of 0-100. The survey questionnaire was conducted online in July and August 2022 focusing on persons between the ages of 15 and 69 across Japan, with data samples of 200 persons being collected in each prefecture according to sex and age, totaling 9,400 persons sampled nationwide.





#### Fig. 1: DCI (Digital Capability Index) components

Use of Internet	Digital Public Services	Connectivity	Human Capital
<b>F</b>	6		
<ul> <li>Frequency of using the internet</li> </ul>	Online administrative     procedures	<ul> <li>Smartphone, tablet, and PC household ownership rate</li> </ul>	Information Processing     Test pass rate
<ul> <li>SNS user ratio</li> <li>E-mail, online banking,</li> </ul>	Joint use and optimization of systems between local governments	• Whether the person owns an information device he/she can freely use	<ul> <li>Citizens' basic ICT skills</li> <li>Number of PCs per</li> </ul>
online shopping, free video viewing (total: 21 categories)	<ul> <li>Information security, BCP</li> <li>Citizens' use of various digital public services</li> </ul>	<ul> <li>Fiber optics, regional broadband mobile wireless access penetration rate</li> <li>(total: 10 categories)</li> </ul>	child/student (total: 20 categories)

Source: NRI

Incidentally, there is a reason behind why the name of the index includes the word "capability". Although there are negative aspects to digital technology such as fake news and cybercrime, I believe that in an overall sense, digital technology serves to enhance people's capabilities, and in turn to improve our level of happiness and well-being. As I describe later, whereas the level of happiness per prefecture as calculated by NRI from the questionnaire has no correlation whatsoever with income level (per capita prefectural income), a small correlation does seem to exist between the DCI score and the level of happiness. In other words, if we want to raise the public's level of happiness (or alternatively, their well-being), it makes sense to promote digitalization in rural areas.

The five prefectures with the top DCI scores were Fukui, Tokyo, Ibaraki, Toyama, and Shizuoka

The DCI scores by prefecture in 2022 are illustrated in Fig. 2. A notable characteristic of the 2022 results is the rapid progress made in rural areas. While Fukui Prefecture was also ranked





highly in previous surveys, in the 2022 survey it claimed the highest spot after Tokyo. Other prefectures that saw a substantial increase in their scores from last year included Ibaraki, Toyama, and Shizuoka prefectures.



#### Fig. 2: DCI scores by prefecture (2022)

Source: NRI

As an aside, the DCI score is calculated based on percentages, such as user penetration rate, ownership rate, and utilization rate, meaning that numerical quantities do not affect the score. This is because when it comes to something like the number of persons capable of creating a webpage, for example, the numbers in large cities such as Tokyo or Osaka would be overwhelmingly large, but if we look at the "percentage" accounted for by such persons in their prefectures as a whole, the gap is not so great, and in some cases, it is the rural prefectural areas that have higher percentages than Tokyo or Osaka depending on the item in question.

However, given that the smallness of the sample size in the questionnaire survey (200



persons per prefecture) led to certain accuracy issues, there is no need to be so particular about strict rankings in the DCI scores. To grasp the major DCI trends and geographical characteristics, Fig. 3 shows the DCI scores in descending order divided into four simple groups and color-coded on a map of Japan. The first group with the highest DCI—that is, having the greatest progress in digitalization—extends from the greater Tokyo area to the Chukyo area, Kyoto, Osaka, and Tokushima, and reaches as far as Fukuoka Prefecture. The second group is found in the surrounding regions and is largely seen in the Kansai region and prefectures in Kyushu, for instance. The third group extends further to the peripheries, while the fourth group consists of the Hokkaido/Tohoku areas as well as Gunma, Nagano, Hyogo, and Miyazaki Prefectures.

Envision the value,

**Empower the change** 

When we view the scores for DCI's four components by individual group, we see that the first group scored highest for all the elements, while the fourth group's scores were the lowest. Moreover, the category in which the gap between the first group and the fourth group was the greatest was "connectivity". Connectivity reflects not only the level of wired and wireless communications infrastructure in place, but also the extent to which the people own PCs, smartphones, tablets, and other information devices (according to the questionnaire survey), but in 2022, the domain in which the digital technology gap within Japan was the greatest was connectivity. Incidentally, connectivity was also the area featuring the largest such gap in 2021, but the disparity between the first group and the fourth group was in fact slightly larger in 2022 (4.4 in  $2021 \rightarrow 4.5$  in 2022).

6



## Envision the value, Empower the change



#### Fig. 3: DCI regional distribution in four groups and DCI scores by component

Let us look at the top 10 prefectures with the highest scores for each of the four components (Fig. 4). The highest value for "Use of Internet" was in Fukui (21.1), followed by Okinawa (18.3), Shizuoka (17.9), Kyoto (17.6), and Niigata (17.5). Okinawa Prefecture also scored highly in the 2020 and 2021 surveys and had a relatively high level of internet usage nationally. The highest score for "Digital Public Services" was in Tokyo (21.7), followed by the rural areas of Toyama (21.7), Ibaraki (21.5), and Kumamoto (21.3). Incidentally, the Digital Public Services score factors in things like the My Number acquisition rate, the development state of various online government services, and whether the public is "using" those services. The "Connectivity" score was highest in Tokyo (21.3), followed by Aichi (18.4), Shizuoka (18.4), Fukui (18.3), and Kanagawa (18.0). As for "Human Capital", Fukui had the highest score (20.9), then Toyama (20.5), Ibaraki (19.3), Tokushima (18.9), and finally Tokyo, which came in fifth





place (17.6). As an aside, Tokyo held onto the top spot in Human Capital in 2020 and 2021 but ceded that rank this year.

Ranking	Use of Inte	ernet	Digital Public Services		Connectivity		Human Capital	
1	Fukui	21.1	Tokyo	21.7	Tokyo	21.3	Fukui	20.9
2	Okinawa	18.3	Toyama	21.7	Aichi	18.4	Toyama	20.5
3	Shizuoka	17.9	Ibaraki	21.5	Shizuoka	18.4	Ibaraki	19.3
4	Kyoto	17.6	Kumamoto	21.3	Fukui	18.3	Tokushima	18.9
5	Niigata	17.5	Fukui	20.3	Kanagawa	18.0	Tokyo	17.6
6	Wakayama	17.4	Miyazaki	19.7	Osaka	17.2	Osaka	17.4
7	Shiga	17.3	Kanagawa	19.6	Shiga	16.7	Kumamoto	17.1
8	Ibaraki	17.3	Aichi	19.6	Fukuoka	16.2	Okayama	16.9
9	Tokyo	17.3	Tokushima	19.5	Kyoto	16.2	Nagasaki	16.8
10	Kochi	16.9	Shizuoka	19.5	Yamanashi	16.1	Ehime	16.7

Fig. 4: Top 10 prefectures by component (20	22)
---	-----

Source: NRI

### Rapid progress in Fukui, Ibaraki, Toyama, and Shizuoka, but stagnation in Tokyo, Kanagawa, and Saitama

Let us look at how the scores changed from 2021 to 2022 (Fig. 5). As can be seen, the DCI scores went up in nearly every prefecture in this one-year period (areas above zero on the vertical axis). Conversely, the scores in Tokyo and in Kanagawa, Saitama and other parts of the Tokyo metropolitan area (excluding Chiba) either stagnated or fell.

First, let us take a closer look at the prefectures whose scores rose dramatically. If we see the breakdown of the scores in Fukui, Ibaraki, Toyama, and Shizuoka, their scores rose in all four of the DCI domains. A detailed look at "Use of Internet" in Fukui, for example, reveals that the response rate for "Used a mobile phone or smartphone to access the internet at least once per hour" climbed from 36% in 2021 to 43% in 2022. Furthermore, the utilization rate in Fukui of social media such as LINE, Instagram, and especially YouTube, went up in this one year. In Ibaraki, Toyama, and Shizuoka, the ownership rate of "smartphones or tablets that I can freely use" was significantly higher, and because of this, the use of SNS and online shopping as well as the utilization rate of free or paid video streaming services increased in this one-year period. If we look at "Digital Public Services", we see a trend whereby the prefectures that made rapid progress saw higher rates of use of e-tax services, net-based library catalog searches and lending reservations, and the like.

Envision the value,

**Empower the change** 

Turning to "Human Capital (Digital Skills)" in the prefectures with the greatest progress in DCI, we find that certain prefectures showed increase trends, such as a higher percentage of respondents who said they can use image editing software (Fukui, Ibaraki), a higher percentage of respondents who reported being able to use business software such as Microsoft Word, Excel, and PowerPoint (Toyama), and a higher percentage of respondents saying that they could create their own websites (Shizuoka).

9







#### Fig. 5: Degrees of change in DCI scores from 2021 to 2022

Source: NRI

By contrast, if we examine prefectures like Tokyo, Kanagawa, and Saitama where the DCI scores stagnated or declined, there is notable drop in the scores for "Use of Internet" and "Digital Public Services" in particular. Regarding "Digital Public Services", the issue is not with the service providers themselves, but rather has to do with the utilization rate of digital public services by citizens stagnating or falling. This might very well be a reaction to the COVID-19 pandemic. According to previous DCI estimates, the scores in Tokyo and its greater metropolitan area rose significantly in 2020 at the outset of the COVID-19 crisis, yet were low in rural areas, revealing a major gap between Japan's urban and rural areas at that time. It could be the case that urban digitalization advanced ahead of that in rural areas but then



slowed down in 2022, or perhaps that we are now seeing a reaction to what happened during the COVID-19 crisis.

#### The digitalization gap in Japan has shrunk further

In 2022, Tokyo's score went down slightly, while at the same time the DCI scores in rural areas rose. In addition, Aomori Prefecture's score also rose (having been 47 in 2021), and as illustrated in Fig. 6, a look at Japan reveals that the digitalization gap among regions shrunk. This digitalization gap within Japan also shrank in 2021, meaning that the gap has contracted for two years in a row.



#### Fig. 6: Japan's shrinking interregional digitalization gap

Among the four DCI categories, the one that saw the greatest rise in its score from 2021 to 2022 was "Human Capital" (Fig. 7). If we look at the results by prefecture, we see that in places like Toyama, Ibaraki, Fukui, Iwate, Oita, Kagoshima, and other rural areas, the Human Capital (Digital Skills) score in particular saw a conspicuous rise. In Iwate, the pass rate for the





Information Processing Test rose by 11% in 2022, while in Oita, the percentage of persons who had business software skills in Word, Excel, and other such applications went up by around 6%, and in Kagoshima, the percentage of persons who were skilled in operating image processing software or YouTube was up by about 5%, for example.



Fig. 7: Changes in scores as seen by component ( $2021 \rightarrow 2022$ )

Source: NRI

#### Digital Technology and Japanese People's Level of Happiness

Lastly, let us simply take a look at the relationship between DCI scores and people's level of happiness as seen by prefecture. Fig. 8 shows the level of happiness by prefecture on the vertical axis, while on the horizontal axis, we see per capita prefectural incomes in 2019 on one side (left graph in Fig. 8), whereas the other side shows the DCI scores (right graph of Fig. 8) plotted for all 47 prefectures. Regarding levels of happiness, the following question was asked in the same questionnaire survey on DCI. "Overall, how happy are you? Please choose the number that best fits you from 1-10, with 1 being 'extremely unhappy' and 10 being

Envision the value, **Empower the change** 'extremely happy." For the responses, we calculated the average values of the 200-person samples for each prefecture. Incidentally, the top 10 prefectures with the highest levels of

happiness as surveyed by NRI were Nara, Tottori, Kagoshima, Hokkaido, Saitama, Kyoto, Fukui, Osaka, Fukuoka, and Yamaguchi.

The left graph in Fig. 8 was plotted to show how the level of happiness in a region is related to the economic level there, in this case the per capita prefectural income, and we see that the correlation coefficient was nearly zero at -0.02. By contrast, when we look at the DCI scores by prefecture on the horizontal axis (right graph of Fig. 8), we see that the correlation coefficient was 0.26, which is low but is nevertheless a positive correlation.



### Fig. 8: Correlations with levels of happiness by prefecture with per capita prefectural income & DCI

Note: Tokyo's pre capita prefectural income is 5,750,000 yen and is therefore outside the graph range.

Source: Levels of happiness taken from NRI's "Survey on the Use of Digital Technology" July-August 2022; DCI scores provided by NRI; per capita prefectural incomes taken from the Cabinet Office's "Prefectural Economic Accounts"

There are a variety of factors that define levels of happiness but let us look at how various digital tools affect people's happiness levels, using the framework found in the "World Happiness Report". The World Happiness Report cites several factors that define people's levels of happiness, including income, interpersonal relationships, safety and security, health, freedom in life, and social fairness<sup>1</sup>.

Envision the value,

**Empower the change** 

In the "Survey on the Use of Digital Technology in Japan" conducted by NRI to make our DCI estimates, we asked people not only about their levels of happiness, but also about their "satisfaction with interpersonal relationships", "sense of freedom in life", and so forth. Based on that data, we then ran a quantitative analysis (Fig. 9). What we found was that those who used LINE, online meeting tools, free voice call apps and the like reported positive levels of satisfaction with their interpersonal relationships (10-point rating scale) compared to those who did not use them (left graph in Fig. 9).

In addition, persons who are doing telework, as well as persons who are engaged in food delivery service (e.g., Uber Eats), vacation rental services (e.g., AirbnB), and online stock trading reported feeling a greater sense of freedom in life than those who are not (right graph in Fig. 9). As a side note, this analysis also considered a person's sex, income level, marital status, and other such attribute information, as an added bonus to the positive effects on freedom in life obtained from having a high income, for instance, and so the results showed that these digital components are having a significant positive effect.

14



Envision the value, Empower the change

#### Fig. 9: Analysis of the impact had by digital components on interpersonal relationships/



#### freedom in life

Source: NRI

In that same questionnaire survey, we also asked about digital skills as represented by 12 categories, including business tools such as Word or Excel, image editing software, posting videos on YouTube, programming, using 3D printers, and piloting drones (for more details, see the "Human Capital" column in Reference Material 1. The 12 categories are those listed in the table, ranging from "Using Word or other software to create word documents" to "Piloting a drone"). Respondents answered "Yes/No" for each skill, with each person possessing somewhere between 0-12 skills (these being referred to as IT skills). With that, it was revealed that the more IT skills people had, the greater the positive effect there was on their satisfaction with their interpersonal relationships and on their freedom in life (left graph and right graph in Fig. 9). The way that the "plus" points in Fig. 9 work is that, with the left

## Envision the value, Empower the change

graph, for instance (+0.8 points), those who used LINE, online meeting tools, and free voice call applications and then increased their number of IT skills by one would enhance their "Interpersonal Relationship Satisfaction Score" (1-10) by another 0.8 points.

As I have described, with the 2022 DCI survey, the "Human Capital" scores including IT skills rose across the entire country. It would therefore seem fair to think that the growth of IT skills has enhanced people's "interpersonal relationship satisfaction" and "sense of freedom in life", and in so doing, it has also had a positive effect on the happiness of the Japanese public. In fact, in the World Happiness Report published in March 2023, Japan's happiness score went up, climbing the ranks from 54 in the previous year to 47. While that report does not mention the effects of digital technology, this slight increase in Japanese people's level of happiness likely has something to do with the direct and indirect effects exerted by digital components as represented by the DCI scores.





### [Reference Material 1: DCI Components]

Use of Internet •••• 21 Categories	Data Source
Internet usage frequency on PCs	NRI, "Survey on the Use of Digital
	Technology"
Internet usage frequency on mobile phones/smartphones	Same as above
Facebook usage frequency	Same as above
Twitter usage frequency	Same as above
LINE usage frequency	Same as above
Instagram usage frequency	Same as above
Internet service usage (Y/N): sending/receiving email	Same as above
Internet service usage (Y/N): online banking	Same as above
Internet service usage (Y/N): stock and other online trading	Same as above
Internet service usage (Y/N): online shopping	Same as above
Internet service usage (Y/N): paid video streaming services	Same as above
Internet service usage (Y/N): free video streaming services	Same as above
Internet service usage (Y/N): online auctions	Same as above
Internet service usage (Y/N): Q&A sites (e.g., Yahoo! Chiebukuro)	Same as above
Internet service usage (Y/N): social gaming (Free)	Same as above
Internet service usage (Y/N): reading other people's SNS posts	Same as above
Internet service usage (Y/N): "liking" other people's SNS posts	Same as above
Internet service usage (Y/N): sending information on SNS	Same as above
Internet service usage (Y/N): updating one's HP, blog	Same as above
Internet service usage (Y/N): free voice call services	Same as above
Internet service usage (Y/N): searching for health information	Same as above
online	





Digital Public Services ••• 17 Categories	Data Source
Using the national or local government's digital services (Y/N)	NRI, "Survey on the Use of Digital
	Technology"
Obtaining a My Number card	Same as above
Using e-Tax (Y/N)	Same as above
Viewing real estate listings online (Y/N)	Same as above
Having ever responded to a survey given by the national or local	Same as above
government online (Y/N)	
Searching or borrowing library catalogs online (Y/N)	Same as above
Reserving public conference rooms, sports facilities online (Y/N)	Same as above
Registering for courses provided by the local government online	Same as above
(Y/N)	
Using smartphone apps to manage/view personal health	Same as above
information (Y/N)	
Having applied online for a Special COVID-19 Relief Grant (Y/N)	Same as above
Having applied online for COVID-19 subsidies (Y/N)	Same as above
Improving/enhancing government services (prefectural level) *	Ministry of Internal Affairs, "Local
	Autonomy Information Management
	Overview"
Improving/enhancing government services (municipal level) *	Same as above
Enhancing efficiency of operations/systems (prefectural level) *	Same as above
Enhancing efficiency of operations/systems (municipal level) *	Same as above
Information security countermeasures (prefectural level) *	Same as above
Information security countermeasures (municipal level) *	Same as above

\*: Category name revised in 2022



Envision the value, Empower the change

Connectivity ••• 10 Categories	Data Source		
FTTH household diffusion rate	Ministry of Internal Affairs, "Number of		
	Broadband Service Contracts, etc."		
Number of BWA contracts per capita	Same as above		
Smartphone ownership rate (households)	Ministry of Internal Affairs,		
	"Communications Usage Trend Survey"		
Tablet ownership rate (households)	Same as above		
PC ownership rate (households)	Same as above		
Owning a desktop PC you can freely use	NRI, "Survey on the Use of Digital		
	Technology"		
Owing a notebook PC you can freely use	Same as above		
Owning a smartphone you can freely use	Same as above		
Owning a tablet device you can freely use	Same as above		
Owning a wearable device you can freely use	Same as above		





Human Capital (Digital Skills) ••• 20 Categories	Data Source
Using Word or other software to create word documents	NRI, "Survey on the Use of Digital
	Technology"
Using Excel etc. to create spreadsheets or graphs	Same as above
Using PowerPoint etc. to create slides or materials	Same as above
Using Access or other software to create databases	Same as above
Using Photoshop etc. to edit illustrations	Same as above
Filming/editing videos and posting them to YouTube etc.	Same as above
Creating websites	Same as above
Using programming to create applications	Same as above
Performing maintenance on servers or networks etc.	Same as above
Using AI (artificial intelligence) to analyze data	Same as above
Using a 3D printer	Same as above
Piloting a drone *	Same as above
Information Processing Test pass rate	Information-Technology Promotion
	Agency, "Information Technology
	Engineers Examination Statistical Data"
Number of learning PCs per child/student	Ministry of Education, "Survey of Actual
	Conditions of Educational
	Informatization in Schools"
Ability to use ICT for preparing/evaluating educational	Same as above
material research and instruction, etc.	
Ability to provide instruction using ICT in the classroom	Same as above
Ability to teach the use of ICT to children/students	Same as above
Ability to teach the knowledge and attitude that form the	Same as above
foundation for information utilization	
Training personnel in DX · information technology (prefectural	Ministry of Internal Affairs, "Local
level) *	Autonomy Information Management
	Overview"
Training personnel in DX · information technology (municipal	Same as above
level) *	

\*: Newly added in 2022, or had a change in category name





### [Reference Material 2: DCI By Prefecture (2022)]

ID	Prefecture	Use of Internet	Digital Public	Connectivity	Human Capital	DCI (2022)
			Services			
1	Hokkaido	10.3	13.9	12.0	16.0	52.2
2	Aomori	12.4	15.8	10.8	14.7	53.6
3	lwate	11.8	15.8	12.6	15.3	55.4
4	Miyagi	14.8	15.2	14.0	13.1	57.1
5	Akita	13.4	17.6	12.1	13.4	56.5
6	Yamagata	11.2	16.8	11.0	14.8	53.8
7	Fukushima	13.9	14.0	11.8	12.2	51.9
8	Ibaraki	17.3	21.5	15.4	19.3	73.5
9	Tochigi	12.3	18.3	15.1	14.2	59.9
10	Gunma	13.2	14.4	15.6	13.0	56.2
11	Saitama	12.0	18.0	14.5	15.2	59.6
12	Chiba	14.3	17.5	15.8	15.1	62.7
13	Tokyo	17.3	21.7	21.3	17.6	77.8
14	Kanagawa	16.0	19.6	18.0	15.2	68.8
15	Niigata	17.5	16.9	14.6	14.2	63.2
16	Toyama	14.9	21.7	15.5	20.5	72.6
17	Ishikawa	14.3	15.6	14.1	16.2	60.3
18	Fukui	21.1	20.3	18.3	20.9	80.6
19	Yamanashi	13.6	19.1	16.1	14.6	63.4
20	Nagano	11.7	15.8	15.0	14.0	56.5
21	Gifu	14.9	18.8	15.8	15.8	65.3
22	Shizuoka	17.9	19.5	18.4	16.4	72.1
23	Aichi	16.1	19.6	18.4	15.9	70.0
24	Mie	15.6	17.2	14.8	15.5	63.0
25	Shiga	17.3	18.3	16.7	12.6	64.9
26	Kyoto	17.6	17.8	16.2	16.2	67.9
27	Osaka	13.4	18.0	17.2	17.4	66.0
28	Hyogo	13.5	16.5	13.7	13.3	57.0
29	Nara	15.9	17.5	15.2	15.2	63.9
30	Wakayama	17.4	17.9	14.5	15.1	64.8
31	Tottori	12.9	18.2	14.6	14.6	60.3
32	Shimane	14.3	16.8	14.8	13.4	59.3
33	Okayama	14.7	16.8	14.7	16.9	63.2
34	Hiroshima	13.0	17.1	15.1	13.8	59.1
35	Yamaguchi	14.8	16.8	12.3	15.6	59.4
36	Tokushima	16.2	19.5	14.0	18.9	68.7
37	Kagawa	14.2	15.7	14.1	15.6	59.6



### Envision the value, Empower the change

38	Ehime	13.4	19.4	13.1	16.7	62.5
39	Kochi	16.9	13.4	12.1	16.5	58.9
40	Fukuoka	15.8	19.0	16.2	15.3	66.4
41	Saga	14.5	17.6	12.2	15.9	60.1
42	Nagasaki	14.6	18.7	10.7	16.8	60.8
43	Kumamoto	15.0	21.3	10.7	17.1	64.1
44	Oita	16.1	19.1	13.2	15.5	64.0
45	Miyazaki	14.4	19.7	10.1	14.5	58.7
46	Kagoshima	14.9	18.4	13.7	16.5	63.5
47	Okinawa	18.3	17.5	14.3	15.2	65.3





#### [Reference Material 3: Questionnaire Survey Overview]

■ Survey name ■ Survey period	Survey on the Use of Digital Technology in Japan July 12, 2022 to July 22, 2022
Survey method	Internet survey
Sampling method	Men and women aged 15-69 across the country
Number of valid responses	9,400 people
Main survey items	
$\bigcirc$ Perceptions of current	Life satisfaction, happiness, satisfaction by area
lifestyle	
$\Diamond$ Post-Corona	Spending intentions after ending of the COVID crisis,
perceptions	thoughts regarding lifestyle changes
$\diamondsuit$ Digital technology	Information devices owned, internet use time, use
usage behavior	purposes
$\diamondsuit$ Digital government	Actual usage of digital public services
$\diamondsuit$ Work style	Employment status, work attitudes, telework situation
◇Consumer behavior	Consumer attitudes, intention to use/changes in use of online services, etc.
◇Life in general, life planning	Communication partners, anxieties or worries being faced

<sup>1</sup> "World Happiness Report 2023" John F. Helliwell, Richard Layard, Jeffrey D. Sachs, Jan-Emmanuel De Neve, Lara B. Aknin, and Shun Wang

[Inquiries about this report]

Corporate Communications Department, Nomura Research Institute, Ltd.

TEL: +81-3-5877-7100 E-mail: kouhou@nri.co.jp