

# Employment System, Digital Divide, and Digital Transformation

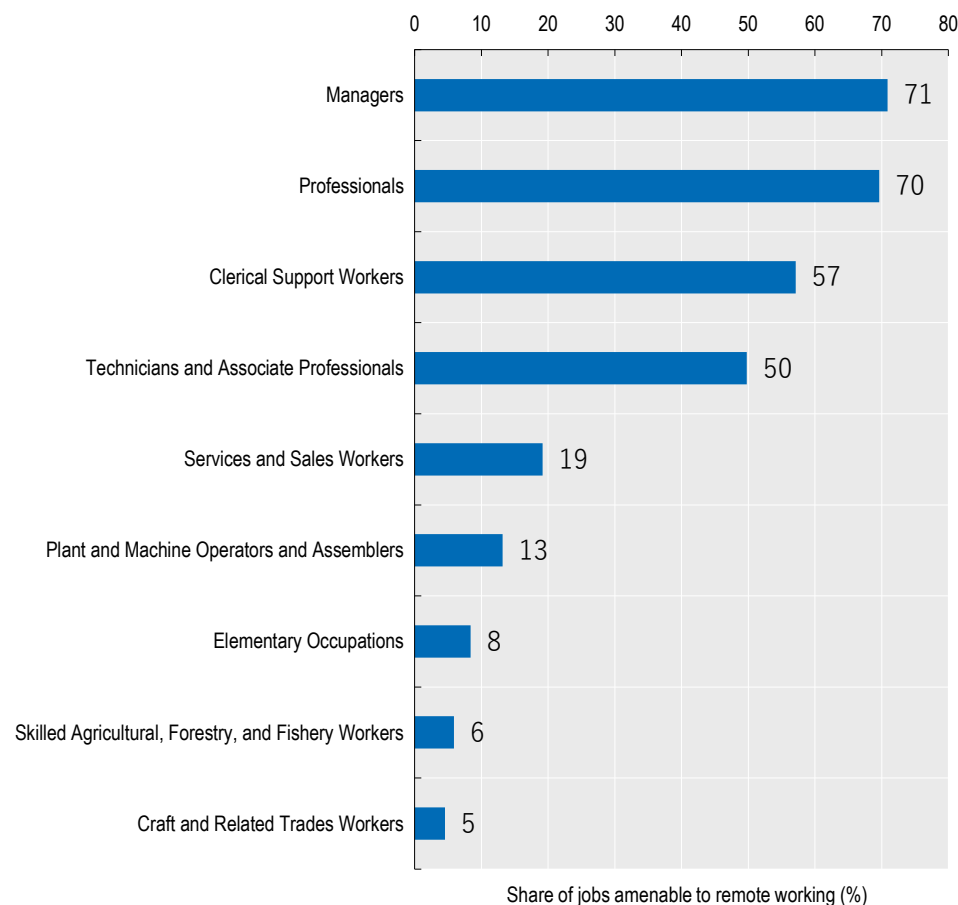
Jongwon Woo (Saitama University)

1. COVID-19, DX, and digital divide
2. Employment system matters
3. Potential solutions

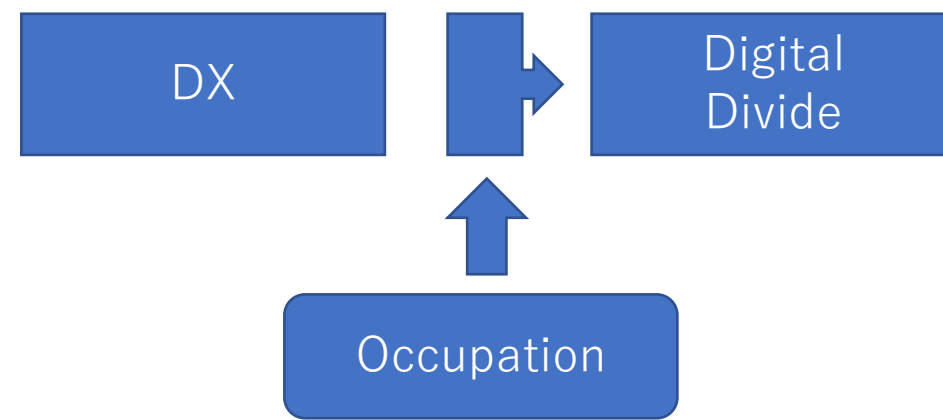
# Outline

- It is said that COVID-19 may accelerate the pace of digital transformation (DX) and that DX may cause further digital divide. However, the speed, the scope, and consequently, the characteristics of DX depend not only on environment/infrastructure, but also on human behaviors.
- For instance, while Japan is well equipped with fiber broadband connections, Japan lags behind other developed countries in DX. This is because the motivation and ability of workers whose particular dispositions are shaped by Japan's specific employment system plays a critical role in how DX is occurring in Japan.
- In Japan, the employment system generally divides regular and non-regular workers, and consequently divides workers by gender to a significant effect. This creates a prominent gap between different workers. Non-regular workers and female workers are not given sufficient incentives and skills for their own career development, which hinders the comprehensive implementation of DX on the one hand and makes the digital divide worse on the other hand.
- The author examines the relationship between employment system, DX, and digital divide. After exploring some potential solutions to close the gap between different workers, the author suggests some recommendations for policy makers of East Asian countries.

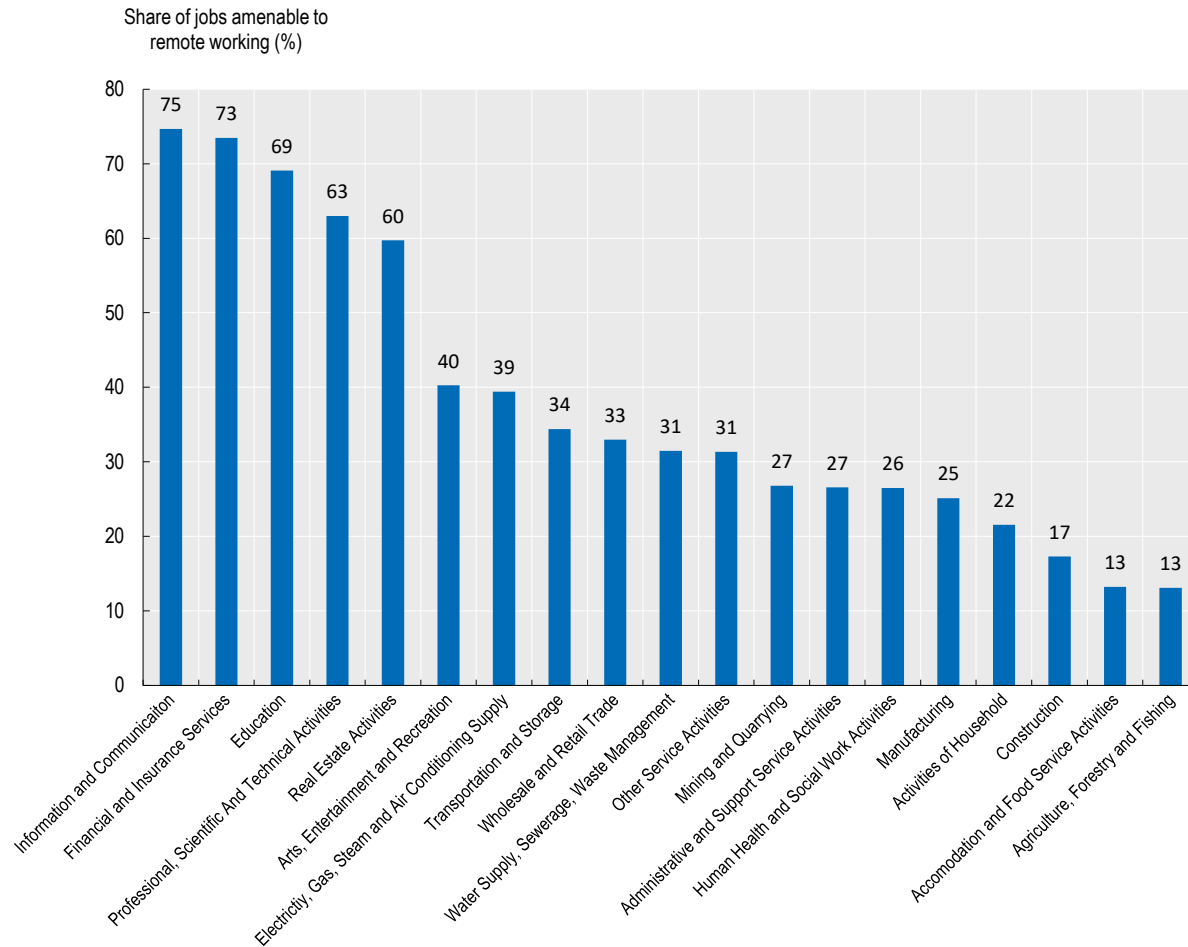
# DX and Occupations



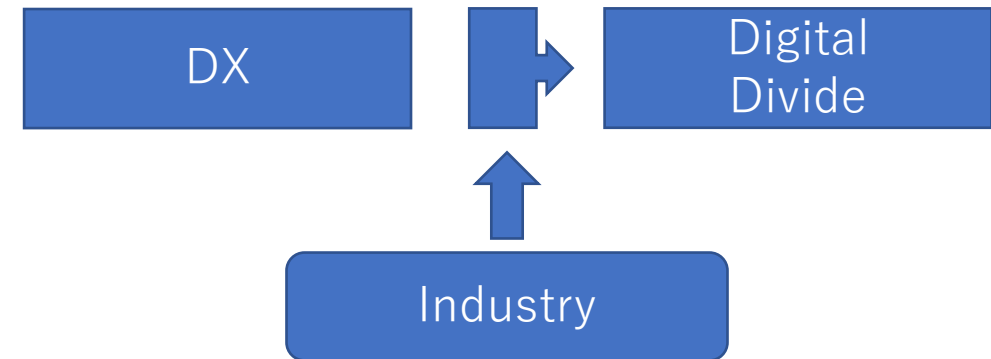
- The percentage of workers amenable to remote working reaches 70% among managers and professionals, but decreases to less than 10% for elementary occupations, skilled agricultural, forestry and fishery workers, and craft and related trades workers.



# DX and Industry

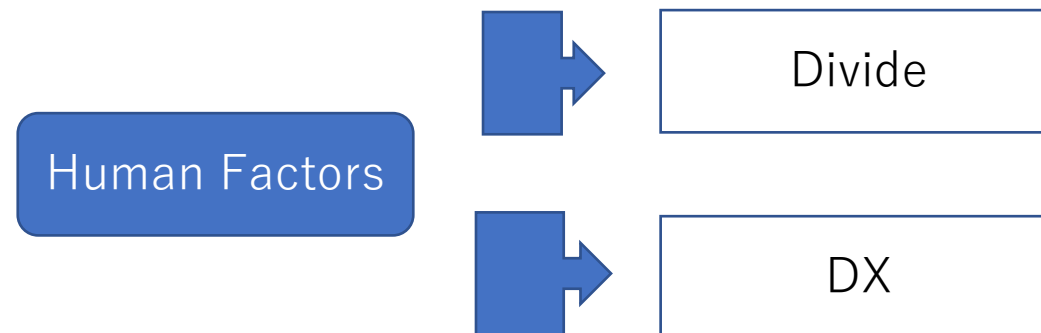


- While 75% of workers employed in the information and communication sector can work remotely, this possibility decreases to less than 20% for workers employed in construction, accommodation and food services activities, or agriculture.
- A particular industry's potential to adopt remote working further depends on the occupational composition of their workers.

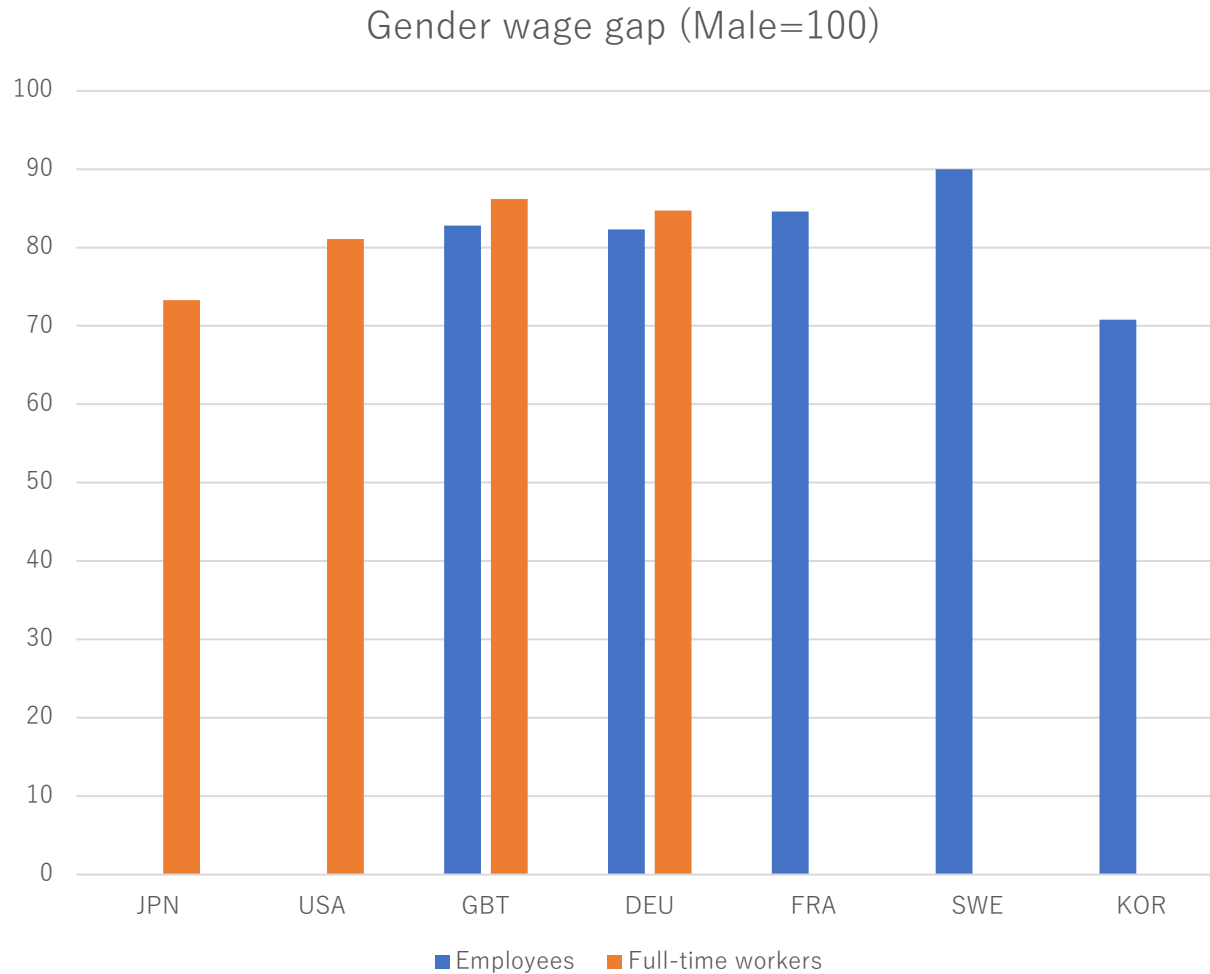


# Not Only Infrastructure, but Also Human

- Japan possesses widespread and high-quality digital infrastructure. According to the OECD, the ratio of optical fiber to fixed broadband in Japan, and the mobile broadband penetration rate (i.e., the number of mobile broadband subscribers per 100 inhabitants) in Japan are among the highest in the world.
- However, Japan's IT human resources are in short supply in quantity. According to a survey by Japan's Ministry of Economy, Trade and Industry, it is estimated that there was a shortage of about 220,000 IT workers in 2018, and it is expected that there will be further shortages in the future.

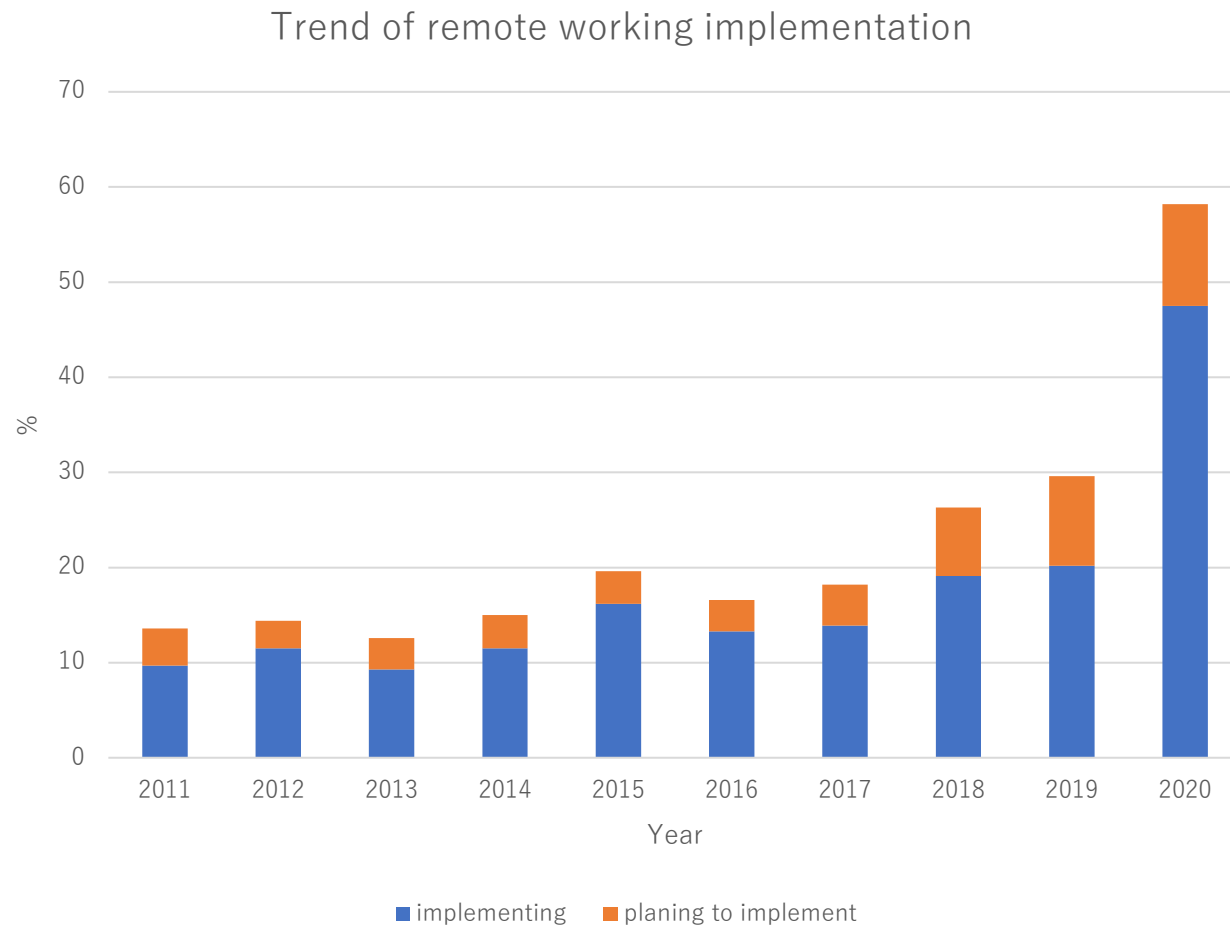


# DX and Gender Divide



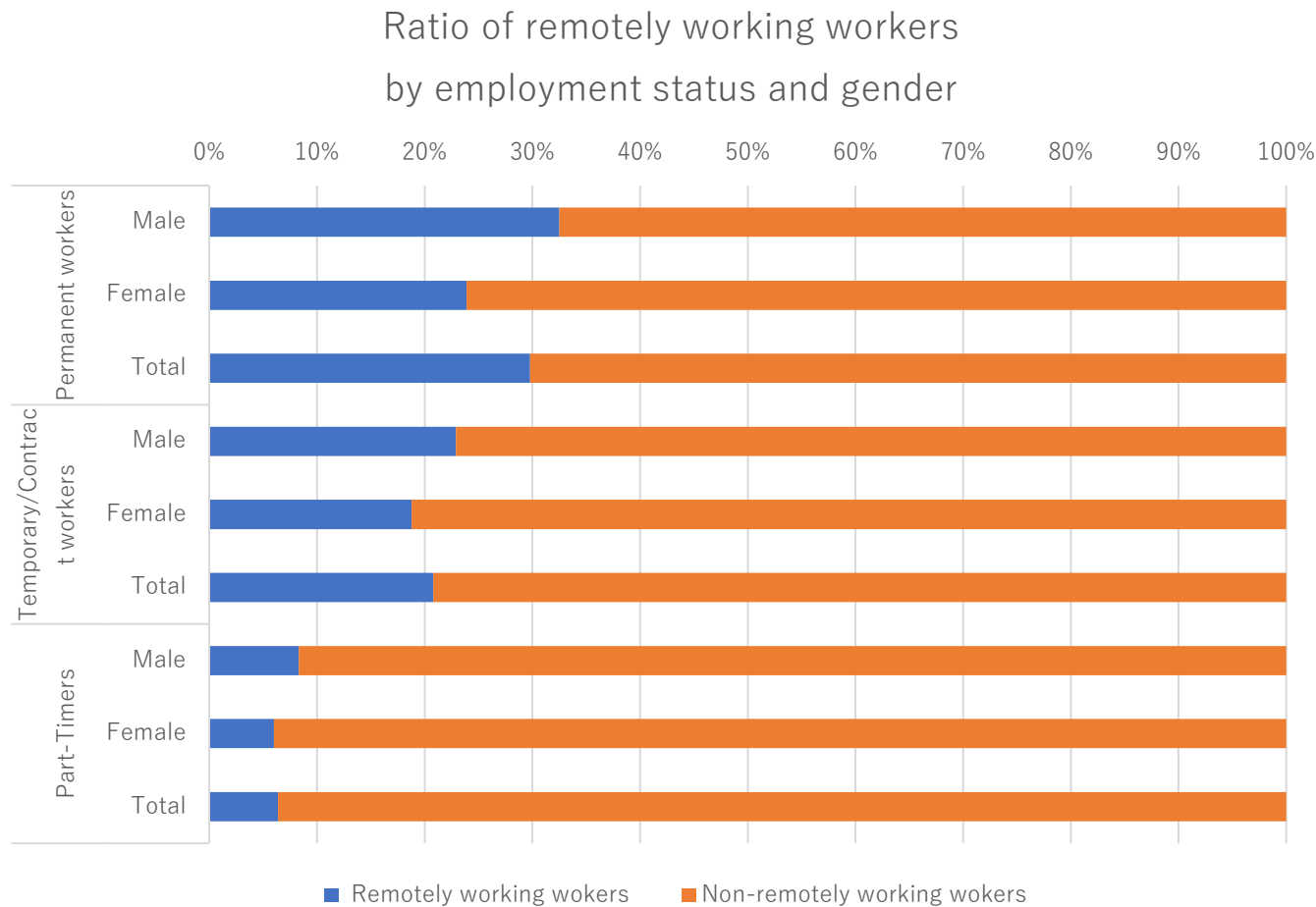
- According to a 2021 OECD survey, the percentage of female students studying STEM (science, technology, engineering, and mathematics) at universities in Japan is at the lowest level among OECD member countries.
- Behind this shortage lies lack of work-life balance and comparatively low wages for female workers in Japan.
- In Japan, average wages for female workers is only 73.3% of average wages for male workers.

# Reality of Remote Working in Japan



- Historically, remote working was not widely implemented in Japan.
- The rate of remote working implementation has been low compared to other developed countries.
- However, it recently spread rapidly as employer responses to COVID-19.

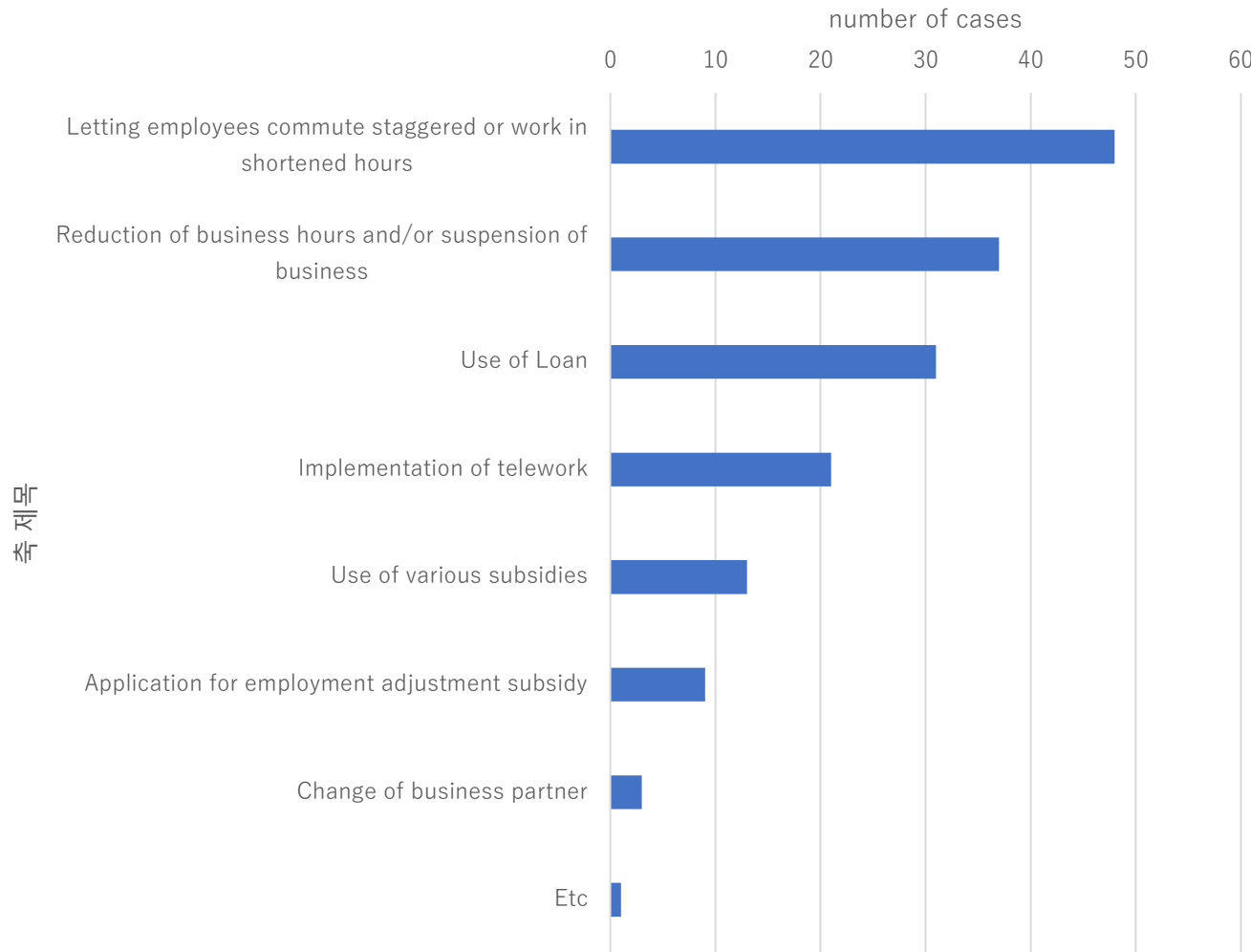
# Gap by Employment Status and Gender



- There is a large gap between permanent workers and part-time workers.
- There also exists a sizable (albeit smaller) gap by gender.
- As a result, the gap broadens to a 26.5% difference between permanent male workers who are working remotely, and part-time female workers who are working remotely.

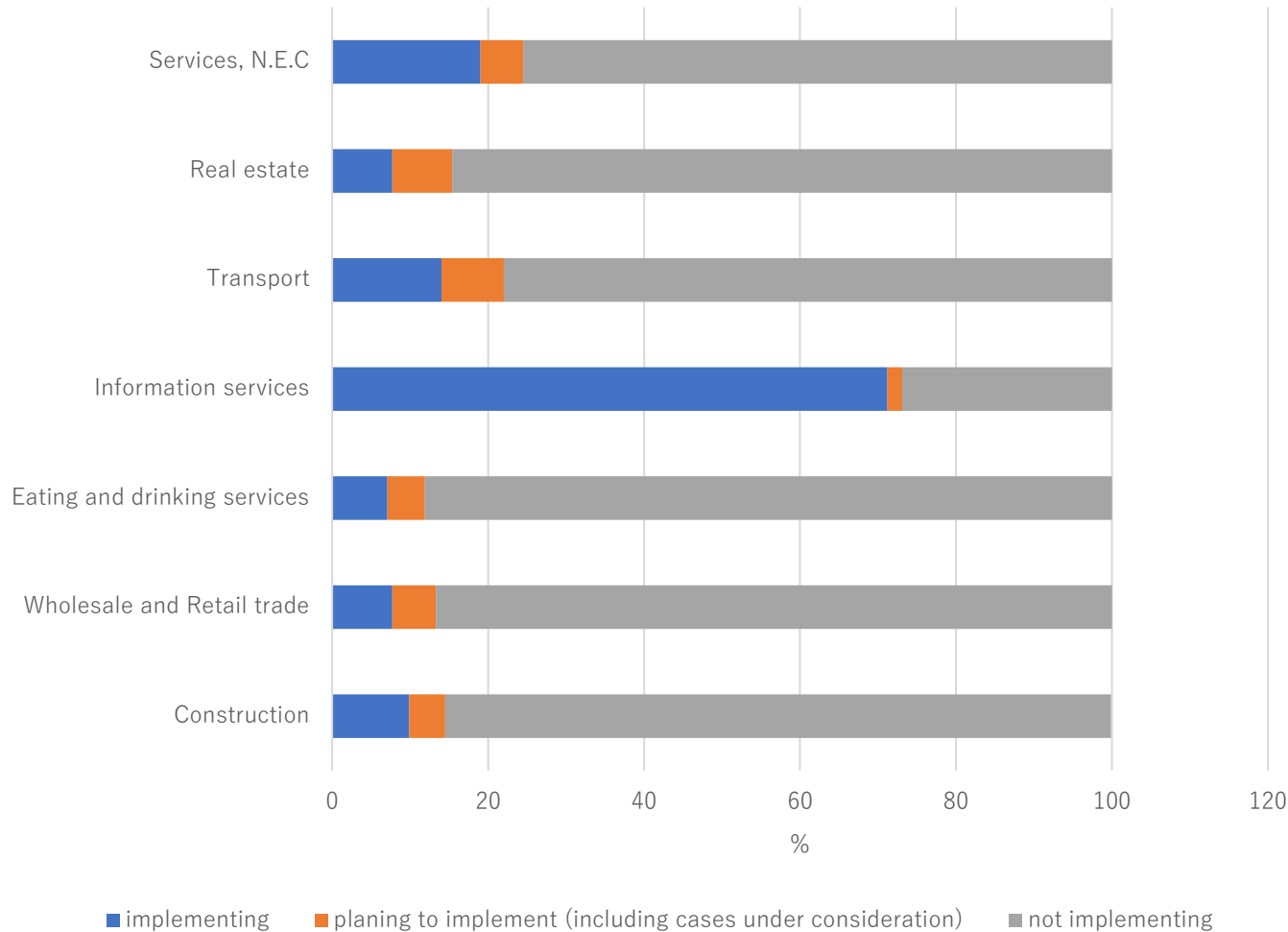


# Gap by Region



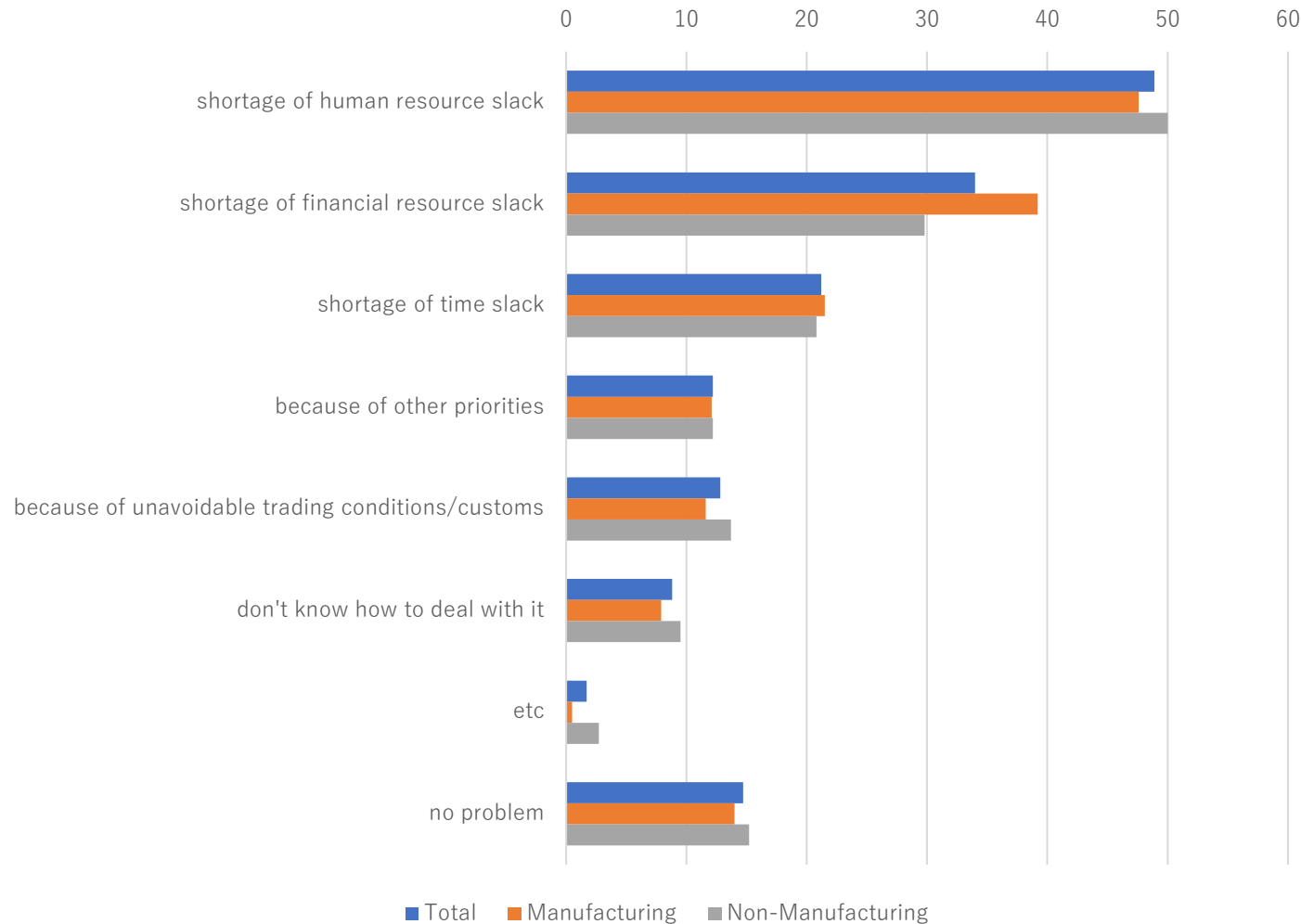
- Although Saitama City is located near Tokyo, the ratio of remote working is low.
- The most prevalent countermeasures for COVID-19 implemented by employers were “reducing working hours and business hours” and “using loans”, while employers that implemented remote working only accounted for 21 cases, 13% of the total.

# Gap by Value Added in Local Area



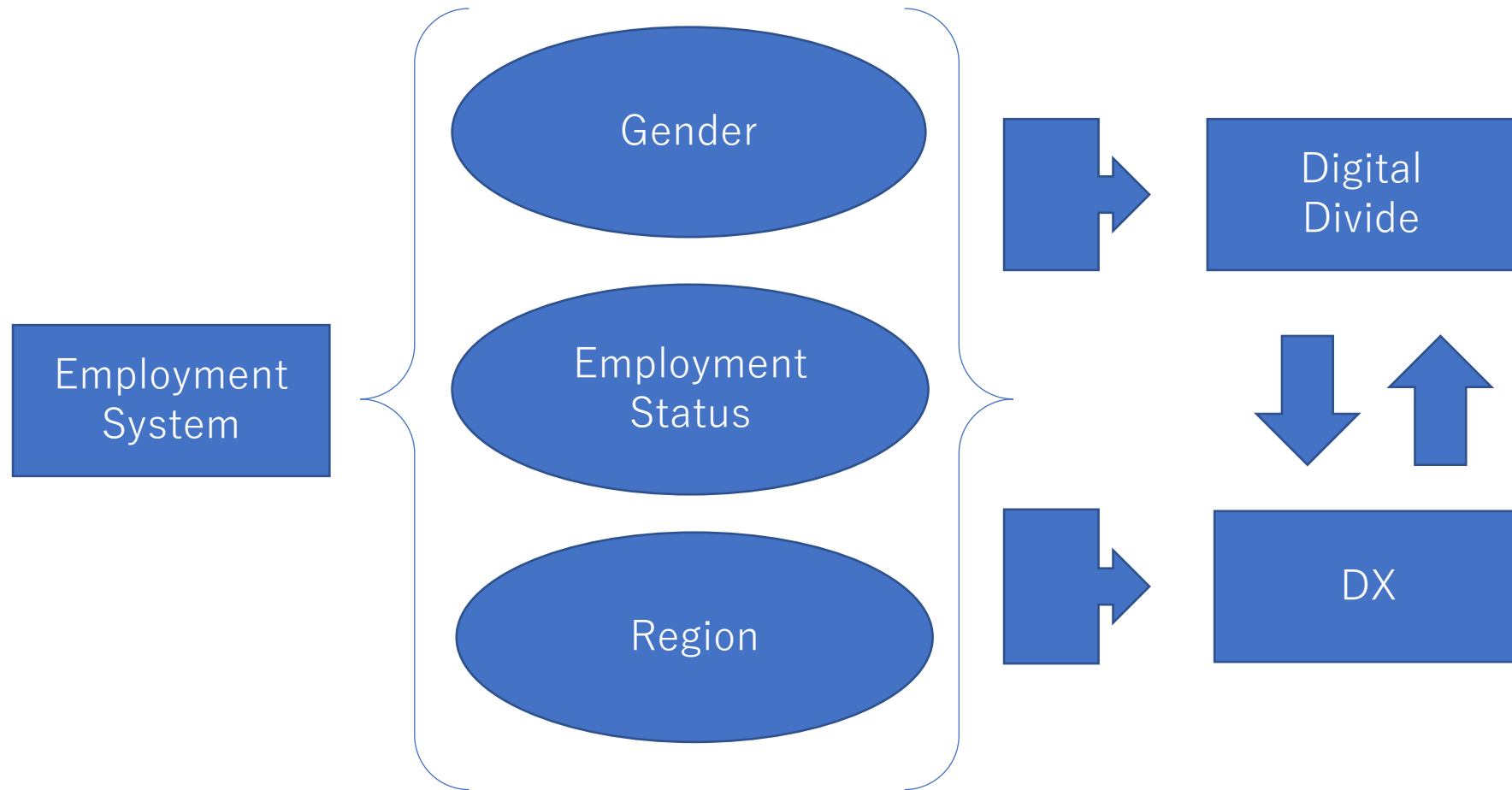
- Although Saitama Prefecture is not a rural area and has the fifth largest economy in Japan, the ratios of remotely working workers are low in most industries, including real estate (7.7%), wholesale and retail trade (7.7%), and hospitality (7.1%), while the ratio in information service industry reaches 71.2%.
- The comparatively low ratios described above reflect relatively low productivity in those industries.

# Gap by Slack(=some degree of leeway)



- In recent years, the labor productivity in Japan has been stagnant, which is related to the “exhaustion of the resources” resulting from the business strategy of labor cost reduction.
- Among the issues noted by managers related to low labor productivity, the shortage of (1) human resource slack, (2) financial resource slack, and (3) time slack occupies a large proportion.
- This shortage of slack comes from the characteristics of Japan’s employment system.

# Employment System and DX



# Potential Solutions

- Most importantly, private enterprises must close the gap between different statuses in employment arrangement, and work on value-added production through integrated HRM.
- Recently, private enterprises implementing integrated HRM have found success by promoting female workers from non-regular hires to regular hires. In that case, such female workers became highly motivated and are working on DX. In the past, they did mostly clerical works, but now they are also in charge of sales, based on data analysis.
- From governmental perspective, policies are urgently needed to (1) incentivize private enterprises to adopt such good practices (e.g., with excellent company recognition and/or tax/subsidy) and (2) popularize such good practices with public announcements and proper consultations.

# A Case Study: Unification of Employment Status

| Employment category | Employment contract | Remuneration   | Job range   | Ceiling of promotion | Defined contribution pension |
|---------------------|---------------------|----------------|-------------|----------------------|------------------------------|
| Sogosyoku-Shain     | Indefinite          | Salary + Bonus | Not limited | None                 | Yes                          |
| Senmonsyoku-Shain   | Indefinite          | Salary + Bonus | Limited     | Yes                  | None                         |
| Mate-Shain          | Definite            | Hourly wage    | Limited     | Yes                  | None                         |

Sogosyoku-Shain: A regular full-time position with the prospect of promotion  
 Senmonsyoku-Shain: A position limited to specific office work, with limited possibilities for promotion  
 Mate-Shain: A position of part-time worker



| Employment category         | Employment contract | Remuneration   | Job range   | Ceiling of promotion | Defined contribution pension |
|-----------------------------|---------------------|----------------|-------------|----------------------|------------------------------|
| Shain<br>(Regular Employee) | Indefinite          | Salary + Bonus | Not limited | None                 | Yes                          |

# Recommendations for Policy Makers

- In the medium to long term, it is important to develop the institutional tools necessary to reduce the gaps, which include not only redistribution policies (e.g., taxes/subsidy) but also social recognition policies (e.g., giving non-regular workers some kinds of social/occupational qualification).
- However, we also urgently need short-term solutions and actions to close the gap between regular and non-regular workers. Social dialogue and “signaling” between labor, management and government should be a core part of such measures.
- For example, if a social consensus can be achieved that the hourly wage of a “core” part-time worker (e.g., a female worker with 5 to 10 years of service working at a supermarket) should be increased to 1500 yen, it will be an effective “signal” to close the social gap.
  - 1500 yen is one step higher than the current average wage for such type of workers, which is barely above the national minimum wage.
- Such consensus that a “core” part-time worker worth one step higher wage can be the starting line for giving non-regular workers some kinds of social recognition.

# References

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