

The Future of Work

To Solve the Labor Shortage Problem (Vol. 8)

June 19, 2025

1. Introduction

Based on concerns about the labor shortage problem, Xymax Research Institute has been releasing a series of reports entitled “To Solve the Labor Shortage Problem” since May 2023. In Volume 1^{*1} and Volume 2,^{*2} we categorized occupations into desk work and non-desk work and pointed out that the supply-demand gap of non-desk workers will widen in the future, i.e., that non-desk work is at the core of the labor shortage problem.

If the labor shortage for non-desk work, which is the backbone of society, continues to intensify, it will become difficult to provide services that were previously taken for granted. This will not only disrupt daily life and corporate activities, but also inevitably develop into serious social problems, such as economic damage.

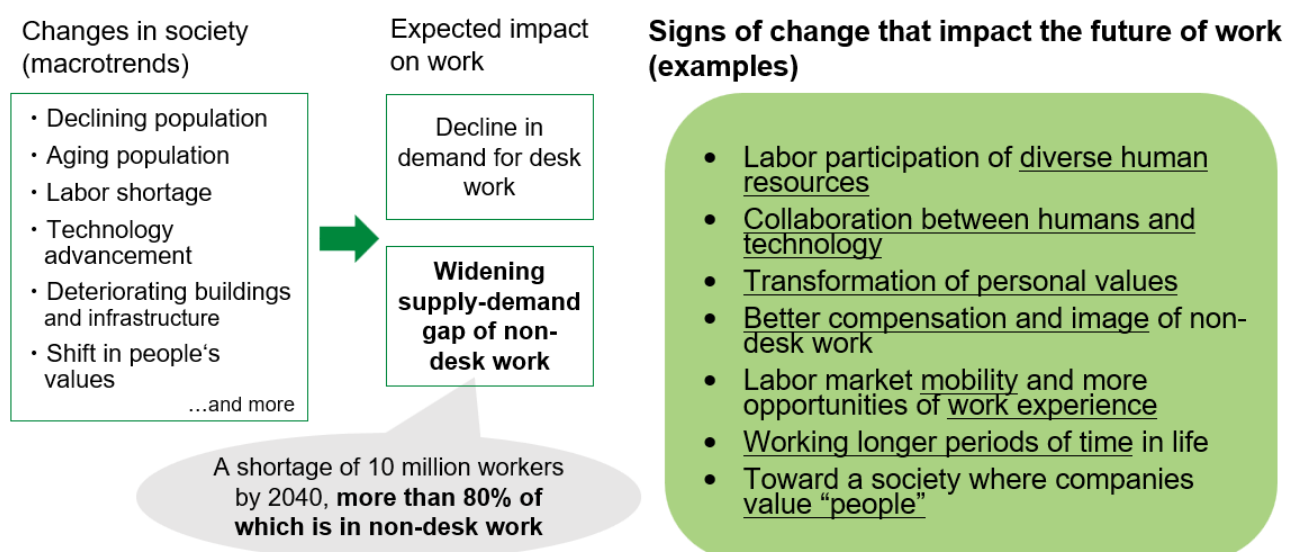
On the other hand, however, we are beginning to see numerous signs of changes in work itself, including non-desk work. In this report, we discuss each of these “signs of change” and explore the path toward a desirable future that will ultimately lead to the evolution of non-desk work and the resolution of the labor shortage problem.

^{*1} To Solve the Labor Shortage Problem (Vol. 1) —The Actual State and Issues of Non-Desk Workers— (May 31, 2023)

https://www.xymax.co.jp/english/assets/pdf/news_research/20230531.pdf

^{*2} To Solve the Labor Shortage Problem (Vol. 2) —How Much of a Shortage Will There Be for Non-Desk Workers?— (December 1, 2023)

https://www.xymax.co.jp/english/assets/pdf/news_research/20231201-2.pdf



2. Changes in Society and Its Impact on Work

Society is currently facing the macrotrends of an aging and declining population and a labor shortage. Meanwhile, technology is advancing, buildings and infrastructure are deteriorating, and people's values are shifting. These social transformations are expected to accelerate and become more complex in the future, significantly impacting the supply and demand of "work."

Specifically, a possible major trend is that the demand for desk work will decrease and the supply-demand gap for non-desk work will widen. According to Xymax Research Institute's estimate,^{*2} a shortage of approximately 10 million workers is expected by 2040, with a large majority (8.19 million) of those shortages occurring in non-desk work areas. In other words, the labor shortage is expected to intensify in jobs that sustain our daily lives on the front lines.

This estimate is based on the assumption that the economic growth rate, industrial structure, and the rate of population decrease will not differ significantly from now. However, when taking into account the exponential effects of technological innovations, it is believed that the demand for desk work will decline more rapidly. For example, according to the World Economic Forum's estimate,^{*3} the impact of digitalization, inflation, and climate change is expected to result in significant differences in growth and decline among job roles. The report predicts that 92 million current jobs, or 8% of total employment, will be displaced by 2030. The job roles predicted to experience the largest decline in absolute terms of volume include clerical and secretarial workers, postal service clerks, bank tellers, and data entry clerks.

Furthermore, according to a research paper published in February 2024,^{*4} the emergence of the generative AI tool ChatGPT has impacted the number of job postings on online job platforms, particularly for writing and software development jobs, which has experienced a significant decrease of up to 30%. Thus, the automation and replacement of desk work is already becoming a reality.

On the other hand, replacing non-desk work takes time because automating such work is difficult due to its large physical component and variety of tasks. Therefore, the demand for non-desk work is expected to remain high, strengthening its presence in future occupational choices. The aforementioned World Economic Forum estimate also lists non-desk job roles, such as farmworkers, delivery drivers, construction workers, and shop salespersons, as occupations that are projected to grow in absolute number of jobs.

Factors that will further widen the supply-demand gap for non-desk work are also piling up. These include the increase in demand for labor-intensive areas centered on personal services due to the aging of the population (e.g., utilities, healthcare, transportation, communication),^{*5} the continuous growth in demand for logistics-related operations due to the spread of e-commerce (EC), and the rise in demand for inspection, repair, and renovation work as buildings and infrastructure constructed during the period of rapid economic growth age en masse. Due to the combination of these factors, the labor shortage in non-desk work is expected to become even more intensified in the future.

^{*3} Source: World Economic Forum. *The Future of Jobs Report 2025* (January 7, 2025)

^{*4} Source: Demirci, Ozge, Hannane, Jonas, Zhu, Xinrong. *Who Is AI Replacing? The Impact of GenAI on Online Freelancing Platforms* (February 21, 2024)

^{*5} Source: Recruit Works Institute. *The Turning Point of the Reiwa Era* (March 27, 2025)

3. Signs of Change

As we have discussed so far, various factors have contributed to the social problem of a shortage of non-desk workers. However, positive signs have also begun to emerge. In this chapter, we examine several of these signs of change and consider how they might affect the future of work and society.

Signs of change that affect the future of work

1. Increased participation of diverse human resources in the labor market, particularly the utilization of foreigner workers
2. Increased collaboration between humans and technology, reducing the burden on non-desk work
3. A shift in values that emphasized desk work and working in urban areas, resulting in changes to the criteria for job selection
4. Better compensation for non-desk work, leading to an improvement in its image and social status
5. Increased labor market mobility, resulting in more opportunities to experience unfamiliar occupations
6. Working longer periods of time in one's life, making it more common to move between multiple jobs
7. Companies focusing on measures emphasizing "people," resulting in more job options and forms of employment

1. Labor participation of diverse human resources

One ongoing measure to address the shortage of non-desk workers is increasing the labor participation of a wide range of workers. An environment is being developed to encourage people who in the past were underrepresented in the labor market, such as women, the elderly, foreigners, and people with chronic illnesses and disabilities, to play an active role.

Foreign workers, in particular, are expected to become a future labor force, and the government and companies have launched a series of employment support measures. For example, the government plans to implement a system reform that would make it easier for companies to hire foreign workers by expanding the number of sectors that can accommodate the "specific skill"*⁶ residence status from the current 16 to 19 by 2027. Companies' initiatives include collaborating with Japanese language institutions overseas to recruit locally and providing support for accepting foreign workers in terms of both employment and daily life after they arrive in Japan. This support includes providing company dorms, assisting with opening of bank accounts, and offering Japanese training and support for obtaining qualifications.

*6 A residence status that allows foreign workers with certain expertise and skills in certain industrial sectors, where it is difficult to find labor in Japan (non-desk job sectors)

2. Collaboration between humans and technology

Motivated by labor shortages and rising personnel costs, collaboration between humans and technology has advanced in various workplaces. In recent years, technology such as robots and AI has gained attention

as a means of both achieving work efficiency and effectively using human resources.

For example, in the security industry, an environment is being developed where security systems are enhanced by combining devices, such as security robots and drones, with AI image analysis, enabling humans to focus on safer, and higher-value added work, such as remote monitoring and visitor management. In addition, “physical AI,” which combines AI technology and robotics to autonomously make judgments and take action in physical environments, is being used in areas such as manufacturing, distribution, retail, healthcare, and disaster prevention. It is increasingly being used to complement humans rather than replace them.

The use of technology in non-desk job areas is notable for its ability to reduce the burden on humans by partially automating heavy labor, hazardous work, and mentally demanding tasks (e.g., handling complaints, working the night shift as a security guard). This will create an environment that makes it easier for the elderly and persons with disabilities, who faced physical limitations to work, and foreign workers who faced language barriers, opening the door to non-desk work for more people.

3. Changes in the criteria for job selection due to shifts in values

Due to societal changes, personal values have rapidly become diverse. Young people, in particular, favor values that emphasize contributing to society through work and placing more emphasis on private life than on economic success. The idea that joining a large company would set you up for life, which was the had supported the superiority of desk work, is becoming a thing of the past.

The shift in values has caused changes in the job selection criteria, resulting in more people becoming interested in non-desk work.^{*7} The factors behind this includes the reacknowledgement of the importance of essential workers during the pandemic, the increased appeal of having marketable skills due to uncertain social conditions, and the recognition that, unlike desk jobs, which are concentrated in urban centers, jobs are available anywhere nationwide. According to a survey,^{*8} Generation Z (“Gen Z”) is more oriented toward their local areas than the older generation, with more than 50% of Gen Z seeking employment locally rather than moving to cities. For this group, non-desk work will be viewed as an attractive option.

The government has also positioned regional revitalization as a national issue and revised laws to promote living in two areas.^{*9} An environment is being developed that facilitates the involvement of desk workers from urban areas in non-desk work in rural areas. These trends will lead to the reconfiguration of urban and regional labor structures, contributing to a freer and more diverse selection of occupations.

^{*7} Source: Xymax Research Institute. *Interest in Non-Desk Work as Shown in the Office Worker Awareness Survey—To Solve the Labor Shortage Problem (Vol. 5)*— (January 8, 2025)
https://www.xymax.co.jp/english/assets/pdf/news_research/20250108_1.pdf

^{*8} Source: Boku to Watashi and. Inc. *Survey on Love for One’s Local Area* (June 6, 2025)

^{*9} Ministry of Land, Transport and Tourism. *Act to Amend Part of the Act on Infrastructure Development for Wide-Area Regional Revitalization*

4. Better compensation and image of non-desk work

In Japan, years of deflation have suppressed labor costs and created a rigid structure in which some types of non-desk jobs force workers to accept low wages, harsh working environments, and unstable

employment conditions. However, due to recent inflation and a serious shortage of workers in non-desk areas, wages are rising and compensation is improving. This is changing the image and social status of non-desk work.

In the United States, young people are already beginning to support the choice to become welders, plumbers, and other professional workers through vocational training schools against the backdrop of a surge in university education fees, rising wages in the construction sector, and an acceleration of layoffs in the IT sector.^{*10} Similarly, Japan is seeing rising costs passed on to prices and wage increases in many non-desk work areas, such as construction, distribution, and nursing care. This may result in a reduction of the wage gap between desk and non-desk work.

Progress is also made on institutional worker protection. For example, the overtime work limit imposed in 2019 exacerbated the shortage of non-desk workers (the “2024 problem”), yet it also reduced the risk of workers being forced to work long hours. More attention is being paid to the working environment, as work involving high risks of customer harassment and disease transmission was added to the scope of workers’ compensation certification in 2023. The 2024 Basic Policy on Economic and Fiscal Management and Reform clearly states that the government will strengthen measures against customer harassment, pressuring companies to respond. These societal changes will reduce the burden on non-desk work, transforming it from “shunned work” to “chosen work.”

^{*10} Source: Wall Street Journal. *How Gen Z Is Becoming the Toolbelt Generation* (April 30, 2024)

5. Increased labor market mobility and work experience opportunities

Japan’s labor market has become more mobile than ever before due to the combination of an activated career transition market, the deregulation of side and dual jobs, and the growth of spot work. This increase in mobility encompasses not only movement between companies but also between different types of work, such as desk and non-desk jobs.

In view of the expected decrease in demand for white-collar jobs due to the advancement of digitalization the government has issued a policy supporting clerical workers’ transition to manufacturing or construction jobs.^{*11} For example, the Ministry of Health, Labour and Welfare’s support system for job seekers provides free job training and livelihood assistance to workers looking to change industries. Additionally, the Human Resource Development Support Subsidy (Human Resource Development Support Course) covers training costs and wages during training periods when companies provide their employees with training to acquire new skills. These programs are the foundation for encouraging desk-work personnel to change job types.

Many private matching services have also emerged, such as Shigoto-Ryokou and Otetsutabi. These services provide short-term job experience, solving the conventional problem of having no opportunity or time to try out other jobs once employed. These services reduce the psychological burden of venturing into different industries or job types and promote flexible career development.

^{*11} Source: Cabinet Secretariat. *Grand Design and Action Plan for a New Form of Capitalism 2024 Revised Version* (June 21, 2024)

6. Working longer periods of time in life

As the healthy life expectancy of Japanese people increases, continuing to work into old age has become a realistic option for many people due in part to concerns about the pension system. In general, desk workers in companies face career discontinuation upon retirement and limited opportunities to leverage their knowledge and experience gained at the company after retirement. Meanwhile, since non-desk workers, i.e., those with marketable skills, can accumulate experience regardless of age, the ability to work for long periods of time throughout one's life will be a relative appeal point. Technological innovation is expected to reduce the physical demands of work, further expanding the range of non-desk jobs available to the elderly.

In today's rapidly changing society, it is unrealistic to stay in the same job for life, and it will likely become common for one person to move back and forth between multiple jobs. An increase in the number of "portfolio workers," who are not dependent on companies and earn income by combining multiple jobs, will result in an increase in labor input, even in a society with a declining population. This will alleviate labor shortages.

7. Toward a society where companies value "people"

In order to maintain competitiveness, companies are under pressure to switch to a people-centered management style. In addition to improving compensation and working environments, companies are expected to serve as a place that assists employees with career building by developing education and training programs and a place where individuals can demonstrate their abilities. Older industries and companies that cannot adapt to these changes will be eliminated, while highly adaptable businesses will remain, thereby increasing the productivity of the entire market and overcoming the structural social problem of labor shortages.

Additionally, to address the diversification of the workforce, companies will start offering a wide variety of jobs, employment types, and work styles to accommodate a diverse range of people, instead of forcing people into uniform jobs and employment as in the past. Flexible work styles, such as reduced working hours and teleworking, have become important options for job seekers with various needs, including those with physical or health issues and those seeking to balance work with childcare or nursing care responsibilities.

There are also more options for employment types. For example, there have been attempts to introduce full-time positions combining half a day of non-desk work with half a day of desk work for seniors who have retired from desk work. For seniors who have only done desk work during their careers, this type of employment lowers the psychological barrier to venturing into non-desk work and encourages them to take on the challenge of a second work life.

4. Summary

The various signs of change discussed in this report promote the evolution of non-desk work and the improvement of the industrial structure. These changes will also drive fair compensation for labor and improve the image and social reputation of non-desk jobs. Accordingly, we believe that society will respect non-desk work as essential, which will make it more attractive to workers due to an increase in psychological rewards.

At the same time, it is crucial for companies to evolve as well. In recent years, human capital management has received attention, leading to a trend that values human resources as capital from a corporate management perspective. Going forward, the time will come when valuing workers in the true sense of the word will be directly linked to competitiveness. In a future with labor shortages, it will be even more important for companies to be chosen by workers, rather than the other way around. Companies are expected to genuinely support their employees' happiness and function as places where they can build better lives.

To address the inevitable social issue of a shortage of non-desk workers, society, companies, and individuals must all work for change from their respective standpoints. In order to realize a "Sanpo Yoshi" future (good for all three parties), the signs of change discussed here will not be enough. We believe that more diverse changes will occur in the future and that these changes will accelerate. Xymax Research Institute will continue conducting surveys and research that will provide insights into the future of work, while keeping abreast of such changes, and disseminate them to society.

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