

Relationship between Flexible Workstyles and Productivity

Encouragement of reforms to facilitate workers to work

December 26, 2019

Introduction: The Objective of this Topic Report

Companies' awareness toward workstyle reforms is shifting to reforming how to facilitate employees to work as companies become more "worker-oriented," placing emphasis on improving workers' work environment and private life. In the process, companies have been promoting flexible workstyles that are not bound by time or place. Such new workstyles, as represented by telework, are bringing diverse changes to the workplace, which had traditionally been uniform.

However, we wonder if it is individual workers alone that enjoy the advantages brought about by such flexible workstyles. While it is not difficult to imagine that improving the private and work life of workers would lead to their greater engagement toward the company and motivation toward work as well as raising productivity and reducing employee turnover rates, it is difficult to quantify the benefits that are returned to the companies. In a survey of companies^{*1} conducted by Xymax Real Estate Institute, 38.8% of the companies replied that unclear cost effectiveness was a concern or obstacle in carrying out workstyle reforms or developing a work environment, while 24.5% cited difficulty in setting KPIs as a concern. Such concerns of companies may be hindering the increase of flexibility in workstyles.

To prove that flexible workstyles—flexible locations in particular—are beneficial not only to the workers but also to companies, in this Topic Report we conducted a multifaceted analysis of the results of a survey of companies and an office worker survey.^{*2} Chapter 1 describes the gap between companies and workers by comparing their situations and awareness toward workstyles, and identifies current issues. Chapter 2 focuses on productivity improvement as a benefit to companies and presents a statistical analysis of how telework affects the benefits to individual workers and to companies. Based on these results, we hope to provide an insight into the kind of environment companies should provide so that their workers can work productively, i.e., clues to reforms to facilitate workers to work.

^{*1} *Metropolitan Areas Office Demand Survey Autumn 2019*, conducted in October 2019. The analysis of this Topic Report only targets companies located in Greater Tokyo in order to align the conditions with the Office Worker Survey.

<https://www.xymax.co.jp/english/research/images/pdf/20191127.pdf>

^{*2} *Greater Tokyo Office Worker Survey 2019 (Part 2)*, conducted in October 2019.

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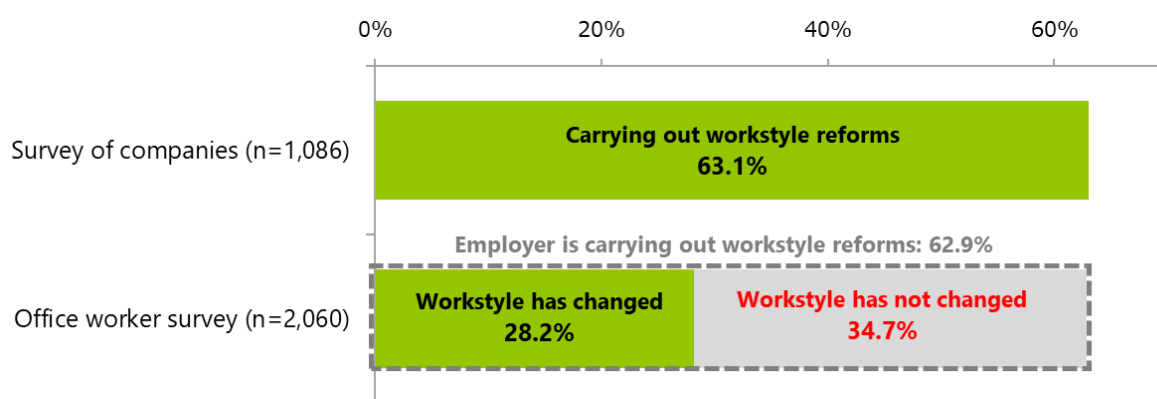
1. Gap between Companies and Workers on Workstyles

1-1. Gap related to workstyle reforms

In Chapter 1, we will compare the situations of companies and workers concerning workstyles. In the survey of companies, we asked the companies whether they carried out workstyle reforms, to which 63.1% of the companies replied that they did so (**Figure 1**).

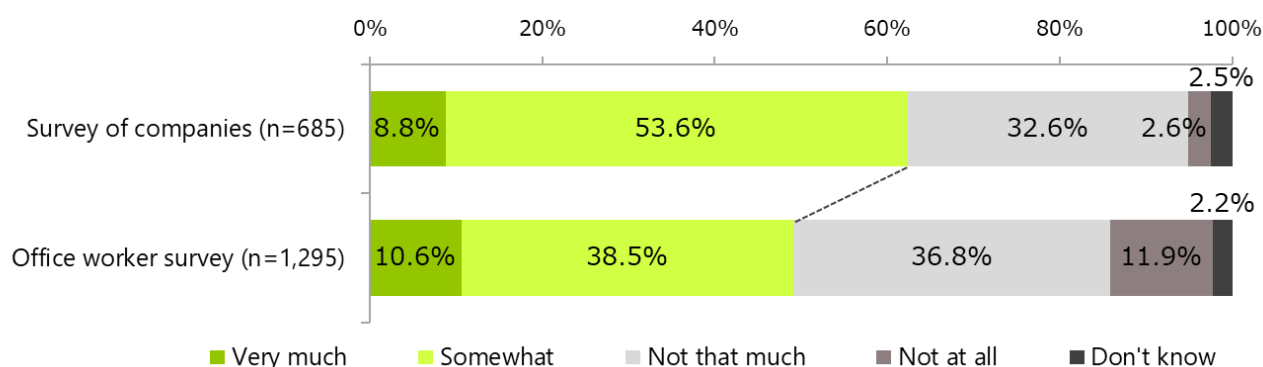
In the office worker survey, we asked office workers whether their employer carried out workstyle reforms and about the actual changes in their workstyles. The percentage of the workers who replied that their employer was engaged in workstyle reforms was 62.9%, roughly equivalent to the percentage in the survey of companies. As for the breakdown, however, only 28.2% of the workers replied that their workstyle had changed, while 34.7% replied that there was no change.

Figure 1: Initiatives in Workstyle Reforms (Companies and Workers)



Of the companies engaged in workstyle reforms, 62.4% felt the effect of the reforms (the sum of companies that felt an effect "very much" and "somewhat") (**Figure 2**). On the other hand, the percentage of workers whose employer was carrying out workstyle reforms and who felt the effect of the reforms was 49.1% (the sum of workers who felt an effect "very much" and "somewhat"), slightly less than companies.

Figure 2: Whether Respondents Felt the Effect of Workstyle Reforms (Companies and Workers)



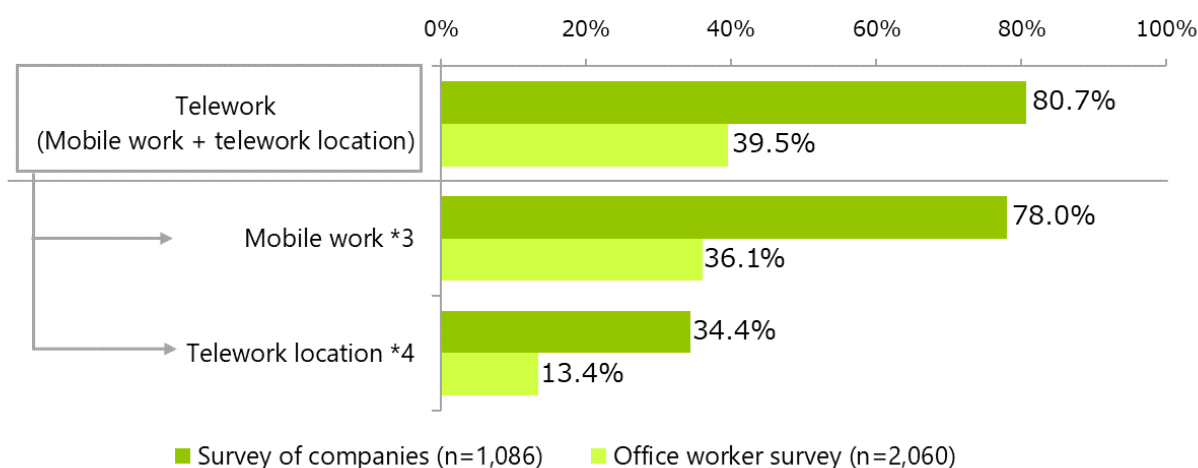
1-2. Gap in telework introduction rate

In this section we compare initiatives in telework. In the surveys, we asked both the companies and office workers their introduction of telework-related measures, which can be broken down into three mobile work measures^{*3} and three telework location measures.^{*4} We added up the percentages of respondents who carried out any of the six measures as the telework introduction rate. The introduction rate among companies was 80.7%, more than double that among workers of 39.5% (**Figure 3 (top row)**).

*3 "System enabling workers to check emails and schedules anywhere with a smartphone, mobile PC, etc. (mobile work)," "system enabling workers to work outside the office in the same network environment as the office with a smartphone, mobile PC, etc. (mobile work)," and "providing employees with IT devices such as smartphones, mobile PCs and tablets to enable mobile work."

*4 "Work-from-home program," "serviced office or shared office provided by a specialized operator," and "satellite office or other similar facility owned or rented by own company."

Figure 3: Telework Introduction Rate (Companies and Workers)



The introduction rates of "mobile work" and "telework location" (**Figure 3 (lower two rows)**) indicated that 78.0% of the companies and 36.1% of the workers had introduced mobile work, which was a similar result as the introduction rate of telework, while only 34.4% of the companies and an even smaller percentage of workers (13.4%) had introduced a telework location.

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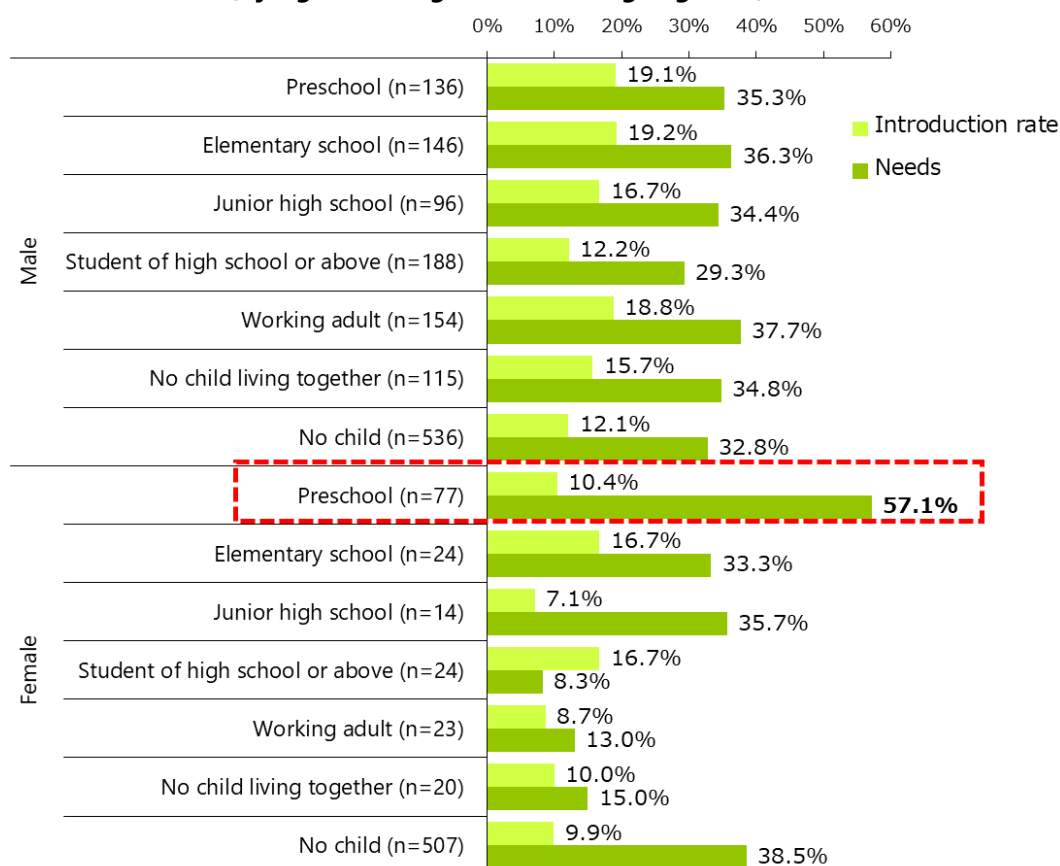
Gap between telework introduction rate and needs of female workers raising a child

In the office worker survey we asked not only about the introduction of telework but also the needs for telework. When we compared the introduction of telework and the needs by attribute of respondents, we found a distinctive characteristic in the telework location by the age (from preschool to working adult) of the child (youngest child if more than one) living with the respondent.

The result is shown in **Figure 4**. The introduction rate among female workers was generally low, regardless of the age of the youngest child living with the respondent. The gap between the introduction rate and the percentage of workers requiring telework was the largest among female workers living with a preschool child, with the introduction rate at 10.4% and the requirement rate the highest at 57.1%. The development of telework programs or systems seems to be lagging behind the needs of workers raising a preschool child (especially women, who tend to bear most of the burden of childcare), although working from a flexible office^{*5} or from home is recognized as necessary for workers to balance work and childcare.

^{*5} Flexible office: In this report, a flexible office refers to a serviced office or shared office provided by a specialized operator, or a satellite office or other similar facility owned or rented by the company.

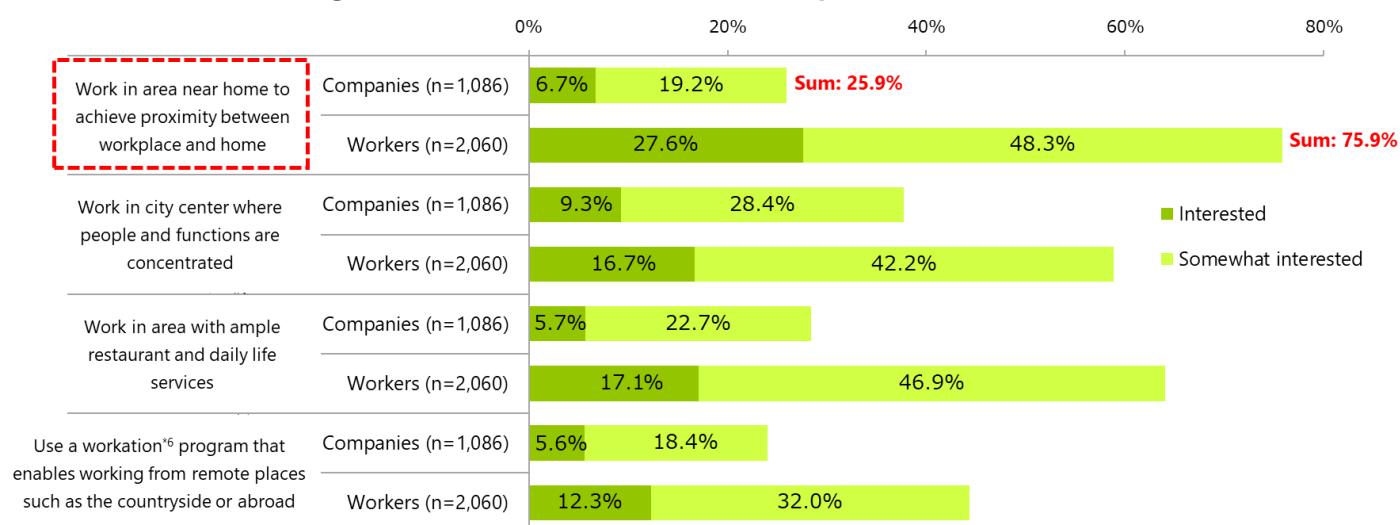
**Figure 4: Introduction Rate and Needs for Telework Location
(By Age of Youngest Child Living Together)**



1-3. Gap between interest in work location

We then compared respondents' interest in the location of work. **Figure 5** indicates the percentage of "interested" and "somewhat interested" ratings out of the four ratings of "interested," "somewhat interested," "not that interested," and "not interested" for the following four items common to the survey of companies and the office worker survey: "work in an area near home to achieve proximity between workplace and home," "work in the city center where people and functions are concentrated," "work in an area with ample restaurant and daily life services," and "use a workation*⁶ program that enables working from remote places such as the countryside or abroad." Workers generally had a greater interest in work locations than companies, with the largest gap seen in "work in an area near home to achieve proximity between workplace and home" (workers: 75.9%; companies: 25.9%).

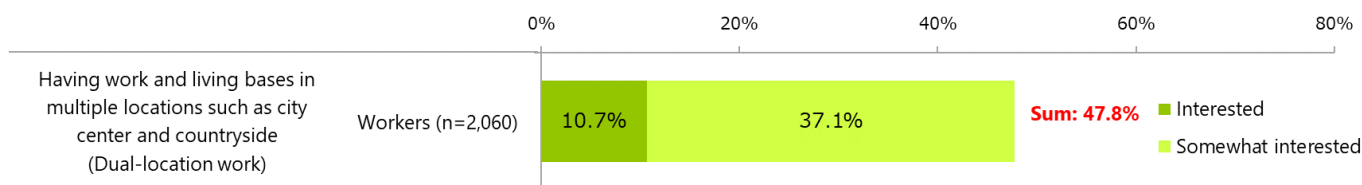
Figure 5: Interest in Work Location (Companies and Workers)



*⁶ Workation: A portmanteau of working vacation, meaning to work from a travel destination, etc.

We also asked office workers about their interest in "dual-location work" (a work/life style of being based in multiple locations such as the city center and the countryside), a more advanced workstyle than telework (**Figure 6**). As much as 47.8% of the workers were interested, which indicate a diversification of values toward workstyles.

Figure 6: Interest in Dual-location Work (Workers)



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The effect of commute time and commuting stress on office workers

In the Greater Tokyo Office Worker Survey 2019 (Part 1),^{*7} we focused on the commute of people working in Central Tokyo and analyzed the effect of stress from long commutes on the workers. The following are the results of the analysis.

^{*7} Refer to the existing reports below for details of the Greater Tokyo Office Worker Survey 2019 (Part 1) conducted in February 2019.

Figure 7: *Effect of Commuting Stress on the Working People's Satisfaction*

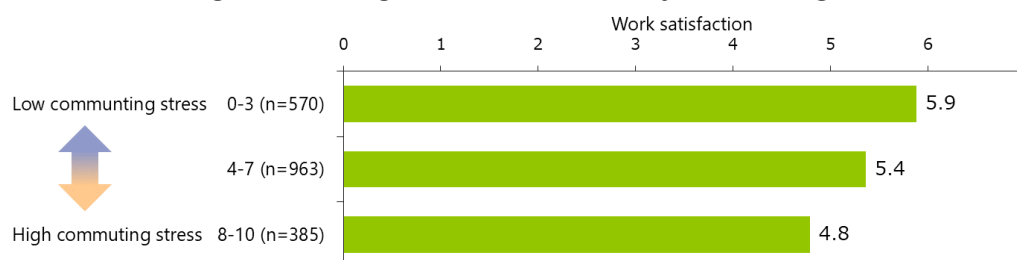
<https://www.xymax.co.jp/english/research/images/pdf/20190604.pdf>

Figure 8: *The Effectiveness of Setting Up a Workplace Other than in Central Tokyo*

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We first focused on the relationship between commuting stress and work satisfaction. In the survey, we asked respondents to evaluate their commuting stress and work satisfaction on a 11-level scale from 0 (minimum) to 10 (maximum) and calculated the average work satisfaction level for each of the three respondent groups classified by commuting stress (0–3, 4–7, 8–10) (**Figure 7**). The result indicates that less commuting stress leads to greater work satisfaction; the average work satisfaction level of the group with a commuting stress level of 0–3 (5.9) was higher than that of the group with a commuting stress level of 8–10 (4.8) by 1.1 points (or approximately 23%).

Figure 7: Average Work Satisfaction by Commuting Stress



We then analyzed the psychological effect of commute time on workers. **Figure 8** shows the relationship between commute time from home to the workplace^{*8} and the percentage of workers who feel they enjoy working every day. More asterisks mean that the effect is more statistically significant. Figures below zero mean that the commute time has a negative effect on the percentage of workers who feel they enjoy working every day. A negative effect starts to appear from a commute time of 35 minutes, with the negative effect becoming more significant for a commute time of 45 minutes or more.

^{*8} Door-to-door commute time (one way) between home and workplace using the respondent's usual means of commute (e.g. train, bus, car, bicycle, foot).

Figure 8: Effect of Commute Time on Percentage of Workers Who Feel They Enjoy Working Every Day

Commute time	Enjoy working every day
20 min or more	-0.079
25 min or more	-0.116
30 min or more	-0.095
35 min or more	-0.239 *
40 min or more	-0.243 *
45 min or more	-0.341 ***
(Ref.) 60 min or more	-0.344 ***

*p<0.1; **p<0.05; ***p<0.01 (n=1,593)

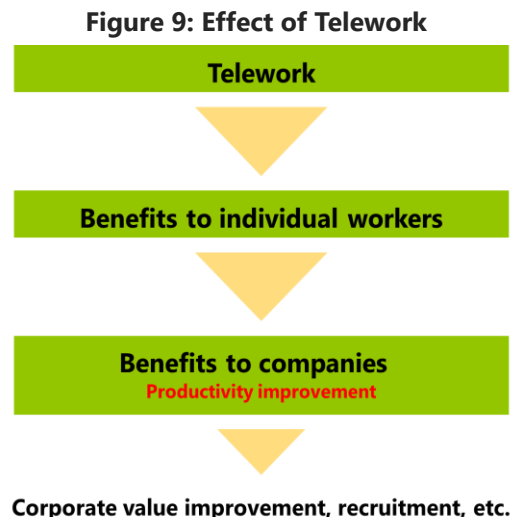
The above two results indicate that the burden of commute has a negative psychological effect on workers' satisfaction and engagement.

2. Effectiveness of Having Multiple Options for Workplaces

2-1. Relationship between telework and productivity improvement (office workers)

In the previous section we identified that commute time and commuting stress has a negative impact on workers. Then, does telework, which is considered to reduce commute time and stress, have a positive effect on workers? In this section we analyze the results of the office worker survey^{*2} to examine the relationship between telework and the benefits enjoyed by individual workers and productivity improvement, which we have defined as “positive effects.”

Since the survey targeted workers working in a company or an organization, productivity improvement can be considered as a benefit enjoyed not by individual workers but by their employers (**Figure 9**). However, if we can identify a relationship between productivity improvement and the benefits to individual workers, it may act as proof of the rationality of a “worker-oriented” company management that respects individual worker’s work convenience and private life.



We began by examining the relationship between telework (working from a flexible office or home) and the percentage of workers who felt the benefits^{*9} of telework.^{*10} The results are shown in **Figure 10**. Asterisks mean that the result is statistically significant and figures above zero mean there is a positive effect. The results indicate that working from a flexible office or home raises the probability of workers feeling the benefits.

^{*9} We extracted the following four benefits from the reply choices for the question asking workers the specific effect they felt from workstyle reforms: “improved work-life balance,” “greater well-being,” “rectified long work hours,” and “satisfaction in the current workstyle.”

^{*10} Figures 10, 11, and 13 are the results of logistic regression analyses after replacing both independent and objective variables with a dummy variable (0, 1). Details are provided at the end of this report.

Figure 10: The Effect of Telework on the Percentage of Feeling Benefits (Office Worker Survey)

		Objective variable			
		Satisfied or somewhat satisfied in workstyle	Feel improvement in work-life balance	Feel greater well-being	Feel rectified long work hours
Independent variable	Working from flexible office	0.1578 **	0.1652 **	0.1482 **	0.1900 ***
	Working from home	0.3034 ***	0.3294 ***	0.2506 ***	0.1160 *
	Gender ^{*11}	0.0233	0.0355	0.1164	-0.0783
	Age ^{*11}	0.1562 **	-0.0391	0.1956 ***	0.0782
	Number of employees at workplace ^{*11}	-0.1279 **	0.1309 **	0.0592	-0.0148

*p<0.1; **p<0.05; ***p<0.01 (n=1,135)

^{*11} Each coefficient can be deemed to be eliminated of the effect of elements such as the worker’s gender, age, and number of employees at his/her workplace, since this method is meant to eliminate the effect of other independent variables and to indicate only the effects of each independent variable. The same applies to Figures 11 and 13.

Figure 11 is the relationship between the four benefits to individual workers and whether the worker felt an improvement in productivity. The result indicates that “satisfaction in the current workstyle,” “improved work-life balance,” and “greater well-being” have a positive effect on the probability of workers feeling an improvement in productivity, while “rectified long work hours” has a negative effect.

Figure 11: The Effect of Benefits on the Percentage of Feeling an Improvement in Productivity (Office Worker Survey)

		Objective variable
		Feel productivity improvement
Independent variable	Satisfied or somewhat satisfied in workstyle	0.3614 ***
	Feel improvement in work-life balance	0.3042 ***
	Feel greater well-being	0.2171 ***
	Feel rectified long work hours	-0.1917 **
	Gender	-0.2754 ***
	Age	-0.0731
	Number of employees at workplace	-0.1019

*p<0.1; **p<0.05; ***p<0.01 (n=1,135)

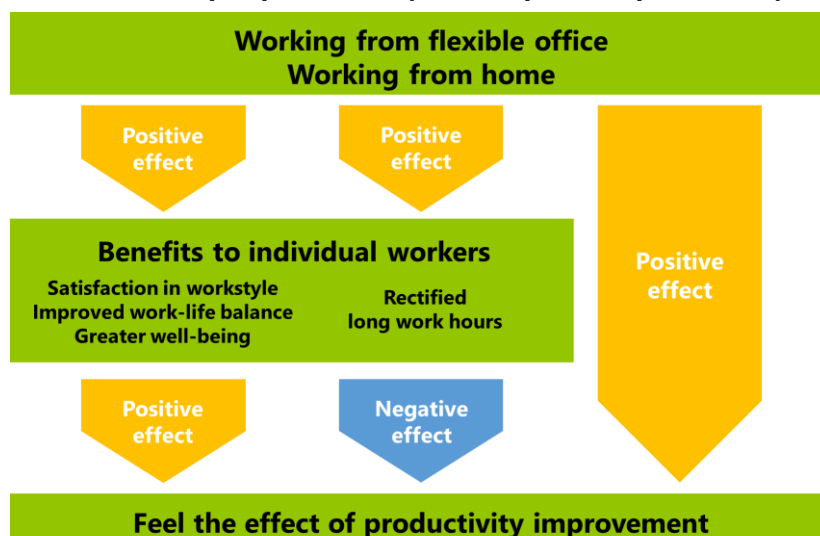
In summary of the above two analyses, while telework seems to be effective in rectifying long work hours, rectifying long work hours do not seem to contribute to greater productivity. On the other hand, we identified that satisfaction in the workstyle, improved work-life balance, and greater well-being are effective in improving productivity.

Rectifying long work hours is an urgent issue that the Japanese society must tackle. Amid government-led initiatives such as revisions to the law, many companies have set their goal of workstyle reforms to reducing overtime work. However, it has often been pointed out that simply shortening work hours may lead to a drop in productivity. This concern seems to be consistent with how workers feel about productivity improvement. In workstyle reforms it is necessary to carry out initiatives that utilizes the time generated from reduced overtime to improve individual worker’s satisfaction and work-life balance, instead of focusing solely on shortening work hours. Only after making such efforts will workstyle reforms contribute to productivity improvement.

We also conducted an analysis using the same method on the direct relationship between working from a flexible office or home and workers feeling an improvement in productivity. Here too, the result was a positive effect.

However, we believe that multiple factors affect whether workers feel an improvement in productivity, and it goes without saying that improved productivity is not always felt by carrying out telework. The results of the analysis in 2-1 (Figure 12) indicate not only a direct effectiveness of telework on productivity improvement but also the underlying relationship between the personal benefits of workers and productivity improvement.

Figure 12: Relationship between Telework and Feeling the Effect of Productivity Improvement (Summary of Analysis Results)



2-2. Relationship between telework and productivity improvement (companies)

In this section we analyze the survey of companies using the same method. The result indicates that employees working from a flexible office led to a greater probability for the company to feel an improvement in productivity. On the other hand, the result for working from home was not significant (Figure 13).

Figure 13: The Effect of Telework on the Percentage of Feeling an Improvement in Productivity (Survey of Companies)

		Objective variable
		Feel productivity improvement
Independent variable	Working from flexible office	0.3634 ***
	Working from home	-0.1623
	Average age of employees	-0.0095
	Number of employees	-0.0427
	Year of establishment	0.0035

*p<0.1; **p<0.05; ***p<0.01 (n=644)

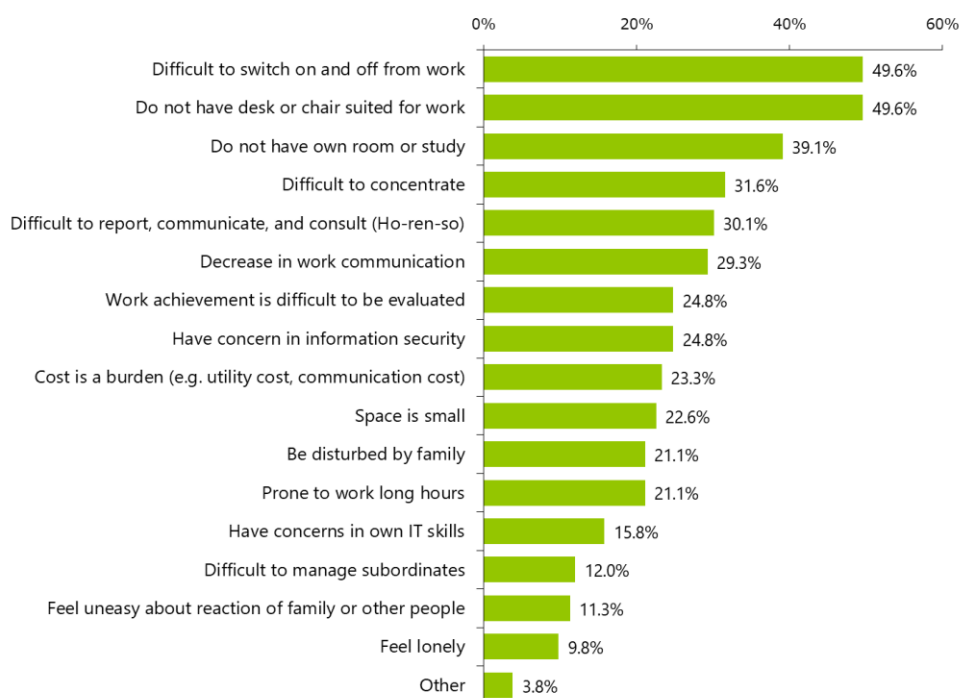
While working from home has a positive effect on workers' benefits and acknowledgement of productivity improvement, it has no effect on companies feeling a productivity improvement effect. The results indicate that there is a gap between companies and workers in this aspect as well.

One factor for companies' difficulty in acknowledging productivity improvement from the work-from-home program must be the difficulty in managing employees. For example, in a question in the survey of companies about the concerns and obstacles in workstyle reforms or establishing a work environment, more than 30% of the companies chose "high information security risk" and "difficulty in managing employees." Such concerns may become greater when working from home than when working from a flexible office.

Working from home is not all benefits to workers either. Our survey indicates that there are workers with a diverse range of complaints mainly concerning the work environment, such as “difficult to switch on and off from work” and “do not have a desk suited for work” (**Figure 14**).

In developing a telework environment, it would be important to provide an option of working from a flexible office, in addition to working from home, and create a convenient work environment for workers in an integrated manner.

Figure 14: Complaints in Working from Home (Office Worker Survey)



Targets: Workers who replied it was difficult to telework from home. (n=133); multiple answers

3. Summary

In this report, we examined the benefits of flexible workstyles for companies and workers by clearly distinguishing the benefits to the two and focusing on productivity improvement as a benefit to companies. As a result, we presented an objective analysis that providing workers with options for workplaces contributes to productivity improvement. On the other hand, we also acknowledged that the actual workstyles of the workers have not become flexible yet, despite the progress of company-led workstyle reforms.

Now that it has been confirmed that working on the personal benefits of workers, such as work satisfaction and work-life balance, benefits companies as well in the form of productivity improvement, companies should step up their efforts in developing an environment that enables workers to work flexibly. In particular, providing options for places to work such as flexible offices would be effective for facilitating workers to work productively within a limited amount of time. Furthermore, when taking into consideration workers' requirements to work close to home and the negative impact of commute time and stress, as we described in this report, it may also be effective to provide options in suburban areas.

Currently, the demand and supply of offices in city centers are tight across the country, making it difficult to secure offices of the required quality and space. At the same time, the flexible office service market is growing rapidly and starting to act as a platform for increasing work location flexibility. In consideration of these circumstances, a workstyle bound to an office in the city center that requires stressful commute would be unreasonable, and a shift to a more flexible workstyle that enables workers to choose from a wide variety of workplaces both in terms of location and type should prove to be a shortcut to productivity improvement, the goal of reforms to facilitate workers to work.

The dummy variables for the logistic regression analysis conducted in Figures 10, 11 (Office worker survey) are as follows:

- Working from a flexible office or home: "1" when doing so, "0" if not.
- Gender: "1" if female, "0" if not.
- Age: "1" if 51 or older, "0" if not.
- Number of employees of workplace: "1" if 1,000 or more, "0" if not.
- Satisfaction in workstyle: For a 4-level evaluation of the respondent's satisfaction in his/her current workstyle, "1" if "satisfied" or "somewhat satisfied," "0" if "somewhat dissatisfied" or "dissatisfied."
- Improved work-life balance, greater well-being, rectified long work hours, productivity improvement effect: "1" if the above items were chosen from the choices for the question about the effect felt from workstyle reforms, "0" if not.

The dummy variables for the logistic regression analysis conducted in Figure 13 (survey of companies) are as follows:

- Working from a flexible office or home: "1" if the company has introduced such program(s) "0" if not.
- Average age of employees: "1" if 40 or older, "0" if not.
- Number of employees: "1" if 500 or more, "0" if not.
- Year of establishment: "1" if in or after 2000, "0" if not.
- Productivity improvement effect: "1" when choosing "productivity improvement" for the question about the effect felt from workstyle reforms.

Note: The percentage mix (%) in the charts contained in this report may not add up to 100% due to rounding.

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