Xymax Real Estate Institute
RESEARCH REPORT

The Effectiveness of Setting Up a Workplace Other than in Central Tokyo

From Surveys on Office Workers' Commute

October 4, 2019

Japanese companies are accelerating their efforts in workstyle reforms and are promoting a diverse range of workstyles that are not bound by time and/or place. These new workstyles are also a major topic for individual workers themselves in improving productivity and work-life balance. To capture the changes of workstyles and the workplace from the viewpoint of office workers, Xymax Real Estate Institute ("Xymax REI") conducted questionnaire surveys of office workers working in the Greater Tokyo Area and published the results. In its third survey carried out in February 2019, Xymax REI focused on the commute of workers and analyzed the impact of commuting stress due to long commutes on work satisfaction, productivity, and engagement in the organization.*

In March 2019, Xymax REI carried out a questionnaire survey of registered users of ZXY, a shared office service provided by Xymax for corporations, in order to explore the flexible office service, which is attracting attention as a means for telework and expanding its market in recent years. This report examines the effectiveness of having options of workplaces mainly from the perspective of location (central Tokyo or periphery), based on the results of the above two surveys.

**Effect of commuting stress on the working people's satisfaction—Greater Tokyo Office Worker Survey 2019*, released on June 4, 2019
https://www.xymax.co.jp/english/research/images/pdf/20190604.pdf

<Main Findings>

1. The effect of commute on office workers

- Commuting time of 45 minutes or more (one-way) **has a negative effect on the percentage of workers who feel they "enjoy working every day**."
- Commuting from the periphery to central Tokyo **may cause greater stress than the other way around**, regardless of the length of commute.

2. Differences in usage needs and effects by location of shared office

- We categorized respondents into "Central Tokyo" and "Periphery" groups based on the location of the shared office they used the most frequently and examined their characteristics. A large percentage of **Central Tokyo users worked in a sales job**, while many **Periphery users lived with their spouse, child or other family members**.
- The average hours of use per use was 2.3 hours among Central Tokyo users and **longer among Periphery users at 3.6 hours. As much as approximately 16% of Periphery users used** a shared office for **eight hours or longer.**
- The time that could be reduced by using ZXY was **51.0 minutes per use on average among Central Tokyo users** and **64.1 minutes on average among Periphery users**, longer than Central Tokyo users.
- Periphery users also had generally higher scores in the specific effects of using a shared office, indicating they felt a greater effect than Central Tokyo users.
- When comparing the commuting time and commuting stress of going to a ZXY office near the home with when going to the office they belonged to, the **commuting time was reduced by 23.1 minutes for Central Tokyo users and 39.3 minutes for Periphery users**, while **commuting stress was reduced by 2.3 points for Central Tokyo users and 4.2 points for Periphery users**. This suggests that the reduction effect was greater among Periphery users in both elements.

1. The effect of commute on office workers

- ✓ Commuting time of 45 minutes or more (one-way) has a negative effect on the percentage of workers who feel they "enjoy working every day."
- ✓ Commuting from the periphery to central Tokyo may cause greater stress than the other way around, regardless of the length of commute.

In Chapter 1, we analyze the results of the *Greater Tokyo Office Worker Survey 2019*, which targeted office workers working in the Greater Tokyo area. In this survey, valid responses were obtained from 2,009 male and female respondents aged between 20 and 69 whose profession was company or organization executive, company or organization worker, or self-employed (excluding restaurant owners, retailers, interpersonal service providers) and principal workplace (office) was in the Greater Tokyo Area (Tokyo, Kanagawa, Saitama, Chiba prefectures). Please refer to the released report mentioned above for the basic analysis results.

First of all, we examined how the length of commute affected workers' motivation and engagement. A statistical analysis of the impact of commuting time on multiple elements such as "work satisfaction," "enjoying working every day," and "sense of belonging to one's place of employment" indicated there was a significant impact on "enjoying working every day."

Figure 1 shows the relationship between the commuting time from home to the workplace[*1] and the percentage of workers who feel they enjoy working every day. The more the number of asterisks (*) there are, the more statistically significant (reliable) the impact is. Figures below zero mean that there is a negative impact on the percentage of workers who feel they enjoy working every day. From the survey results, we confirmed that a negative impact starts appearing from a commute time of 35 minutes and that the impact becomes more significant for a commute time of 45 minutes or more.

*1 The door-to-door time it takes from home to the workplace (one way) using the respondent's regular means of commute (e.g. train, bus, car, bicycle, foot)

Figure 1: Impact of Commute Time on Percentage of Respondents Feeling They Enjoy Working Every Day

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

(n=1,593)

*p<0.1; **p<0.05; ***p<0.01

Secondly, in addition to the length of commute we focused on the combination of the place of residence and the place of work: in other words, the relationship between the direction of commute and commuting stress.[*2] In this survey, we found that commuting stress was proportional to the length of commute,[*3] but the manifestation of stress differed depending on the direction of the commute.

*2 Commuting stress rated on a scale of 0 (smallest) to 10 (largest)

*3 Refer to *Effect of commuting stress on the working people's satisfaction—Greater Tokyo Office Worker Survey 2019*

Figure 2 shows the average commuting time and commute stress for each combination of place of residence and place of work for the following three Greater Tokyo areas: (1) Five central wards (Chiyoda, Chuo, Minato, Shinjuku, Shibuya Wards); (2) 18 wards (the 23 wards of Tokyo excluding the five central wards), and (3) Suburb (entire Greater Tokyo excluding the 23 wards of Tokyo).

Figure 2: Average Commuting Time (Upper Row) and Average Commuting Stress (Lower Row) by Place of Residence and Place of Work

Place of residence \ Workplace	5 wards	18 wards	Suburb
5 wards	**31.9 min** **4.5**	38.5 min **3.8**	68.3 min 4.7
18 wards	45.2 min 5.7	**36.5 min** **4.1**	68.5 min 5.9
Suburb	68.7 min 6.5	67.1 min 6.1	**40.1 min** **4.1**

(n=1,745)

Legend (commuting stress)

- 6.5 or more (Large)
- 5.5-6.5
- 4.5-5.5
- 3.5-4.5 (Small)

For the groups of respondents living in the 18 wards and those living in the suburbs, the commute time and commute stress was the smallest when commuting within the same area. This implies that proximity between work and home is effective in reducing commute stress. Furthermore, the average commuting time of either group was less than 45 minutes, within the range where the percentage of workers feeling they enjoy working every day, as described earlier, is not negatively affected significantly.

However, the group of respondents living in the five central wards tended to show smaller stress when commuting to the 18 wards, which was a longer commute, than when commuting within the same area, which was the shortest commute. In addition, the group of those living in the 18 wards did not show a proportionate relationship between commuting time and stress, demonstrating a difference in stress of only 0.2 even though the commute to the suburbs was 23 minutes longer than when commuting to the five central wards.

These indicate that commuting from the periphery to central Tokyo may cause greater stress than the other way around. Since most of the offices in Greater Tokyo are currently concentrated in central Tokyo, trains traveling from the periphery to central Tokyo are congested in general, which may be causing workers to feel stronger stress regardless of the length of the commute.

2. Differences in usage needs and effects by location of shared office

2-1. Difference in usage needs by location of most frequently used shared office (Central Tokyo/Periphery)

- ✓ We categorized respondents into "Central Tokyo" and "Periphery" groups based on the location of the shared office they used the most frequently and examined their characteristics. A large percentage of Central Tokyo users worked in a sales position, while many Periphery users lived with their spouse, child or other family members.
- ✓ The average hours of use per use was 2.3 hours among Central Tokyo users and longer among Periphery users at 3.6 hours. As much as approximately 16% of Periphery users used a shared office for eight hours or longer.

In the previous chapter, it was implied that not only reducing commute time but also avoiding commuting to central Tokyo reduced commuting stress. In Chapter 2, we examine the effectiveness of setting up a workplace other than in central Tokyo by analyzing the results of a questionnaire survey of registered users of ZXY, a shared office service provided by Xymax for corporations, from the perspective of location (central Tokyo or periphery).

We categorized the 1,068 respondents of the questionnaire survey who replied that they used ZXY into two groups of "Central Tokyo users" and "Periphery users" based on the location of the ZXY office they used the most frequently, the former being the five central wards and the latter being the entire Greater Tokyo excluding the five central wards, and compared their characteristics.

We will first examine the characteristics of usage needs by location based on the difference in the profiles of the groups.

Figure 3 indicates the job type percentages of each group. "Sales/marketing" accounted for the most in either group, but the percentage was larger among Central Tokyo users (45.5%). Central Tokyo users in sales and marketing jobs may have a need to drop by at a shared office when visiting a client. Among Periphery users, there was a relatively large percentage of desk work jobs such as "white-collar specialist job such as research analysis and patent legal affairs" and "general clerical work, reception, secretary."

Figure 3: Job Type—By Location of Most Frequently Used ZXY Office

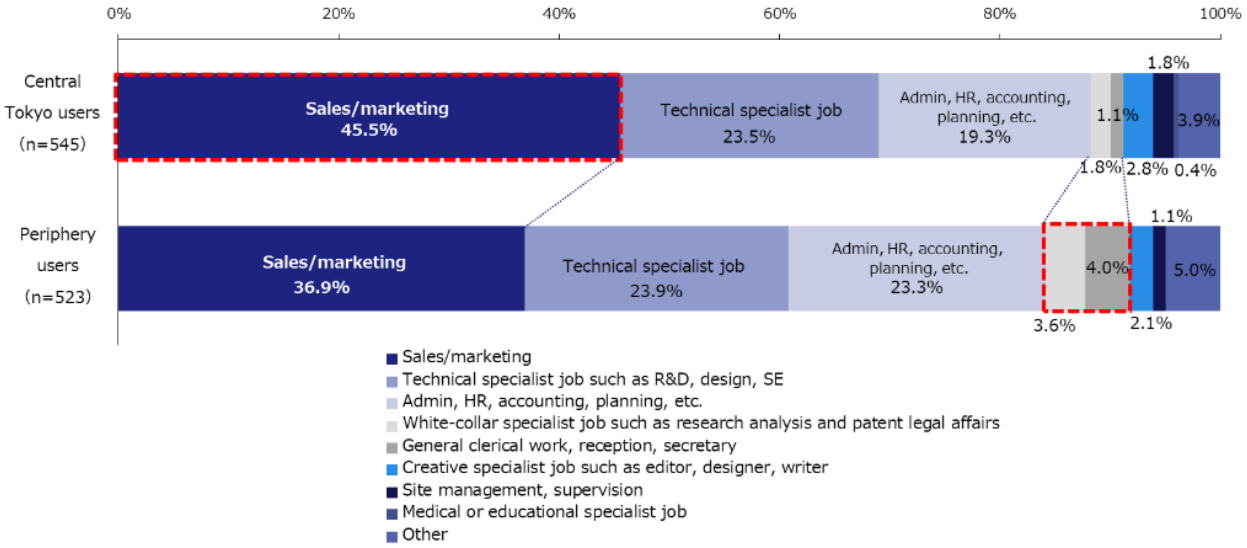
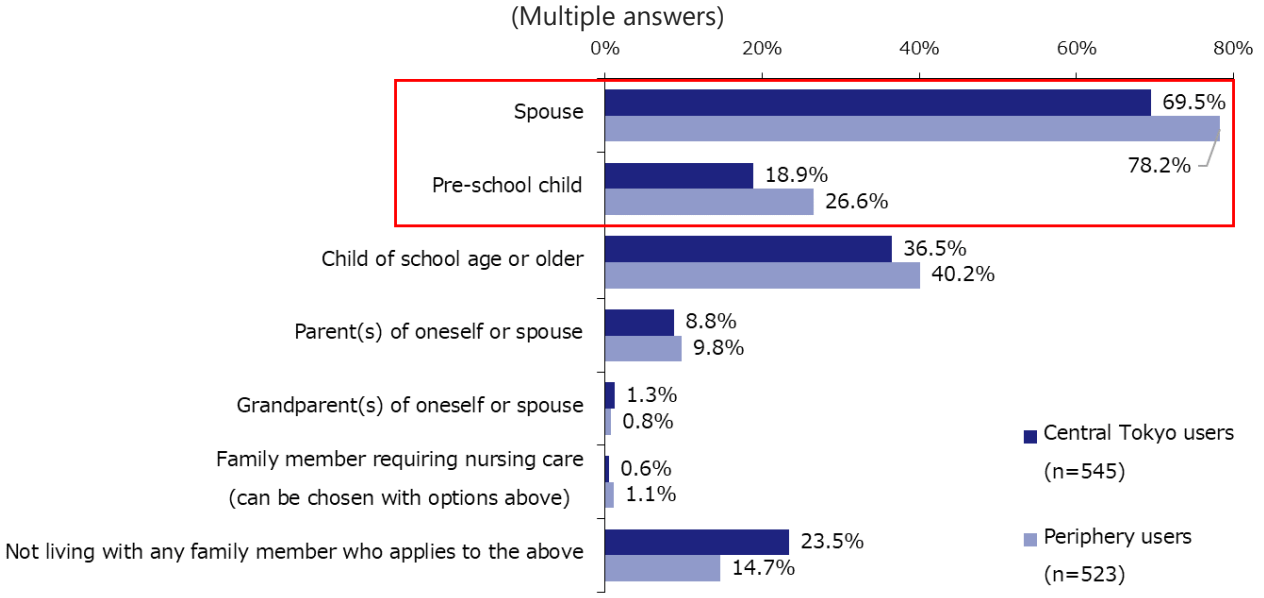


Figure 4 is a comparison of the results of whether the respondent was living with a family member. Periphery users had higher scores in a majority of reply items, especially in "spouse" (78.2%) and "pre-school child" (26.6%), which showed a significant difference from Central Tokyo users. Users with a pre-school child may be using ZXY in the periphery close to home as a telework base to reduce commuting time in an effort to balance work with childcare. Meanwhile, Central Tokyo users had a higher percentage (23.5%) of "not living with any family member who applies to the above" than Periphery users, indicating that many of them may be unmarried.

Figure 4: Family Member Living with Respondent—By Location of Most Frequently Used ZXY Office

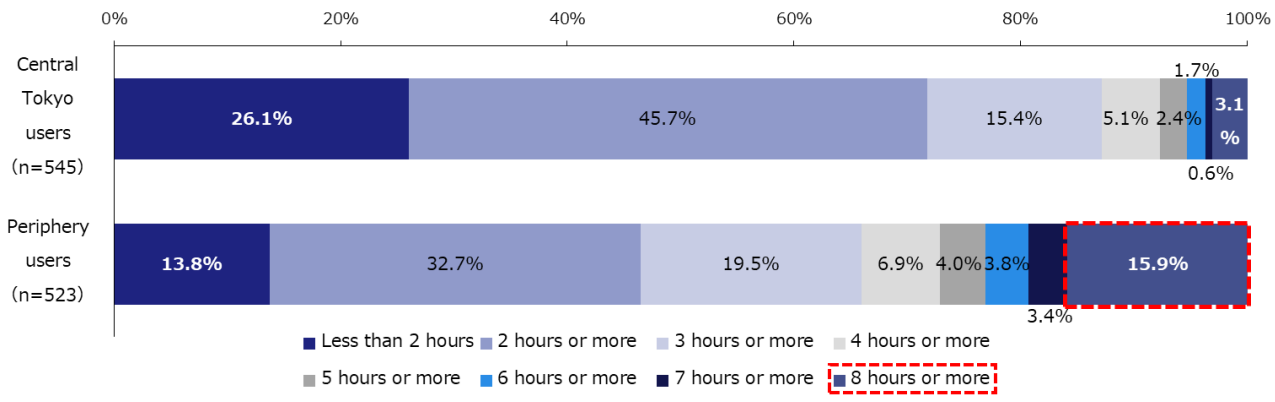


There were differences in the usage needs of each group in the results of the hours of ZXY use per use (**Figure 5**).

Most Central Tokyo users used ZXY for a short amount of time, with less than 3 hours (the sum of "less than 2 hours" and "2 hours or more") accounting for 70% and with an average of 2.3 hours.

Meanwhile, a majority of Periphery users used ZXY for 3 hours or more (average 3.6 hours), with as much as 15.9% of users using it for 8 hours or longer. This indicates that there is a certain number of users who regularly use a ZXY office for almost an entire day, suggesting that workstyles have become more varied.

Figure 5: Hours of Use of ZXY per Use—By Location of Most Frequently Used ZXY Office



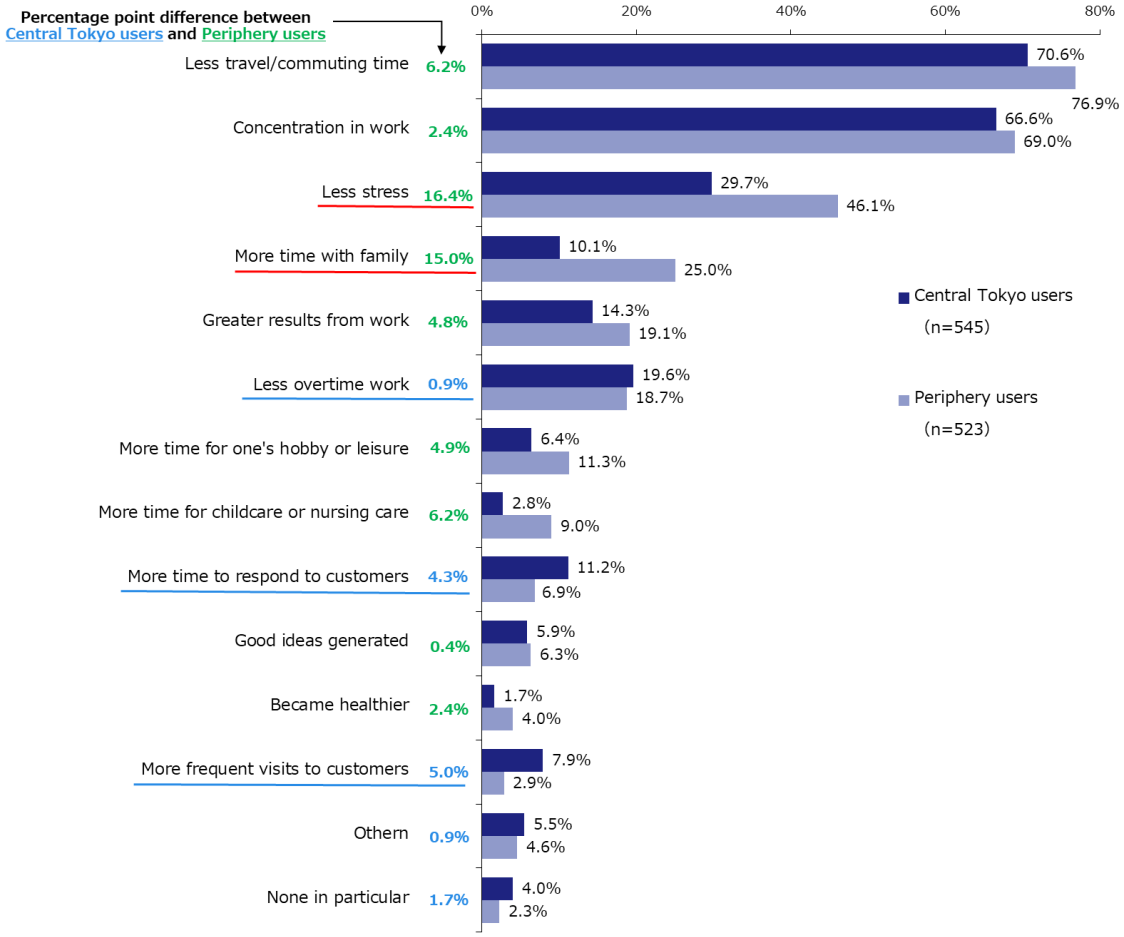
2-2. Difference in the effects of use by location of most frequently used shared office (Central Tokyo or Periphery)

- ✓ The time that could be reduced by using ZXY was 64.1 minutes per use on average among Periphery users, longer than the 51.0 minutes of Central Tokyo users.
- ✓ Periphery users also had generally higher scores in the specific effects of using a shared office, indicating they felt a greater effect than Central Tokyo users.
- ✓ When comparing the commuting time and commuting stress of going to a ZXY office near the home with when going to the office they belonged to, the commuting time was reduced by 23.1 minutes for Central Tokyo users and 39.3 minutes for Periphery users, while commuting stress was reduced by 2.3 points for Central Tokyo users and 4.2 points for Periphery users. This suggests that the reduction effect was greater among Periphery users in both elements.

We then examined the difference in the effects of use felt by each group. The time that could be reduced by using ZXY was 51.0 minutes per use on average among Central Tokyo users and 64.1 minutes on average among Periphery users, a longer time reduction than Central Tokyo users.

Periphery users also had generally higher scores in the specific effects of using a shared office, especially in "Less stress" and "more time with family," which showed a large difference from Central Tokyo users (**Figure 6**). On the other hand, Central Tokyo users had higher scores in the following items: "Less overtime work," "more time to respond to customers," and "more frequent visits to customers."

Figure 6: Effects Felt from Using ZXY—By Location of Most Frequently Used ZXY Office (Multiple answers)



2-1 indicated that there were users who worked at a ZXY office from the morning for the entire day (**Figure 5**). Therefore, we compared the effects between the two user groups of going to a ZXY office in the morning instead of to the office of the company the user works for.

Figure 7 compares the commute time and commute stress of when commuting to the office of the company and when going to a ZXY office close to home in the morning.[*4] When comparing the commute time and stress of commuting to a ZXY office close to home with when commuting to the office of the company, the commute time was reduced by 23.1 minutes among Central Tokyo users and 39.3 minutes among Periphery users, while commute stress was reduced by 2.3 points among Central Tokyo users and 4.2 points among Periphery users. The reduction effect was larger among Periphery users for both elements.

*4 The targets of the comparison were the 393 respondents who replied that they sometimes used a ZXY office close to home as a satellite office and went there in the morning instead of to the office of the company.

Figure 7: Differences between Commuting to the Office of the Company and Commuting to a ZXY Office

	Central Tokyo	Periphery
Commute time to office of company (n=1,068)	56.9 min	65.4 min
Commute time to ZXY (n=393)	33.8 min	26.1 min
Difference in commute time	**23.1 min**	**39.3 min**
Commute stress to office of company (n=1,068)	5.8	6.6
Commute stress to ZXY (n=393)	3.5	2.4
Difference in commute stress	**2.3**	**4.2**

3. Summary

In Chapter 1, the results of the two analyses implied that commuting for less than 45 minutes from central Tokyo to the periphery was effective for office workers to reduce stress and enjoy working.

In Chapter 2, the results of the questionnaire survey of users of ZXY, a shared office service that actually has offices in the periphery, indicated the effectiveness of setting up a workplace other than in central Tokyo. Frequent users of an office in the periphery tend to be living with a pre-school child and work at a ZXY office for an entire day instead of at the office of the company they belong to. This shows that offices in the periphery respond to different needs from offices in central Tokyo. When working at a ZXY office for an entire day, the reduction of commuting time and stress compared to when commuting to the office of the company is larger among Periphery users than Central Tokyo users. We also found that Periphery users felt a greater advantage from the closeness between work and home, as they felt less stress and spent more time with family as a result of using an office in the periphery to a greater degree than Central Tokyo users.

Based on the above results, we believe that providing various workplace options in the periphery close to the residential areas of employees apart from offices in Central Tokyo would lead to reduced stress and improved engagement and productivity of office workers, which may in turn have positive effects in securing personnel such as by preventing employee turnover and strengthening recruitment capabilities.

Individual workers will also benefit from the proximity between work and home. If workers can work flexibly without being bound by time or place, they will have more options for work and life when faced with major life events such as childbirth, childcare, nursing care, and fighting diseases, enabling them to continue working with peace of mind. Unlike times when the only option was to take leave of absence or resign from work when it became difficult to commute a long distance to the office in central Tokyo due to time or physical restraints, the increase of workers who autonomously continue working for a long period of time is expected to have beneficial effects on corporate activities as well.

From the perspective of the real estate business, on the other hand, the periphery is an area with few office buildings. Therefore, workplaces are being provided in the periphery not only in office buildings but also by utilizing excess floor space in commercial facilities and convenience facilities (e.g. outlets of financial institutions, post offices, station buildings). The progress of a “work-life mix,” which is to integrate the places for work and for living, is a beneficial trend for companies confronted with the managerial issues of securing labor and improving the productivity of each worker as well as supporting the imminent arrival of an era where workers of various circumstances continue working together.

Xymax REI intends to continue its research of companies and office workers to examine the impact of these developments on workstyles and offices.

Details of *Greater Tokyo Office Worker Survey 2019*

《Survey Overview》

Time of Survey: February 2019; Target Area: the Greater Tokyo Area (Tokyo and Kanagawa, Saitama, and Chiba prefectures); Survey Method: Internet survey

Study Sample: 1) the Screening Survey was conducted in 20,000 men and women aged 15 to 69 years; 2) the Main Survey was conducted in 2,144 men and women aged 20 to 69 years who answered in the Screening Survey that his/her "employment status is a company or organization executive, company or organization manager, company or organization worker, or self-employed individual (excluding restaurant owner, retailer, and interpersonal service provider), and the chief workplace (office) is located in the Greater Tokyo Area (Tokyo and the 3 neighboring prefectures)." 2,009 valid responses were received.

《Profile of Respondents》

		%	n
Age and sex	Men aged 20-24 years	1.6%	32
	Men aged 25-29 years	8.4%	168
	Men aged 30-34 years	4.7%	95
	Men aged 35-39 years	5.2%	104
	Men aged 40-44 years	4.2%	84
	Men aged 45-49 years	5.9%	118
	Men aged 50-54 years	5.4%	109
	Men aged 55-59 years	4.6%	92
	Men aged 60 years or older	10.2%	205
	(Men in total)	50.1%	1007
	Women aged 20-24 years	1.8%	36
	Women aged 25-29 years	8.3%	166
	Women aged 30-34 years	5.3%	106
	Women aged 35-39 years	4.7%	95
	Women aged 40-44 years	5.3%	107
	Women aged 45-49 years	4.9%	98
	Women aged 50-54 years	6.6%	133
	Women aged 55-59 years	3.2%	65
	Women aged 60 years or older	9.8%	196
	(Women in total)	49.9%	1002
Occupation	Administration, HR, accounting, planning, etc.	21.3%	428
	Clerical work, receptionists, secretaries	30.8%	619
	Sales and marketing	15.5%	311
	Concierge service	3.0%	61
	Research analysts, patent experts, legal experts, etc.	1.6%	33
	Engineers (e.g. R&D, engineering designers, system engineers)	14.0%	282
	Editotrs, designers, writers, etc.	3.0%	61
	Healthcare or educational professionals	1.7%	34
	Line managers/supervisors	2.1%	42
	Others	6.9%	138

		%	n
Industry	Agriculture, forestry	0.3%	6
	Fishery	0.0%	1
	Mining, quarrying, gravel extraction	0.0%	0
	Construction	6.1%	123
	Manufacturing	14.7%	296
	Electricity, gas, heat supply, water utility	1.4%	29
	IT	10.1%	202
	Shipping, postal service	4.2%	84
	Wholesale, relail	7.9%	158
	Finance, insurance	8.7%	174
	Real estate, rental bussiness	4.9%	98
	Academic research, professional/technical service	3.5%	71
	Lodging, restaurant business	0.6%	13
	Life-related service, entertainment	1.6%	32
	Education, learning support	2.9%	58
	Healthcare, social work	3.6%	72
	Compound services	0.9%	19
	Other services	15.0%	301
	Official business (not otherwise classified)	6.7%	135
	Others/unclassified industries	6.8%	137
Employment status	Company or organization executives	7.5%	150
	Company or organization managers	12.5%	251
	Company or organization workers of regular employment excluding managers	52.5%	1054
	Company or organization workers of non-regular employment (e.g. part-timers, temporary workers)	26.0%	522
	Self-employed individuals (restaurant owners, retailers, and interpersonal service providers)	0.0%	0
	Self-employed individuals (excluding restaurant owners, retailers, and interpersonal service providers)	1.6%	32
	Othes/not working (including those in search of jobs, students, those who stay at home)	0.0%	0
Annual salary	< 2 million yen	12.2%	246
	≥ 2 million yen - < 4 million yen	26.6%	535
	≥ 4 million yen - < 6 million yen	21.9%	440
	≥ 6 million yen - < 8 million yen	11.2%	226
	≥ 8 million yen - < 10 million yen	5.8%	116
	≥ 10 million yen - < 12 million yen	2.8%	57
	≥ 12 million yen - < 15 million yen	1.7%	35
	≥ 15 million yen - < 20 million yen	0.6%	12
	≥ 20 million yen	0.3%	7
	Have no idea.	5.0%	100
	Unknown	11.7%	235

Details of *ZXY Registered User Survey 2019*

《Survey Overview》

Time of Survey: March 2019; Survey Method: Internet survey; Survey Targets: Registered users of ZXY, a shared office service for corporations. 2,039 valid responses were received. The targets of this survey are the 1,068 respondents who replied that they used ZXY.

《Profile of Respondents》

		%	n			%	n
Job type	Sales/marketing	41.3%	441	Family member living in same household	Spouse	73.8%	788
	Technical specialist job such as R&D, design, SE	23.7%	253		Pre-school child	38.3%	409
	Admin, HR, accounting, planning, etc.	21.3%	227		Child of school age or older	22.7%	242
	White-collar specialist job such as research analysis and patent legal affairs	2.7%	29		Parent(s) of oneself or spouse	9.3%	99
	General clerical work, reception,	2.5%	27		Grandparent(s) of oneself or spouse	1.0%	11
	Creative specialist job such as editor, designer, writer	2.4%	26		Family member requiring nursing care (can be chosen with options above)	0.8%	9
	Site management, supervision	1.5%	16		Not living with any family member who applies to the above	19.2%	205
	Medical or educational specialist job	0.2%	2	Prefecture of nearest station of home	Tokyo	48.4%	517
	Other	4.4%	47		Kanagawa	25.3%	270
Prefecture of nearest station of workplace	Tokyo	87.7%	937		Saitama	11.9%	127
	Kanagawa	7.6%	81		Chiba	11.8%	126
	Saitama	1.1%	12		Ibaraki	1.1%	12
	Chiba	0.8%	9		Gunma	0.1%	1
	Other	2.7%	29		Other	1.4%	15

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

Please contact below for inquiries on this report

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