Impact of Change in Office Layout on Employees’ Communication Satisfaction

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Abstract: This study examined the relation between office environment and employees’ communication satisfaction within the office based on the study results of Company X, which underwent a change in office layout. Company X implemented a change in office layout to create an office environment that would revitalize communication and be easier to work in. Specifically, the idea was not to change the office space but to ensure sufficient meeting spaces. The results of the study found the following: 1) the evaluation of the office environment improved, resulting in the ease of communication; 2) employees’ communication satisfaction in the office had an improving trend, although it was slightly limited; 3) On the other hand, depending on the occupation, the needs for the office environment for improving communication satisfaction were so different that they were virtually polar opposites, despite working in the same office. This suggested that the improvement in communication satisfaction created by the change in office layout was limited.

Keywords: office change, office layout, office design, communication satisfaction

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Introduction

Numerous studies have investigated the influence of the office environment on communication satisfaction at the workplace (e.g., Brennan, Chugh, & Kline, 2002; Hatch, 1987; Hedge, 1982; Oldham, 1988; Oldham & Brass, 1979; Oldham & Rotchford, 1983; Sundstrom, Burt, & Kamp, 1980; Sundstrom, Herbert, & Brown, 1982; Sundstrom & Sundstrom, 1986; Sundstrom, Town, Brown, Forman, & Mcege, 1982; Sutton & Rafaeli, 1987; Zalesny & Farace, 1987). Particularly, De Croon, Sluiter, Kuijer, and Frings-Dresen (2005), who extracted 1,091 existing studies related to the office environment and comprehensively reviewed 49 high-quality studies, found that the office environment consistently influences job satisfaction through communication satisfaction. For instance, they indicated that an open office decreases job satisfaction through reduced privacy (a concept that indicates whether appropriate interactions are being maintained). Furthermore, while few studies were conducted during the time of De Croon et al.’s (2005) study, studies focusing on the non-territorial office have increased. For instance, Inamizu (2013) indicated that a non-territorial office increases the sense of privacy as it enables easier coordination of privacy. In addition, based on the case of relocation of Japan’s Microsoft office, Inamizu (2014) demonstrated that the density of the office space influenced the acceptance of the non-territorial office and communication within the office.

These existing studies usually investigate the relation between the environment at the workspaces and employees’ communication

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1 Nevertheless, the factor of job satisfaction is not limited to the office environment or communication satisfaction. For example, Okada and Inamizu (2014), Takahashi (2014), and Takahashi, Ohkawa, and Inamizu (2014) demonstrated a strong relation between the perspective index and job satisfaction.
satisfaction. However, office layouts that allocate many meeting spaces besides workspaces have increased recently (for instance, refer to the case of Microsoft Japan in Inamizu (2014)). Investigating the influence of expanding such meeting spaces on communication satisfaction is important.

Furthermore, while the aforementioned preceding studies consider job characteristics, such as position within the organization or busyness of the job, there are surprisingly few cross-sectional comparative studies by occupations such as sales and research & development. However, each occupation will require office space for different reasons. Therefore, examining the relation between office layout and communication satisfaction is essential, focusing on the differences based on occupation.

Considering the issues of these existing studies, this study examines the relation between the office environment and employees’ communication satisfaction based on the study results of Company X, which underwent a change in office layout.

**Change in Office Layout of Company X**

Company X plans, develops, and sells accounting systems. Approximately a little over 60 employees are employed in this company. Besides their head office in Tokyo, they have a branch or location in each of the Tohoku, Chubu, Kansai, and Kyushu regions.

The organization comprises corporate planning, general administration, sales, systems development, and customer service (the division that responds to queries from the customers concerning the accounting system).

In July 2014, the Tokyo head office implemented a change in office layout to create a workplace environment that would enable information sharing and rapid decision making. In particular, as
many meeting spaces as possible would be created. In addition, they created not only open meeting spaces but also closed meeting spaces to facilitate conversations that had confidential subjects.

They found it difficult to increase their meeting spaces in their existing, limited office spaces. This required economizing on space usage to plan the space for meeting spaces. This resulted in an overhaul of the office arrangement. Furthermore, increasing the number of shared desks reduced the amount of furniture necessary for the office (however, they ensured a sufficient number of desks, including desks for employees who are teleworking or working outside the office).

Figure 1 illustrates the office layout before the change. As shown in the figure, only one meeting space exists. This is right next to the office’s entrance, and it doubled as a customer service space. In addition, as the space was only separated by simple partitions and cabinets, the contents of the conversation could be overheard in the entire office. This made it difficult to have conversations that included confidential topics within the office.

Figure 2 illustrates the office layout after the change. As shown in the figure, four meeting spaces exist currently. Meeting space 1 is right next to the entrance and is exclusively a customer service space. Meeting space 2 has a tatami mat and sofa and is a space that enables communication in a relaxed environment. Meeting space 3 is right next to the entrance and can be used for customer service. However, it is surrounded by a pillar, large cabinets, and partitions, making it a closed space that enables conversations concerning confidential topics. Meeting space 4 is adjacent to a location with hot water and snacks. While it does not have any tables, it is a space for simple meetings and brainstorming sessions while standing.
Figure 1. Office layout before the change
Figure 2. Office layout after the change
Impact of change in office layout on employees’ communication satisfaction

Methodology

A questionnaire survey was administered twice—before and after the change in office layout—to examine the relation between office environment and communication satisfaction. The distribution participants were all employees not only at the head office that underwent the change in office layout but also those at the branch offices and teleworkers. This was to compare the employees working at the head office with employees at the branch offices and teleworkers as well as to clarify whether the change in office layout really created the changes. The first survey was conducted from July 25 to 31, 2014, and responses were obtained from 69 employees, which were all integrated to one. The second survey was conducted from September 16 to October 2, 2014, and responses were obtained from 70 employees, which were all integrated to one. In addition, a follow-up hearing was conducted based on the survey results.

The distribution of respondents by head office/branch office as well as by occupation is displayed in Table 1.

Table 1. Job type and place of work

|                | Head quarter | Branch office | Telework | Total |
|----------------|--------------|---------------|----------|-------|
| 1st survey     |              |               |          |       |
| 1. Sales       | 4            | 16            | 0        | 20    |
| 2. Customer service | 6       | 11            | 0        | 17    |
| 3. Corporate planning | 7      | 0             | 0        | 7     |
| 4. System development | 7       | 7             | 5        | 19    |
| 5. General administration | 6       | 0             | 0        | 6     |
| Total          | 30           | 34            | 5        | 69    |
| 2nd survey     |              |               |          |       |
| 1. Sales       | 4            | 17            | 0        | 21    |
| 2. Customer service | 6       | 12            | 0        | 18    |
| 3. Corporate planning | 5      | 0             | 0        | 5     |
| 4. System development | 9       | 7             | 4        | 20    |
| 5. General administration | 6       | 0             | 0        | 6     |
| Total          | 30           | 36            | 4        | 70    |
The questionnaire items used in the survey comprised a broad range of items, including office environment, communication satisfaction, job satisfaction, and work climate. Considering the interests of this study, we will discuss the former two (office environment and communication satisfaction). Specifically, these include the following items. All of them ask for a yes-or-no response.

Q1. Enough space is secured for performing my work.
Q2. Enough space is secured to assemble as the need arises.
Q3. It is too crowded and difficult to get out of my seat and move around.
Q4. If we have unexpected guests, we can respond to them sufficiently.
Q5. The office is arranged sufficiently.
Q6. I have sufficient space to place things that are necessary for work.
Q7. I can even place things unrelated to work (for instance, pictures) on my desk.
Q8. It is easy for me to grasp the conditions of the group that I belong to (sales, systems development, etc.).
Q9. It is difficult to have conversations that include confidential information in the office (including meeting spaces).
Q10. It is too quiet and difficult to even make small talk.
Q11. I often feel that it is too noisy.
Q12. The office environment enables me to focus on my work.
Q13. I can communicate in the office to my satisfaction.

**Study Results**

Table 2 indicates the changes in the responses to the questionnaire items before and after the change in office layout (Because only 4–5 teleworkers existed, they have been excluded). As this table indicates,
some major changes were observed in numerous items at the head office. For instance, only 30% of respondents responded “Yes” to “Q2: Sufficient assembly space” before the change, but this greatly improved to 90% responding “Yes” after the change. Similarly, 47% of respondents responded “Yes” to “Q3: Difficult to move” before the change, and 20% responded “Yes” after the change. 30% responded “Yes” to “Q4: Sufficient responding to guests” before the change, and 77% responded “Yes” after the change. Furthermore, 40% responded “Yes” to “Q6: Can place necessary things” before the change, and 67% responded “Yes” after the change. In contrast, no major change was observed in the majority of the items among the branch offices, which did not change its office layout. In other words, the employees working at the main office felt that the office environment improved

Table 2. Comparison between the first and the second surveys

|          | Head quarter | Branch office |   |   |   |
|----------|--------------|---------------|---|---|---|
|          | 1st survey   | 2nd survey    | t-value | 1st survey | 2nd survey | t-value |
| Q1       | .90          | .87           | 0.396   | .94 | .97 | -.627  |
| Q2       | .30          | .90           | -5.899 ** | .97 | .97 | -0.040 |
| Q3       | .47          | .20           | 2.246 * | .09 | .03 | 1.067  |
| Q4       | .30          | .77           | -4.030 ** | .88 | .86 | 0.262  |
| Q5       | .17          | .33           | -1.494  | .76 | .78 | -0.128 |
| Q6       | .40          | .67           | -2.112 * | .91 | .89 | 0.315  |
| Q7       | .57          | .60           | -0.258  | .79 | .81 | -0.118 |
| Q8       | .80          | .67           | 1.161   | .76 | .83 | -0.707 |
| Q9       | .70          | .67           | 0.273   | .53 | .67 | -1.164 |
| Q10      | .30          | .20           | 0.885   | .21 | .25 | -0.434 |
| Q11      | .37          | .40           | -0.261  | .09 | .06 | 0.521  |
| Q12      | .53          | .60           | -0.513  | .88 | .94 | -0.911 |
| Q13      | .67          | .80           | -1.161  | .74 | .83 | -0.987 |

Note: * p < 0.05, ** p < 0.01  Values within the table are the means of the responses to each question.
with the change in office layout.\footnote{The change in office layout also aimed to make confidential conversations easier, but no major change was observed in item “Q9: Difficulty of Confidential Conversations.” Furthermore, as shown in Table 3, no statistically significant correlation existed between this item and communication satisfaction.}

Given that the change in office layout aimed to improve communication within the office, what types of changes were made in communication satisfaction within the office? Considering the head office’s response results to “Q13: Communication satisfaction,” we can see an increase in satisfaction from 67% to 80%. However, this is not a statistically significant change. Furthermore, an increase in satisfaction from 74% to 83% at the branch offices was observed. As seen here, communication satisfaction improved with the change in office layout, although it was slightly limited.

Next, we performed correlation analysis between each survey item to examine the changes in communication satisfaction with changes in office layout and to identify the factors improving communication satisfaction. In particular, we also decided to examine this by occupational category because people feel differently about the office environment based on occupation. Therefore, we performed analysis with all samples from the head office, branch office, and teleworkers integrated into one to examine the influence of occupation on communication satisfaction.

Table 3 indicates the correlation analysis between “Q13: Communication satisfaction” and all other items from Q1 to Q12 by occupation. First, examining the totals, we observe a significant correlation at 1% or 5% of “Q13: Communication satisfaction” with “Q2: Sufficient assembly space,” “Q4: Sufficient responding to guests,” and “Q6: Can place necessary things,” all of which greatly improved in the main office. This suggests that the change in office layout improved communication satisfaction to a certain degree.
On the other hand, we can also see a statistically significant correlation of communication satisfaction to “Q10: Quietness makes small talk difficult,” “Q11: Noisy,” and “Q12: Easy-to-focus environment,” which did not significantly change in Table 2. In addition, interestingly, the relation between these items and communication satisfaction differed by occupation. For instance, in Sales, the correlations with “Q11: Noisy” and “Q12: Easy-to-focus environment” were –0.414 and 0.794, respectively, which are relatively strong correlations. This implies that employees in sales feel higher communication satisfaction in an environment where they can focus on their work with little interference from others. In contrast, in System Development, a strong negative correlation was observed with “Q10: Quietness makes small talk difficult.” This means that members engaging in systems development feel a higher communication satisfaction in environments with some noise or that allows them to engage in a degree of informal conversation, as opposed to an environment that is too quiet.

In other words, depending on the occupation, the needs of the office environment for communication satisfaction were so different that they were virtually polar opposites, despite working in the same office.

We conducted an interview to follow up on the results of Table 3 and obtained the following responses. First, the employees in the sales division admitted that expanding the meeting spaces made it easier to conduct meetings, but the change in layout did not significantly affect their communication because they engaged in the necessary communication for their work at the sales desk in the workspace. Some stated with discontent that when they were attending an important phone call or web conference with clients at their work desks, people from other departments talking or moving around disrupted their concentration. On the other hand, in system development, as most members are in charge of different products
and services, there are few common development tasks and more individual tasks. When they were engaged in individual tasks, they found that they had less frequent face-to-face communication with those around them. Because of this, an environment where they cannot make small talk caused them to feel a psychological distance to other people and other departments.

**Discussion and Conclusion**

This study conducted a survey before and after Company X’s change in office layout. The following results were found. The change in office layout secured spaces for employees to gather for meetings and respond to guests. In other words, it prepared an office environment that facilitated communication to a certain

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**Table 3. Comparison between the first and the second surveys**

|     | Total | Sales | Customer service | Corporate planning | System development | General administration |
|-----|-------|-------|------------------|--------------------|--------------------|-----------------------|
| Q1  | .230  ** | .382 * | .258            | .357               | .319               | -.239                |
| Q2  | .190  * | -.065 | .258            | .169               | .056               | .029                 |
| Q3  | -.082 | -.179 | .077            | -.293              | -.056              | -.076                |
| Q4  | .193  * | .227  | .209            | .029               | -.036              | .239                 |
| Q5  | .180  * | .061  | .258            | .255               | -.066              | .378                 |
| Q6  | .225  ** | .267  | .316            | .029               | .105               | .29                   |
| Q7  | .193  * | .189  | .253            | .478               | -.005              | -.120                |
| Q8  | .149  | .267  | .343 *          | -.239              | .093               | -.378                |
| Q9  | -.163 | -.030 | -.194           | -.255              | -.062              | -.239                |
| Q10 | -.273  ** | -.144 | -.108           | -.657 *            | -.475 **           | .098                 |
| Q11 | -.173  * | -.414  ** | -.117           | -.076              | -.138              | -.076                |
| Q12 | .299  ** | .794  ** | .160           | .169               | .283               | -.239                |

*Note: *p < 0.05, **p < 0.01
degree.

This resulted in a trend of increased communication satisfaction in the office, although it was slightly limited.

A correlation was found between communication satisfaction and items regarding the quietness and noisiness of the office and ability to focus, which did not change with the change in office layout. There were particular differences in correlation between occupations. In the case of employees in sales, which requires communication with others, including customers, communication satisfaction was connected to a quiet environment that enabled them to focus on their work. In contrast, in the case of employees in system development, which requires individual and intensive tasks, an environment that enabled small talk led to communication satisfaction over a quiet environment.

The results of this study are based on an analysis of the limited case of Company X, but this suggests critical points for further examining the relation between office environment and communication satisfaction. First, most preceding studies have examined the relation between workspaces and communication satisfaction, but as indicated by the results of this study, future studies must consider the entire office environment, including workspace and meeting space.

Another important point is that while existing literature includes surprisingly few cross-sectional studies by occupation, the results of this study indicate the possibility that different occupations have different needs of the office environment from the perspective of communication satisfaction. This suggests that changing the office layout to uniformly increase communication satisfaction is difficult in an office with employees of multiple occupations. While this will require further examination, a possibility exists that the difference in needs by occupation resulted in the limited improvement in Company X’s communication satisfaction. Improving communication
satisfaction requires the careful examination of the task characteristics for each occupation and the needs that arise from them. Future studies must consider these differences by occupation.

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