Non-territorial Office with Various Zoning Increases Privacy: Implications for Activity-Based Working

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Abstract: Allen and Gerstberger (1973) reported that non-territorial offices improve privacy. In actuality, however, a view of the office layout after an experiment showed that the office used in the experiment was not just simply made into a non-territorial office, but had various zoning done such that zones could be selected according to circumstance. With that idea in mind, this study analyzes the impact of non-territorial offices on privacy as well as the effect of various zoning, based on data of 6,592 individuals obtained through internet surveys. Results of the analysis showed that 1) non-territorial offices themselves do not have a major impact on privacy (they neither improve nor worsen privacy); 2) rather, various zoning is what improves privacy; and 3) further, of note is that privacy dramatically worsens in non-territorial offices without any various zoning, and vastly improves where various zoning is applied.
zoning has been thoroughly implemented. These results give one solution for the disputes over non-territorial offices and privacy, and provide suggestions for a new type of office (activity-based working, or an activity-based office).

Keywords: non-territorial office, various zoning, privacy, activity-based working

Research Background

In recent years, advances in ICT have brought an increased number of companies ¹ that have implemented non-territorial offices. These offices have both open floor plans and free seating (Allen, 1977; Allen & Gerstberger, 1973; Inamizu, 2013). At the same time, there have been many cases where non-territorial offices have failed² because people complain about not being able to concentrate on work in such offices, for example (e.g., Kelley & Littman, 2001).

Privacy is a concept understood to be a factor in this. According to Altman (1975), if a person desiring many interactions³ only has a few, that person may feel isolated. Conversely, if a person desiring few interactions has many, the person may get a sense of crowding. When interactions are optimal, with no isolation or crowding, the person feels their privacy is kept. Thus, privacy is viewed in the sense of the ability to focus on work rather than on leaks of information, and this privacy leads to workplace

¹ For example, Inamizu (2014) gave the example of the implementation of a non-territorial office in Microsoft Japan. In addition, according to a survey conducted by MITSUI Designtec Co., Ltd., almost 30% of companies have experience with implementing a non-territorial office.
² Not just non-territorial offices, in many cases, office reform has not demonstrated any of the expected results (e.g., Inamizu, 2016).
³ Interaction in this case is not just intentional communication, but also includes interruptions and stimulation from others nearby.
satisfaction. Just as physical environment is considered one factor in job satisfaction, workplace satisfaction influences job satisfaction.

The relationship between non-territorial offices and privacy is somewhat complicated. In an experiment by Allen, a pioneer in non-territorial offices, there was a tendency reported for privacy to improve through non-territorial offices (Allen, 1977; Allen & Gerstberger, 1973). At the same time, multiple studies have shown that openness, one characteristic of non-territorial offices, worsens privacy (Brennan, Chugh, & Kline, 2002; Hatch, 1987; Oldham & Brass, 1979; Oldham & Rotchford, 1983; Sundstrom, Herbert, & Brown, 1982; Zalesny & Farace, 1987). In response to these studies, Inamizu (2013) supported the results of Allen, that privacy is more easily maintained when one considers free-seating, one characteristic of a non-territorial office, and not just openness. In other words, if a person can freely move about within an office, that person may move to a location allowing for easier communication with others when feeling isolated, or to a quiet location to focus on work when feeling crowded.

These “disputes” are not settled on two points. One is the paucity of empirical data. Although the point of Inamizu (2013) is interesting, his assertion was based only on the literature review, not providing empirical data. The second point is the inability to fully explain the cases exemplified by Kelley and Littman (2001) that workers cannot concentrate on work in non-territorial offices, although we can understand the assertions of Allen and Gerstberger (1973) and Inamizu (2013).

This paper takes on these two issues. A careful look at the experiment of Allen shows that the office after changing the layout is not only open with free-seating, but is divided into various zones. As can be seen in Figure 1, there is a zone with a Quiet Area and a Total Quiet Room, and zones with distinctive features such as benches. In other words, this office layout is not only open with free-seating, but
it is segmented by use case and allows workers to choose a workspace according to work circumstances. In this kind of environment, a worker can choose an appropriate workspace if a quiet environment for works is desired, or if the worker would like to converse with colleagues. This is what fills an important role in improving privacy. Even non-territorial offices will not improve privacy if a workspace cannot be selected based on circumstances.

The following hypotheses are validated in this paper using data from a questionnaire survey.

**H1:** Privacy improves in non-territorial offices.

**H2:** Privacy improves as various zonings for different purposes are established and work can be done in a zone appropriate to the circumstances.

**H3:** Privacy improves further when various zonings for different purposes are established in non-territorial offices and work can be done in a zone appropriate to the circumstances.
Method

Data used in the study’s analysis was gathered in two phases. In the first, an internet survey was conducted through Macromill, Inc. from August 8 to August 10, 2017. Similarly, in the second phase from August 30 to August 31, 2018 another internet survey was conducted by Macromill, Inc. The surveys were only given to 1) employees (excepting civil servants and students and yet-to-be employed); 2) companies with 300 or more employees; and 3) those working in offices. Data was obtained from the surveys so that gender and age distribution could be proportional.

In both phases, data was obtained from 3,296 people, of which 309 were males in their 20s, 721 were males in their 30s, 721 were males in their 40s, 721 were males in their 50s–60s, 206 were females in their 20s, 206 were females in their 30s, 206 were females in their 40s, and 206 were females in their 50s–60s. Having conducted the survey twice, twice as much data was ready to be analyzed for this study.

(1) Item related to non-territorial offices

• Q14: Do you work in a free-address office (a workspace with no personal desks, allowing one to select any desk)?

Respondents answer the above question using Yes or No, with scoring done by Yes = 1 and No = 0.

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4 There is nothing wrong with thinking that free-address and non-territorial offices are mostly the same. The phrasing of this question is only asking if the office uses free seating. Given that many Japanese firms have implemented an open and large room policy of offices, this question can be thought of as dealing with non-territorial offices.
(2) Item related to various zoning

• Q1S12: Does your office have various spaces with differing designs, and in which one can select a space according to the work being done?

Respondents answer the above question using a 6-point scale, with scoring done by 5 = “I very much think so” and 0 = “I don’t think so at all.”

(3) Items related to privacy

• Q1S2: My desk (often used at work if you are working in free-address offices) provides sufficient space for work.
• Q1S3: The desks of others around me are situated at an appropriate distance (not too far, not too close), making it easy to work.
• Q1S4: I can work without worrying about those around me (noises, glances, etc.).

The above questions were answered using a 6-point scale, with 5 = “I very much think so” and 0 = “I don’t think so at all.” The simple sum of these was used as a privacy variable (Cronbach’s α = 0.789).

Results

Table 1 shows the basic statistics. As can be seen in Table 1, a certain level of correlation can be seen between non-territorial offices and various zoning ($r = 0.19^{**}$).

Non-territorial offices and privacy are statistically significant at the 1% level, though there is little correlation visible ($r = 0.06^{**}$). H1 is not supported nor unsupported. We will discuss this point later. On the other hand, there is a strong correlation visible between various
zoning and privacy \((r = 0.42^{**})\). In other words, H2 is supported.

Next, we analyzed H3. First, data was divided into twelve groups from items related to non-territorial offices and items related to various zoning. Table 2 shows these data groups. For each group, a privacy average is calculated and plotted (Figure 2). As can be seen from Figure 2, the average of privacy shows almost no difference for territorial offices (non-territorial office = 0) and for non-territorial offices (non-territorial office = 1), when various zoning is at the moderate level (various zoning = 1 to various zoning = 5). However, when various zoning is extremely low (various zoning = 0) the privacy average of non-territorial offices is greater than for territorial offices. At the same time, when various zoning is extremely high

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**Table 1.** Basic statistics

|                | Mean | SD  | 2    | 3    |
|----------------|------|-----|------|------|
| 1: Non-territorial office | .15  | .353|      |      |
| 2: Various zoning       | 1.92 | 1.372| .19  | ** **|
| 3: Privacy              | 8.08 | 3.197| .06  | ** **|

*Note: N = 6592, **p < 0.01, *p < 0.05, + p < 0.1*

**Table 2.** N of each group

|                | Non-territorial office | Total |
|----------------|------------------------|-------|
|                | Yes        | No     |       |
| 0              | 116        | 1186   | 1302  |
| 1              | 117        | 1132   | 1249  |
| Various zoning | 220        | 1628   | 1848  |
| 2              | 225        | 1058   | 1283  |
| 3              | 203        | 493    | 696   |
| 4              | 79         | 135    | 214   |
| Total          | 960        | 5632   | 6592  |
(various zoning = 6), unlike the prior case, the average value of privacy in non-territorial offices is much higher than that for territorial offices.

In other words, even in a non-territorial office, if not enough various spaces within the office are established, among which one may choose according to the work to be done, workers may feel there is no privacy compared to a traditional office with fixed seats. On the other hand, non-territorial offices with various spaces which one can choose according to the work to be done may make it easier to secure privacy. Thus, H3 is supported to a certain extent.

**Discussion and Conclusion**

This study analyzes the impact of non-territorial offices and various zoning on privacy based on data from 6,592 individuals obtained in internet surveys. First, when the results of the analysis of H1 and H3 are considered together, the hypotheses are not
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sufficiently supported. Just having a non-territorial office does not mean that privacy will generally be improved. Since H2 is supported, various zoning, in other words having various zones with zones chosen based on circumstances greatly improves privacy. What is even more interesting to see is that as H3 is supported, and privacy is harmed by making an office non-territorial where various zoning is not allowed. When various zoning is put into practice at a high level, privacy is vastly improved.

These results provide one answer to the riddle of Allen’s results from their office experiment, namely that making an office non-territorial improves privacy. In their office experiment, they did not stop at simply making an office non-territorial but also added various zoning, which is thought to have improved privacy. This provides suggestions for discussions in existing studies on non-territorial offices.

In actuality, there have been an increasing number of offices recently that use various zoning and not just non-territorial offices alone. For example, Some offices are called activity-based working (ABW) or activity-based offices (Ekstrand & Damman, 2016; Gerdenitsch, Korunka, & Hertel, 2018; Hoendervanger, De Been, Van Yperen, Mobach, & Albers, 2016; Skogland, 2017; Wohlers, Hartner-Tiefenthaler, & Hertel, 2017). This type of office is known for allowing work to be done in workspaces that are appropriate to the activity. However, only in recent years have studies been done using surveys, and there has not been sufficient consideration of the relationship between open-plan offices and non-territorial offices, as well as the differences in their effects. In that sense, this study provides one suggestion for research on new types of offices, namely that simply making an office non-territorial without using various zoning (ABW) thinking may end in failure. By thoroughly implementing various zoning (ABW), companies can draw out the full effects of non-territorial offices.
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