The Telework Experience in Japan

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When top executives in Japanese organizations were asked to predict upcoming developments over the next 10 to 20 years, many highlighted telework as having the potential to become one of the main work styles for white-collar workers. The numerous potential benefits of telework for individuals, organizations, and society as a whole are well understood; however, adoption and diffusion of telework have been considerably slower in Japan compared with other industrialized countries [1]. According to a Satellite Office Association of Japan estimate [7], there are just over 900,000 teleworkers in Japan, and this number includes individuals who telework as little as once monthly or less. Lack of appropriate telework adoption guidelines and misunderstandings by middle management appear to be playing a major role in the slow adoption of telework in Japan [2, 5]. Many in middle management are simply afraid of it, and while members of upper management tend to be curious, most are waiting for someone else to take the lead. In recent years, several major Japanese companies have emerged as quite successful in adopting telework.

In this article, five successful telework adoption cases and four not-so-successful cases are examined and compared in terms of the four telework phases of adoption: inception, testing, implementation, and future planning. We begin by defining several telework terms used here (For a more comprehensive discussion of telework classification, see [3]).

- Telecommuting involves working at home during regular work hours.
- A satellite office refers to an office located in close proximity to group of workers’ residences.
- A mobile worker is one who works at a customer site or some other location chosen by him or her.
- A spot office is generally used by mobile workers as a temporary office space outside of their primary office. A company typically designates several desks in an existing branch office as a spot office.
A non-territorial office has desks that are not designated for any particular employee. A primary office of mobile workers, who rarely come to the office, is typically a non-territorial office. Whenever a worker needs a desk space, he or she just uses an available desk space.

Pseudo telework is a telework look-alike work style widely implemented in Japan. In this work style, a worker performs a job like a teleworker, but the efficacy of true telework is not achieved. If a satellite office worker or mobile worker also holds a designated desk at his or her primary office, or unnecessarily commutes to the primary office on most workdays, he or she is a pseudo teleworker.

Company A is a consulting firm with 950 employees that faced revenue losses of 25% when Japan’s bubble economy burst in 1993. Hoping to cut operating costs while improving customer satisfaction during this crisis, the CEO introduced mobile work from a non-territorial office to its systems consulting division in 1994. With the CEO as head of the telework implementation committee, this company instituted major changes to prepare for the telework implementation. In addition to computerizing most internal documents and developing a computer-aided workflow system, the company also redesigned the management and employee evaluation systems to fit the telework system. It initiated the telework program with 350 employees as full-time mobile workers and less than 120 desks for a non-territorial office. To support communication in this office, all desktop telephones were replaced by a wireless Personal Handy-phone System (PHS) linked with a beeper and a voicemail system. Currently all 900-plus consultants are full-time mobile teleworkers.

Company B is a computer manufacturer with over 20,000 employees. This company needed to create at least 600 desk spaces by the spring of 1998 without leasing a new office, and also wanted to improve the productivity of its sales and software engineering division. In order to achieve these objectives, it introduced mobile work with a non-territorial office and satellite offices to the sales and software engineering division. The CEO-endorsed telework implementation committee was headed by one of its senior executives. The company used a two-phased experimental approach. In phase one, 10 employees voluntarily joined the experiment and tested the support environment, including the IT and management systems. In phase two, a sales department was selected as a target group. Approximately 60 desks were used as a non-territorial office for 114 teleworkers, and desktop telephones were replaced by PHSs linked with a beeper and a voicemail system. Most internal documents were computerized, and a computer-aided workflow system was developed. In the spring of 1998, company B adopted mobile work with non-territorial offices as a formal work style, and 2,500 employees started working as mobile workers. Currently 4,100 workers are mobile working, and desk space has been reduced by 30%. The company is planning to institute satellite offices and telecommuting that targets regular office workers.

Company C, an office automation equipment manufacturer with approximately 20,000 employees, embraced telework as a means of developing a new employer–employee relationship. This company sought to empower its employees in the belief that company survival depends on the creativity and productivity of its knowledge workers. In 1992, it formed a telework implementation committee, headed by one of its senior executives, to begin the telework adoption process. The adoption plan included satellite offices, spot offices, and mobile work with a non-ter-
ritorial office. Participation in the satellite office experiment was open to all types of office workers, while the mobile work experiment targeted sales representatives in the Tokyo area. In order to avoid the double-office situation, satellite office workers were expected to have their designated desk only at the satellite office, which was equipped with a TV conference system. Mobile workers were equipped with a notebook PC, a beeper, and a PHS supported by a voicemail system. In 1996, 120 workers became satellite office workers, and over 1,500 workers became mobile workers. The company also opened several spot offices in the Tokyo area, and over 8,000 employees used these offices per year. In 1999, the company shifted its telework adoption strategy from satellite office to mobile work. The satellite office expansion was frozen, and the company geared up to establish 7,000 mobile workers within two years.

Company D is a general electronic equipment manufacturer with over 60,000 employees. This company had two major problems: its annual losses in 1998 were over $100 million, and its main work force would reach age 60, the company retirement age, in 10 years. This company desperately needed to reduce operating costs while improving worker productivity. In order to achieve these objectives, the company decided to adopt telework. It initiated a mobile work pilot project in late 1998 with a dozen sales representatives. Due to the company’s major re-organization in the spring of 1999 (the company was split into four separate companies), further pilot test implementation was delayed. Later, one of the splinter companies continued the telework initiative with strong endorsement from the top management. Currently, just over 50 employees are participating in the pilot test. Most are full-time mobile workers, and some are part-time telecommuters. The company is planning to expand telework to over 2,000 workers within two years.

Company E is a pharmaceutical engineering company with over 3,000 employees. The company needed to cut its operating costs and improve customer satisfaction after the 2002 pharmaceutical industry deregulation opened the Japanese market to foreign competitors. It decided to implement mobile work with a work-at-home arrangement. After initiating a pilot program in 1996, it closed all existing sales branch offices within a year. Mobile workers come to the primary office for weekly meetings. Currently the company has all 650 medical representatives (sales representatives) as full-time mobile workers.

Company F is a computer and telecommunication equipment manufacturer with over 40,000 employees. This company is considered a telework pioneer in Japan, as it has been experimenting with various telework programs since 1984. Currently, it is seeking new business opportunities by introducing telework as a business solution in Japan. Its telework committee has been headed by a junior executive division manager. Its telework program includes satellite offices, spot offices, and mobile work. Participation in the satellite office experiment was open to all types of office workers, while the mobile work experiment targeted sales representatives in the Tokyo area. For several reasons, the company was unable to test full-time telework, and thus all participants were part-time and pseudo teleworkers. This company’s satellite offices are still in the test phase, and their utilization rate is quite low (less than 30%). Mobile work was adopted as a formal work style by one sales department in Tokyo. Currently, all 20 sales representatives in this department work as mobile workers. However, most of them come into the primary office once or twice a week. Also, every worker has a designated desk at the primary office, and no particular changes were made for the
mobile work arrangement. These factors suggest the company is implementing pseudo telework. The company has no future expansion plans.

Company G is an office equipment supplier with over 3,000 employees. The company claims telework will significantly affect its market structure, and therefore, it is crucial to understand the needs of teleworkers and teleworking organizations. For this reason, it has been experimenting with telecommuting, satellite offices, and mobile work with a non-territorial office since 1996. For the experiment, only one or two high performers from several departments were allowed to participate in the experiment. Each participant individually gathered tasks to be performed alone at home and worked as a telecommuter once a week. Mobile work arrangements were made as personal agreements between employees and their managers in the sales department. The company does not appear to have a formal telework committee. A department oversees the internal telework activities, and staff members of this department and one senior executive are forming an informal telework adoption committee for the company. Although both workers and managers gave positive evaluations to the telecommuting experiments, the company has not yet begun the full implementation. Resistance from the personnel department appears to be the main reason for the delay in implementing telecommuting on a broad scale. While mobile work was adopted as a formal work style for 350 sales representatives, only approximately 40 employees are full-time teleworkers; the remaining 310 employees still commute to their primary offices daily. The internal telework adoption effort is stalled, and the company is not expecting a breakthrough anytime soon.

Company H, a telecommunications firm with over 110,000 employees, is also considered a telework pioneer in Japan. Since 1984, it had joined various telework experiments mainly to test its own new telecommunications technologies. It also initiated an experiment with satellite offices around Tokyo. The experiment was open to all types of office workers, with participants expected to work at the satellite office several times a month. Naturally all teleworkers had double offices, and because few workers volunteered to participate, no management or business flow changes were made for the experiment. Satellite offices were fully equipped with many advanced IT and telecommunications systems. This headquarter-sponsored effort never reached the implementation phase and terminated in 1996. Currently, several division-sponsored telework programs have been implemented, but because these programs are not recognized by company headquarters, they tend to be pseudo telework. Although the telework adoption efforts by several divisions are demonstrating some noteworthy results, the company headquarters has no plans to restart the telework adoption program at this point.

Company I is a computer and telecommunication equipment manufacturer with approximately 40,000 employees. Like companies F and H, this company initiated its telework program in 1984, and is also considered a telework pioneer in Japan. As is typical of the pioneering Japanese telework companies of the 1980s, this company established several fully equipped satellite offices around Tokyo, and a dozen or so high performers from an assortment of primary offices participated in the experiment. As with companies, F and H, all teleworkers had double offices, and no changes in management or business flow were made for the experiment. Although the satellite office program never reached the implementation phase, the company also initiated a mobile work program for its systems engineering and sales departments in 1994. Currently just over 3,000 employees are mobile workers, most as pseudo tele-
workers. Although, it is targeting 12,000 employees as potential mobile workers, it does not have a specific plan for how to achieve this target number.

**Examination of Telework Adoption Phases**

Based on their current implementation levels and long-term planning, companies A through E can be categorized as the successful adoption group, and companies F through I can be categorized as the problematic adoption group. Members of each group share common features. For example, all companies in the successful adoption group reported numerically their level of achievement in areas such as cost savings, reduced paper consumption, and improved productivity. With the exception of D, which is still in the early adoption stage and is moving toward full-scale adoption, all companies in the successful adoption group also adjusted their management and worker evaluation systems, and formally implemented full-time telework on a large scale.

On the other hand, all four companies in the problematic adoption group are implementing either part-time telework on a small scale or pseudo telework (with exception of H, which has already terminated the headquarters-sponsored telework program). They typically have no future expansion plan, or in the case of company I, have a vague expansion idea without a concrete plan. In the following sections, the two groups are compared in regards to each of the four phases of the telework adoption process.

*Inception phase.* In this phase, an organization sets telework adoption objectives, forms a committee to oversee the telework adoption process, and determines its target group, telework type, frequency, and budget. Clear differences exist between the two groups in terms of the objective, committee, and frequency areas. These differences stem from each group’s initial motivations for telework adoption. The successful adoption group sought to solve organizational problems, and thus defined the target group for telework adoption prior to the inception phase. The problematic adoption group, by contrast, sought less clearly defined business opportunities through telework.

<table>
<thead>
<tr>
<th>INCEPTION</th>
<th>Successful Adoption</th>
<th>Problematic Adoption</th>
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<tbody>
<tr>
<td>A B C D E</td>
<td>F G H I</td>
<td></td>
</tr>
<tr>
<td>Objective</td>
<td>C C C C C</td>
<td>V V V V</td>
</tr>
<tr>
<td>Committee</td>
<td>E E E E E</td>
<td>M M M M</td>
</tr>
<tr>
<td>Target group</td>
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<td>A A A A</td>
</tr>
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<td>Telework type</td>
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<td>so,mw So,tc so so</td>
</tr>
<tr>
<td>Frequency</td>
<td>F F F F F</td>
<td>P P P P</td>
</tr>
<tr>
<td>Budget</td>
<td>Y Y Y Y Y</td>
<td>Y Y Y Y</td>
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C: clear and measurable objectives are set; V: vague objectives are set; E: a formal program committee is formed and chaired by executive management class; M: a formal program committee is formed and chaired by middle management class; B: a target group was defined before this phase; A: a target group was defined at this phase; mw: mobile work; so: satellite office; tc: telecommuting; F: full-time telework; P: part-time telework; Y: yes, an official program budget was allocated by the organization.

**Table 1. Inception phase.**
**Test phase.** According to the plans made in the inception phase, the committee selects workers appropriate for telework, redesigns work processes, performs training of selected workers, establishes a support environment, conducts the telework pilot test, and evaluates the test results.

We noted clear differences between the two groups in terms of the selection of workers, redesign of business process, and evaluation areas. The successful adoption companies considered the adoption of telework as an organizational strategy. Therefore, they expected basically all workers in the target group to telework, and they instituted whatever changes were required for the adoption. Also because this group’s objectives were clear and measurable, full evaluation of the pilot test with respect to the objectives was conducted. On the other hand, the problematic adoption group did not consider the adoption program as an organizational strategy, and therefore, instituted no changes to make way for the program.

<table>
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<tr>
<th>TEST</th>
<th>Successful Adoption</th>
<th>Problematic Adoption</th>
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<tr>
<td></td>
<td>A</td>
<td>B</td>
</tr>
<tr>
<td>Selection</td>
<td>NS</td>
<td>NS</td>
</tr>
<tr>
<td>Redesign</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td>Training</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td>Environment</td>
<td>C</td>
<td>C</td>
</tr>
<tr>
<td>Pilot test</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td>Evaluation</td>
<td>F</td>
<td>F</td>
</tr>
</tbody>
</table>

NS: no selection is made, and all teleworkers are from the same office/department; ND: no selection is made, and teleworkers are from different offices/departments; SD: selection made, and teleworkers are from different offices/departments; Y: yes, it is conducted; N: no, it is not conducted; C: support environment is changed to fit telework; NC: no change of support environment is made; F: full evaluation with respect to the objectives is made; P: partial evaluation with respect to the objectives is made

**Table 2. Test phase.**

**Implementation phase.** The committee defines telework as a company-recognized formal work style, selects a target department or division for an introduction of the telework program, and supports the implementation of target group teleworking.

All companies in both groups except companies F and H defined telework as a formal work style. Company F did not define telework as a formal work style because

<table>
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<th>IMPLEMENTATION</th>
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<th>Problematic Adoption</th>
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<tr>
<td></td>
<td>A</td>
<td>B</td>
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<tr>
<td>Formal work style</td>
<td>F</td>
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<tr>
<td>Implementation</td>
<td>FT</td>
<td>FT</td>
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F: defined as a formal work style; (ep): remains at the experimental level; - : no data because the program was terminated before this phase; FT: full-time telework is implemented; PT: part-time telework is implemented; PS: full-time but pseudo telework is implemented.

**Table 3. Implementation phase.**
its labor union opposed it. Company H terminated the program after its pilot test was completed. The two groups showed a clear difference in how they implemented telework at this phase; all companies in the successful adoption group implemented full-time telework, while no company in the other group did, except company I, which implemented full-time but pseudo telework.

Future plan phase. The committee plans for the future expansion of the telework program within the organization. Again, there are clear differences between the two groups. The companies in the successful adoption group either completed the expansion plan or had clear plans regarding issues such as what departments and how many employees engaged in various types of telework during what time frames. Also, because these companies chose to implement full-time telework from the beginning, the increment in telework frequency is irrelevant. On the other hand, the companies in the problematic adoption group either had no expansion plans or had vague plans in which no specific numbers, dates, or other details were set. Two companies in this latter group, F and G, had employees teleworking only once a week or less, but had no plans for increasing the frequency of telework.

### Table 4. Future plan phase.

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<th>FUTURE PLAN</th>
<th>Successful Adoption</th>
<th>Problematic Adoption</th>
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<tbody>
<tr>
<td></td>
<td>A</td>
<td>B</td>
</tr>
<tr>
<td>Expansion</td>
<td>na</td>
<td>Y</td>
</tr>
<tr>
<td>Frequency</td>
<td>na</td>
<td>na</td>
</tr>
</tbody>
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na: not applicable because it has already achieved its goal;  
Y: yes, there is a clear future expansion plan;  
N: no, there is no expansion plan;  
V: there is a vague expansion plan.

### Implications

The two groups have interesting differences in their approach toward telework adoption (see Figure 1). Problematic adoption companies typically see telework as an opportunity for a new business, and therefore, the success of telework becomes the objective of their experiments. In order to increase the chance of experimental success, they choose an appropriate task and participants for telework. They typically do not have a strong commitment from top management, and in order to justify the start-up costs of telework, they use the telework experiment as a test bed for new, unproven technologies. Therefore, their efforts tend to remain at the experimental stage and do not lead to large-scale implementation. On the other hand, successful adoption companies tend to focus on organizational problems, and seek to employ telework as a possible solution. Because their objective is to solve organizational problems, they have strong support from top management.

Our study results suggest that management changes as well as perception changes are critical in making the implementation successful. Also, the technology used for the implementation should have a proven track record, rather than being the most advanced. Finally, feedback and know-how gained through experiments and implementation should be accumulated for future expansion and business opportunities. From our comparison of the two groups, we noted additional important issues relevant to each stage of successful telework implementation:
1. A pre-adoption phase is required prior to the inception phase to lay a theoretical and practical groundwork for telework. All companies in the successful adoption group performed a feasibility study before they decided to start the telework adoption plan.

2. At the inception stage, just forming a telework program committee is not enough; members of upper management should chair such a committee. From the policy (both public and internal) perspective, telework guidelines need to emphasize the importance of sponsorship by upper management. The sponsorship is responsible for securing necessary resources, addressing structural resistance to change, and overcoming the concerns of middle managers.

3. At the test phase, the selection of workers for telework may not be as important as frequently argued. All companies in the successful adoption group believed changes in business processes and management systems were far more important. Existing studies also indicate that the availability of adequate training, support, and evaluation processes [8], as well as changes in reward structure, management approaches, and IT infrastructure [6] may reduce the necessity for teleworker screening.

4. At the implementation phase, part-time and pseudo telework appear to have less significance than full-time telework in terms of strategic value. The former may improve worker satisfaction because it allows employees to achieve work flexibility without sacrificing social contacts and career security. If telework is exclusively aimed toward boosting worker satisfaction and retention, part-time and pseudo telework should be a durable business model. In fact, many of the current prac...
tices follow the part-time telework model. However, we expect that it does not incur as much strategic value as full-time telework, especially in terms of reducing business costs, improving productivity, and running a customer-driven business process. Although we believe telecommuting and full-time work at satellite offices will eventually become the norm for many office workers, an acceptable definition of strategic values for these types of telework must be provided for organizations first. Until then, telecommuting may be used mainly to satisfy the needs of workers, and therefore remain implemented largely as part-time telework.

Our discussion should be interpreted with caution, as several factors may limit the generalizability of results. Foremost, most of the success cases are based on mobile work rather than satellite offices or telecommuting. Also, the mobile workers were mostly sales representatives and systems consultants, while the telecommuters and satellite office workers were more diversified in their job descriptions. These discrepancies may have partially contributed to other distinctions between the successful and unsuccessful groups in terms of the frequency of telework, teleworker selection, the presence of measurable objectives, and the level of top management support. For example, large-scale mobile work for sales representatives or system consultants might have been easier to implement and monitor on a full-time basis without worker screening, and such efforts may thus have received more attention from top management.

Extensive telework implementation may be difficult for office personnel whose work is substantially different in nature from that of sales representatives or system consultants. This may be the reason part-time telework is more widely accepted among office staff and their managers. The experiences of the successful adoption group suggest full-time mobile work is easier to implement on a large scale than full-time telecommuting. Full-time mobile work tends to be more business factor driven than full-time telecommuting, and gains organizational support more easily. This line of thought leads us to believe that large-scale full-time telework for office workers may be difficult to deploy without well-defined strategic goals, which receive full endorsement by top management. This paradigm shift to an advanced virtual process demands that upper management be determined, and have a complete understanding of telework’s implications. Meanwhile, the success of large-scale mobile programs illustrates that following a strategic path from mobile work to telecommuting or satellite offices may help attain large-scale telework with reduced risk of failure. This may be especially true in Japan, where current labor law discourages organizations from adopting telecommuting as a formal work style.

**Conclusion**

The article introduced nine cases of telework adoption by Japanese organizations. These cases were discussed according to the four phases of telework adoption guidelines, which were proposed by the telework promotion committee [4]. These cases were then categorized into two groups: the successful adoption group and the problematic adoption group. An analysis of these groups revealed two distinct telework adoption approaches.

According to the survey performed by SOAJ [7], over 70% of workers in their 20s and 30s wish to engage in telework if it is available to them. Therefore, if many
Japanese organizations start adopting telework, Japan's telework population may increase dramatically. Four out of five companies in the successful adoption group have implemented large-scale telework only in recent years. The lessons learned from these cases will provide valuable insights to other organizations planning a telework program.

References


