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Are Home Offices Feasible in a University?: Faculty Perceptions of a Home Office Experiment

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IN August of 1992 the Department of Communication at a four-year university in the west began to experiment with home offices. This experiment came about because the building in which the department had been housed was scheduled for demolition and there was not enough space available on campus for all full-time faculty members to have an office. Six of thirteen full-time faculty members chose to give up their offices on campus and try the home office experiment. The remaining seven on-campus faculty members were given offices in three different buildings. Although the project was conceived out of necessity, it provided an opportunity to study the feasibility of home offices and "telecommuting" as an alternative to being housed on campus.

Sproull and Kiesler (1991) suggest that the introduction of any new communication technology in an organization will produce first- and second-level effects. First-level effects refer to the planned technical gains (i.e., increased productivity and/or efficiency) while second-level effects deal with unanticipated social consequences as people in organizations "pay attention to different things, have contact with different people, and depend on one another differently" (p. 4). In this paper we examine faculty perceptions of how the new technologies of E-mail and voice mail that were widely adopted as a result of the home office experiment changed our ways of working and our ways of thinking about what is important. We discuss both first- and second-level effects of communication technologies in three areas: (1) on faculty interaction both within the department and in the larger campus community, (2) on student/faculty interaction, and (3) on work styles and the ways faculty members think about their work.

PROJECT GOALS

When the home office project was envisioned, the goal was to use communication technology to create a work environment in which faculty without an office on campus could come to campus simply to teach classes and perhaps occasionally attend meetings, while performing most other duties off campus. Rather than having students meet with

faculty in their home offices, we equipped the offices so that faculty could "meet" electronically with students using the telephone, E-mail, and fax to look at drafts of student papers from home. Standard equipment for a home office consisted of a computer with an internal modem, a printer, and a fax machine. In addition, two university phone lines were installed in each home; one was connected to a modem for computer and fax and the other was connected to a speaker phone with the faculty member's regular university PBX extension. Five of the six home office faculty chose this standard package, although one person also chose to experiment with a videophone. The sixth person opted for a laptop computer without a printer and was able to receive fax messages via the laptop.

The department chair was concerned that there might be ill feelings between the "have's" and the "have not's" so he used some of the money for the project to upgrade the computer equipment of faculty members who remained on campus. All on campus computers were connected to the E-mail system so that the entire department was networked. Also, all faculty members were given voice mail.¹

From the beginning the project was conceived as a temporary solution to the problem of lack of office space on campus. Department members expected to be in this office configuration for two to three years until space became available for everyone in the same building.² There were three faculty members who hoped to continue the project for an extended time if it worked well. The project seemed more palatable to most faculty in the department and to administrators because it was temporary, but it did require all faculty members to move twice within a three year period.

METHOD

Data for this study were collected at four points in time. Prior to the relocation in the summer of 1992 all full-time faculty members, including the authors of this paper, and the department secretary responded to a survey designed to determine expectations about how the move and the home office project would change interaction, decision-making, and work styles within the department. A second set of data was collected in the spring of 1993 at the end of the first academic year in home offices. The authors used interviews to collect this data because of complaints that the survey took too much time. Two and one-half years into the project the authors conducted informal interviews, prepared a paper for a regional conference, and asked for feedback on the preliminary findings from members of the department. Department members' feedback in winter 1994 became the third data collection point for the current paper. Finally, another set of interviews was conducted in the spring of 1996, one year after all department members moved back to campus and into the same building. In this last round of data collection the authors interviewed fourteen full-time faculty members, the department secretary, the technical support person from computing services, and also key administrators such as the dean and provost. A copy of the survey and interview questions is provided in the Appendix.

RESULTS

The most obvious gain in productivity/efficiency is that home offices enabled the department to continue to function without adequate office space on campus. Both the dean and the provost suggested that the project was a success because it allowed department members to continue to teach their classes, interact with students, and maintain their professional responsibilities. Both administrators noted that they heard very little about the project after it was up and running and they consider this a sign of its success. A summary of faculty perceptions of the impact of the project is presented below.

Tasks that are Facilitated by the Technologies of E-mail and Voice Mail:

- Routine announcements and requests for information, such as textbook orders and scheduling courses.
- Calling department and committee meetings.
- Collecting information to make decisions.
- Scheduling social functions.
- Interacting with students.
- All of the above tasks related to faculty are easier to do with colleagues in the department. However, when communication faculty members try to use these technologies with others outside the department, they often are prevented from doing so because the implementation of technologies has not been uniform throughout the campus.

Tasks that Cannot be Accomplished as Easily or as Effectively Using Technology or From a Home Office:

- Having a department meeting via conference call. Once a faculty member "attended" a department meeting via conference call with a speaker phone on the meeting room table because she was recovering from surgery. Faculty members felt uncomfortable with this arrangement and did not try it again.
- Attending committee meetings and other service responsibilities. Faculty members with heavy committee or administrative responsibilities outside the department report less satisfaction with the home office arrangement.
- Informal communication with colleagues. Although most faculty members frequently use E-mail to arrange informal contacts such as going to lunch or going to a basketball game, eight of thirteen do not feel E-mail is an adequate substitute for face-to-face informal communication. Four faculty members feel satisfied with E-mail as a form of informal communication. Three people regularly "surf the net" as one of their forms of social interaction.
- Discussing topics about which participants are emotionally involved.

Problems We Encountered in Using Home Offices and Communication Technologies:

- The most frequently reported problem with using technology is noise in the modem connections from home.
- The second most frequently reported problem is that not all faculty on campus have the technology and/or use it regularly.
- The campus culture continues to operate on the expectation that faculty are available in their offices from approximately "9 to 5" on most weekdays.
- At the beginning of the project other faculty members were more accommodating of the scheduling problems of home office faculty than toward the end of the project.

Interactions with Students:

- Four out of six home office faculty began using E-mail assignments regularly. Before the home office project only one of these faculty members regularly used E-mail assignments. Faculty who used E-mail assignments during the home office project continue to do so now that they have moved back to campus. Four of the on-campus faculty members also began using E-mail assignments with students although they report using them less frequently.
- E-mail interaction with students often is valued more than other kinds of interactions because the faculty members who use E-mail regularly with students are seen as "more innovative" than those who do not.
- Concurrent with the department's home office project, student access to and acceptance of E-mail as a form of interaction has increased campus-wide during the four

years of data collection covered by this study (1992-1996). Faculty members noted less resistance to E-mail assignments at the end of the home office project than at the beginning. When the project began, faculty reported that only about 10% of students willingly embraced the use of E-mail. Faculty now report that about 25-33% of their students are already using E-mail for other purposes.

- Surprisingly, many students still resist using E-mail because they feel it is "inconvenient to go to a computer lab" or because they don't want to try something new.
- Faculty members report instances when they and their students learned "the hard way" about the problem of expressing intense emotions via E-mail.
- Eight faculty members and the department secretary report that at least one student has maintained an E-mail relationship after the quarter is over.

Changes in Decision-Making and Department Morale:

- Almost all faculty members report that the move had as much impact on decision-making as the home office project.
- Before the home office project began, the department chair would have informal conversations in the hallway to gather faculty opinions on upcoming decisions. During the home office project, the department chair used E-mail to take the place of these informal discussions. Now that all department members have moved back to campus and are housed in one building, the chair continues to send announcements and simple requests for information via E-mail. However, he also has gone back to the pattern of informally gathering opinions and information on decisions using face-to-face communication.
- We have fewer faculty meetings and meetings are more likely to be for the purpose of decision making rather than sharing information.
- During the experiment, home office faculty, as a group, checked their E-mail most frequently and were usually among the first to know about department announcements. Campus office faculty in buildings other than the department office building checked their E-mail at least once a day and were generally informed of announcements. Campus office faculty housed in the department office building checked their E-mail less often than once a day and were often the last to know about announcements.
- People are more likely to miss department meetings now that the department has moved back to campus. This may be due to the fact that meetings are no longer as important for face-to-face interaction because we are housed in the same building. Or it may reflect a department whose members are gaining more experience.
- Some department members seem to have more of a "voice" or "presence" in decision making now. This is particularly true for women and younger/newer faculty members since three of the six home office faculty are nontenured women faculty. During the four year period in which data was collected, these faculty members gained valuable years of experience that may have enhanced their credibility. In addition, three interviewees also noted that faculty members who frequently use E-mail, the internet, and GDSS now have a greater impact on decisions than those who do not use these forms of communication.³
- Department morale dropped during the three years of the home office experiment. Some faculty were frustrated about being spread around the campus and had mixed feelings about the message they received from university administration in being given home offices rather than campus offices.
- By the end of the first year back on campus, all but one faculty member report that morale has increased. The one reports no change. Faculty report feeling better about the department because we are all housed in one place and because there are now

classrooms in our building. Faculty also feel relieved that they are now settled and no longer have to anticipate another move.

- Faculty perceive that student morale is up now that we have a "home" on campus. The department secretary reports, "students aren't as frustrated when they come talk to me because they can now find the faculty member they are looking for."

What Did We Learn from the Home Office Project?

The experience of department faculty suggests that E-mail and voice mail facilitated communication with others in the department but was not always a reliable way of communicating with faculty outside the department. This project highlights the fact that implementation of new technologies in universities tends to be haphazard due to the autonomy of academic departments and the decentralized organizational structure. During our interviews with administrators, both the dean and provost noted that the rest of the campus is beginning to catch up and use E-mail and voice mail as a standard way of doing business. It is now much easier to use these technologies to do campus business than it was at the beginning of the project.

Administrators also learned that using home offices on a limited basis may not be as successful as implementing them campus wide because the campus culture is such that faculty are expected to be available from 9-5 Monday through Friday. Before implementing the project, faculty and administrators had the expectation that home office faculty would be able to do most of their job at home and come to campus only to teach. This expectation proved to be unrealistic. All home office faculty reported at least 20-25 hours per week working on campus and that many days they made 2-3 trips back and forth between home and campus.

There were a lot of misconceptions about the project among faculty outside the department. Some were jealous of the home office equipment, and many faculty in other departments thought we met with students in our homes.

Administrators learned the cost of doing business this way. Both the dean and provost felt this project was a success in that it temporarily solved the space problem, but they also believe that from the standpoint of cost, home offices are not as economical as a permanent solution.⁴

CONCLUSION

Sproull and Kiesler (1991) suggest that second-level effects or the unintended social consequences of implementing new technologies often have a greater impact on an organization than the expected increases in productivity or efficiency. Based on data on faculty perceptions before, during and after the home office experiment, we have noted some changes in these areas. In examining the effects of the home office project, it appears that another distinction can be made. Because the use of E-mail and voice mail was increasing on most campuses during this same time period, some of the changes the department experienced may represent simply speeding up the implementation process out of necessity. However, other changes, such as valuing E-mail interaction with students as a teaching technique, represent a difference in the department's culture that resulted from the home office project.

The first-level effects reported below can be separated into two categories: effects from the technology and effects of the home office project. The second-level effects are harder to separate and may represent an interaction effect between increased use of technology and the exigence created by the home office project.

First-level effects of Technology:

- Department members are able to share information and make decisions with fewer meetings.
- At least half of the faculty in the department use E-mail assignments and also E-mail announcements with students. While it appears these assignments do not necessarily increase the faculty members' efficiency in grading or processing student assignments, it can be argued that they increase student learning by increasing the number of student/teacher interactions and by exposing students to the dynamics of computer-mediated communication.

First-level Effects of Home Offices:

- The home office project allowed faculty in the department to upgrade their computer equipment.
- Faculty in the department learned to use the new technologies earlier than many others on campus and continue to be leaders in the adoption of E-mail and the use of the world-wide-web.
- People in home offices knew about departmental events before people in the main office complex.

Second-level effects:

- In some contexts, E-mail interactions are now privileged over other kinds of interaction.
- There are now groups of faculty who interact frequently about department issues, pedagogy, and theoretical ideas, using E-mail. Each of the authors of this paper report four others they frequently interact with on these topics, though not the same four.
- Faculty members who are reluctant to use the technologies are now left out of some discussions. Communicating through E-mail requires not only computer skills, but also privileges written over oral communication skills. "Quiet individuals" within the department tend to interact more frequently with colleagues now that E-mail is available.
- The role of the department secretary has been enhanced. During the first year of the project, she trained several faculty on Word Perfect software and connecting to the campus network.
- The department chair and faculty now believe that everyone in the department needs computer support and facilities at home.
- Not all home office faculty believe that having an office on campus is the most desirable scenario now that they have had a chance to try a home office without an office on campus. When the department moved back to campus, three of the home office faculty kept their computers, printers, and fax machines at home even though they report it is helpful to have an office on campus.
- The department chair reports feeling it is more acceptable to work somewhere other than his campus office.
- Both students and faculty learned "the hard way" the disadvantages of venting negative emotions over E-mail. These disadvantages include sending messages in haste that the communicator might not have said face-to-face, and the fact that E-mail messages can be forwarded to others without the sender's knowledge or consent.
- Finally, at this time there still seems to be a great deal of value in claiming an identifiable "space" on campus. The idea that "possession is nine-tenths of the law" still holds true for our university, although claiming territory in cyberspace through the possession of technology and the knowledge of how to use it is also seen as a valuable form of "possession."

REFERENCES AND NOTES

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¹So far voice mail is optional on our campus. Prior to the department move, only a few people in the department had voice mail. Although the entire communication department has been using voice mail for four years, many faculty in other departments on campus still do not have voice mail.

²The department was scheduled to move into an older building on campus once another department had moved into a new Allied Health building. Because of delays in this move, we spent three years in home offices.

³GDSS stands for Group Decision System Software. Members of the department used this software to develop a faculty evaluation instrument.

⁴The administrator's perception that the home office project was more costly is based on comparing the cost of the project to the cost of scattering department members into existing offices and modifying classroom space to make temporary offices. If the administration had compared the cost of the home office project to other alternatives that would have kept the department together in space off-campus, the cost comparisons would look quite different.

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APPENDIX

Home Office Interview Questions

1. Describe a typical student interaction when you are at home.
2. What percentage of your student contact comes from face-to-face, as compared to mediated communication?
3. What technologies do you use in a typical student interaction when you are at home?
4. How many times per week do you interact with students using:
 - a. E-mail
 - b. voice mail
 - c. fax
 - d. videophone
5. How many times per week do you interact with faculty using:
 - a. E-mail
 - b. voice mail
 - c. fax
 - d. videophone
6. How do you think having a home office, as compared to a campus office, is affecting your interactions with students?

7. Because you have a home office, as compared to a campus office, do you think students are contacting you more frequently, or less frequently than when you were on campus?
8. Have you provided training for your students on E-mail and other technologies? If yes, please describe.
9. What indicators have you observed that might reflect how your students feel about contacting you at home?
10. What indicators have you observed that might reflect how the students feel about contacting you using the technologies we have added?
11. How do you feel about using all of the new equipment?
12. How are you feeling about not having an office on campus?
13. How do you feel while working at home?
14. Do you think your interactions with peers have been affected by your home office? If so, how?
15. Do you think the home office/campus office configuration has affected department morale? If so, how?
16. Do you think department meetings have been affected by the fact that not everyone has an office on campus? If so, how?
17. Do you think the home office/campus office configuration has affected decision making? If so, how?
18. Do you think your interactions with the office staff have been affected by having a home office?
19. How many hours a week do you spend doing your job at home?
20. How many hours a week do you spend doing your job at school?
- 20a. How much of this is time in class?
21. How does this compare with previous years (before home office implementation)?
22. What kinds of job related tasks do you do off campus?
23. What kinds of job related tasks do you do on campus?
24. Are there tasks you find more difficult to do because you are in a home office? If so, which ones?
25. Are there tasks you find easier to do because you are in a home office? If so, which ones?
26. Do you feel you are able to keep your home life and work separate?
27. List strategies you use/have tried to keep your home life and work separate.
28. What types of professional activities do you have to do on campus, as compared to off campus?
29. How has time spent in these activities affected your ability to use your home office?