

Should Your Company Transition
from Traditional Private Offices
to an Open Office Plan?

Jay L. Brand, Ph.D.

HAWORTH®

CHANGE/TRANSITION MANAGEMENT WHITE PAPER
CHANGING NATURE OF WORK

Should Your Company Transition from Traditional Private Offices to an Open Office Plan?

The vast majority of corporations in North America have considered changing from traditional, private offices to some version of an open-plan office. Based on a great deal of scientific research on the influence of the physical environment on human motivation, performance, and job satisfaction, this paper explores the advantages and disadvantages of making this transition for your organization. It includes tips on how to make this change as painless as possible at your company, including psychosocial change management strategies that have been successful for many corporations.

TRADITIONAL, OPEN, OR SOMETHING IN BETWEEN?

Attempting to monitor the trends in office design can be difficult at best. It seems that with every decade come “new” recommendations on how best to design environments to support office workers. For better or for worse, over the last few decades the various trends “to and fro” among traditional, private offices; landscaped offices; cubicles; and open offices has afforded researchers a cornucopia of information. A number of consistent findings appear to be emerging from this work, although certainly more research is needed to corroborate these conclusions.

The link between the physical environment and office work has been explored in numerous ways over the last few decades. Studies have focused on the role of such variables as density, openness, lighting, color, and partitions as determinants of office workers’ attitudes and job performance. Four clear implications from this material can be summarized as follows:

- The psychosocial dimensions of office design and operation are at least as important as the physical aspects of these environments.
- The perception of individual control over one’s work area must be emphasized when designating office environments.

- A broad perspective for intervention that involves multiple levels of the organization can be far more effective than isolated design solutions.
- A functional analysis can improve the ultimate office design solution.

PSYCHOSOCIAL DIMENSIONS

Within certain constraints, the oft repeated maxim that “perception is reality” seems to hold across a broad range of work related phenomena. For example, the opportunity for ease of supervision afforded by open office plans can be seen as an advantage by managers but as a disadvantage by workers. In addition, the vast majority of managers report that noise is not a problem in their workplaces; however, an equally large majority of workers report that noise is a problem. What is the reality? In some important respects, it appears to reside in one’s perspective. This psychosocial perspective includes three dimensions:

1. The individual, or psychological
2. The corporate cultural
3. The broader society’s

At the level of the individual, factors such as gender, personal space (the area immediately surrounding people where they feel uncomfortable if strangers intrude), willingness to take orders from others, and other personality traits have been shown to relate to satisfaction with particular office layouts. It might be wise to ascertain workers’ preferences before arbitrarily imposing uniform footprints throughout an entire work area.

The corporate culture is communicated through the design of the workplace in many ways. How does the office space devoted to executives differ from that given to managers or supervisors? How much space is allocated for clerical and other support staff? Where are these spaces located relative to the others? If very clear messages about rewards, prestige, and position within the company are communicated through differences in space allocation and the location of offices, then moving upper level management from private offices to an open plan may result in increased dissatisfaction, in spite of the fact that such a move might improve productivity.

The society can also play a role in the efficacy of office design by determining, for example, what people in general consider to be the perks and rewards of a long career. These cultural expectations can be difficult to

overcome in the implementation of office designs that systematically violate such norms. Emphasizing the demonstrated advantages of new configurations while being sensitive to these broader cultural values may smooth the transition from traditional to more open plans.

PERCEPTION OF INDIVIDUAL CONTROL

The opportunity to control access to daylight and exterior views, control task and ambient light levels, and influence the territory one occupies—either directly by displaying personal artifacts, or indirectly by boundaries between workers or other personal space designations—increases the perception of control. Aspects of the work environment that decrease this perception of control, such as arbitrary moves, reconfigurations, or reduction in office space, usually decrease worker satisfaction. Exposure to unavoidable visual and auditory distractions also decreases the sense of personal control over one’s environment.

In transitioning from traditional, private offices to more open configurations, the benefits of increased individual control over the particular features of individual workstations should be stressed, along with potential performance improvements and increased opportunity for social collaboration. An important research finding suggests that open-office plans should also feature low-density configurations; high-density alternatives increase the visual and auditory distractions that tend to offset the advantages of open plans. Flexible, movable partitions can allow workers the freedom to alter their exposure to visual distractions, and neighboring conversations (speaker phones, etc.) can be effectively masked by introducing background white noise into the work area. Such systems need the benefit of expert acoustical design to ensure they provide targeted levels of speech privacy.

ORGANIZATIONAL PERSPECTIVE

To experience the maximum potential benefits of moving to open office plans, a broad organizational focus is essential. If the advantages of an open office are forced on managers while executives remain in much larger, private office areas, this duplicity will not go unnoticed. Ideally, every level of the organization should be convinced of the demonstrated advantages of an open office plan:

1. A shared organizational learning environment
2. Social facilitation of performance
3. Enhanced acquisition of the corporate culture
4. An increased opportunity for social interaction
5. Ease of supervision and monitoring

In addition to these documented advantages of open office plans, a holistic, organizational approach to transition that integrates incentive systems and other aspects of work life normally controlled by separate departments can help to ensure successful change for the long term. Human Resources, Information Systems, Facilities, and Designers must all work with executives to develop and implement a detailed transition plan. Such departmental strategic alliances also ensure that workers receive valued rewards, thus increasing their sense of personal control and autonomy. Certainly the management aspects of environmental transitions are at least as important as the physical restructuring itself.

FUNCTIONAL ANALYSIS & USABILITY TESTING

Other important factors that have been found to influence the link between design of the physical environment and corporate effectiveness include task complexity, temporal (time) demand,

and level within the organization. A functional analysis can specify what kinds of groups and tasks will be using the space, how this use might change over time, and what level(s) of the organization will be affected. Tasks that require simultaneous access to the same information across team members, or that require each team member to acquire the skills of other members virtually demand open office plans. Ease of communication and socialization among team members are also enhanced by open plans. Certain jobs (e. g., computer programming, technical reading or writing) have been shown to require more privacy than others (e. g., brainstorming, product design).

Finally, the features of any proposed office plan, both individually and collectively, should ideally be user-tested. Prototypes or mock-ups of individual and group areas should undergo usability testing and evaluation (with as much experimental control as possible) to ensure the feasibility of any proposed system.

A caveat: Unfortunately the information provided in the scientific literature rarely reflects the interests of architects and designers. The hypothetico-deductive method poses questions as “either-or” dichotomies, so while office designers may seek specific, optimal physical environment solutions (e. g., what kind of lighting or wall color would be best to maximize job satisfaction?), the scientific literature answers only whether lighting or color influence work attitudes—yes or no. Another pertinent issue in this regard involves the personalization of : Science asks such questions as, Do workers personalize their workspaces? Are personal items in their workspaces important to workers? and, Do personal effects in workspaces carry any significant symbolic meaning? But designers typically need answers to another set of questions: What level of personalization translates into the highest level of productivity and satisfaction? How many personal effects in a workspace are enough? Questions of this latter variety are rarely addressed by scientific investigations, where estab-

lishing reliable links between or among variables per se remains the primary focus of study, rather than specifying the design implications of these relationships. This document seeks to specify design guidelines supported by the bulk of the scientific research.

BIBLIOGRAPHY

- Adams, L., & Zuckerman, D. (1991). "The Effect of Lighting Conditions on Personal Space Requirements." *Journal of General Psychology*, 118, 335-340.
- Apgar, M. (May-June, 1998). "The Alternative Workplace: Changing Where and How People Work." *Harvard Business Review*, 121-136.
- Barua, A., Chellappa, R., & Whinston, A. B. (1997). "Social Computing: Computer Supported Cooperative Work and Groupware." In G. Salvendy (Ed.), *Handbook of Human Factors and Ergonomics*, 2nd ed. New York: John Wiley & Sons.
- Beekun, R. I. (1989). "Assessing the Effectiveness of Socio-technical Interventions: Antidote or Fad?" *Human Relations*, 42, 877-897.
- Block, L. K., & Stokes, G. S. (1989). "Performance and Satisfaction in Private versus Nonprivate Work Settings." *Environment and Behavior*, 21, 277-297.
- Bradshaw, M. M. C. (1984). "A Study of Employee Attitudes and Perceptions of Open-plan and Enclosed Office Environments." *Dissertation Abstracts*.
- Brown, K. A., & Mitchell, T. R. (1993). "Organizational Obstacles: Links with Financial Performance, Customer Satisfaction, and Job Satisfaction in a Service Environment." *Human Relations*, 46, 725-757.
- Caplan, R. D., & Van Harrison, R. (1993). "Person-environment Fit Theory: Some History, Recent Developments, and Future Directions." *Journal of Social Issues*, 49, 253-275.
- Carlopio, J. R., & Gardner, D. (1992). "Direct and Interactive Effects of the Physical Work Environment on Attitudes." *Environment and Behavior*, 24, 579-601.
- Carter, V. J. (1994). "The Family, the Workplace, and Work Technology: An Integrated Model of Class Identification Among Women Office Workers." *Work and Occupations*, 21, 308-334.
- Crocker, M. J. (1997). "Noise." In G. Salvendy (Ed.), *Handbook of Human Factors and Ergonomics*, 2nd ed. New York: John Wiley & Sons.
- Crouch, A., & Nimran, U. (1989). "Perceived Facilitators and Inhibitors of Work Performance in an Office Environment." *Environment and Behavior*, 21, 206-226.
- Crouch, A., & Nimran, U. (1989). "Office Design and the Behavior of Senior Managers." *Human Relations*, 42, 139-155.
- Czaja, S. J. (1997). "Systems Design and Evaluation." In G. Salvendy (Ed.), *Handbook of Human Factors and Ergonomics*, 2nd ed. New York: John Wiley & Sons.
- Donald, I. (1994). "Management and Change in Office Environments." *Journal of Environmental Psychology*, 14, 21-30.
- Donald, I. (1994). "The Structure of Office Workers' Experience of Organizational Environments." *Journal of Occupational and Organizational Psychology*, 67, 241-258.
- Evans, G. W., Johansson, G., & Carrere, S. (1994). "Psychosocial Factors and the Physical Environment: Inter-relations in the Workplace." *International Review of Industrial and Organizational Psychology*, 9, 1-29.
- Ferguson, G. S. (1984). "Development and Evaluation of a Model of Employee Responses to Office Physical Environments." *Dissertation Abstracts*.
- Ferguson, G. S. (1983). "Employee Satisfaction with the Office Environment: Evaluation of a Causal Model." *Environmental Design Research Association*, 14, 120-128.
- Gaedeke, A. R. (1968). "How Well Do You Manage Your Office Environment?" *Managers Magazine*, 69, 25-26.
- Gehlmann, S. C. (1992). "Individual Differences in Employee Stress as Related to Office Environment and Individual Personality Factors." In J. C. Quick, L. R. Murphy, & J. J. Hurrell, Jr., (Eds.), *Stress & Well-being at Work: Assessments and Interventions for Occupational Mental Health* (pp. 225-234). Washington, DC: American Psychological Association.
- Green, G. M., & Baker, F. (Eds.). (1991). *Work, Health and Productivity*. New York: Oxford University Press.
- Harrigan, J. E. (1997). "Architecture and Interior Design." In G. Salvendy (Ed.), *Handbook of Human Factors and Ergonomics*, 2nd ed. New York: John Wiley & Sons.
- Hendrick, H. (1997). "Organizational Design and Macroergonomics." In G. Salvendy (Ed.), *Handbook of Human Factors and Ergonomics*, 2nd ed. New York: John Wiley & Sons.
- Kalimo, R., Lindström, K., & Smith, M. J. (1997). "Psychosocial Approach in Occupational Health." In G. Salvendy (Ed.), *Handbook of Human Factors and Ergonomics*, 2nd ed. New York: John Wiley & Sons.
- Kelly, J. (1992). "Does Job Re-design Theory Explain Job Re-design Outcomes?" *Human Relations*, 45, 753-774.
- Klitzman, S., & Stelman, J. M. (1989). "The Impact of the Physical Environment on the Psychological Well-being of Office Workers." *Social Science and Medicine*, 29, 733-742.
- Lantrip, D. B. (1993). "Predicting Satisfaction with the Office Environment by Measuring Constraints to Worker Activities." *Proceedings of the Human Factors and Ergonomics Society's Annual Meeting*, 1, 489-493.
- Leino, P. (1989). "Symptoms of Stress Predict Musculoskeletal Disorders." *Journal of Epidemiology and Community Health*, 43, 293-300.
- Loewen, L. J., & Suedfeld, P. (1992). "Cognitive and Arousal Effects of Masking Office Noise." *Environment and Behavior*, 24, 381-395.
- Mazumdar, S. (1992). "Sir, please do not take away my cubicle: The Phenomenon of Environmental Deprivation." *Environment and Behavior*, 24, 691-722.
- Medsker, G. J., & Campion, M. A. (1997). "Job and Team Design." In G. Salvendy (Ed.), *Handbook of Human Factors and Ergonomics*, 2nd ed. New York: John Wiley & Sons.
- Oldham, G. R. (1988). "Effects of Changes in Workspace Partitions and Spatial Density on Employee Reactions: A Quasi-experiment." *Journal of Applied Psychology*, 73, 253-258.
- Oldham, G. R., & Rotchford, N. L. (1983). "Relationships Between Office Characteristics and Employee Reactions: A Study of the Physical Environment." *Administrative Science Quarterly*, 28, 542-556.
- O'Neill, M. J. (1994). "Work Space Adjustability, Storage, and Enclosure as Predictors of Employee Reactions and Performance." *Environment and Behavior*, 26, 504-526.
- O'Neill, M. J. (1998). *Ergonomic Design for Organizational Effectiveness*. Boca Raton, FL: Lewis Publishers.
- Ornstein, S. (1992). "First Impressions of the Symbolic Meanings Connoted by Reception Area Design." *Environment and Behavior*, 24, 85-110.
- Propst, R. (1968). *The Office: A Facility Based on Change*. Elmhurst, IL: The Business Press. Quinn, J. B., Anderson, P., & Finkelstein, S. (March-April, 1996). "Managing Professional Intellect: Making the Most of the Best." *Harvard Business Review*.
- Repetti, R. L. (1987). "Individual and Common Components of the Social Environment at Work and Psychological Well-being." *Journal of Personality and Social Psychology*, 52, 710-720.
- Rosenblatt, B. (1995). *New Changes in the Office Work Environment: Toward Integrating Architecture, OD, and Information Systems Paradigms*. Norwood, NJ: Ablex Publishing Corporation.
- Scharf, F. E. (1995). "Distraction Potential in the Office Environment." *Dissertation Abstracts*.
- Scheiberg, S. L. (1990). "Emotions on Display: The Personal Decoration of Work Space." *American Behavioral Scientist*, 33, 330-338.
- Schein, E. H. (1996). "Culture: The Missing Concept in Organization Studies." *Administrative Science Quarterly*, 41, 229-240.
- Shalley, C. E. (1991). "Effects of Productivity Goals, Creativity Goals, and Personal Discretion on Individual Creativity." *Journal of Applied Psychology*, 76, 179-185.
- Sharps, M. J., Welton, A. L., & Price, J. L. (1993). "Gender and Task in the Determination of Spatial Cognitive Performance." *Psychology of Women Quarterly*, 17, 71-83.
- Sinha, S. P., & Sinha, S. P. (1991). "Personal Space and Density as Factors in Task Performance and Feeling of Crowding." *The Journal of Social Psychology*, 131, 831-837.
- Stanney, K. M., Maxey, J. L., & Salvendy, G. (1997). "Socially Centered Design." In G. Salvendy (Ed.), *Handbook of Human Factors and Ergonomics*, 2nd ed. New York: John Wiley & Sons.
- Stone, N. J., & Irvine, J. M. (1993). "Performance, Mood, Satisfaction, and Task Type in Various Work Environments: A Preliminary Study." *The Journal of General Psychology*, 120, 489-497.
- Sundstrom, E., Town, J. P., Rice, R. W., Osborn, D. P., & Brill, M. (1994). "Office Noise, Satisfaction, and Performance." *Environment and Behavior*, 26, 195-222.
- Sutton, R. I., & Hargadon, A. (1996). "Brainstorming Groups in Context: Effectiveness in a Product Design Firm." *Administrative Science Quarterly*, 41, 685-718.
- Wilson, J. R., & Haines, H. M. (1997). "Participatory Ergonomics." In G. Salvendy (Ed.), *Handbook of Human Factors and Ergonomics*, 2nd ed. New York: John Wiley & Sons.
- Wollman, N., Kelly, B. M., & Bordens, K. S. (1994). "Environmental and Intrapersonal Predictors of Reactions to Potential Territorial Intrusions in the Workplace." *Environment and Behavior*, 26, 179-194.
- Worchel, S., & Shackelford, S. L. (1991). "Groups Under Stress: The Influence of Group Structure and Environment on Process and Performance." *Personality and Social Psychology Bulletin*, 17, 640-647.