



SUPPORTING WORK PERFORMANCE IN THE INFORMATION AGE

Stimulate

. . .They have obviously accepted a set of principles for how to work. The principles are based on the set of beliefs about what it will take for a business to be successful in the future. At the center of these beliefs are innovation and entrepreneurialship. A corollary is that people need to work together, communicate. Consequently a distraction is viewed as an enhancer of performance rather than a disrupter and detriment to performance. This shift is fundamental to the design of the environment.

— Herman Miller Research, site visit notes, August 1998

The exploratory research that led to the development of the Resolve™ system revealed a significant trend toward lower panel heights and fewer dividing walls in organizations that had previously been using a mix of enclosed offices and standardized workstation configurations created with tall panels or dividers. Our research—which included direct observation, in-depth interviews with management leadership, and a review of the literature—suggests a number of reasons for this shift in facilities strategy.

Collaborative work

First and most obvious is the dramatic increase in team and project work as organizations strive to keep pace with rapidly changing markets and technologies. Over the past two decades, many companies reengineered their organizations, replacing traditional hierarchies with teams. Now they are modifying their standard open-plan office layouts in ways that they hope will better support team projects and other kinds of collaborative work.

“All the accepted research in this field says you have to have more visual and acoustic openness to get the benefits of a team-based organization,” says Jon Ryburg, President of the Facility Performance Group, a research firm in Ann Arbor, Michigan. Management leaders in many North American companies have held this view for some time. “Years ago, we realized that to succeed we needed to talk to each other, and that to communicate we had to be able to see and hear each other,” the CEO of a large technology firm told our researchers.

But the benefits of physical openness are gaining recognition even among the “gold-collar” engineers and programmers of Silicon Valley. “The programming code we write has to work together seamlessly, so we should work together seamlessly as well,” says a Netscape Communications programmer and open-plan advocate quoted recently in the *New York Times*.

An internal study of a team of employees and contract workers at Herman Miller found that group interaction was enhanced by a more open and compressed work environment and that, although team members rated their new work space “less private” than their previous one of panel-enclosed workstations, they also rated “collaboration with coworkers” as more essential to their productivity than either “privacy” or “quiet places.”

Interviews with people who worked in early test installations of Resolve elicited similar comments. “I liked the openness and being able to talk to people if you needed to,” one beta site participant recalled. “The ability to talk through to somebody sitting on the other side of the wall, so to speak, was much more prevalent [in the Resolve environment] than it would be with the standard furniture that we have.”

Learning all the time

It isn't just members of a formal team who need to interact. Constant change—new products, new suppliers, new technologies—requires all workers to be continually learning from each other. On-the-job education happens in a variety of ways—from direct question-and-answer interchanges to the kind of incidental learning that takes place when observing others at work, overhearing a bit of telephone dialog, noticing the title of a report on a coworker's bookshelf—almost all of which benefit from opening up visual access among workstations.

Studies conducted by the Institute for Research on Learning showed that people learn more quickly in work environments that permit overlapping of different specialties or “communities of practice.” Work settings that let people see productive events as they play themselves out, and that allow them to encounter a variety of individuals over the course of a workday, enhance opportunities for learning. Research indicates that environments that provide a variety of visual stimuli and some opportunity for change promote learning. Monotonous, static environments are counterproductive.

Creative enterprise

The kind of original and resourceful thinking that leads to new products and innovative solutions is often collaborative and often the result of a “happy accident” in which disparate thoughts or ideas come together in unexpected ways. In his study of the creative process, psychologist Mihaly Csikszentmihalyi found that what he calls “the distraction of novel stimuli” can serve to enable the subconscious mental processes that make unlikely connections. A stimulating environment, one that allows for interaction and visual display, may be an aid to creative problem solving.

Social interaction

Now that computer and telecommunications technologies allow people to work virtually anytime and anywhere, face-to-face interaction is becoming the primary reason for coming in to work at a corporate office. As employees are given greater flexibility

to choose where and when they do their work, the role of the centralized workplace becomes increasingly social. Telecommuting experts counsel even those who technically are able to accomplish *all* their work at home or on the road to be “on-site” two days a week to maintain connections with coworkers and interact with colleagues in nonelectronic ways.

As the work of the office place evolves to focus more on creative thinking, collaboration, shared knowledge, interpersonal relationships, and making connections, work environments that isolate workers in walled offices or paneled cubicles become less effective. Although there will always be types of work that require intense concentration and protection from distraction, our research suggests that these needs can be effectively met outside assigned, enclosed workstations—through remote work locations or on-site, shared, “quiet rooms,” for instance.

Increasingly, the role of the physical work environment will be to stimulate interaction, not to protect people from it.

What about acoustics?

Acoustic privacy and the distraction of overheard speech and general sound levels in the workplace have always been concerns in open-plan environments. When the work setting is further opened up to provide more visual access and stimulation, are these issues exacerbated?

Interestingly, our research has found this not to be the case. In beta site testing, people working in a Resolve environment reported no increase in acoustic distractions over their former panel-enclosed workstations. Some even found the open Resolve spaces less noisy than the stations they returned to after use testing was complete.

Our researchers offer a number of possible reasons for this initially surprising finding. First, observation and experience suggest that greater visual access actually gives people greater control over speech privacy. In wall- or panel-enclosed offices, people are less aware of who might overhear them or whom they might disturb by carrying on a hallway conversation. When people have a clear view of the surrounding environment and the other people in it, they modify their behavior accordingly.

In addition, field and laboratory research have documented findings indicating that noise (defined as “unwanted sound”) is a relative phenomenon. It is a person’s *perception* of sound, rather than a decibel level or any other measurable quality, that determines its distracting effect. For example, studies show that people are more tolerant of noise if they are generating it themselves or if they associate it with activities they approve of or with people they like. Thus, in a corporate culture like the one described at the beginning of this paper, where openness and interaction are highly valued and “distractions” are seen as enhancing rather than detracting from performance, the sounds of fellow workers might be perceived as an integral part of one’s work rather than something that interrupts it.

Recent studies also indicate that people become habituated to background office noise after prolonged exposure. Over time, people get used to the sounds of a given environment, and noises that initially have a negative impact on performance eventually lose their disruptive effect.

Finally, technological advances continue to provide ways of reducing interruptions and noise in the workplace. Voice mail and e-mail have radically reduced telephone-related sound in many corporate environments. Information exchange that does not require face-to-face communication can now take place more conveniently—and quietly—in concentrated blocks of time and at the worker’s discretion. In many cases, people can now choose when and where to perform phone-related tasks; cell and “companion” phones let their users literally “take” their calls with them to a more quiet or private place when necessary. In environments such as customer service or order-taking centers that must support constant interaction by telephone, continual refinements in headset technology—such as the capability to screen background sound—promise more effective acoustic control than can be achieved by physical barriers.

Sources

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