

Architects and Designers

Facilities Strategies to Support Corporate Change and Flexibility

February 13, 1998
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Traditionally, facilities managers have equated space performance with space efficiency. Since efficiency usually refers to the number of people per unit of space, it is straightforward to calculate the savings in real estate costs associated with cramming more people into smaller and smaller spaces. Since cutting costs never goes out of style--and real estate costs will almost certainly remain high (and visible) into the next century--this emphasis on space efficiency will continue; executives will ask facilities managers to get more people into less space, and do it quickly, flexibly and cheaply. However, this trend may represent an unfortunate emphasis on "space" performance rather than "human" performance. Accumulating numbers of case studies demonstrate that ensuring adequate facilities for the needs of workers almost always pays for itself--usually within the first three years. Perhaps maximizing space performance through minimizing allotments to individual workers negatively impacts the productivity potential of the entire workers-environment system. Could it be possible that in order to optimize overall output per unit of space, performance must come to mean more than efficiency?

Four key points need to be balanced in addressing this question:

- Speed;
- Flexibility;
- Cost;
- The human element.

The speed of moves, adds and changes within a particular space determines the "down time" for office workers. Fast changes mean that workers can begin being productive immediately following a reconfiguration; any lag time hurts the bottom line. Supporting flexibility not only influences the speed of changes, but can also eliminate the need for radical re-planning "from the ground up." Cutting costs of facilities planning and maintenance cannot be ignored, but such strategies must be balanced by a consideration of the psychosocial needs of individual workers and work groups. Workers' interpretations of facilities planning is just as important to their well-being and productivity as the actual, physical surroundings.

So what are some specific strategies that facilities managers can use to balance these competing interests? First, adopt a broad perspective that recognizes how the face of corporate America has changed and will continue to evolve. Stable, hierarchical organizational structures that in the past allowed long-range strategic planning for facility needs are being replaced by highly automated, decentralized organizations whose strategies constantly change to meet shifting customer interests and tastes. More and more organizations reflect a "horizontal" rather than a "vertical" structure, allowing for quick formation and dissolution of functional work groups and teams.

In this emerging corporate environment the impetus for strategic planning is shifting toward the vagaries of customer behavior and preferences, and away from centralized, executive vision. Naturally, this dynamic business landscape compromises the ability of facilities planners to anticipate future space allocation needs. Speedy data collection and access to information about corporate restructuring, particularly at the level of teams where churn predominates, gives savvy facilities managers the ability to accommodate rates of change unthinkable just a few years ago.

Rather than spend time reconciling long-term corporate planning with long-range space and technology requirements, facilities managers should concentrate on developing different alternative solutions that can be implemented quickly and at the lowest cost in the short-term without limiting themselves to one solution for the long-term; ideally, facilities configurations should be allowed to ebb and flow among several of these alternatives. Certainly long-term goals cannot be ignored in interior architecture and design, but more and more reality dictates that the further into the future projections are made, the more likely they are to need revising. Thus, the flexibility not only to allow but support short-range reconfigurations must be available.

There are essentially four ways that facilities managers can address this volatile business climate:

- Do the most with what you have;
- Design spaces rather than footprints;
- Allow more user-centered control over the space available;
- Support both teams and private spaces within the same work area.

These techniques--developed more fully below--assure that declining square-footage will not compromise employee performance and productivity.

1. Do the most with what you have. Essentially, maximize! Exploit to the fullest extent the space and other resources already available. This suggestion sounds too simple to be really useful, but frequently reconfigurations do not require a complete architectural overhaul of an entire area. Perhaps most or at least some of the existing walls can remain, and if panel systems are in place, modular components can be added to augment the functionality of the space without replacing the entire system. Sit-stand workstations can also be specified within smaller areas, allowing more vertical flexibility and movement and thus minimizing the requirements for spreading work horizontally. An interior design consultant may be needed to ensure proper coordination of added components (e. g., privacy blinds, marker boards, free-standing tables) with existing systems.
2. Design spaces rather than individual footprints. In order to accommodate more rapid change, work areas need to be considered as functioning units rather than as a collection of individual footprints replicated indefinitely for hundreds of workers. Rather than projecting a fixed, linear development of space needs in terms of the addition of individual workers, strategic facilities planning should focus on the more abstract level of functional work groups, or teams. Research indicates that 60% of the skills employees require to do their jobs is learned informally, and teams are the most important arena for this informal learning. Thus, support for teams--their formation, function, attrition and recombination--should be a primary focus for facilities planning.

This idea has important, far-reaching implications not only for facilities managers but also for architects, interior designers, and office furniture manufacturers in terms of how furniture systems and components are designed and specified. To some extent, every corporation will require some customization of their facilities, primarily because different corporations may reorganize around different functional principles. But the "grain size" (the scale unit, or "level of abstraction") for reorganization will increasingly occur at the level of self-organizing work groups (e. g., teams) characterized by skilled technicians from across departments, rather than at the level of individual workers. Layouts and specifications should thus be structured to support collaboration within and between groups, concentrating on entire work areas rather than individual footprints. Facilities constraints imposed on spaces should be flexible enough to allow the space to grow and adapt to changing needs.

3. Allow more user-centered control over the space available. Although making all of the decisions about furniture, components and technological support centrally, simplifies the initial specification of a work area, the necessity to rapidly reconfigure the initial solution requires more decentralized control. To the extent that decisions about where to situate desks, tables, partitions, marker boards, chairs, telephones and computers can be given to individual workers, facilities managers can concentrate on the more global aspects of facilities strategic planning for highly competitive, dynamic environments.

If initial planning concentrates on outfitting functional spaces rather than replicable individual footprints, this encourages distributed decision-making regarding individual furniture and component reconfigurations. In some cases, moving computers, data and communications may require intervention from facilities strategists or information systems technicians, but LANs increasingly make individual locations interchangeable--certainly this is true for phones, and increasingly for computers.

Office furniture systems characterized by free-standing, modular components can serve to enhance this approach to decentralized control over office configurations; many times such components (e. g., free-standing tables, acoustic screens, privacy partitions, marker boards, and roaming file cabinets) can simply be added to existing facilities to accommodate more people within the same space. Efficient support of both teams and individuals can thus be accomplished without resorting to a "one-size-fits-all" shrinking footprint. Research indicates that as density within a space increases, the need for screens and partitions also increases, although improved lighting can mitigate this relationship to some extent.

4. Support both teams and private spaces within the same area. The emphasis should be placed on designing larger spaces that incorporate a variety of levels of group and individual needs. Such "work areas" should be quickly reconfigurable to coordinate and facilitate both teaming and private work. Currently, individual footprints are typically replicated many times to fill an entire room, with conference rooms available at the periphery of the space. Why not design the primary area to support rapidly reconfigurable teams derived from the workers throughout the space, and provide a small number of peripheral private areas that can be shared as needed? Thus, the occasional needs for complete privacy can be accommodated while providing the advantages of a more open plan for social affiliation, facilitation, and communication.

This admonition to facilitate both teams and privacy within the same reconfigurable area in many ways serves to synthesize the earlier suggestions. Doing the most with what you have many times requires that the same space must support many different functional realities. If spaces rather than individual footprints are designed and outfitted initially, such multiple uses of the same space can be easily accommodated. Relatively stable constraints can be placed around entire department areas (we like "neighborhoods") rather than around individual workers. Finally, the ability to "mix and match" configurations and components throughout a work area gives individual workers a sense of personal control and ownership of their work spaces. Psychologists have long recognized the importance of this sense of internal control in health and well-being; although the relationship between job satisfaction and job performance can be complex, a satisfied worker is generally more productive.

An historical perspective might provide some urgency to the idea that the primary concern of facilities coordinators should be to support workers. During WW-II, from the bombing of Pearl Harbor to January 1, 1944 (two years), 37,600 workers were killed in the ship-building industry, 7,500 more than were killed in the war. In addition, 210,000 workers were permanently, and 4,500,000 temporarily disabled, 60 times more than the military wounded or missing.

Just one more example: In the early 1970s it was becoming increasingly obvious to scientists within the plastics industry that significant health risks accompanied exposure to vinyl chloride, a necessary precursor to polyvinyl chloride. Specifically, a rare form of liver cancer began showing up in disproportionate numbers of workers in this area of manufacturing. In 1974--to shriekers from industry that it would not be technologically feasible; that plastics manufacturing would be doomed, plants would close, associated ventures would collapse, and thousands of jobs would be lost--OSHA passed mandatory regulations requiring "no detectable levels" of vinyl chloride in areas where workers would be. Contrary to industry's dire predictions, by 1979, production capacity had increased (vinyl chloride 41%; polyvinyl chloride 85%), and since 1974, 2,000 jobs have been created within the industry.

While ship building and plastics manufacturing may be quite different from office work, these numbers serve to illustrate the importance of designing safe and healthy working conditions that adequately support workers. After all, 30% of complaints to NIOSH come from office workers, and this percentage is rising every year. In addition to the mere protection of workers, the importance of retaining and leveraging the human potential of a highly skilled and highly mobile work force cannot be overlooked. The number of unskilled office workers will decline (17.8% to 11.4% of total jobs by 2,000), while the number of professional and technical workers will increase (15.6% to 19.8% of total employment by 2,000); retention of and performance support for such skilled labor will be increasingly necessary to guarantee corporate productivity and competitiveness into the next century.

If worker health, satisfaction and performance aren't sufficient to convince you of the need for more flexible areas--specified as complete spaces rather than cramped, individual "footprints"--consider these trends in office systems identified by the Office of Technology Assessment: 1) More microcomputers and distributed data handling (there's a surprise!); 2) More linkages & networking among PCs, mainframes, and peripheral systems; 3) More "capture of data" at the point of origin (thus eliminating the need for repeated data entry; incidentally, this trend directly contributes to--if not creates--the need for rapid response to dynamic market conditions); and 4) Improved communication across diverse and distributed sites of data and devices.

While these trends identified by our "best and brightest" may not surprise you, they do paint a picture of continued change and flexibility within office work spaces. Facilities managers will need to do more with less space, increase productivity with decreasing numbers of workers, and support rapidly expanding technology and communications systems--perhaps even functional linkages among remote locations--"virtual offices!" But always remember that maximizing a space means optimizing its output, and assessing that necessarily involves the people who use the space. Minimize what can be minimized, but not at the expense of workers. The modest proposals that have been suggested here may constitute a step toward supporting many of these inevitable changes within corporate America into the next century.

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