



In the last 10 years, substantial research has been completed that demonstrates the effects certain design criteria can have on increasing the productivity of building occupants. Performance Design focuses on opportunities to improve a company's profitability by analyzing building projects holistically over time, rather than solely as a one-time capital expenditure.

Research has shown that, when the cost to employ the occupants of a building is considered, the capital costs to build it and operate it represent only 10 to 15 percent of the total cost over time. Although the design solution has a direct impact on operating costs and occupant productivity, most clients still focus almost exclusively on the initial capital cost. We feel this occurs for three reasons:

- ❖ Building capital costs are a substantial, point-in-time expenditure for a corporation, while employee costs are incremental over time.
- ❖ The cost of improving or replacing existing facilities is an optional expense, while the cost of employment is a necessary one.
- ❖ The typical design process does not incorporate education of the client regarding the opportunities available when a project is approached holistically. Consequently, the client isn't given an opportunity to consciously decide which performance design concepts are appropriate for his or her project.

Performance Design attempts to remedy this situation by making a direct correlation between the design solution and total building performance research data. Much of the data is quantitative and can be factually proven. For example, we can demonstrate opportunities to realize up to 60 percent savings in energy consumption, which has two effects on building cost. First, a reduction in ongoing operating costs and second, reductions in the initial cost of mechanical equipment because of lower heating and air conditioning loads.

Another example of quantitative data is a study commissioned by Details Incorporated (a division of Steelcase) that proves the cost to mitigate repetitive motion disorders in keyboard-intensive work environments averages \$1,200 per employee per year. This cost is for *every* employee, not just those who develop disorders.

In response, we have developed an ergonomic audit service, where we distribute questionnaires on computer disk to each employee and develop appropriate design solutions to reduce repetitive motion problems. We can also train employees on the

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proper use of computers. One of the biggest problems with computer use is glare from artificial light, which causes eye strain. Many of these problems can be avoided by using indirect artificial lighting, which we now recommend to all of our office clients.

There is also a considerable body of interesting quantitative data. The Rocky Mountain Institute recently released a report documenting eight projects that achieved substantial increases in employee productivity through the use of relatively simple design concepts, such as natural light, operable windows and improved climate control. This data demonstrates a direct correlation between environment and productivity. The interesting aspect of these case studies is that the original objective in all of the projects was to reduce energy costs. However, the resultant productivity increases (including reduced absenteeism) represent savings much greater than the energy savings alone.

We feel the critical issue in effectively incorporating Performance Design concepts into a project is to help the client decide which criteria are appropriate for his or her project. Some clients may be inclined to incorporate only the highly quantitative data, while others might incorporate the more qualitative criteria. The criteria each client chooses is based on our ability to educate him, the nature of his business and his attitude toward value.

Simply put, Performance Design is bottom-line design. It permits our clients to analyze their facilities from a business perspective and recognize that facilities are not a necessary evil that increases fixed costs, but rather an opportunity to improve their profitability.

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