A Vision of the New Workplace Revisited

by JACK TANIS
and FRANCIS DUFFY

Two leading workplace design experts reflect on the shifting work space landscape and on how their earlier theories on the topic have played out.

Introduction: Origins of this Paper

In April 1993, the International Development Research Council's journal, *Industrial Development*, published an article entitled "A Vision of the New Workplace." (*Industrial Development* ran in *Site Selection* magazine for several years.) The authors were Francis Duffy from London-based DEGW, an architect who has spent most of his career studying and acting upon the ever-changing relationship between office design and business; and Jack Tanis from Steelcase, who has exactly the same interests but with a point of view that starts with the business issues.

Both Duffy and Tanis had worked on the development of Workplace Envisioning, Steelcase's pioneering program for helping office users define their emerging requirements. The ideas that underpin Envisioning have profoundly influenced Steelcase's new portfolio of products called Pathways.

Some unconventional ideas were presented in the paper, ranging from an analysis of the implications of contemporary managerial ideas, particularly those related to Business Process Reengineering (BPR), to the design of office space; predictions of the direction of change in user requirements for office accommodation; and a lament on the failure of the property industry as well as of architects and designers — not to mention the construction industry — to anticipate change.

This account of Duffy and Tanis's experience over the last six years brings the story up to date. Six years is a very long time in a rapidly developing field. Some things have changed and others have not.

This article, which revisits the territory explored over half a decade ago, introduces two kinds of data that were unavailable in 1993. The first are tests that corroborate the trends predicted in the Interaction/Autonomy model presented in the earlier paper.

The second is case studies of the innovative use of office space for business purposes by a number of leading organizations. To these data are added reflections on the business case for Business Process Re-engineering, thoughts on measuring the impact of design on business performance, and finally, further comments on the consequences for the property and construction industries of linking design directly to business goals.

Our April 1993 paper, "A Vision of the New Office," attempted to build a bridge between organizational ideas and design. To do this we drew extensively on contemporary managerial literature, not least the writings of various distinguished promoters of Business Process Re-engineering (BPR). We were impressed by the logic as well as by the conviction of those who argued that advances in Information Technology (IT) must lead to the rethinking of office processes as well as of manufacturing.

At that time, many organizations, dissatisfied with their return on investment in IT and influenced by such managerial gurus as Michael Hammer, had begun to invest great faith — and large amounts of money — in BPR. The most obvious result has been the rapid growth in the numbers and size of business consulting firms. Perhaps reflecting on this experience, Michael Hammer said in a recent seminar, "We have not adequately considered the effect that Business Process Re-engineering has on the place (of work). We need to include space in our model."

Most corporate leaders still believe that BPR has helped their organizations to become more competitive. However, recent reviews have drawn attention to the high failure rate in BPR experienced by many businesses, often pointing to rejection by the very people upon whom the success of business processes depends.

In many cases there was a significant breakdown in trust — perhaps because the most obvious commercial reality that resulted from much consultancy talk was the elimination of jobs. The robust economy of the late Nineties has put most of these skilled knowledge workers back into the work force. Some of those workers have had to acquire new skills before becoming re-employed.

Today, of course, the major focus of most organizations is to attract and retain the best and the brightest people

Diagram 1

into their organizations. In other words, there is a shortage of skilled human capital in many Western economies.

Peter Drucker has described a fundamental shift in the structure of the knowledge work force in his article, "Managing Oneself," (*Harvard Business Review*, March-April 1999). "Every existing society, even the most individualistic one, takes two things for granted, if only subconsciously: that organizations outlive workers, and that most people stay put. But today the opposite is true. Knowledge workers outlive organizations, and they are mobile. The need to manage oneself is therefore creating a revolution in human affairs."

The chief force that enables knowledge workers' increasing mobility is Information Technology. Telecommunications and media are converging with IT, most obviously in entertainment and in business. IT, telecom and media are now integrated within what Bill Gates calls the "digital nervous system," making possible "business at the speed of thought."

Convergence is having a significant impact on both the nature of knowledge work and on the location of such work. A few years ago, the concept of being a "road warrior" was rare. Today, nomadic lifestyles are more common. "Commuting" no longer means simply getting in a car at home and driving daily to the office. To do their work, knowledge workers have to "commute" hundreds and sometimes even thousands of miles. So the obvious question is, "Do people still need offices in the conventional sense?"

Drucker, in the same article, also argued: "Organizations are no longer built on force but on trust. Trust does not necessarily mean that people like one another. It means that they understand one another. Taking responsibility for relationships is therefore an absolute necessity. It is a duty."

If BPR really has contributed to a breakdown of trust within organizations, what will be necessary to rebuild that trust? Drucker's answer is that, "The first secret of effective working relationships is to understand the people you are working with. The second part . . . is taking responsibility for communication."

It is quite clear to us that conventional office planning is a major part of the problem because, with all its bureaucratic and Taylorist connotations, it is inextricably implicated in management by force. New forms of planning office space must do the opposite. They must help businesses build trust. The corollary to this proposition is that progressive office design must enable organizations to achieve better and more dynamic communications.

This developing argument about BPR explains why in the last six years, we have found it necessary to focus so much of our research in both DEGW and Steelcase on mapping the changing patterns of communication in knowledge work. We strongly believe that office space as conventionally configured does little to support emerging patterns of communication.

The intensity of the new interaction is such that it can no longer be accommodated in a few scattered conference rooms or in an occasional cafeteria. In some organizations there is already a huge increase in settings designed to support serendipitous semi-social, semi-business encounters. These are the encounters that make such an important contribution to building the trust that Peter Drucker highlights.

However, using design to intensify the amount of communication within offices is not enough. The quality and the control of communications also matter. While our research shows a strong increase in human interaction in the workplace, there is an equally significant increase in work involving high levels of concentration.

Conventional office planning does even less to support concentration than communication. For example, over-reliance on the so-called "universal plan" forces people to go off-site to do concentrated work. The opposite phenomenon is that in offices based on new ways of working shared study booths are often provided to encourage concentrated work.

The views of managers and even of knowledge workers themselves tend to differ on the importance of these shifting priorities. Fortunately, the automation of routine office work combined

Diagram 2

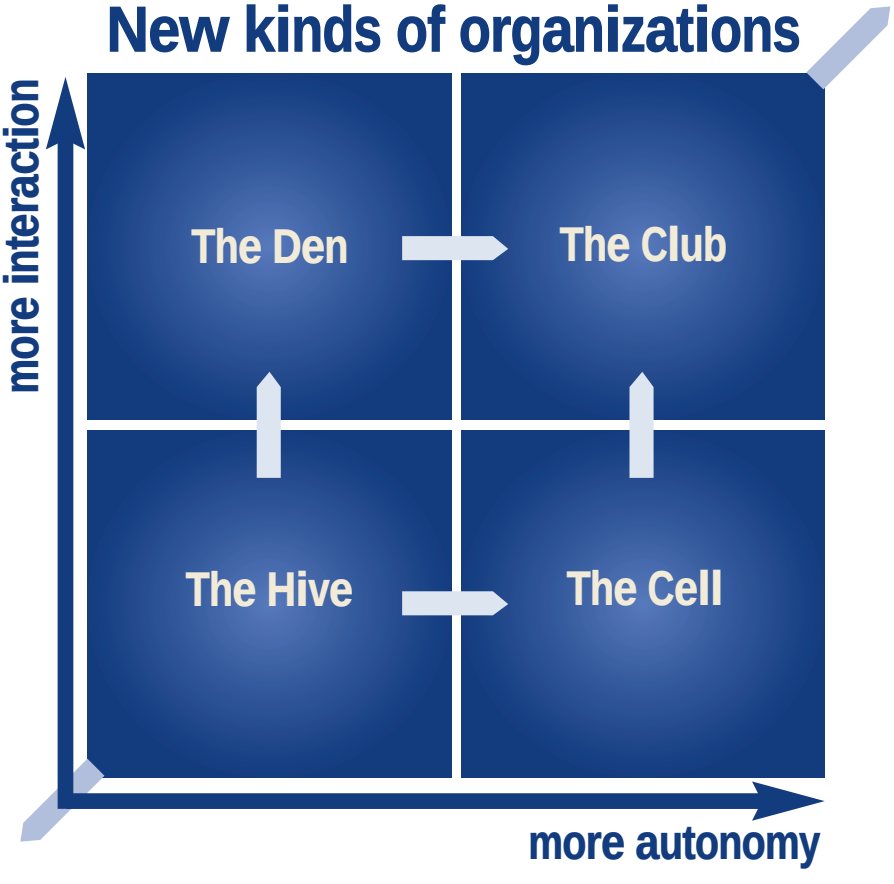
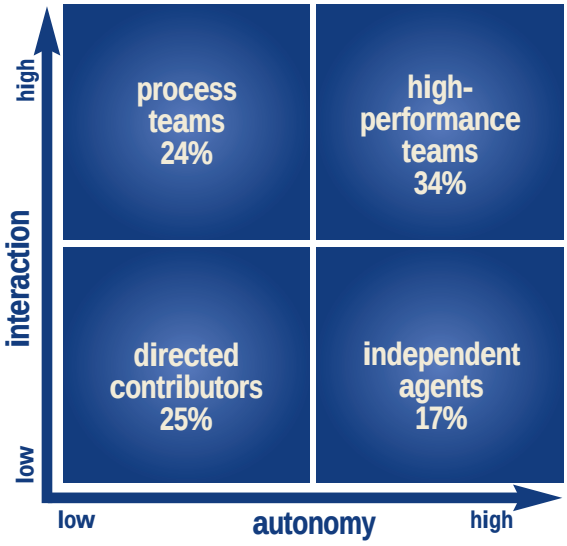


Diagram 3
Today's work style



with the adoption of such technological advances as wireless telephony are making possible simultaneous increases in both communication and concentration across a broad cross-section of industries and types of jobs.

While work patterns change and technologies become more and more integrated, conventional real estate executives and facilities managers are still debating the ancient dichotomy between the open plan and private offices. For them the most common form of conventional office planning is now a mix of 70-80 percent open plan workstations, arranged in the "universal plan", combined with 20-30 percent of individual private offices.

Unlike old-fashioned office space standards, which were largely based on status with the size of the office directly related to one's position in the hierarchy, "universal plan" workstations are all made deliberately the same to reduce churn. Facilities managers have worked out that it is cheaper to move people than furniture. Implicitly they have decreed that furniture is more important than people are.

In order to reduce costs even more and to accommodate more people in less space, the areas of both open plan workstations and private offices are under constant pressure. Common to both hierarchical space standards and to the universal plan is the persistent habit of neglecting shared facilities, such as informal gathering spots, project team spaces, multiple sizes of conference rooms and cafeterias, in favor of individual workplaces with a few large conference rooms.

The task, as we see it from the perspective of six years of reflection, is to progress beyond the mechanistic and inhuman assumptions that lurk beneath the surface of the apparent rationality of BPR in its cruder forms. Given the colossal inertia of conventional real estate and office design, it goes without saying that we also still need to struggle to transcend the sterile and simplistic cost reductionism of conventional office planning.

Put more positively, our task continues to be to make office design relevant to modern business in all its dynamism and diversity.

Data from Office Users - Testing the Interaction /Autonomy Model

What was special about *A Vision of the New Workplace*, besides the fact that the article attracted an unusual amount of attention, was our attempt to predict the likely pattern of change in office layouts by using a model designed to relate organizational to physical change.

We argued that as organizations become more interactive and autonomous, as a result of exploiting the potential of IT, so the demand for a wider range of new kinds of office space is likely to increase. We predicted that such changes in the pattern of demand would be neither arbitrary nor unpredictable.

The model that results from relating changes in organizational structure to physical change, the *Interaction/Autonomy Model* as it has come to be called, was intended not just to make a theoretical point, but to be a practical device for measuring the rate and the direction of change in the working environment in actual, working organizations.

Diagram 1 on page 806 is from our original article, in *Industrial Development*. It was intended to exemplify the kinds of work (and the appropriate types of office layout) we expected to find in each of the four quadrants of the Interaction/Autonomy model.

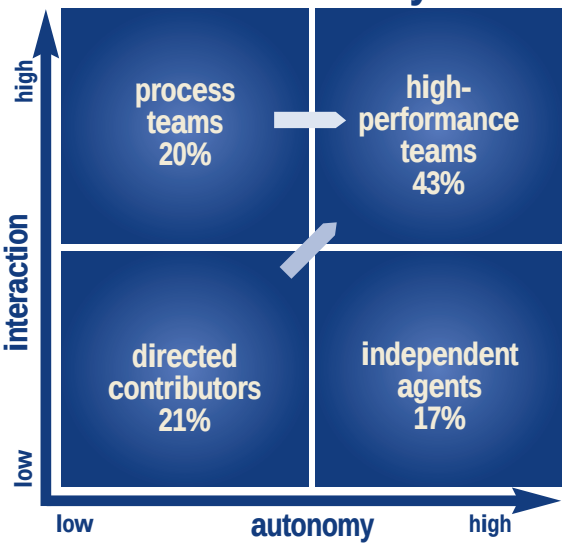
The arrow coming from the bottom left-hand corner of the matrix indicates that we expected many basic processual tasks to be automated or exported to economies with cheaper labor.

The arrow in the top right was intended to indicate the emergence of the virtual and the growing potential for the separation of people and place. Reality turned out to be rather more complex than this initial sketch, but as we shall see, our model also turns out to be far nearer the truth than we dared think in terms of our prediction of the overall direction of change.

In 1993, we had little field data of our own and few convincing examples of the innovative use of space by changing organizations. Our earlier paper was necessarily speculative and abstract, a model-building exercise rather than the record of sustained achievement that business readers like so much.

We were, however, already deep in the development of *Workplace Envisioning* and reasonably sure that the

Diagram 4
Future work style



Interior work space at the new 240,000 sq. ft. headquarters of Boots the Chemist, Nottingham, U.K.

computer-aided workshops that we were already running in client organizations would produce, in the not-too-distant future, substantial quantitative data from managers and staff working. In this way, we already knew that our hypotheses were testable in the context of business.

What were our hypotheses?

We argued that conventional offices, especially in their open, "universal plan" format were the consequence of the predominance of work styles that were low in interaction, i.e. the personal, face-to-face contact necessary to carry out office tasks of any complexity — and equally low in autonomy, i.e. in the degree to which office workers are allowed control over and responsibility for the content, methods, tools, timing, location and budgeting of the work process. Such offices, low in interaction and low in autonomy, we called "hives".

The combination of increasing autonomy combined with low interaction explains the phenomenon of the enclosed "cell" office. "Hives" and "cells" constitute the limited vocabulary of the conventional office.

Newer office forms are likely to be increasingly interactive, leading to the need for team and project spaces, or "dens" as they are termed in our model. Another variety of new ways of working combines increased interaction and increasing autonomy, allowing highly integrated groups of net workers greater freedom in the use of time and space as well as of other resources. This kind of environment, characterized by shared workstations and a wider, richer range of communal work settings, we call the "club".

Our argument was that most organizations of any complexity would be composed of some of at least all four basic work and layout types. The interesting implication for office design is the relative proportion of each and the rate and sequence with which user organizations change from one proportional mix of types to another.

The data derived from our Workplace Envisioning workshops, in which managers and staff are asked to describe their existing and their projected workstyles, ultimately in terms of Interaction and Autonomy, are, of course, an invaluable means of calibrating and quantifying such shifts.

Our first expectation was that only a small proportion of the staff in existing organizations would be operating today in the work styles we classified as "dens" and even fewer in "clubs". The bulk of office work would be in the form of "hives" followed by a significant minority of "cell" offices.

Our second expectation was that the rate of change from existing, conventional working patterns to increasing interaction and autonomy would be relatively slow. Our expectations were obviously influenced by the vast bulk of very ordinary and unexciting accommodation that is the distressing texture of the landscape of modern corporate life.

We were completely wrong. The increasing amount of data that became available to us from computer aided *Workplace Envisioning* workshops in a wide variety of organizations demonstrates a totally different distribution from what we expected. Data were compiled by Steelcase from 23 leading-edge North American and European companies. A total of over 5,000 employees from these companies took part in the workshops.

The results far exceeded our expectations of both the rapidity and the direction of change. They also confirmed our fears that the gap between the reality of business life and the norms of the conventional office is already huge and is widening rapidly.

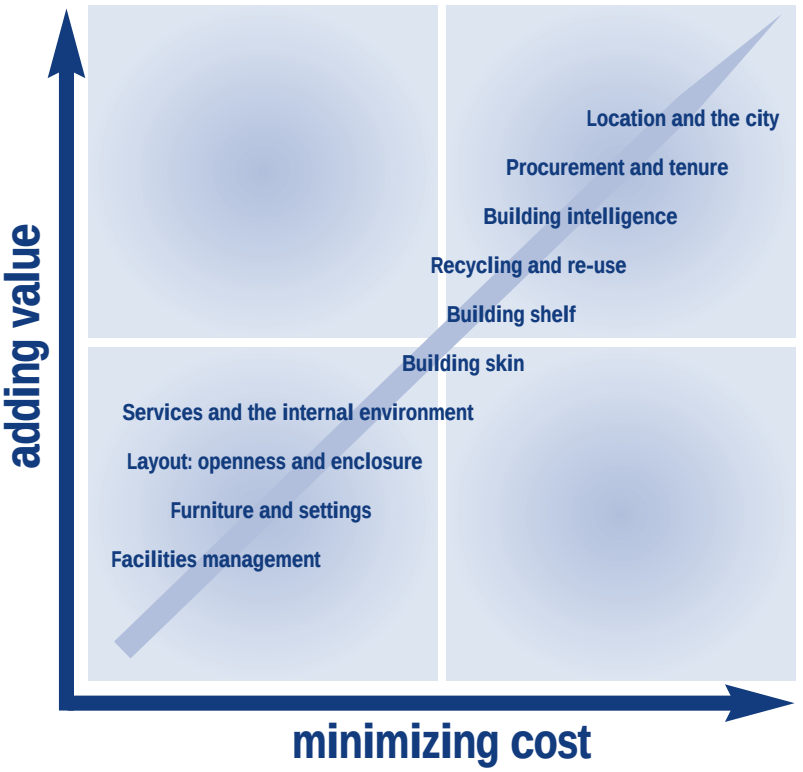
Our first surprise was that 58 percent of the respondents already locate themselves today in the upper, "unconventional" half of the matrix (Diagram 3 on page 808).

This is an extremely disturbing finding for financial institutions, developers, furniture manufacturers, architects and space planners, given the fact that conventional office layouts, which make up, of course, by far the greater part of contemporary office accommodation, are designed to support much simpler working patterns. These are the relatively conventional "directed contributors" and "independent agents" of the bottom half of the matrix whose work is relatively low in interaction and who would be expected to be accommodated in simple open plan or cell offices.

The same respondents were asked where they believed work styles would migrate to in the next three to five years. The astonishing response, as shown in Diagram 4, is that they expected no less than 63 percent of office workers will need the higher levels of interaction of the upper part of the matrix.

Moreover the respondents expected that 43 percent of office workers will

Diagram 5



occupy the upper right hand quadrant of the matrix, i.e. they are expected to be operating in the full knowledge-worker mode that combines high interaction and high autonomy.

The data can be broken down by sector. We found, for example, that firms in the manufacturing sector who are particularly focused on innovation expect that fully 62 percent of their people would be working in the very demanding, high interaction, high autonomy mode in the near future. This same group of companies predicted that 28 percent of their people would be working in process teams. A mere 10 percent judged that office workers would remain in the bottom half of the matrix — the domain of the conventional office layout.

The staggering implication is that even today the majority of knowledge workers are not well served by the conventional office layouts and office buildings that make up by far the greatest part of the 14 billion square feet (1.3 billion sq. m.) of office space in North America (Source: The Futures Group September 1994) nor by the 30 billion square feet (2.8 billion sq. m.) of office space world-wide. This implies that at least 19 billion square feet (1.8 billion sq. m.), or 63 percent of worldwide office space, is unfit to support anticipated ways of working.

These simple statistics are enough to indicate the nature and scale of the gap between emerging business needs and existing office space.

Four Innovative Organizations

In 1993 there were very few well-documented cases of businesses using design not just in a conventional, passive way, but in ways calculated to accelerate organizational change. Already by 1997, it was possible to catalogue in *The New Office* (by Francis Duffy, Conran Octopus, London) 20 distinguished examples of bold, organizational innovation combined with design invention achieved at the highest international standards.

One of these was the restructuring of the Andersen Worldwide headquarters in Chicago (1996-97; architect: SOM, with consulting from DEGW and Steelcase and furnishings from Steelcase). This is an excellent example of a cultural transformation achieved through rethinking the use of office space.

The chief financial officer, John Lewis, deliberately ran the design program, as part of a co-ordinated change-management exercise. The objective — and the achievement — was to break down departmental silos, to diminish hierarchical separation, to increase transparency, to encourage more frequent interaction, to facilitate mobility and to accelerate responsiveness. The new design, in an existing speculative office building, is also far more space efficient, paying for itself in reduced rent in between three and four years.

A new building project of a similar nature, but bigger and with much more scope for architectural fireworks, is the new British Airways Headquarters at Waterside, near London's Heathrow Airport (1998; architect: Niels Torp). Here the chief executive, Robert Ayling, is using the new headquarters building to accelerate his change-management program for a modern service business in a highly competitive environment.

Each feature of the architecture of the new building has an explicit and predetermined business purpose. The street that unites the whole complex, lined with a restaurant, cafés, shops and meeting places, is intended to encourage interdepartmental encounters. The open interior architecture stresses the importance of interaction and mobility. The transparency of the design is intended to emphasise the accessibility of decision making. The prominent and highly visible location of such facilities as training and information centers is used to emphasise their importance to the airline's future.

As in the Andersen Worldwide example, the project has been deliberately managed to stimulate, promote and sustain strategic change in every conceivable way.

Beautiful as they both are, the crucial breakthrough that the Andersen Worldwide premises in Chicago and the BA offices at Waterside have achieved is as much organizational as physical. Paradoxically, this is because of the very high priority given to the design of the working environment as a powerful lever of strategic change.

Both John Lewis and Robert Ayling were determined to use architecture, in alliance with Information Technolo-

gy and organizational reintegration to accelerate change in the business cultures of their organizations. As businessmen with their eye on the bottom line, they are duty bound to ask, "What did these projects cost, and what tangible benefits have they brought?"

The answers are positive. Both facilities cost less to run than their predecessors. More importantly, the success of each facility in use over time is being closely monitored against the original managerial objectives.

In both cases business plans were prepared, performance in relation to objectives checked and returns on investment calculated. In other words, both projects were conceived, planned, managed and monitored in exactly the same way as any large business project, such as a marketing campaign, an investment in IT or the development of a new product line.

The new headquarters for Boots the Chemist in Nottingham (1999; architect: DEGW with furnishings by Steelcase Strafor) is another, even more comprehensive and up-to-date example. Boots the Chemist, led by its chief executive, Steve Russell, is also using its headquarters project to renew the way it does business.

The catalyst for achieving change is a new office building of 240,000 sq. ft. (22,300 sq. m.) plus the refurbishment of the firm's famous 1968 SOM building of 212,000 sq. ft. (19,700 sq. m.) as well as a new entrance block linking the old and new buildings. Like BA Waterside, the Boots complex is a street building, low and deliberately designed to enhance interaction.

The project is being used to achieve business goals that transcend architecture: the introduction of new ways of working, the encouragement of cross-departmental interaction, and the improvement of operational efficiency.

In order to do this, the form of the building, including the circulation and the internal atria, as well as the interior layouts have all been deliberately designed to reinforce the new work culture.

Again, like Andersen Worldwide and BA, the process of managing change, involving large numbers of staff working out for themselves how best to make use of the new freedoms to organize resources and time that they are being offered, is integral with the design.

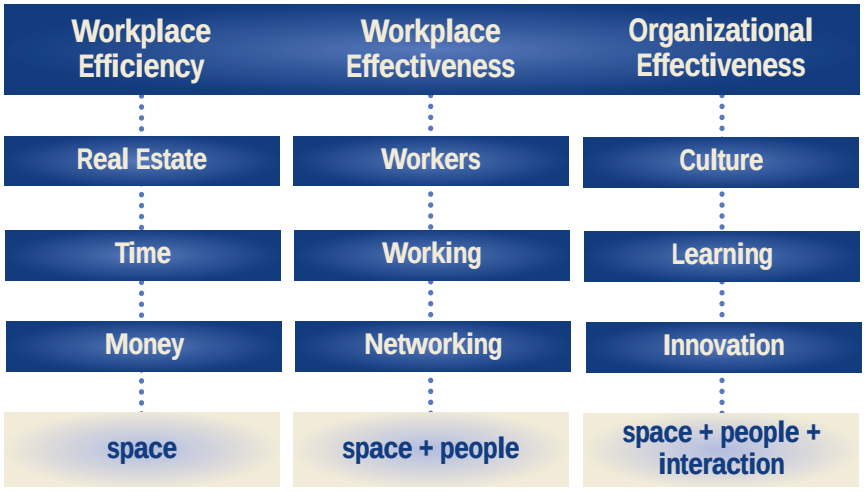
The light, bright, colorful, transparent, highly social, extremely congenial interiors serve an important purpose. Together with IT they provide a far more powerful infrastructure for work. This building and these interiors are also designed to broadcast a powerful message about the extent to which management is committed to the new values that underpin the new culture. They not only herald change, but much more importantly, they are the means of achieving change.

Another important North American example is Owens Corning's new headquarters building in Toledo, Ohio (architect: Cesar Pelli; Interior architect: Harley Ellington; with consulting by Robert Luchetti and Steelcase with furnishings by Steelcase). Glen Hiner, the new CEO, expressed his strategy for saving what was then a struggling corporation in this way: "Owens Corning has an active agenda for growth. . . We will execute this agenda in an environment that creates customer satisfaction, individual dignity, and shareholder value. We recognize a new facility as the final piece in creating a new work culture." The new facility of 400,000 sq. ft. (37,000 sq. m.) has been designed around Hiner's four principles: driving cultural change; stimulating more interaction between knowledge workers; increasing the exchange of key learnings and accelerating innovation.

These are just four examples. In the USA, the UK, continental Europe and on the Pacific Rim, many other examples can now be found, including our own DEGW London office and Steelcase's Leadership Community in Grand Rapids, Mich., that are just as challenging and at least as interesting.

How inert and backward in comparison are the billions of square feet of conventional office space that litters the globe. Readers should be warned, incidentally, that conventional office space is not inert. At the dawn of the age of knowledge work, conventional offices retain the insidious power to drag whole organizations, and even whole economies, subtly backwards and downwards.

Diagram 6
The value of space and effectiveness of people



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Measuring Building Performance

Inertia and resistance to change remain immensely strong on the supply side of the equation that links those who finance, design, provide and trade in office space and those who have to use it. Conventional, formulaic solutions for office buildings, office environmental services and office interiors are still dominant despite all the changes we have outlined above, despite the emerging pattern of demand and despite what are theoretically irrefutable business arguments for innovation.

The answer has to be more measurement and yet more measurement. There are many ways in which office space has an impact on business performance. Yet few of these are mea-

sured in ways that translate into terms that attract attention at the Board level. Too often senior managers see real estate and design as black arts, best left to sorcerers, or even to their apprentices.

This is partly management's fault. Office space has been treated as a commodity, in the procurement of which cost reduction has been the only manipulable variable. This may be because what measures of office building performance exist have tended to be focused on the relatively low-level concerns of building managers. This explains the emphasis on measures of what might be called "efficiency," such as the ratio between rentable and usable area (tenant efficiency).

Some measures of office building performance go a little further. They are based upon the assumption that the use of space by different kinds of office organizations varies. Testing developers' proposals against a range of such variations in tenant demand helps to ensure the robustness of the floor plates and increase their potential to satisfy several different kinds of tenant over their lifetime.

For example, sectoral research demonstrates that some types of users need more responsive environmental controls, more capacity for cooling, more reliable UPS. Another example of a design variable that is critically important to some office organizations but not to others is the relative proportion of open plan and cellular accommodation that a given building can offer. A new benchmark is whether a typical office floor plate can accommodate the expanding proportion of support space that new ways of working demand.

Measures of performance of buildings in relation to tenant demand are developing rapidly. Impatience with conventional office space and willingness to innovate will become the predominant characteristic of more and more office users. The technology, the organizational structures and the culture of tenant organizations are becoming ever more volatile.

A more rigorous framework for the evaluation of office-building performance in relation to changing user demands is needed. This framework is based upon the two great economic pressures that most organizations experience as they are forced to look for better ways of using the expensive resource of office space.

"A systemic approach to design has become essential; architects and designers must no longer be allowed to act autonomously."

The first is the drive towards increased *efficiency*, i.e. taking whatever design measures are necessary to drive down operating costs. The second is the parallel drive towards ever more *effective* use of space in order to respond to the pressure on organizations to use office space to stimulate creativity, to encourage interaction, and to attract and retain the most able staff.

Diagram 5 shows the relationship between the parallel pressures in office design towards greater efficiency and greater effectiveness. As pressure to achieve both objectives simultaneously grows, more and more ingenuity is required in the design and management of office buildings and office layouts. A vector that can reconcile more efficiency with more effectiveness becomes a kind of ladder of invention.

Eventually a point is reached at which the allocation of separate individual workstations to each office worker becomes incompatible — without ruinous annual expenditure — with providing the ever-widening range of rich and stimulating supplementary environments that are now becoming necessary to accommodate increasingly complex, plural and interactive tasks.

The point is that efficiency and effectiveness, in different ways, are both critically and closely related to business success. From a business point of view there is a fundamental difference between measures of efficiency and effectiveness.

Measures of increased efficiency in the provision and use of office space are always direct. It is immediately clear whether or not greater efficiency has been achieved. If an improvement is achieved, the benefits are always quantifiable, not least in terms of the financial savings that the adoption of each particular design solution achieves.

Direct savings in occupancy costs can be made by more efficient circulation and core design, by economically designed workplaces that guarantee higher densities of occupation, by investing in easily interchangeable layouts that reduce the costs of churn and by sharing workstations and support spaces to increase effective daily occupancy. Each of these expedients saves money, year on year, in a straightforward and easily calculable way.

Measures of effectiveness may be more important, but they are never so direct. The office environment can certainly be designed in ways that increase the probability of achieving certain organizationally desirable results. Examples are building forms and patterns of circulation specifically devised to encourage more or less serendipitous encounters between staff members in different departments; an increase in the proportion of space allocated to (and properly equipped for) project and team meetings; layouts that are deliberately non-hierarchical and transparent in order to encourage a sharing culture and to improve communications in project teams.

However, such physical planning measures can never be guaranteed — certainly not on their own — to produce the desired business result. A series of intermediate social and managerial conditions are necessary to increase the likelihood of success: leadership, user involvement, mutual understanding, explanation, co-operation and—to use Peter Drucker's key word—trust.

Increasingly, change-management techniques are being used to establish

such conditions. But even change management, however skillfully conducted, cannot always be the guarantor of surefire success.

It is arguable that the chief reason that office design has been so peripheral to corporate strategy for so long is that matters of efficiency, which are easily translatable into cost reductionist arguments, have attracted far too much attention compared with the open ended, value laden and judgmental issues embedded in the debate about effectiveness. In a time of such rapid change as the present, the reverse has to be the case. If office design is considered a major agent of change, then effectiveness in all its many forms is central to business success.

Companies spend less than 10 percent of their operating expenses on occupancy costs. A massive 30 percent reduction in real estate costs would reduce annual operating expenses by 3 percent. If the cost of such savings is to demotivate highly qualified staff, to throttle interaction and to scare away newly qualified knowledge workers, then the price is far too high. No business can afford to take the risk.

The less certain but highly probable gains that office space designed to increase the probability of interaction, greater transparency, more stimulus, higher staff retention cost are well worth paying for.

Diagram 6 shows a hierarchy of opportunity. The first column represents the neglected but very tangible benefits in efficiency that can be achieved from well-designed and well-managed real estate. The second stands for the benefits in effectiveness that can be very easily derived by businesses from ensuring that office space is designed to support the individual worker, to bring people working together to promote interaction and to sustain networks.

We have available to us absolute measures of the first and robust but relative measures of the second. The unexplored area of measurement that should be even more exciting to knowledge-based organizations is represented by the third column — the potential of office space to promote culture, learning and innovation. This is the new environment of knowledge — a new frontier if there ever was one.

Consequences for Real Estate and Design

Three critical factors need to be taken into account in the search for increased effectiveness through design. Firstly, in a world in which networking is everything, it is no longer possible to design successful office interiors for demanding and rapidly changing clients without recognizing the importance of giving equivalent weight in the design process to the demands of IT and of human resources. A systemic approach to design has become essential; architects and designers must no longer be allowed to act autonomously.

The second factor is the eloquence of the physical design of the office environment in expressing ideas about organizational culture. So powerful is this expressive force that some businesses are beginning to believe that design has become truly catalytic, i.e. capable of being used as an agent of change.

The third factor is that, despite the positive sense of everything that has been said above about design effectiveness, the negative, inhibiting, destructive power of the wrong kind of office space is even greater. In conventional times, poor design has always been a brake on progress. In a time of rapid change and ruthless global competition, design that expresses the wrong messages about the future is a killer.

What conventional office design tells clients and everyone that works for them is that people are unthinking units of production, separated into hermetic, organizational silos, divided by layers within watertight hierarchies. Such prisoners cannot be allowed to think for themselves nor to choose what kind of working environment suits them best. Although people may be interchangeable, they are deemed to be incapable of change. Needless to say, it is taken for granted that users have nothing to contribute to corporate real estate or facilities management. Such services are best left to those who know best.

At the same time, conventional office design tells the financial institutions, the developers, architects, interior designers, contractors, furniture manufacturers — and all the rest — that they too are automata, without any need to reflect, exercise discretion or invent. The formula is everything.

Division of roles has been developed to an extraordinary extent in the construction industry, not just to get things done but to evade responsibility. Design is separated from delivery, cost from quality, management from technical expertise. Fragmentation and confrontation are everywhere.

Fragmentation and confrontation are symptomatic of a static state that encourages the persistence of one simple and overriding assumption: the only thing that matters is cutting costs. Ho who cuts the most wins. We do not want to say that minimizing costs is not extremely important to competitive businesses.

However, the big idea that is complementary to cost cutting, that design invention can add value, has been neglected both by clients and designers.

That design itself should be the critical common factor in a systemic process that links the physical environment of the office to changing organizational structures and changing information technology has been for too long and for too many businesses a remote hypothesis.

Tom Peters, in his book, *Liberation Management* (Knopf, 1992) argues that: “Space management may well be the most ignored - and most powerful - tool for inducing cultural change, speeding up innovation projects and enhancing the learning process in far flung organizations.”

It should be clear by now that we cannot but wholeheartedly agree. ***SS***

Frank Duffy, of DEGW (left) and Steelcase’s Jack Tanis