unthinkable if the process by which physical design is procured and delivered is not reinvented. The process by which successfully innovative offices, such as the three British examples described above—Boots the Chemists, Grosvenor, and Egg—have been designed, is different from conventional design thinking in at least four fundamental ways.

First, these three businesses, and indeed all organizations that want to use design to accelerate cultural change, have learned that they must keep their hands on the tiller. Outsourcing of project management, at least in a strategic sense, is impossible. Design leadership and managerial ownership of innovative office projects, from inception to completion—and thereafter—have become vitally necessary. A clear vision about the purpose of proposed design changes must be articulated and sustained, preferably from the very top of the organization, right through such projects.

Second, these three businesses, and indeed all innovating organizations, have come to understand that data are essential to measure the performance of what is designed against what was intended. Hunches and rules of thumb, old or new, are no longer good enough. Without data, old habits die hard.

Third, the three case study businesses, and again all organizations that know what they are doing with design, have realized that innovative design means that more and more people not only want to but have the right to be involved in the design process. Ordinary people are becoming directly involved in choosing the working environment that seems right for them—not surprisingly, because they know that they *are* the business and they are totally in accord with the discretion they are used to exercising over the domestic and social environment of the rest of their lives. Design is becoming more open and democratic—architects and designers can no longer hope to avoid a genuine creative dialogue with powerful and articulate end users. That will always mean listening, patience, empathy, and, occasionally, confrontation.

Fourth, in a changing and increasingly complex business environment, these three businesses, and indeed any organization that is attempting the same ambitious degree of change, have had to recognize that a systemic approach to design is necessary. In the old economy, when everything was supposedly in its place and when everyone was told exactly what he or she had to do, it was quite possible for the designer of the office environment to work without reference to parallel initiatives in restructuring the organization or

installing new information technology. The physical office environment can no longer be designed without reference to the parallel redesign of the two other main dimensions of working life—the design of the social system of the office and the design of the ways in which information technology is used in the office. This means, of course, a total restructuring of the conventional design process.

In effect, these are the four essential conditions for success in designing for new ways of working. Many architects and designers dislike the fourth and last proposition because they fear loss of artistic autonomy. Abandoning the romantic idea of the architect as a totally independent agent does not, however, necessarily mean loss of design influence. In office design the opposite is far more likely to be the case. In an integrating culture, the more architects and designers are involved in the politics of their clients' democratic processes of decision making and the more they are involved in integrated decisions involving the design of their clients' social and technological systems, the more influence they will win.

THE IMPACT OF E-COMMERCE

The three case studies outlined above and the 43 examples of creative design in Myerson and Ross's book are only the beginning of the story. As the wider implications of e-commerce on the property and construction industries become clearer, architects and designers will have even less reason to attempt to isolate themselves from process. The process sketched above means that architects and designers must continually ask themselves what their design is actually *for*. Architects and designers must involve themselves in their clients' business strategies, face up to organizational and technological issues, learn to avoid intermediaries, and work directly and extensively with end users.

The conventional office is the product of a late-nineteenth-century and early-twentieth-century social and technical system, a system that was as mechanical and closed as its makers could devise it to be, a system that divided in order to rule. The office environments that are the consequences of the