has been operating for a predetermined time period. If the building performs as expected, the architect is paid the remainder of the fee plus a bonus. As we learn more about the relationship between health and interior environmental quality (especially materials selection and HVAC design), clients are going to be looking for designers who have a strong knowledge base in green design and who have some background in research methodologies for testing design outcomes.

- ***A* third *compelling argument for research is the growing interest in "learning organizations." A learning organization cannot exist without a strong research foundation. Learning is built upon deliberate and systematic inquiry: gathering information, assessing it, relating it to what is already known, testing predictions, and ultimately changing perspectives and practice on the basis of evidence.***
- ***A* fourth *reason is to demonstrate a link between design and the goals and strategic interests of organizations. As facilities become more closely linked to business issues, there will be increasing demand for designers to show that a design is successful, not only from a comfort and aesthetic dimension, but also from a strategic perspective.***

Every design is a hypothesis. However, unlike hypotheses in scientific research, design hypotheses are rarely made explicit in projects. Instead, they remain nebulous constructs in the designer's mind. This chapter builds on the assumption that design hypotheses should be made more explicit and amenable to systematic evaluation.

DESIGN EVALUATION AND THEORY DEVELOPMENT

Research in interior design

Research in interior design can take one of two routes. The first is design evaluation and the second is theory development. Design evaluation research is oriented toward real settings, especially assessing what works and what does not in a particular design. Theory development, on the other hand, focuses on understanding basic relationships and concepts. Whereas

design evaluation is more likely to be done by design firms, theory development is more likely to be pursued in academic settings or research institutes. This chapter focuses on research tools and techniques that are most useful for design professionals.

Research is relevant to the whole design process and can contribute to design in many ways, including the following:

Programming

- Research can be used to identify problems, needs, and issues that are not immediately evident. Research processes in this context include surveys, structured interviews, behavioral observation, and ethnographic analyses. Although many firms engage in these data-gathering techniques, they are often not applied consistently across times, settings, and populations.

Design concept development

- Reviews of scholarly research can be used to generate new ideas and approaches to interior design problems. However, the design researcher needs to know where to look, what questions to ask, and how to interpret data from other fields in light of a particular design context. For instance, an extensive body of research on teams and teamwork exists in both psychology and organizational behavior, yet designers seldom use this literature to help them understand teamwork. Given the immense interest in creativity and innovation, research on these topics could also prove useful in developing new ideas and relationships for the physical setting.

Design evaluation

- Numerous techniques for post-occupancy evaluations have been developed in the past couple of decades, ranging from very sophisticated methodologies to simulations that provide feedback throughout the design process and implementation. Many of these techniques are already used in design, yet others are overlooked because they are presumed to be too difficult or costly to apply.

A couple of examples may help to illustrate the way research can contribute more fully to design. One highly relevant and timely issue concerns the link between communications processes and organizational innovation. It is often assumed that increased communication leads to innovation. However, scholarly research on innovation shows that increased communication is a