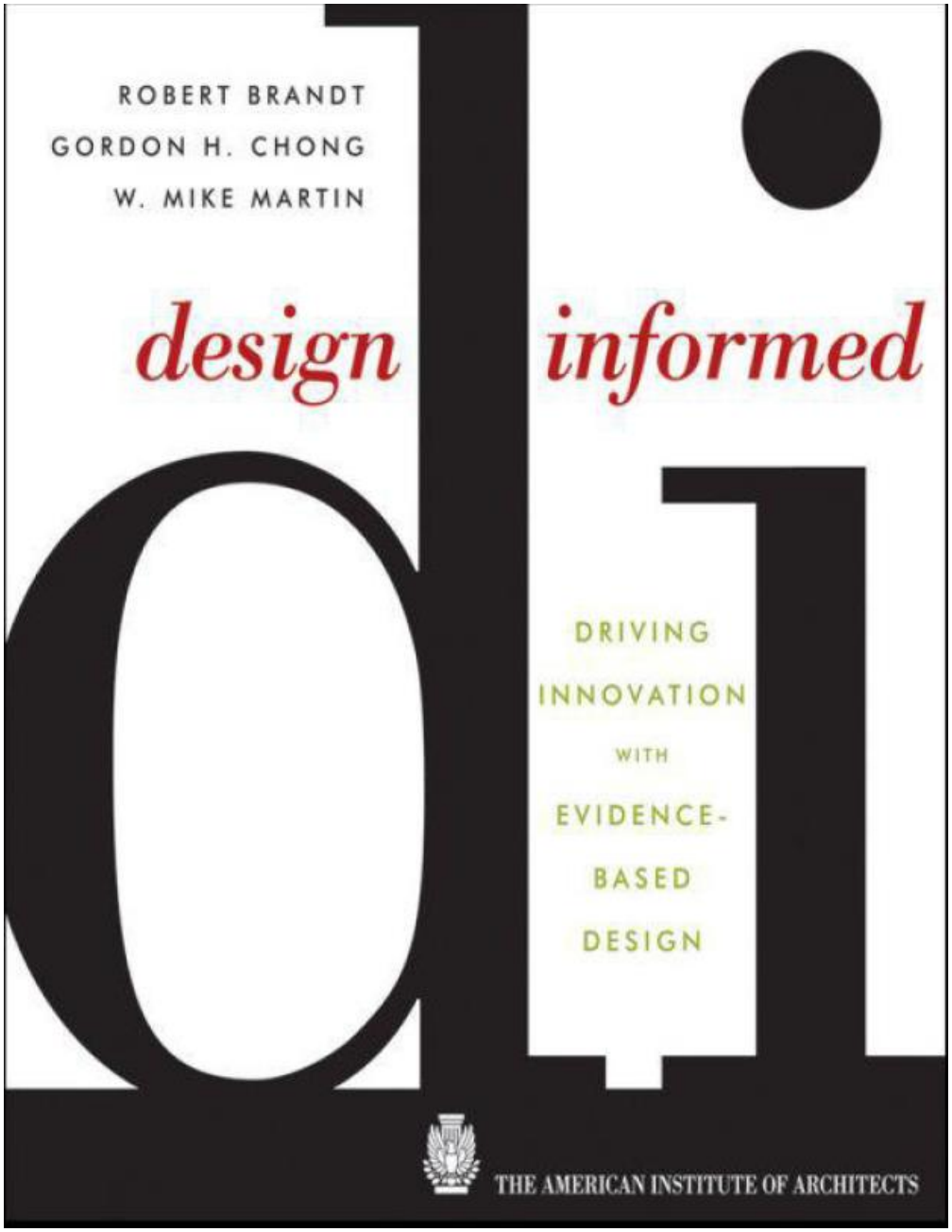
ROBERT BRANDT
GORDON H. CHONG
W. MIKE MARTIN
design informed
DRIVING
INNOVATION
WITH
EVIDENCE-
BASED
DESIGN
THE AMERICAN INSTITUTE OF ARCHITECTS

- A quiet revolution is underway, one that could change the practice of architecture for years to come.

- The genius of architects is their ability to imagine building form and then give physical structure to their musings.
- Architects should never relinquish this mastery of art and technology; it defines them as professionals.
- The question is how even greater and more sustainable beauty and utility can be created.
- The revolution that is gently but inevitably changing architecture looks to science as the means to better design outcomes.

- Architects typically depend on intuition and personal project experience to make design choices.
- That works at some level but is limited by the self and the past.
- New things might be tried but there's no basis to predict how well they'll work, if the only criteria come from the designer's prior experience.
- The time has come to move on from this self-limiting approach.
- See the followings:

- Using a computer simulation, you discover a way to reduce your client's space program by 30%. They reinvest part of the capital budget in an upgraded design and use the rest of the savings to do a project they otherwise couldn't afford.
- You've claimed that you can help your client increase productivity through some creative new design ideas, but they need data to convince their stakeholders to change what they're used to.
- By providing compelling evidence to back up your claims, you succeed in getting approvals and move forward with some breakthrough design concepts.
- Bio-medical research connecting daylight and health convinces your client, a hospital administrator, to build a narrower footprint building. You design a place that is enlivened by light and views, instead of an artificially lit, enclosed space. Patients and staff thrive and you've aided the healing.
- Prototyping demonstrates innovative ways to use a metal skin. You use the test data to design a unique building form with extraordinary beauty and free expression.

- All that is needed is evidence to understand how specific design strategies might affect building performance.
- With evidence, we can predict and convince.

- Evidence-based design (EBD) is slowly changing how the design is practiced by design professionals and valued by the their clients.
- It can improve the quality of design, especially in ways that benefit clients.

- EBD = “Informed Intuition”
- A healthy mix of the professional’s instincts and a broad, deep knowledge base from many sources.

Questions to be considered in this book.

1. Is the use of empirical evidence appropriate to design? If yes, under what circumstances and to what benefit? How does the use of evidence in design differ from that in other professions?
2. What constitutes evidence for design? How much is enough and how rigorous does it need to be? What methodologies — qualitative or quantitative — are required for it to be credible and defensible in informing design decisions?
3. What are the appropriate types of evidence and how might they be obtained? Are there successful precedents? What architects are doing it with great outcomes and can others also succeed in spite of time and budget constraints? Does the search for evidence, in lieu of pure instinct, diminish creativity?
4. Will my practice improve if I adopt an evidence-based design approach to my projects? Is it for all types of firms?

- Architecture lacks the research standards and protocols necessary for widespread development, application, and dissemination of research that could serve as evidence.
- As EBD develops, design education will need to better prepare professionals to appreciate research quality standards and all practitioners will need to hone their capabilities to assess what evidence might be used in making better design choices.

- Will design professionals be able to make a strong case for high-performing buildings and the ability to use design as a lever to achieve high performance?
- To remain relevant, architects must and can do that with the right evidence to back up these assertions of added value.

- This book will help the practicing architect, client, and students of architecture through three types of learning:
  1. Background on research methodologies: Intended to help you decide what is most appropriate for your application. Discussion of these methodologies is not intended to be absolute but rather provides a broad context of possibilities for your consideration, as you consider your own needs. Our book does not support a single, prescriptive approach.

2. Application examples: Interviews and case studies are intentionally diverse in scale, approach, and research methodology so that you can learn, analyze, pick and choose, and envision how they may apply to your design question, skill, and resource. There is not a case of “one size fits all,” but rather, many approaches from which to choose the most appropriate. The examples illustrate actual use in current project work and specific types of research being conducted for application.
3. Thoughts about the future: When speaking about the use of evidence, many architects are fearful that the process will inhibit creativity. Our observations challenge that fear and open a dialogue about expanded possibilities as architecture joins other valued professions by integrating the best of the traditional intuitive approach with an empiricism that enhances design outcomes.