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## **From Silos to Networks: Organizing for Success**

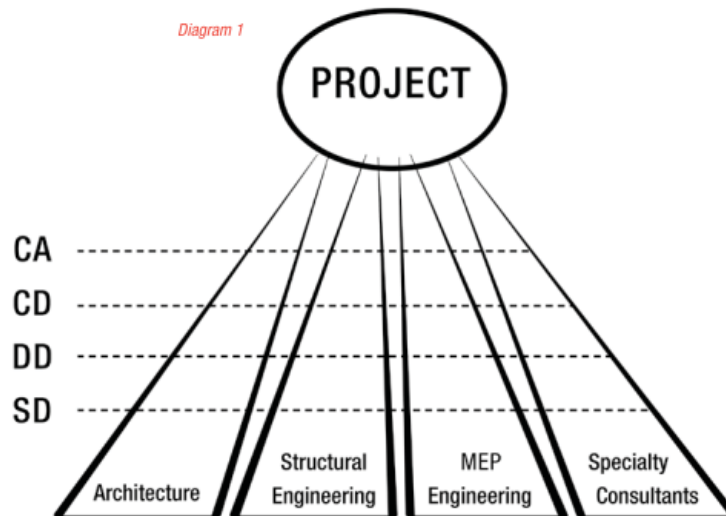
by Scott Simpson, FAIA, LEED® AP and Alberto Rios, PE, LEED® AP

W. Edwards Deming became famous for his insights into what really makes organizations successful. He is revered in Japan as the father of TQM (“total quality management”), a movement that literally transformed the economy of an entire country.

Essentially, his message was that process trumps outcome: the how is more powerful than the what. Deming believed that inefficient organizational structures inevitably produce sub-optimal results. This is demonstrably true in manufacturing—we’ve finally learned that the fastest and cheapest way to produce quality goods is to devise a process with zero defects, reducing both the time it takes to do something and the waste that results from haste. When this happens, quality increases and cost is reduced.

Design is no different. While it’s a creative, exploratory process, design is still based on achieving a defined outcome. It’s in creating results that true design value resides. In this regard, design organizations have always been odd ducks—not only tolerating but indulging the perceived antipathy between “management” and “design.” But the fact is that good design and good management are simply two sides of the same coin—they are mutually necessary and mutually reinforcing. You can’t have one without the other.

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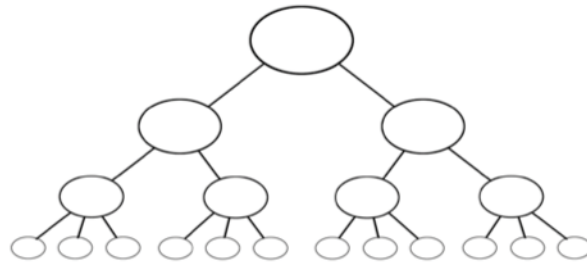


Traditionally, the design process has been based on a “linear” approach. Projects proceed sequentially, from SD to DD to CD to CA, with each discipline (designers, engineers, consultants) operating relatively independently within their respective silos of expertise. (See diagram 1.) As the job proceeds, these threads are woven together and eventually result in a finished product—the building itself. This model has been the industry standard for generations and is

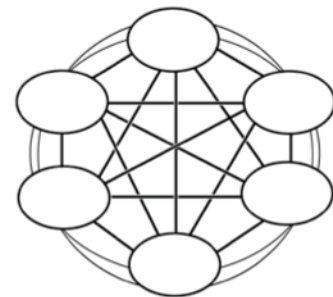
memorialized in standard AIA contract documents. The results speak for themselves. While there are undoubtedly many successes, we all know that the design and construction process is fraught with difficulty and frustration. It’s inefficient, contentious, and loaded with liability for all concerned. We rarely get the design quality that we desire, and budgets and schedules are almost always exceeded. Surely there must be a better way.

Fortunately, the times are changing—fast. New technologies have inspired fundamental process innovations in many industries, and the design and construction industry is ripe for a similar awakening. Constructability analysis, value engineering, and the “need for speed” are changing the traditional model. Consider that on an annual basis, the US economy invests approximately \$1 trillion in construction. Obtaining efficiencies of only ten percent (a very modest goal) would result in savings of \$100 billion each year. Compare this with the total annual fees paid to architects—about \$25 billion—and it’s easy to see the huge value proposition in re-conceptualizing how design and construction gets done.

Diagram 2



**Traditional Paradigm**  
*“Command + Control”*



**New Paradigm**  
*Networked Teams*

Source: Greenway Group

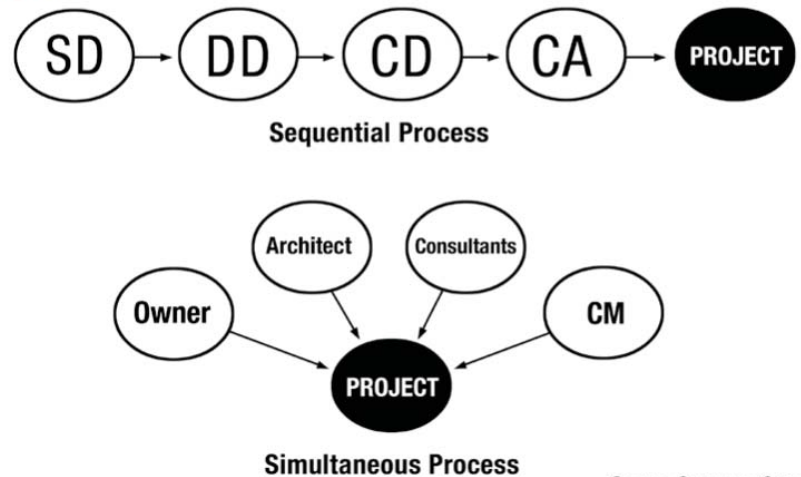
On the technology side, BIM (“building information modeling”) provides a means to break down the traditional “silo thinking” that for far too long has separated rather than integrated the various experts on a project. By working on a common model with multiple authorship, team members can do two important things: quickly share their ideas with others much earlier in the process, and in turn become exposed, educated and enlightened by how other specialists think. BIM also allows us to explore many different design options more quickly. Putting more brains to work solving a problem simultaneously is akin to the parallel processing that makes computer networks so powerful.

The problem is that the design profession is not yet acculturated to working in a truly collaborative fashion, either internally or with the larger construction community. Embracing this new way of thinking requires a shift both in the tools we use and the process we employ. In our traditionally riskaverse world, it’s not easy to let go of the familiar. But as Deming said, process begets outcome. To get better results, we only need to organize our resources and talents differently. It’s time for the old command-and-control paradigm, which is based on subordinates reporting to bosses, to be replaced with networked teams (See diagram 2). Each node on the network represents specific expertise, and each is simultaneously connected to the others. This allows for the fast transfer of information and ideas. In the traditional sequential model, the construction manager (CM), who spends the most money, does not even see the construction documents until they are put out for bid. Hence all that brainpower and experience is missing when the most fundamental decisions are made. In the simultaneous model, all the key players (owner, architect, consultants, and construction manager) are at the table from the beginning to the end of the job, working in concert. This allows design decisions to be vetted early, not only in terms of form, function and aesthetics, but also with regard to cost and schedule compliance. The result of this

“early action” decision-making is fewer missteps by the team, much less backtracking, better and more creative design decisions, and highly enhanced coordination. Shared decision-making also greatly reduces risk for all parties. (See diagram 3).

From a client perspective, this new way of doing business is especially attractive. What clients really care about is how their project is being handled. Are they getting the best talent? Are people really paying attention? Are the documents in good shape? Does the CM have the information needed to do a good job? These are the questions that really matter to clients. With the new approach, the number of viable design options that can be created and evaluated is limited only by our imagination.

Diagram 3



Source: Greenway Group

So what will tomorrow’s design firm look like? In contrast to today’s traditional top-down power structure, true influence (and leadership) will be dispersed and networked across the organization. While each firm will vary by location, size, and market focus, there are four fundamentals that must be present for success: 1) marketing (the ability to bring in new work); 2) operations (organizing the staff and the work processes effectively); 3) professional services (actually doing the work); and 4) finance (counting the money). These four fundamentals will intersect with the talent in the organization (the intellectual capital) to produce projects. Talent without process cannot achieve its potential, but process without talent has nowhere to go. Both are absolutely essential.

In the end, it’s all about producing great work—design that will enhance the lives of the people who use the buildings that we create. It takes a lot of talented people to pull this off. It stands to reason that organizing that talent effectively is the first step to creating great design.

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KlingStubbins provides professional services in all major disciplines within the realm of architecture, engineering, interiors, planning, and landscape architecture. The firm consists of more than 550 professionals in its Cambridge, MA; Las Vegas, NV; Philadelphia, PA; Raleigh, NC; San Francisco, CA; and Washington, DC offices. Its areas of market focus and specialization include Corporate/Commercial, Government, Health Care, Higher Education, Hospitality/Entertainment, Institutional/Civic, Mission Critical, and Research and Development.

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