



"What were they thinking?"
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On why all policy designers need to remember that

Yes: Operational Capacity Is Always Essential

As a design architect, Jørn Utzon was a genius. Even if you never heard of him, you certainly know his most famous work. Even if you have never visited Australia, you quickly recognize the Sydney Opera House.

In 2003, Utzon won the Pritzker Architecture Prize (often called the Nobel Prize for architecture) with the jury describing the Sydney Opera House as "one of the great iconic buildings of the twentieth century." And in 2007, UNESCO placed Utzon's building on its **World Heritage List**.

Creating an architectural design is, however, only the first step. The building has to actually get built. Yet, despite his architectural genius, Utzon worried little about such mundane details as costs and deadlines. Indeed, he was seemingly indifferent to the operational aspects of implementing his design.

Although he won the design competition in January 1957, his building was not opened until October 1973. The sixteen years in between were full of conflict and controversy.

The controversy started with the process to select the design. The competition was open—anyone could submit a design—but with no names attached. The jury would choose a design—and thus the architect—without any knowledge of any contestant's operational or management capacity to convert design into reality.

Still, the building's requirements were quite specific. It should include a large hall (3,000 to 3,500 seats) for symphony concerts, large-scale opera, ballet, and dance, plus a small hall (roughly 1,200 seats) for plays, concerts, and smaller-scale opera. The "Conditions of Competition" required nine kinds of drawings, including: "all floor plans necessary to ensure an understanding of the scheme," and "a diagram or diagrams, demonstrating that the sight lines are satisfactory."

Utzon, however, submitted only a dozen sketches, which one critic called "nothing more than a magnificent

doodle." Frank Lloyd Wright declared: "this circus tent is not architecture."

As legend has it, one of the jurors, arriving late, discovered Utzon's twelve sketches in the discard pile (obviously this submission had ignored the criteria) and moved them back into competition. Then, the judges ignored the criteria too.

The state of New South Wales and the jury were clearly looking for something distinctive that made a statement. And compared with the many, traditional cuboids submitted, Utzon's was unique—strikingly different.

But how to convert Utzon's twelve sketches into an actual building? Traditionally, this is done by hiring an engineering firm to convert the architect's design into detailed engineering blueprints and to oversee construction. This responsibility fell to Ove Arup and his partners.

Jørn Utzon, the architectural genius, once wrote: "Management is in a way the easiest part of the job, something which most people can learn." In reality, the management capacity required to produce results is neither easily learned nor all that common.

This looked like an ideal pairing. Within their respective professions, both were rebels. Both were perfectionists. Yet not only did they have different responsibilities, they also possessed quite different operational perspectives and capacities.

Moreover, Arup believed that his job was not merely to convert the architect's plans into blueprints and then a building but also to help convert the architect's conception into reality. And certainly, in 1957, converting Utzon's twelve sketches into any kind of physical reality would be a challenge.

After all, it was not at all obvious how to make Utzon's clouds, or sails,

or egg shells (or whatever label you used for his roof) actually stand up. Indeed, Utzon's original sketches contained no clue about how to hold up the ceilings, how to make the stage and the number of seats fit—both physically and acoustically.

Utzon could solve such problems—in his head. Translating his neuron flashes into blueprints for construction was Arup's task.

Unfortunately, Utzon kept having neuron flashes, and more neuron flashes and . . . Sometimes, this was because the previous flash didn't quite work structurally. Other times it was because Utzon's neurons simply kept flashing. They were unstoppable.

Utzon wanted to design the perfect building, and that required redesigns, and redesigns, and more redesigns . . . He seemed oblivious to the operational problems—let alone the delays that his redesigns were causing. If a design would be changed tomorrow—either in the small or in the large—doing any actual work was silly. Everything slowed down.

Although both Utzon and Arup claimed that their professional relationship was excellent, they had multiple disagreements. For the public officials and citizens who wanted the building completed, all the delays and cost overruns were particularly frustrating. Eventually Utzon resigned, leaving others to complete his work.

In 1964, at the height of the disagreement between architect and engineer, Utzon wrote Arup: "Management is in a way the easiest part of the job, something which most people can learn."

Don't we all wish. **B**

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