
Q&A

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National Endowment for the Arts Design Director

Jason Schupbach manages the NEA's grantmaking for such design projects as the Our Town creative placemaking initiative ("projects that contribute to the livability of communities and place the arts at their core") and the Art Works program. He also manages such design initiatives as the Mayor's Institute on City Design and the Citizens' Institute on Rural Design. Schupbach previously held the first-in-the-nation position of creative economy industry director for the Massachusetts Office of Business Development.

What has your recent research discovered about the worth of industrial design?

In our new report, *Valuing the Art of Industrial Design: A Profile of the Sector and Its Importance to Manufacturing, Technology, and Innovation*, the National Endowment for the Arts looked at the value of the field across a range of economic factors. We analyzed statistics from the US Bureau of Labor Statistics, the US Census Bureau, and the US Patent and Trademark Office to describe the workforce of industrial designers, the sectors that hire them, where they work, what they and their firms earn, and what kinds of product innovations they make. Some of the top findings:

- There are more than 40,000 industrial designers in the United States. Most salaried industrial designers work in two sectors: manufacturing (11,730 workers); and professional, scientific, and technical services (7,570 workers). Although fewer in number than other design workers (such as graphic designers or interior designers), industrial designers have higher salaries. In 2012, the annual median wage of industrial designers was \$59,610.
- There are 1,579 industrial design establishments in the US, with a total

annual payroll of approximately \$1.4 billion. In 2007, industrial design firms earned more than \$1.5 billion in total revenue. About 94 percent came from sales of product designs, model designs and fabrication, and other design services.

- Industrial design is at an all-time high. There are more awarded design patents in the US than ever before—part of a 25-year growth spurt that started in the late 1980s.

It's important to remember that although this report does enable a quantitative grasp of the industry, the Bureau of Labor Statistics' definition is arguably limited in scope. Today's industrial designers find themselves in a variety of roles and functions that go beyond the development of manufactured products—thanks to the application of, and interest in, design thinking. We see the report as a solid starting point for discussion and further inquiry.

Now that you've mentioned design thinking, what's the value of design thinking for the field of industrial design?

Within the NEA's design program, we recognize that industrial designers are not just designing commercial products; they're also designing user experiences, processes, and systems. An industrial designer might design not only a high-

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tech medical device for a hospital, but also the patient's interactive experience, as well as touchpoints with medical staff in the emergency room. Most big industrial design consultancies are already doing a ton of this work. Also, business schools and consulting firms get it—they're using the design process to analyze and innovate. So we think the value will be huge. We think it will continue to have major growth potential for the industrial design profession.

What is your opinion of the role of design in business and in the public sector?

As I mentioned before, we are seeing an explosion of interest from both public and private sectors in using design to innovate and rethink processes from soup to nuts. Many big businesses have in-house design innovation shops now, and the number of these just keeps growing. Government is also a big client of these services. We've seen lots of examples of the public sector engaging designers to address a variety of problems and challenges. Several federal agencies have worked with organizations such as IDEO to implement more-intuitive web and user interfaces for the Social Security Administration. Designers have also helped shape the design of Amtrak's Acela trains, as well as the accompanying user experience.

How do we create more design leaders?

The NEA is doing its part to foster the next generation of designers in a number of ways. Besides releasing research, we support a large number of design nonprofits and design schools, such as the Rhode Island School of Design and Art Center College of Design. One of the nonprofits is YouthDesign, based in Boston. YouthDesign trains future generations of designers by taking

Jason Schupbach (continued)

high-school kids from some of the toughest schools in the country and paying them to work in great firms for the summer. In doing so, they do something else that is very important—they demonstrate to parents how being a designer can be a great career, by introducing the parents to the students' places of work. Too often people that haven't been exposed to the design field don't understand what designers do exactly.

What role do design schools play in the metamorphosis of industrial design?

Postsecondary educational programs are retooling their curricula to reflect more-fluid approaches to industrial design, especially by focusing on design thinking. At the end of the day, we still need people who are strong technical designers, but enriching school curricula with subjects like anthropology, entrepreneurship, system design, and social sciences also has its benefits. Bachelors' and masters' programs in industrial design reflect the interdisciplinary nature of industrial design work. Universities are also developing hybrid programs that apply design thinking to business, public health, and other fields of practice. Professionals trained in these postsecondary programs might find themselves working for a commercial company, a nonprofit, or a government entity in which their creative skills are engaged and applied to client-driven work or systems improvement. Schools are essential in training designers for these brave new worlds. ■



Raymond Turner Design Leadership Authority and Writer

Raymond Turner is an internationally recognized authority on design leadership and management and their strategic value to business, government, and society.

He has worked in the design industry for 40 years as a designer, design manager, consultant, and corporate director of design leadership. Now he is an independent specialist working with companies in many countries to secure strategic value from their design investment through business-based design direction and design implementation planning.

Turner works for businesses across a wide range of industries, including transportation, local and national government, city planning, public broadcasting, household and leisure product manufacturing, and construction. He is also a non-executive director of Image Now, Ireland's leading branding consultancy.

Turner is also one of the few design professionals who has held senior posts on both sides of the client-designer divide, having been group design director for two commercial companies, as well as managing director of two international multidisciplinary design consultancies.

His new book, *Design Leadership: Securing the Strategic Value of Design*, is reviewed on page 47.

How do best practice organizations measure and manage the impact of design in their businesses?

Each of the questions here is important, but if I had to choose only one, it would be this one. Without the ability to measure design's impact on an organization, there is no way you can manage it.

To get support within a business or an organization for investment in design, that investment must be seen to have a positive impact on the key business measures the business uses to judge its own success. Designers and design managers can

always get business executives' attention if they start using the language they use themselves. Let them see that design can contribute to gross and net margin, return on investment or capital employed, operating costs, or the value of such less-tangible assets such as brands.

It is hard to find a resource in business that has a more comprehensive impact on these measures than design. Yet, despite the ease with which it can be demonstrated, this opportunity is often ignored in the battle to put design onto the transformation agenda, and consequently it often fails to register.

The challenge is to have the courage to talk with the finance director in the same terms that he or she uses. That's one way to become a friend for life!

What are the most important aspects of demonstrating design value?

Demonstrating design value is always at least a two-pronged effort. The first is creating credibility for design's contribution to business performance, as explained in the answer to question one. The second is concerned with its role in manifesting strategic intent.

This is essentially about using design leadership to help align the corporate aims of a business with the process of manifesting the delivery of those aims. It is about linking decisions emanating from the boardroom with the organization's day-to-day activities. These could be factories manufacturing goods, showrooms selling products, offices delivering services, operators providing passenger transport, or technology developers creating greater access to knowledge and sharing it. No matter what the business size or industry sector, design has proven to be one of the few resources that can do this in such an unambiguous way. One of its most useful

characteristics is that it is easy to see, touch, and experience. It can be related to in so many ways, and therefore has the potential for clearly manifesting the strategic direction of a company.

It is the design leaders who are responsible for establishing these links, making them clear and tangible and ensuring that the links are maintained and the standard of design response is appropriate and rigorously applied.

Which companies are succeeding at making design a more strategic part of their business?

Without wishing to be simplistic about this, the successful companies and organizations are those that recognize the difference between design leadership and design management and organize accordingly to make design part of their corporate DNA.

Four come immediately to mind, each for different reasons—but of course there are many others.

Lego Group, the famous Danish manufacturer of plastic building bricks for children, has organized its new product development teams with equal emphasis (and voice) on marketing, design, and technology. This means that design is a major contributor in the creation of all Lego's new products and range extensions—and it is seen within the business as critical to the company's financial success.

Cisco Systems Internet Business Solution Group has seen that its long-term success depends on putting the end-to-end customer experience at the core of what it does. Cisco uses design as a major tool in discovering, defining, and delivering this.

BAA, one of the world's largest airport companies based in the UK, uses design-based envisioning methodology to manage its long-term investment programs. This helps ensure that what is designed today will be fit for use in the world of tomorrow, often extending to between 25 and 50 years.

Roca, headquartered in Spain, is the world leader in the production of ceramic sanitary ware. The company uses design leadership as a key resource to help redefine its business. For Roca, thinking outside the current confines of existing business boundaries has helped explore the possible, and sometimes even the unthinkable, leading to unexpected future directions.

How important is the structure of the design organization in delivering value?

Critical, because even if that structure supports non-linear thinking and exploration, it enables subsequent measurement for success. It also ensures continuity of thinking and consistency of message and maximizes the benefits of learning—especially valuable for geographically widespread corporations.

There are many models for design structures; none of them is better than the others. The most important thing is that, whatever system is chosen, it should be suitable to the way the organization likes to manage itself. It must be appropriate—otherwise design will be seen as requiring special elitist treatment rather than being part of normal business life.

What practices do you recommend design managers put in place to improve the influence and impact of their design teams?

Design management success in business is not so much about practices as about attitudes and behavior.

Behind every successful design management environment is a fundamental working attitude adopted by the design leaders and managers, and it is this: Persuade by the authority of your argument, not by the argument of your authority. Seems rather obvious, but it is often ignored in the panic not to lose the case for design.

Design can be made to work more effectively by the design manager employing a behavioral style appropriate to the way the employing company does things. Clues to this behavior can often be seen in the declared values of the business. In particular, the functional design manager needs a skill set that provides firm direction delivered with a light management touch. Equally important are the skills of the line manager in making design work within the company's management systems. Line managers have complex duties that demand complex personalities to manage them. They must have the ability to balance many demands while being delivery-oriented and able to develop and run organizational systems. ■

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Marco Steinberg

Strategic Design Consultant and Government Advisor

Marco Steinberg is the founder of Snowcone & Haystack, a Helsinki-based strategic design practice focused on helping governments and leaders innovate. He shares his office with Finland's former prime minister, Esko Aho, combining the political with the design perspective on delivering strategic transformations.

Steinberg is the former director of strategic design at the Finnish Innovation Fund, where he launched a portfolio of initiatives to address the acute need for strategic improvement in the public sector. He is currently the chairman of the board of the Museum of Finnish Architecture and serves as advisor to many organizations. He also served for 10 years as an associate professor at the Harvard Design School. He has advised governments on SME and design funding strategies, and headed his own design and architecture practice.

How do you define the value design brings to the government sector?

Governments are under incredible pressure to reform. Global competitive pressures, changing demographics, financial woes, and many other dynamics have led to austerity measures across most of Europe and the US and are spreading beyond. When cuts are deep, the approach can no longer be one of trying to improve existing processes; there is a limit to how much more can be squeezed out of the current way of doing. In other words, there is a point where you can't make something smaller from less. That's when you need to rethink what could be. But governments are not set up to innovate; they are built to administer.

Design offers a strategic road into both sides of the solution—new efficiency processes and strategic redesign. On the one hand, there is a lot that design can do to reframe

efficiency itself, shifting it from a notion of impoverishment to one of improved efficacy. This is design that helps deliver better services, more coherent experiences, greater impact, and a more-effective use of resources. (Imagine public services designed with the attention to detail of an iPhone, with that level of integration between device and service.) On the other end of the spectrum, design can be a useful tool in thinking how things might be done differently—how they could be fundamentally better. In our line of work, much of this has to do with shaping decision-making, defining the architecture of the solution in a way that can govern better value. This work is not dissimilar to the kind of design work an architect undertakes in thinking how different parts or systems come together to create a coherent whole. In a strategic redesign effort, you ask, “How can things be organized differently to create a more coherent and ultimately more valuable whole?” If the service design question focuses on improving a medical procedure, strategic design might look at rethinking healthcare delivery: “Do we need this procedure in the first place?”

What specific examples do you have of policy or systemic changes that design has helped deliver on?

I can think of three I've had the privilege of being involved with: city planning for Lahti (a city of 100,000 in southern Finland); redesigning social services for families with children in the city of Helsinki; and redesigning stroke care in the US to deliver better outcomes (mortality and morbidity) at lower costs.

In Lahti, we delivered a successful co-creation model for city planning by organizing and running a city planning effort that depended on citizen

engagement. We had seen that many city plans end up mired in court because citizens contest the top-down will of those cities to develop. This is a bad use of tax money and a terrible way to build communities. In Lahti, where a recent plan had already gone to litigation, the city realized it had to find an alternative and opened up the planning process to include townspeople. This made it possible to develop a shared design brief, which led to a shared commitment to its outcomes. In fact, the city realizes now that co-creating makes things faster, cheaper, and better. The process was such a success that the city's top leadership is committed to make co-creation part of all service delivery within the city.

In Helsinki, Social Services has redesigned and launched a new online service concept for families with children. Built on the logic of family needs, not of municipal organizational structure (as had been the tradition), the web service quickly prototyped a more effective and lower-cost way of engaging citizens. The new service was procured in four days and launched live within two weeks (show me a business able to make a new business decision in four days and launch a new service in two weeks!). In other words, with the right smarts the public sector can move with unprecedented speed. Design is not just about “better”—it's also about “faster.”

The Stroke Pathways project I led while at Harvard was focused on redesigning stroke care in the US. As with most American healthcare systems, care for stroke victims in this country was never *designed*; it grew organically and added new solutions in an effort to tie together something that was not born out of coherence. The typical attitude toward stroke care was: “Nothing is actually wrong here; all we need to do

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is get patients into the system more quickly.” Instead, we asked: “What would stroke care look like if we started from first principles?”

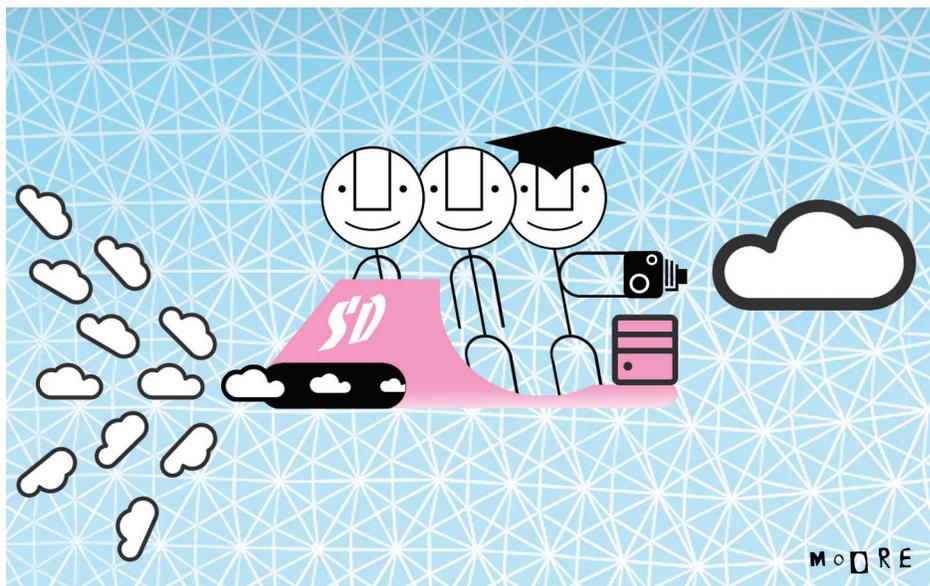
The challenge here was that new principles tend to challenge the status quo—by which we mean the way in which some people have built their success, their careers, and their interests. We are now seeing that our new model is improving outcomes at lower costs. However, better outcomes at lower costs rub against the interests of selling more services, which is the core profit-making strategy for most healthcare providers. Now the challenge is more likely one of helping organizations redesign their profit models around patient care.

There are more examples, of course, but these outline the opportunity in planning, service improvement, and system delivery.

As you look around the world, which governments are seeing results, economic or social, as a result of investments in design?

We are seeing design emerge in Denmark, Finland, Singapore, the UK, Canada, and Australia, and also in Thailand and Chile. But we need to realize that the role of design in government is still only nascent—so while there are good examples in these countries, design is still far from mainstream. I jokingly refer to these examples as “space dust.”

What each country is getting out of design at this point is varied. In Finland and Denmark, we see design help improve the *quality* of services. This is still at the pilot scale rather than the industrial scale. In Thailand, there is increased interest in design and social innovation, but only the first steps are now being taken. We do, however, see political interests built around design. In



Chile, which has less of an institutional legacy than, say, Europe or the US, we see large-scale redesign in such areas as housing and redevelopment as exemplified in cities like Antofagasta (transforming this large mining town into a vibrant urban and social community) and Constitución (which was destroyed by the 2010 tsunami but redesigned within 90 days).

How can state or local governments deploy design to solve big problems?

At its simplest, there are two basic needs: freedom to experiment and capability to act. The first is answered in part by an increased interest in “labs,” though these require dedicated resources. The second becomes possible through emerging placement programs and project-based learning. The problem there is the acute need to create career paths. How many designers have experience working in the public sector? And how many public servants have meaningful experience interacting with or managing design-led projects?

What role can DMI play in advancing state and federal investment in design?

I would say that DMI has an opportunity to contribute on at least three fronts: education, networks, and knowledge capture and sharing.

Education first: There are no university programs for this. DMI has a unique opportunity to broker not only a range of academic offerings to governments, but also teaching models for academic institutions interested in building some early capability in the field. We also need to create enlightened clients (governments), which means we need to be able to educate public sector leaders (including those making public procurement decisions) about design and design-led innovation.

On the network front, we need platforms to help connect designers with needs. I don’t see anyone actively doing this—not at the scale that is necessary. The problem is that knowledge is emerging so fast and furiously that no one has time to capture it. We need a device to capture, codify, and disseminate. ■