

in fact, impacts across all four of these domains must be addressed and balanced. For example, it's not enough for a product to be manufactured and distributed with materials and in a way that is better for the environment if it is produced with child or slave labor.

The most important principle that governs sustainable design and development is systems thinking. Like design thinking, this isn't a difficult concept in theory but, in practice, it can be complex—particularly for those new to it. Systems thinking is merely the consideration of the impacts of a product, service, policy or behavior across the many ways it touches other points within the system it operates. The components of systems thinking include parts and wholes (relationships), stocks and flows (how materials move within the system), centralization and decentralization (and the strengths of each), competition and cooperation (and the need for both), and diversity (which creates resilience).

In addition to these aspects of systems thinking, other principles widely cited within the sustainability field include multistakeholder engagement, multidisciplinary teams and service/value-orientation (providing value through services rather than merely products). Lastly, the sustainability world is quickly valuing the principle of customer-centric development as well as design-led innovation approaches.

These already highlight some important similarities. In fact, this is where we can see the first hints of alignment. Both worlds have complementary principles: user-centric development relates well to stakeholder engagement (users being a key stakeholder). Multidisciplinary teams are common in both domains. Systems thinking relates to qualitative as well as quantitative research.

Like in the design world, there are a few common frameworks or models for sustainability. These are mostly complementary instead of competitive and all are incomplete: natural capitalism, Cradle to Cradle, The Natural Step and The Living Principles. It's not necessary to use any of these to practice sustainable design or development, and each has its own limitations. Taken together, they form a more complete union of ideas, approaches and impacts.

The sustainability world has many tools available. Many are still being defined and refined, and some are industry- or geography-specific. As with design tools, some are more useful in specific parts of the development process than others. There are several specific strategies available to developers to create more sustainable solutions. **This model (principles, frameworks, tools and strategies) then creates a clearer view of how sustainability is practiced**

today. It also makes it easier to compare to the current state of design practice and, similarly, that of business practice.

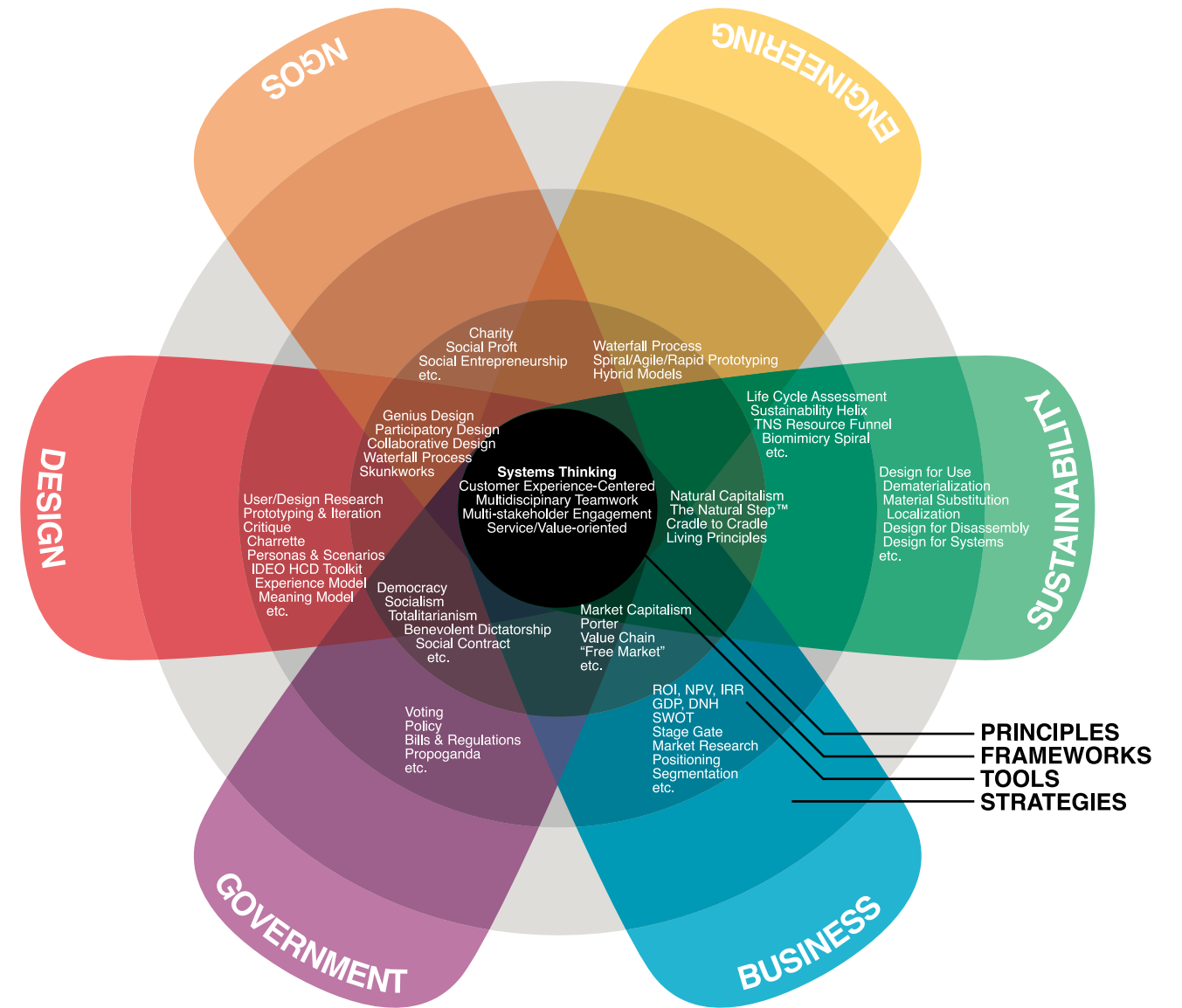
The business world is under tremendous change, as well. New approaches and principles are replacing traditional approaches, making business more collaborative (both inside and outside the organization), more customer-oriented and more service and experience-focused. Some of these changes are the result of heightened competition while others are the result of changes in business cultures that reflect the desires and culture of younger employees.

Systems Strategy Model

The changes in markets, industries, technologies and society are influencing change across design, business, sustainability and other paradigms, causing the same principles to be adopted into each. Together, they make possible a model that opens a more complete and integrated strategic understanding which, in turn, creates the opportunity for a shared, multiparadigm conversation that has never before been possible. With only slight adjustments in vocabulary, business, design and sustainability leaders are moving beyond merely finding common ground but are working together with unprecedented alignment of purpose and objectives. This, too, is happening within companies as corporate strategy is created with an understanding of how all of these parts influence the organization as a whole.

Take, for example, the now ubiquitous poster-child for design and business—Apple. Within the company, sustainability is an imperative from the top that sits besides the imperatives of great design and superior business performance. Apple is one of the few companies that is not only successful in forming and delivering strategy in each of these areas but has found ways in which these aren't in conflict.

Apple's strategy for sustainability is mostly focused on design for use (solutions that work for people don't need to be replaced as often), dematerialization (the reduction of material and energy in the manufacturing process where the bulk of ecological impacts occur for consumer electronics), and material substitution. By no means are these the only approach to more sustainable performance, but they are informed priorities. Apple's choices to radically dematerialize almost every product it makes, in combination with its decision to substitute aluminum for enclosures over the more common plastic, inform the entire design language of the company's products. Apple's minimalist design language supports the company's sustainability strategy and would be entirely different if it was based on different



materials and a different sustainability strategy (or none at all). The two would not be as successful on their own.

Despite aluminum's higher embodied energy, it is much more easily recycled, locally even, than the plastic used in most computers and consumer electronics. Aluminum also has better strength than plastic so lighter, thinner enclosures can be used for mobile and other devices (it's worth noting that all devices are mobile through the distribution network so weight savings matter regardless). For a long time, Apple's strategy was to rely on local recycling rather than build its own take-back infrastructure for end-of-life returns. This has changed, somewhat, with the creation and expansion of the Apple stores, since they provide a potential point of return for take-back programs, and, indeed, Apple does take-back all of its own equipment and some other manufacturers' mobile phones.

This is where innovations in Apple's business strategy coincide with innovation in every other aspect of its busi-

ness, as well as its commitment to, and interest in, design. In fact, it is this commitment that enables products to be realized across all of these strategic goals.

Compare this to HP's sustainability strategy (based almost entirely on take-back programs and materials with low embodied energy). Apple's strategy is neither better nor worse than HP's. They are both appropriate, though different, approaches. The two together, however, indicate a corporate-level commitment to sustainability and design that isn't evident in most of their competitors. There is little evidence in competing products of a shared conversation between the design, business and sustainability strategies.

Large companies aren't the only ones benefiting from or exploring the overlap of strategic initiatives. Small companies like Lulan, a textile producer in Southeast Asia and India, are also innovating across the spectrum of business, design and sustainability because of their understanding of and commitment to all three, not despite it. Lulan's business



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model combines respect for centuries-old experience with dying and weaving in indigenous cultures with an understanding of modern markets, both global and local. Lulan recruits, trains and supports artisans to do what they already know how to do, weave textiles, while teaching them business and management skills, and helping them understand the tastes in global markets that may not follow what they understand from experience in their local markets.

Lulan helps these artisans reach new markets without sacrificing the cultures already established, their rich experience nor their social communities. Lulan's strategy even goes beyond this, having proven its model in many communities in Asia, and is helping NGOs in Africa and South America duplicate this approach and customize it to other cultures and societies. Lulan, therefore, has created a culturally, socially, ecologically and financially sustainable model that is replicable because its founder and partners understand that strategies in one of these domains serve as the opportunity for success in the others. In addition, the idea for Lulan came from a desire to provide an economic (read: market) alternative to exploitation, slavery and prostitution in many of these places. Rather than start yet another NGO to combat human trafficking, Lulan has created a for-profit company (and model for others) by integrating strategies across the diverse spectra of design, business, sustainability, NGO, and government impacts and issues. In the process, Lulan has slowed the rate of degradation in the social fabric of these communities and has had an effect on human trafficking in the region. This would not have been possible without an understanding of strategies in all of these domains and without the principles being aligned across them all.

Exploring and Inventing New Tools

By no means is the model complete. However, the basic premise has been sound, so far, and is the basis for how we teach skills, tools and perspectives in our business programs at the California College of the Arts: the groundbreaking MBA in design strategy as well as our executive program, the Leading by Design Fellows Program.

While most of this material seems fairly theoretical, it has immediately practical application. At each level of the systems strategy model, organizations and individual designers and other businesspeople can both

learn and engage. For example, knowing that the principles are converging (but not yet the language), we should be searching out how to translate the concepts in design language (such as "user or design research") into the language of our peers (such as "customer-centric" for business-people) and introduce and explain how it connects to their principles and values even when it's not yet familiar to them. (In the case of sustainability professionals, the idea of "customer-centric value" may not

be discussed regularly, but it's very much compatible with the approach many sustainability experts take).

At the level of frameworks, we all need to become familiar with the models our peers use. This is how they think about challenges (and think their world works). While we have our personal preferences, there is always more than one approach and understanding our peers' paradigms helps us to be more successful. One of the reasons we created the MBA in design strategy program at CCA was to help frustrated designers achieve the influence among their non-design peers they think they deserve by teaching them to speak the language and models of their non-design peers. When we familiarize ourselves with these other models, we become more effective champions for design—and we often see the world in ways that benefit our own work.

While the tools and strategies can diverge considerably from domain to domain, they often serve when no others tools yet exist. For example, the Sustainability Helix tool applies as much to organizational development or the design of human systems as it does to sustainability. It's a model for change within a group that is useful wherever group interaction is the focus. The structure of other tools, in a new context with modified details, may solve other challenges and become a new tool in the process.

We can step back from any point in the systems strategy model to find a path toward another point, a bit like a board game. Finding a path through the model uncovers a path through the system, one that will likely involve peers from a domain outside of design.

As designers, we're not afraid to take a hammer and find a new use for it. What helps us most is to have the permission to do so and a mental model that expands the possibilities. Consider the systems strategy model the mental model to help you see more possibilities. And, I give you the permission to pound away in ways no one expects. ■

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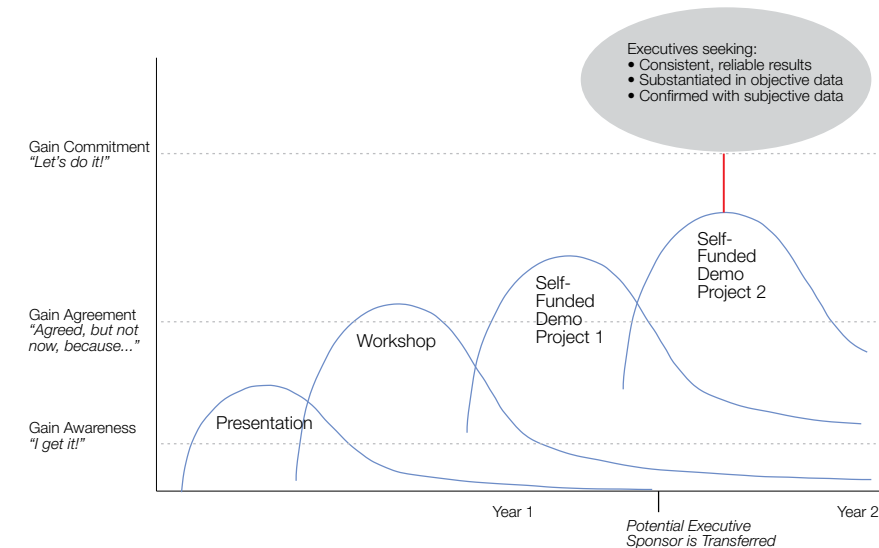
Steve Sato is the Founder of Sato+Partners, a management consulting and organization development firm that builds experience, innovation and design excellence through project-based learning and organization growth. ■ **Sam Lucente** brings proven world-class design approaches to bear on complex problems for society, organizations and the design profession at large. As former VP of design at Hewlett Packard, he now consults for the company. ■ **Deborah Mrazek**, design practice manager, corporate marketing at HP, is responsible for building the HP-wide design practice to be a more competitive, reliable strategic tool.

Toward a More Valued Design Profession
REFRAMING & REPOSITIONING OUR ROLE IN BUSINESS

These days we have to be careful what we wish for when it comes to design and business. For many higher-level designers, the days of shaping singular objectified creations have given way to the crafting of complex experiences tangled up in those entities we call organizations. "Design and business" yields about 500–700 million results on popular search engines. No doubt it is a hot topic, and when it comes to delivering business results through design, the expectations of management are higher than ever before.

Yet, while most businesses served by designers are aware of design and some agree that design is valuable, only a few actually commit to design-based approaches. How we, as the collective design profession, lead this design and business movement will redefine every aspect of our vocation for years to come. Will design thrive on its own, merge with branding, or be assimilated by marketing or R&D?

Like any new way of doing things, the natural progression in adopting a design-based approach moves from awareness to agreement before reaching commitment. The effort to move stakeholders from agreement to commitment requires a significantly greater effort than to move them from awareness to agreement. Why? Because the stakeholders must make trade-off decisions to commit time, attention, money and resources to the new approach to the detriment of current commitments and plans. Each stakeholder needs to see clearly "What's in it for me?" In contrast, no-trade-off decisions are needed to agree to a design-based approach, or even to agree that something is a good idea. Talk is cheap.



The common approach taken to formalize a broader role for design is slow; it lacks enough organizational momentum to reliably succeed.

Experience tells us that the most common tactic used, namely funding demo or design-concept projects, rarely creates enough organizational momentum for design to be accepted in a new role. While great at increasing the level of agreement, this tactic to showcase design is not sufficient enough to build organizational momentum to effect lasting change.