

Why Design with the Crowd?

The Case for *Crowd Co-Design*

This draft summary describes the results of the interdisciplinary research initiative currently underway at Stanford University's Global Projects Center, led by Visiting Scholars Joanna Levitt Cea and Jess Rimington.

Background

Currently, there is a major shift occurring in the private sector, as companies move away from a model in which products and services are created via closed-door, top-down, expert-biased processes (i.e., the “passive consumer model”), toward a model based on crowdsourced, open, user-driven strategies (i.e., the “engaged ‘prosumer’ model”), in which the end-user is a new hybrid actor, who acts to both shape/create and consume the product. Companies have come to recognize that to secure or retain an edge with today’s consumers, they must regularly *engage* those consumers to test assumptions, gain insights as to what consumers want, and co-create company identities and products.

This revolution in how we think about bringing new products and services to market has been sparked by several factors: Two major movements driving this shift have been the Lean StartUp methodology first set out by Eric Ries, and *design thinking*, popularized by leading design consultancies such as IDEO. Many of today’s new leading companies are building their financial success off of an ethos and practice of regular engagement and co-creation with the end-users. In fact, industry data for many sectors now demonstrates that companies with greater relative budgets for user-experience testing and user engagement in design reliably outperform companies that devote smaller portions of their budgets to such activities.

Another important driver of this shift is the growing body of scientific evidence demonstrating that when decisions are sourced from crowds (and when these crowds are large, diverse, and tapped in ways in which members opine independently), the resulting information proves far more accurate and rich than decisions from even the most eminent “experts” or small groups of experts. These breakthroughs have been paired with an explosion of new technological tools and applications that enable “tapping crowd wisdom” in large-scale, cost-effective ways. The rapidly growing array of crowdsourcing tools is opening the door to consumer engagement and co-creation at scales previously unimaginable.

In addition to the above breakthroughs, many argue that there are actually more profound societal shifts driving this change. One compelling analysis was presented in the December 2014 issue of *Harvard Business Review*, in the article “Understanding New Power” by Jeremy Heimans and Henry Timms. The article defines “old power” as being held by few, jealously guarded, closed, inaccessible, and leader-driven. “Old power models tend to require little more than consumption. A magazine asks readers to renew their subscriptions, a manufacturer asks customers to buy its shoes.” By contrast, they define “new power” as being made by many, open, participatory, and peer-driven.

New power taps into people’s growing capacity—and desire—to participate in ways that go beyond consumption. ...What’s distinctive about these participatory behaviors is that they effectively ‘upload’ power from a source that is diffuse but enormous—the passions and energies of the many. Technology underpins these models, but what drives them is a heightened sense of human agency.

Among those heavily engaged with new power—particularly people under 30 (more than half the world’s population)—a common assumption is emerging: We all have an inalienable right to participate. For earlier generations, participation might have meant only the right to vote in elections every few years or maybe to join a union or religious community. Today, people increasingly expect to actively shape or create many aspects of their lives.

As evidence for their argument, the article’s authors point to numerous examples of companies that have embraced “new power” and achieved dramatic financial success.

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The user-centered, “new power” revolution is well underway in the realm of high-tech and product design, but it has yet to occur in the sector that we term the “for-impact sector”: non-profits, social enterprise, development institutions –and the vehicles by which they are funded: philanthropy, impact investment, and aid. In the for-impact sector, the end-users or beneficiaries of these services are rarely engaged in the design of these services. By failing to embrace “new power” values and adopt co-creative strategies with end-users, for-impact entities may be designing sub-optimal products and services, leaving tremendous intellectual resources untapped, and undermining their ability to effect far-reaching positive change.

Research Methodology

Our research initiative at Stanford University’s Global Projects Center is examining how cutting-edge practices in co-creation with end-users can be applied to enhancing the provision of basic services and meeting critical human needs—the work of the for-impact sector. We have approached the research with careful attention to the reality that what may work well for designing, say, a smart phone app, will not necessarily be directly transferable to the process of designing an infrastructure or energy project.

We thus examined key innovations across a wide variety of fields—from new business best practices in market research, consumer engagement and product design; to sociological studies on disaster response, community development, and participatory action research; to urban planning models for participatory municipal budgeting and crowdsourced design of public spaces; to studies on infrastructure planning and construction; to global development reports by the World Bank and others; to diverse articles by thought-leaders of public-interest advocacy and service organizations; and into the emerging field we refer to as “crowd science,” which examines the quantitative underpinnings and patterns behind sourcing ideas, labor and decisions from large groups of people rather than individuals.

In addition to this inter-disciplinary survey, we conducted over 50 interviews with diverse actors engaged in thought leadership on collaborative sourcing of ideas and information from crowds of various types. Interviewees included CEOs of crowdsourcing companies; staff of basic services providers; directors of major foundations, aid agencies and impact investing firms; social entrepreneurs; community leaders; and others.

To learn from successful practitioners at the cutting-edge of consumer engagement in design, we also researched over 200 companies to identify five “top players” whose successful tools and services are enabling a diversity of companies and service-providers to tap the wisdom of the crowd in powerful new ways. We are engaging these six companies to learn from their models and tools and to understand real-world application of key concepts in end-user engagement and collaborative design.

Our research recognizes that the process of co-creation with end-users is complex, and that one cannot simply cut-and-paste successful methods from one industry onto another when those industries produce vastly different kinds of “products” and operate in very different contexts. The above methodologies have enabled us to identify key principles for effective application of user-driven co-creation, specifically for enhancing the work of the for-impact sector.

Research Outcomes

From this multi-faceted research, there emerged a clear set of best practices for the application of crowdsourcing and co-creative engagement with end-users. We have distilled these findings into an eight-element approach that we term *crowd co-design*. In short, these elements are:

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- ***Element 1: Reset the mindset.*** This element reflects the key advance of *design thinking*, which applies “mindset as method”—a mindset that recognizes the end-user as a key holder of expertise and insight in terms of determining what will be effective and generating innovations.
- ***Element 2: Build the right crowd(s).*** The mathematical underpinnings behind “crowd science” demonstrate that crowds produce the best information when they are diverse and multifaceted. To strategically cultivate such a “wise” crowd, the crowd must include diverse actors, including place-based crowds, expertise-based crowds, and crowds based on interests, experience, roles, etc. Furthermore, it is often strategic to form and engage multiple crowds (or different sub-sets of a crowd) for different objectives during a process—for example, a smaller, cultivated crowd may be best-placed to shape the process’s overall objectives and structure; a broader, open crowd may be tapped to generate ideas and technical solutions; and another crowd representative of the end-users may be engaged to select and hone the best options among possible solutions.
- ***Element 3: Test assumptions with the crowd and co-define the problem.*** Drawing from the proven effectiveness of the “Lean StartUp” approach, *design thinking*, and user-experience testing, this element underscores the importance of engaging end-users not only to test proposed solutions or products, but also at the outset to test the underlying assumptions about what is needed and desired.
- ***Element 4: Iterate and prototype with the crowd.*** A striking conclusion of recent research in crowd science is that crowds produce the richest, most accurate information when they are engaged at multiple points throughout the design process. For example, a one-time design contest is not likely to produce as sophisticated and accurate a solution as engaging the crowd at multiple points in a process, throughout an iterative process. This finding aligns with the practice of “rapid prototyping” and recurrent user-testing that is at the heart of the Lean StartUp approach.
- ***Element 5: Use mechanics that optimize the wisdom of the crowd.*** Poorly orchestrated crowdsourcing can fall into traps of “groupthink,” blind following of convention, or other common pitfalls of group planning. To minimize these risks, a robust crowdsourcing process must ensure three critical characteristics: *diversity* of opinion (each person should have some private, information, even if it's just an eccentric interpretation of the known facts); *independence* (people's opinions are not determined by the opinions of those around them), and *decentralization* (people are able to specialize and draw on local knowledge). Online/tech-based and virtual tools are well suited to enable engagement that preserves these characteristics. At the same time, research demonstrates that such tools alone are insufficient. The most effective, sustained crowd engagement pairs such methods with opportunities for offline, in-person, collective engagement.
- ***Element 6: Trust the crowd with the big-picture information.*** Crowds produce more sophisticated, innovative and useful information when the full set of constraints and objectives pertaining to the project are communicated to them, in accessible terms, from the beginning. Too often, design contests or other crowdsourcing processes do not trust the crowd with information about the complex constraints at play, resulting in the crowd generating ideas that are not actually feasible. Ensuring a “level playing field” among all participants—in terms of everyone’s level of information about actual constraints and needs—saves time, resources and optimizes results.
- ***Element 7: Respect and support leadership within the crowd.*** This element reflects a crucial difference between crowd-engagement for designing a private consumer product versus a public infrastructure or essential-services project. Co-creation processes for consumer products, such as a smart phone app, tend to engage people only in their individual capacities, as independently-acting consumers of a product that will exist for a relatively short timescale and with relatively

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minor possible negative impacts. In contrast, if a crowd is being engaged to design a new hydropower project or urban re-development plan, the timescale of the final product's duration is vastly greater, as are the potential negative impacts—and there are also complex leadership and organizational structures to account for among the crowd. There may be government agencies at the national, regional and local levels; there may be civil society organizations; there may be community organizations or indigenous communities with their own leadership and governance structures. Thus, it may not always be appropriate or effective to engage crowd-members only in their individual capacities; instead, the crowd and the process must be designed to respect and engage with these structures appropriately. Best practices for addressing this challenge often center on the creation of a core group or committee composed of representatives or liaisons from the various entities that will be engaged in the process. Often these committee members then play a role in implementing crowdsourcing and co-creative steps with their constituencies. In short, there should be leadership structures within the crowd, which reflect the diversity of the people and groups targeted for engagement.

- ***Element 8: Establish and maintain a fair deal.*** This is the glue that will make or break a crowd co-design process. Research on crowdsourcing processes for consumer products demonstrates that one of the most salient factors that motivate people's participation is whether or not they perceive the process to be a "fair deal." Common characteristics of fair deals include: the processes are transparent; it is clear how decisions will be made; it is clear what will happen with crowd input and what kind of access to the final "product" everyone will have; etc. Fair deals tend to be most robust and effective when the "deal" itself is designed with input from the crowd, or at least a representative sample of the crowd, and when all participants are explicitly asked to review the tenets of the fair deal at the outset of their participation. The agreed-upon fair deal can then serve as a touchstone throughout the process, to remind all participants of their commitments and agreements, and to keep the process on track.

At first glance, the above eight elements of *crowd co-design* may appear to be complex and even onerous to apply. However, our research—and particularly our engagement with the companies identified as "top players" in this space—demonstrate how these concepts are being applied efficiently and cost-effectively, and through a growing diversity of tools and methods. Furthermore, rather than being burdensome, the implementation of the elements of *crowd co-design* is directly supporting companies' profitability and success.

Why *Crowd Co-Design* is Good for Business

The elements of *crowd co-design* draw directly from the practices of successful companies. Our research compiles data demonstrating the benefits of user engagement in co-creation, across a variety of metrics:

- **Quality of product:** Insights and ideas from a diverse crowd of end-users engaged throughout a design process result in more innovative, quality products that better respond to what consumers want;
- **Relevancy:** Companies that demonstrate an institutional commitment to co-creative engagement with consumers generate an overall brand that consumers perceive as more appealing and relevant to their everyday lives;
- **Capture of market share:** The above two benefits contribute to the fact that companies with greater commitment to and budget for co-creative user engagement tend to capture greater market share, as this strategy provides them with significant competitive advantage;

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- **Sustainability:** In terms of long-term planning and financial sustainability, a regular practice of co-creative user engagement supports companies to stay “ahead of the curve” in terms of being ready to meet the demands of tomorrow’s consumers; and
- **Profit:** Data suggests that investing resources into co-creative engagement with users is richly rewarded. It pays off to invest in getting the idea right. Many of today’s most profitable new companies have achieved their financial success through significant commitment to learning from and co-creating with their consumers.

Key Sources

As described in our methodology section, the sources of information for this research are numerous and diverse. The following include some of the articles and sources that may be of most interest:

“Understanding New Power,” Jeremy Heimans and Henry Timms, *Harvard Business Review*, December 2014.

The Future of Competition: Co-Creating Unique Value With Customers, C. K. Prahalad and Venkat Ramaswamy, Harvard Business School Press, 2004.

“When Lean StartUp Meets Design Thinking: Lessons for Social Entrepreneurs,” guest blog post by Mark Cheng, *Virgin Entrepreneurship* blog, July 22nd, 2014.

“Challenges and Opportunities in Contemporary Participatory Design,” Toni Robertson and Jesper Simonsen, Massachusetts Institute of Technology *DesignIssues*: Vol. 28(3), 2012.

The Wisdoms of Crowds: Why the many are smarter than the few and how collective wisdom shapes business, economies, societies, and nations,” James Surowiecki, Anchor Books of Random House, Inc., 2004.

“Crowdsourcing the public participation process for planning projects,” Daren C. Brabham, *Planning Theory*, Vol. 8(3), 2009.

Crowdsourcing for Democracy: A New Era in Policy-Making, Tanja Aitamurto, Publication of the Committee of the Future, Parliament of Finland, 2012.

“Why Open Contests Work,” Mayur Patel, *Stanford Social Innovation Review*, September 2013.

“Keeping Citizens Engaged: A Comparison Between Online and Offline Participants,” Ana Yetano and Sonia Royo, *Administration & Society*, Vol 1-29, April 2015.

“The Promise of Lean Experimentation,” Peter Murray and Steve Ma, *Stanford Social Innovation Review*, Summer 2015.