



Tech Trends 2014

Industrialised crowdsourcing

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Sometimes more is better

Enterprise adoption of the power of the crowd allows specialised skills to be dynamically sourced from anyone, anywhere, and only as needed. Companies can use the collective knowledge of the masses to help with tasks from data entry and coding to advanced analytics and product development. The potential for disruptive impact on cost alone likely makes early experimentation worthwhile, but there are also broader implications for innovation in the enterprise.

ENTERPRISE adoption of crowdsourcing can allow specialised skills to be dynamically sourced – from anyone, anywhere, as needed – for everything from data entry and coding to advanced analytics and product development. The potential for disruptive impact on cost alone could make early experimentation worthwhile, but there are broader implications for innovation in the enterprise.

Sun Microsystems co-founder Bill Joy said it well in 1990: “No matter who you are, most of the smartest people work for someone else.”¹ His intent was not defeatism; it was a rallying cry to tap into the collective experience and enthusiasm outside of organisational boundaries. Today, enterprises are doing just that: harnessing the crowd to help with a wide mix of challenges, from menial tasks and complex needs requiring specialised skill sets to creative endeavors and even strategic planning. The idea of open source talent² via crowdsourcing is becoming industrialised – growing in scale, sophistication, and importance as an alternative staffing model. The goal is not just cost savings but also quick access to specialised resources, the ability to dynamically scale up (and down) around workloads, and geographic coverage in quickly changing markets.

Businesses have a rich history of trying to tap into crowds, using consumer surveys, focus groups, and experiential marketing to provoke customer engagement. Product R&D, in particular, has seen significant activity, with open innovation campaigns launched by many large companies, including 3M, BMW, General Mills, and Stanley Black & Decker.³ More recently, companies have moved to flatten and rewire their structures, making it easier for people *within* the organisation to connect with information and specialists to grow ideas and solve pressing problems across a wide spectrum of domains.

There’s a crowd for that

The business applications of crowdsourcing run the gamut from simple tasks to complex solutions. Below is a sampling of the categories and emerging platforms for harnessing the crowd.

- **Simple, task-oriented crowdsourcing.** Companies need arms and legs to execute simple, short, transactional units of work. Language translation services, data entry, photograph tagging, and

transcription are popular items that allow large workloads to be split across remote workforces. Routine tasks that require physical presence such as performing store pricing checks, pulling products during recalls, restocking retail shelves, or serving as data collectors, also fit into this category. Crowdsourcing platforms such as Amazon's Mechanical Turk, Gigwalk, TaskRabbit, Elance, Field Agent, and Quri fill this niche with an on-demand labour force, often global, numbering in the hundreds of thousands and performing millions of jobs.⁴ The goal is not just low costs but also speed and scale.

- **Complex, experience-based crowdsourcing.** Complex tasks require abstract thinking, specialised skill sets, and sophisticated problem solving. The crowd is typically made up of diverse, qualified individuals, including software engineers, data scientists, artists, designers, management consultants, and hobbyists with advanced academic degrees or industry experience. Tasks typically require not just scale but also creative problem solving, with the goal of achieving breakthroughs to old problems through innovative thinking. Platforms for this type of crowdsourcing include 10EQS, crowdSPRING, Kaggle, oDesk, and Tongal.
- **Open-ended, idea-generating crowdsourcing.** These applications involve challenges oriented around invention, idea generation, and product and brand innovation. Breakthroughs may come from specialists or, increasingly, from the general public. The challenge becomes one of provoking and harvesting that potential. Corporations are increasingly entering into partnerships with crowdsourcing platforms in this space to focus their efforts. Examples include General Electric's opening of its patent library to Quirky⁵ and Qualcomm's Tricorder challenge with the XPRIZE Foundation.⁶ IdeaConnection and InnoCentive are other platforms in this space.

- **Funding, consumption, and contribution crowdsourcing.** Large enterprises should be aware of three other models of crowdsourcing that are gaining momentum. The first is crowdfunding, in which entrepreneurs solicit sponsorship from the masses, looking for support or capital to develop ideas, products, and businesses. Indiegogo and Kickstarter are two of many platforms in this space. Collaborative consumption models have also emerged, in which certain assets are available "as a service" to the crowd. Automobiles through Uber and lodging through Airbnb are two examples. Finally, we're seeing platforms where the crowd contributes ideas and information, sharing knowledge that could be useful to others. The open source software movement and Wikipedia are based on this model. Other more recent platforms include CrowdTap and Sourcemap.

Battalion at the ready

Funding, consumption, and contribution crowdsourcing. Industrialised crowdsourcing providers leverage platforms that can match buyers to a much broader base of sellers while reducing many of the administrative hassles, combining cloud, mobile, social, and web technologies to create new marketplaces.

For location-based assignments, individuals carry GPS-enabled devices that provide on-the-spot data entry and performance verification. Others may provide bidding systems, processes for billing and payment collection, performance monitoring, and performance ratings. Platforms can provide easy access to specialists from many walks of life – professionals, freelancers, and hobbyists – who have the motivation, qualifications, and flexibility to create innovative ideas and execute assignments promptly. For temp agencies or outsourcers, the talent pool is constrained by their rosters. In crowdsourcing, the needle in the haystack comes to you, with skills and interests aligned with your ask.

Buyers can access large pools of people in short order, typically at low transaction costs – a few dollars per store visit or pennies per photo tag. For free agents, these assignments allow them to earn extra money with fewer commitments and more flexibility than traditional employment offers. And individuals qualified for these projects are often attracted by intrinsic rewards beyond just money – prestige, competition, learning, or job opportunities. Many crowdsourcing platforms provide rewards or leaderboards, letting talent be recognised as leaders in their fields.

Some of the more compelling results come from harnessing the crowd via contests. These can be offered for entertainment or prestige by applying gamification⁷ techniques. Alternatively, top talent can be invited to compete on an assignment by offering financial incentives for the more effective responses. Sponsoring companies pay only for “winning” solutions while gaining access to a wide range of ideas. Talent has the freedom to select projects that match its interests and ambitions and is given a platform to showcase its work. Colgate Speed Stick used this model to spark a Super Bowl ad for the bargain-basement price of \$17,000, compared with nine-figure investments associated with traditional agencies.⁸ Allstate sponsored a competition in which the crowd created a liability prediction model that was 271 percent more accurate than the original.⁹

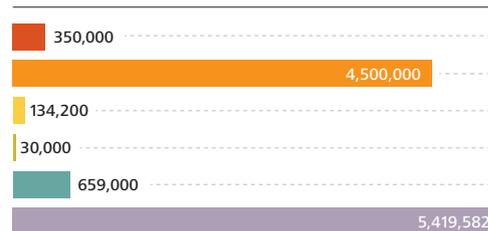
Leading companies are blasting through corporate walls with industrialised solutions to reach broader crowds capable of generating answers and executing tasks faster and more cost effectively than employees. Companies are also gaining access to niche, unproven experience that might be hard to find and retain in-house. And with the crowd, you pay only for the task being completed.

The crowd is waiting and willing. How will you put it to work?

A sampling of crowdsourcing platforms

 Gigwalk¹ A mobile, flexible workforce for jobs in the field FOUNDED 2011	 oDesk² A tool for hiring and managing remote freelancers FOUNDED 2005	 Kaggle³ Competitions for predictive modeling and analytics FOUNDED 2010
 Tongal⁴ Collaborative contests for video production FOUNDED 2008	 Quirky⁵ A product design incubator and marketplace FOUNDED 2009	 Kickstarter⁶ A global funding platform for creative projects FOUNDED 2009

USERS Number of contributors in the community



JOBS Number of completed projects



Sources: ¹ Gigwalk, “Press information,” <http://gigwalk.com/press>, accessed December 18, 2013. ² Odesk, “Odesk at a glance,” <https://www.odesk.com/info/about>, accessed December 18, 2013; Odesk, “Find work,” <https://www.odesk.com/o/jobs/browse>, accessed December 18, 2013. ³ Kaggle, “Solutions,” <http://www.kaggle.com/solutions/connect>, accessed December 18, 2013; Kaggle, “Active competitions,” <http://www.kaggle.com/competitions>, accessed December 18, 2013. ⁴ Peter Diamandis, “Genius TV commercials at 1/100th the price,” Huffington Post Blog, February 28, 2013, http://www.huffingtonpost.com/peter-diamandis/a-tongal-produced-ad-scor_b_2806396.html, accessed December 18, 2013. ⁵ Quirky, “About Quirky,” <http://www.quirky.com/about>, accessed December 18, 2013. ⁶ Kickstarter, “Kickstarter stats,” <http://www.kickstarter.com/help/stats>, accessed December 18, 2013.

Crowding cures

Finding new ways to beat cancer is a long, slow job, with much of the work based on painstaking and time-consuming analysis of data. And however good the computer software is, there's nothing like a pair of human eyes on the data. So when Cancer Research UK realised it had "huge amounts, terabytes, of archive research" that needed "urgent analysis", it turned to a limitless source of pairs of eyes – the public – thanks to an innovative crowdsourcing platform, especially designed for this leading UK cancer charity.

"There's an explosion of data and information," says Dr Jo Reynolds, director at Cancer Research UK. "In many ways we're being held back by how fast we can process that data." Andrew Hanby, professor of breast cancer pathology at Leeds University, adds that researchers have many "pieces of tissue that we need to look down the microscope at – we really need to recruit our fellow men and women to help us out with this".

Working with Zooniverse, the crowd-sourced science portal owned by the Citizen Science Alliance, Cancer Research UK's developers came up with the Cell Slider website – www.cellslider.net

When a user visits the site, they first take a short tutorial, which shows them what they will be looking at and what they are looking for. Visitors to the site will become amateur pathologists, looking for the presence of cancer cells on slides of tissues kindly donated by women with breast cancer. Depending on what they see, the user is then asked to answer further questions about the cells, such as what colour they are, which will help researchers answer important questions about breast cancer treatment.

In this way, huge amounts of data can be processed. Says Hannah Keartland, programme manager at Cancer Research UK: "Cell Slider has dramatically reduced the time it takes to analyse breast cancer data. By using the power of the crowd, in just three months we've reviewed data that would have taken our pathologists 18 months to achieve: that's 2 million classifications so far."

The data generated by the more than 200,000 people who have taken part – more than half of whom come from outside the UK – then gets fed back into the Zooniverse platform, from which the researchers use statistical analysis to pull out meaningful results. These results will help the researchers to find clues that will bring them closer to developing breast cancer treatments.

The project was born after a hackathon in May 2012 arranged by Cancer Research UK over two days at London's Science Museum. Bringing together 50 developers and scientists, the team challenged them to come up with a game or an app that anyone could play and which would help Cancer Research UK analyse its huge store of data. Says Hannah Keartland: "The idea came from the innovation team, and was led from the science side. The key thing was that it had to be able to do real science."

The problem that Click to Cure solves is that of volume: says Hannah Keartland: "The real trick is getting lots of people to look at the data." Each piece of cancer data needs to be viewed many times to generate meaningful results. The scientists at Cancer Research UK are very supportive of the project, she adds: "It's freeing them up to do other research."

What's next for this innovative way of harnessing the power of the crowd? On the science side, says Hannah Keartland, there's a peer-reviewed paper in the works which they hope will be published later this year. On the crowdsourcing side, the next step in the journey has just hit Apple's App Store and Google Play. "Play to Cure: Genes In Space" is a game developed by Guerilla Tea, which, like Click to Cure, arose out of another brainstorming session hosted by Cancer Research UK, a GameJam held in March 2013.

Says Hannah Keartland: "We've developed a game that translates genetic data into an engaging and playable game – but most importantly, a game that should generate robust scientific analysis." The key point is that anyone can play it – and anyone can thus contribute towards finding cures for cancer: "We want everyone to be a part of this because we believe everyone can have an impact in the fight against cancer."

Where do you start?

UNDERSTANDING how to use crowdsourcing to help reach organisational goals may not be intuitive, and the range of potential projects and platforms can add to the confusion, especially as you're educating your business counterparts. Data security, privacy, and compliance risks may be raised as roadblocks. That said, every industry can find acceptable areas in which to experiment, perhaps in unlikely places. Goldcorp is a mining company that shared its top-secret geological data with the crowd, offering \$500,000 for finding six million ounces in untapped gold. This \$500,000 investment yielded \$3 billion in new gold in one year.¹⁰

Tapping crowd power through an online platform is a low-risk investment with potentially high returns, but only if you choose appropriate projects.

- **Scope.** Focus on a clear and specific problem to solve – one that can be boiled down to a question, task, or request with measurable definitions of success. One of the benefits of crowdsourcing comes from garnering ideas that aren't limited by your organisation's preconceptions of how your business or market works. The scope of a task can require deep domain experience but should not be dependent on your own organisation's context.
- **Focus on gaps in your organisation's own abilities.** Begin your search in areas where your own talent gaps have held back progress. What could you learn or accomplish if you had affordable manpower readily available? What complex problems have confounded your people? What solutions seem out of reach, no matter what you try? These may be problems worth pitching to a crowd that isn't contaminated by "what's not possible." Crowds are likely to consider data or information that insiders assume is irrelevant.

- **Keep an open mind.** Crowdsourcing is rarely initially championed by a C-level executive, but the CIO may be in a position to help educate business leaders on its potential. A broad perspective across the enterprise, combined with an open mind, may help CIOs recognise unexpected applications that could benefit the organisation. Leaders should foster a culture where appropriate crowd experiments are encouraged while minimising security, privacy, and compliance risks. Employees may feel threatened by crowdsourcing, perceiving it either as a "big brother" tactic or a means to replace the existing workforce. Consider making crowdsourcing a tool for your employees. For example, the sales team for a consumer goods company can use a crowdsourcing app to harness cheap labour to perform the mundane parts of their job. By letting your employees orchestrate the crowd, concerns can be alleviated.
- **Get ready for what's next.** Crowdsourcing is in the early stages, but it's not too early to consider long-term opportunities for new ways to get work done. Could a native mobile app that feeds directly into your systems streamline field data collection and reporting in the future? Could the time come when it would make sense to provide access to corporate assets to free agents? A crowdsourced labour pool will become a legitimate component of many organisations' distributed workforce strategy. Start thinking now about what policies and processes need to be in place. Incentive structures, performance management, operating models, and delivery models may, in some cases, need to be redrawn. Use crowdsourcing as a tangible example of the shift to social business¹¹ – allowing early experimentation to make the case for more profound investments and impacts.

Bottom line

Crowdsourcing is still in its early stages, but today's online platforms are sophisticated enough to provide substantial benefits in solving many kinds of problems. The potential for disruptive impact on cost alone makes early experimentation worthwhile. More important are the broader implications for innovation in the extended enterprise. Today you can expand your reach to engage talent to help with a wide range of needs. It's important that your organisation has the ability to embrace new ideas that may be generated by your crowdsourcing initiatives. That means industrialising not just for scale and reach but also for outcome.

Authors

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