Harnessing a Global Talent Pool Through Crowdsourcing Can Increase Speed and Deliver Innovation

Published: 28 March 2014

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Cloud computing has brought an explosion of service delivery options, including the ability to tap into a global IT talent pool through crowdsourcing. Sourcing managers can engage "the crowd" to tap into the benefits of this new sourcing model if they understand its inherent challenges.

Key Challenges

- Crowdsourcing is a relatively new IT outsourcing option that uses cloud computing models to access a global, shared pool of resources. Many organizations have not, however, adapted their IT resourcing methodologies to utilize crowdsourcing to improve IT innovation, efficiency and effectiveness.

- Many organizations that lack understanding about how crowdsourcing works are hesitant to utilize it, preventing them from fully exploiting this new sourcing option.

- IT organizations will require new skills to effectively evaluate their crowdsourcing options and then aggregate and integrate the work of the crowd to assure quality and mitigate risk.

- Due to lack of understanding of crowdsourcing models, organizations do not recognize the potential challenges associated with assuring resource quality and data security.

Recommendations

IT services sourcing managers should:

- Objectively analyze the advantages of crowdsourcing — including cost-effectiveness and efficiency, the high potential for innovation, and the ability to tap into a global talent pool — to reduce costs, increase innovation and satisfy stakeholder needs quickly.
Clearly define and articulate the goals and expectations for crowdsourcing to choose the model that best suits each project — whether based on freelance work and microtasks, or using a contest/challenge model.

Evaluate and mitigate the risks of crowdsourcing to avoid potential problems with quality, security, integration and support.

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Strategic Planning Assumptions

By 2016, application services providers will have replaced 20% of their internal application management staff with crowdsourcing and community sourcing.

By 2017, 60% of technology product companies will engage their targeted consumer segments through crowdsourcing.
Introduction

2014 and the coming years will bring a flood of new technological and digital business opportunities, putting pressure on businesses to respond quickly. Sourcing leaders are challenged to harness innovative solutions that enable the business in order to stay relevant. However, Gartner’s 2014 CIO Agenda Survey reveals that half of CIOs are concerned that these opportunities are approaching faster than they can respond, and 42% say that their IT organizations lack the capabilities to get ready for the future.¹

Our survey also indicates that 70% of CIOs plan to change their technology and sourcing relationships in the next two to three years to lower costs and increase quality, flexibility and innovation.² IT organizations that don’t utilize faster and more innovative methods for IT service delivery, such as crowdsourcing, risk being bypassed by the business in the delivery of new digital models.

Crowdsourcing is not a new concept, but is fairly new to IT sourcing.

The phenomenon of crowdsourcing isn’t new, but has grown exponentially in potential with the growth of Internet resources.³ In 1936, the car manufacturer originally known as "Toyoda" opened a public competition to redesign its logo. Its use of customer talent and preferences eventually led to the company being rebranded as "Toyota."

In 2001, Jimmy Wales and Larry Sanger based a free, online encyclopedia on the "wiki" concept and launched Wikipedia, where over a million users from all over the globe publish and update content daily.

Organizations have been soliciting contributions from a global pool of talent and ideas to design products from ice cream to architecture and to fine-tune those products to their customers' preferences for some time, and IT is catching on to this trend.

Tapping into the collective offers an agile, low-cost sourcing option.

Crowdsourcing is a sourcing delivery option that uses cloud technology and models to leverage the collective skills and knowledge of a broad network of people (the "crowd" — a group of self-nominated individuals vying for opportunities to work on crowdsourced challenges) to produce solutions to IT and business problems. It offers an alternative to using in-house resources, outsourcing or staff augmentation.

Through a crowdsourcing firm (typically), a business can gather targeted ideas, content, services or skills by soliciting contributions from an online community. In doing so, the business is not limited to existing in-house knowledge and skill sets. In this model, remote location becomes an advantage rather than a problem. In fact, crowdsourcing functions much like cloud services in that it’s adaptable to an organization’s changing needs (see Note 1). This model adds a new dimension to the hybrid IT resource environment: insourcing, outsourcing, cloud sourcing (consuming capabilities "as-a-service"), and its cloud-enabled "progeny," crowdsourcing.
Organizations can apply crowdsourcing to solve development or other innovation challenges.

Businesses can source any number of tasks or needs to a group of freelancers or through a "contest" to find the best solution to a problem.

Examples of crowdsourcing scenarios include:

- An Internet product and services provider enlists the skills of a crowdsourcing community to measure the effectiveness of search algorithms to verify how relevant the search data is in local markets.
- A company enlists a global community through crowdsourcing to test applications and services on multiple platforms in multiple geographies and then terminates the project once testing is completed.
- A company employs a crowdsourcing community to enter data and process annual forms to avoid maintaining a dedicated on-site data-entry workforce.
- A company needing IT innovation that is beyond the time or capability of its suppliers (internal or external) enlists a crowdsourced community through an innovation challenge.
- An organization uses crowdsourcing to explore a new and creative marketing approach, and to generate fresh ideas.

IT sourcing managers need to explore this growing trend to carve out scenarios in their organizations where crowdsourcing could quickly and efficiently marshal resources to produce innovation and solutions in a rapidly transforming IT landscape. Gartner predicts that over the next two to three years, crowdsourcing will not be optional, but necessary for IT sourcing and business success.

Analysis

Use Crowdsourcing to Address Four Major IT Sourcing Challenges

IT sourcing managers face pressure from CEOs and CIOs to lower costs and optimize resources. They are under pressure from stakeholders to provide innovative solutions quickly. While outsourcing and staff augmentation are typical ways to help address these problems, these methods come with heavyweight processes and legal contracts that make it difficult for organizations to move quickly. Using new technology offerings including "as-a-service" solutions, businesses looking for speed and innovation are opting to bypass the sourcing organization.

The crowdsourcing model can help make headway in dealing with some of IT sourcing's most common challenges:

**Reducing operations and personnel costs and increasing efficiency:** Unfortunately, resource models have not evolved to meet IT budget challenges. The average IT budget allocates around 65% to "run the business" costs — around 40% is just for personnel.\(^4\) Crowdsourcing can help to
lower operational and personnel costs because it approaches tasks and staffing as needed. The process requires limited onboarding, limited provisioning, no ongoing salary, no overhead costs (such as office space), and the client pays only for the results that match their criteria and objectives. Crowdsourcing cannot reduce operational costs for all scenarios, but can be a cost-effective approach for some functions.

**Increasing and encouraging innovative solutions:** Innovation maturity is more important than ever, but most organizations either don’t have the skills, time or money to innovate in new market areas, or lack the culture that drives innovation. As a result, most organizations are lagging in this area. Progressive business leaders make innovation a core competency, champion open innovation and encourage collaborative development. These are the core principals of crowdsourcing, which has also been called "open innovation." When a large pool of talent competes to come up with the best new idea, or you capitalize on the collective knowledge of a community of experts, your organization can reap the most innovative and optimal solution.

**Decreasing instances of IT bypass:** More than 25% of IT spending happens outside of IT control, and that percentage is rising. In general, employees commonly perceive IT as too slow and frequently circumvent it altogether to solve IT problems on their own. Like other cloud sourcing options, the practice of crowdsourcing IT tasks can yield faster solutions to problems, and solutions that have already been tested by users.

**Optimize resources and reduce "sprawl":** Many IT and sourcing organizations are not optimizing their employee resources — skills overlap in places while other areas are left uncovered. Crowdsourcing is a way to fill targeted needs. It requires you to break tasks into microtasks and pinpoint the amount of labor, cost and time needed for each, then choose the best qualified personnel or the optimal solution from a wide pool of resources and submissions.

Choose the Optimal Crowdsourcing Model to Fit Your Business Needs

IT crowdsourcing can be generally grouped into two basic use cases:

- **Task-based:** Sourcing task-based labor to a temporary resource (such as a freelancer or expert) via a crowdsourcing firm.

- **Challenge-based:** Holding a "contest" using a crowdsourcing firm as broker to gather proposals or "bids" for a task.

In either case, you’ll first need to determine whether crowdsourcing, outsourcing (using a traditional labor-based outsourcing model) or insourcing is the optimal way to satisfy the business need. Some firms offer both types of crowdsourcing, while some are specialized in one or the other.

First, you must clearly define the activity or task that you are sourcing by answering several questions that will help you determine which model will best suit the task:

- What is the optimal outcome of the task?
- What criteria will be used to assess the success and quality of the outcome?
What kinds of skills and other resources are needed to complete the task?

What is the duration and scope of the task? Is it a microtask that requires little specialized knowledge and takes little time, for example? Or will the task require a substantial amount of time to complete?

Are the parameters of the task defined well enough to ensure the crowdsourcing community can produce strong results?

How will the output from the crowdsourcing project interact with or impact other systems?

Are the interfaces defined well enough to ensure compatibility once tasks are completed?

Table 1 shows a sample list of crowdsourcing firms and their use case participation.

Table 1. Sample List of Crowdsourcing Firms

<table>
<thead>
<tr>
<th>Name</th>
<th>Task-based</th>
<th>Challenge-based</th>
</tr>
</thead>
<tbody>
<tr>
<td>Amazon Mechanical Turk</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>PeoplePerHour</td>
<td>✔</td>
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<tr>
<td>oDesk</td>
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<td>Elance</td>
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<tr>
<td>GetACoder</td>
<td>✔</td>
<td></td>
</tr>
<tr>
<td>People4business</td>
<td>✔</td>
<td></td>
</tr>
<tr>
<td>CloudSpokes</td>
<td>✔</td>
<td></td>
</tr>
</tbody>
</table>

Source: Gartner (March 2014)

Using Task-Based Crowdsourcing

Task-based crowdsourcing is generally best for smaller components or microtasks.

The freelance model follows this general process:

1. Define the precise requirements and objectives of the task. Be clear about the nature of the work requested, the crowdsourced community’s role, and expectations for delivery including the desired format. Use those requirements and objectives to define criteria for evaluating proposals. If the result is intended to serve internal stakeholders and users, you may want to involve them in this process to ensure that the results meet their needs.
2. If the crowdsourced project will impact any existing systems, you need to define the interfaces to ensure compatibility between crowdsourced solutions and those existing systems.

3. Choose a crowdsourcing firm that offers the community, process and platform that is best suited to your task requirements and risk tolerance. The firm can help with most aspects of the process, including identifying resources and posting the requirements of the task.

4. Determine a price for the work. Your crowdsourcing firm can help guide you as to what is appropriate — that’s what they do. Typically, organizations issuing a crowdsourcing challenge will place a deposit in a bank account (escrow) that will be used for the work award.

5. Work with the crowdsourcing firm to identify the appropriate group of resources and ask the community to submit proposals according to your requirements. Most crowdsourcing firms have tools to facilitate interaction with the community.

6. When evaluating proposals, watch for innovative responses that may challenge your initial thinking. Be prepared to consider alternatives that may solve problems in ways you hadn’t anticipated, which is one of the unique benefits of a crowdsourcing model.

7. Release funds upon job completion. With the crowdsourcing model, you pay only for the results you want.

Case Study

Otis Elevator

150-Year-Old Company Uses the Crowd to Modernize Customer Interactions

Founded in the mid-1800s, Otis designs, manufactures and installs elevators. In 2013, in an effort to provide a new and innovative experience to its end-user clients, the firm sought to produce a new e-service mobile application to supplement its online customer services platform. The application would allow customers to place service requests directly from their smartphones. Customers could also retrieve elevator performance data and service call logs.

To build this complex app, Otis decided to augment its internal application development capabilities and tap into a broader range of ideas in producing the solutions. The company engaged a crowdsourcing firm to access the broad and diverse capabilities and innovation of the crowd community. The results were an innovative user experience for its customers based on a new paradigm for interacting with its service request system. Innovations included a new engagement model and user interface used in the app.
Using Challenge-Based Crowdsourcing

Running a crowdsourcing contest is best for larger projects that require innovation and generally have shorter timeframes for idea creation and implementation. The contest approach is offered by firms.

If you choose a contest model, use the steps below for best results:

1. Define the precise requirements, objectives and criteria to judge the work as well as total budget. Determine length of the contest and the selection process, including criteria for evaluating contest submissions. This is similar to the first steps of a task-based model.

2. Choose a crowdsourcing firm with a sufficiently robust resource pool, process and platform that is suited to your task requirements and risk tolerance. Determine the platform, tools, and engines you need as well as the cloud and digital assets of the firm.

3. Determine the appropriate amount of "prize money" for the work. Again, your crowdsourcing firm can help guide you — that’s what they do. Place a financial deposit in escrow for the work award.

4. Work with the crowdsourcing firm to identify resources and post requirements of the task.

5. Work with the crowdsourcing firm as they post the contest to its resource pool.

6. Evaluate proposals submitted by the crowdsourcing resources.

7. Release prize money at the end of the competition. Again — you pay only for the best results.

Case Study

Smartsheet: Competition to Test and Integrate a New API

Smartsheet, an online project management software as a service company, needed support for the launch of its API. They wanted an efficient way to augment their services team and to extend the skills of their in-house product development team.

Smartsheet posted several contests during the launch of its API to the cloud community of independent developers. Contests included testing the API, use and functionality, for which participants provided custom integrations that centered on the Smartsheet platform.

"Tapping directly into the best cloud experts and developers in the world accelerates our ability to prototype and deliver creative integration solutions that extend our online collaboration platform while also building awareness of our API."

— Eric Browne, VP of Product Management, Smartsheet
Mitigate the Potential Risks of Crowdsourcing

The new sourcing option requires due diligence and project management competencies to ensure successful delivery of the project outcomes.

One of the best ways for organizations to mitigate the management challenges is to employ a crowdsourcing firm that is experienced enough to guide them through the process, help them conduct the process in a way that incurs the least amount of delivery risk and helps them deal with challenges as they arise. Many firms (such as CloudSpokes and topcoder) assume legal responsibility for some client delivery risk, which should be part of the vendor-choice decision.

Carefully consider these potential pitfalls when pursuing crowdsourcing opportunities:

- **Crowd quality**: Not all crowds, or participants within the crowds, are equal, so quality control is an important part of project management. You should work with your crowdsourcing provider to choose a community that has proven success and one that exposes past performance and reputation of community members. Good crowdsourcing platforms include profiles for all participants in the community and will filter the pool based on qualities such as experience, geography and skills. The more anonymous the crowd, the more risk you may introduce to your business.

- **Resource and project management**: Crowdsourced projects don’t require on premises management or onboarding new employees, but the project itself, from determining requirements to judging submissions, still requires oversight and planning.

- **Clarity of requirements**: When project requirements are delivered to a crowdsourcing community, it can be challenging to clarify expectations and requirements for a potentially large and diverse group of technical professionals who are eager to take on your project. Providing clarifications and dealing with confusion and answering questions will be part of project and sourcing management.

- **Data security**: Data security is also an operational concern, so strong due diligence is required when selecting a crowdsourcing firm to ensure they use a platform that has been tested and is secure, and that provisioning to participants is secure. Good firms will provision only the level of resources and data access needed to complete the task or project, and will use available security scanning tools to scan for things such as IP and vulnerabilities in code.

- **Support after project completion**: Support will be needed for the project once it’s complete and implemented in the business. Ongoing support is something to consider before the decision is made to crowdsource. That support might come from internal or external resources, and if external you must factor in the time and energy it takes to potentially issue an RFP, evaluate and select suppliers, negotiate the contract and transition the workload to the support provider.

- **Compatibility with existing business processes**: Although crowdsourcing represents a form of outsourcing, the methods used to identify needs, interact with a crowdsourcing community, and then integrate completed work back into larger solutions can be incompatible with existing processes. Financing these projects may also require updates to existing processes. Like cloud
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services generally, to fully exploit the capabilities of the crowdsourcing model will require a new or updated operating model for every process impacted by a crowdsourcing strategy.

Examples of Innovation Through Crowdsourcing — Case Studies

Crowdsourcing is still a fairly new concept to most IT sourcing departments, but many organizations are already using it with much success to deliver innovative solutions by engaging the power of the Crowd.

**NASA: Crowdsourcing for asteroid hunters**

NASA partnered with Planetary Resources, a Silicon Valley asteroid mining firm, to launch an asteroid-hunting competition. Using a Planetary Resources platform and NASA’s sky survey data, students, citizen scientists, and amateur space experts will help to search for potentially hazardous asteroids.

Winners are judged on accuracy of detection (whether an asteroid is actually detected and the distance of the computed position from the actual position) and on length of time to complete the task. NASA and Planetary Resources also issued a challenge to programmers to improve the performance of the asteroid-hunting software. Winners receive cash prizes funded by NASA (from $1,000 to $4,000) — in addition to the thrill and exposure that will come from winning a NASA-sponsored competition, of course.

**Netflix: A global talent pool improves user-ratings prediction system**

In a competition that has the added benefit of further marketing its product, Netflix offered a $1 million prize to come up with a system that predicts user ratings. From a dataset of 100 million ratings, over 400,000 users and about 17,000 movies, contestants had to beat Netflix’s existing algorithm by 10%. For the three-year contest, 5,000 teams from 150 countries submitted 44,000 solutions.

**Gartner Recommended Reading**

*Some documents may not be available as part of your current Gartner subscription.*

"Predicts 2014: Consumer Analytics and Personalized User Experiences Transform Competitive Advantage"

"Predicts 2013: Business Impact of Technology Drives the Future Application Services Market"

"Outsourcing 2014: Capitalizing on Key Market Trends Will Drive Enterprise Agility, Speed and Innovation"

"Hype Cycle for Application Services, 2013"
"Improving IT Agility Through Adaptive Sourcing"

Evidence

1 "Taming the Digital Dragon: The 2014 CIO Agenda"

2 Also see the 2014 CIO Agenda: 70% of CIO will change their technology and sourcing relationships in the next 2 to 3 years for a variety of reasons: Price (57%), Quality (55%), Flexibility (52%), Ability to Partner (46%), Innovation (45%), Scale (28%). More than 1,000 CIOs also identified traditional providers (like IBM, Intel, SAP, Oracle, etc.) decrease of influence in the future, while 46% of CIOs need to work with new categories of partners, like cloud, mobility, analytics, digital agencies.

3 The crowdfunding and crowdsourcing research firm massolution collected data from 32 crowdsourcing service providers for a 2012 report on the enterprise. Their results showed that in 2011, crowdsourcing market revenue grew by 75%, exceeding 2010’s market growth of 53%. The number of people engaging in crowd-labor increased by 100% in 2011 over 2010.


4 "IT Metrics: IT Spending and Staffing Report, 2013"

5 "Don't be Bypassed: The Six Futures of Sourcing and Procurement"

Note 1 Crowdsourcing Operates Like a Cloud Service

Like other cloud services, crowdsourcing operates on the model that you "pay for what you use." In the same sense that organizations don’t see the strategic value of developing application expertise that can be more easily consumed as a public cloud service, crowdsourcing provides a means to tap into vast pools of resources when needed and then discard those same resources once a task is complete.

Gartner’s definition of cloud services includes five key characteristics — attributes upon which crowdsourcing operates:

- Service-based: Crowdsourcing works on a model of service orientation where crowdsourcing consumers subscribe to crowdsourcing services and then unsubscribe when the service is no longer needed. This makes crowdsourcing effectively an "as a service" type offering.

- Scalable and elastic: Crowdsourcing practices tap into vast pools of resources, typically distributed across many geographic locations. Based on need, crowdsourcing services can engage small or large groups of resources, that can grow or shrink based on need, and then be decommissioned when the projects are completed — elasticity.

- Shared: In the crowdsourcing model, no one organization "owns" the resources. They are shared across multiple "subscribers." The shared nature makes crowdsourcing not only scalable and elastic, but also cost-effective.
- Metered: Crowdsourcing platforms keep track of the roles and contributions of individuals in the crowdsourcing ecosystem as well as the subscribers to the system. The result is that individual contributors are compensated for the work they do and subscribers pay only for the services they consume.