CROWDSOURCING

GET YOUR HEAD INTO THE CLOUD

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Organizations as diverse as NASA, Netflix and Wikipedia demonstrate the power of crowdsourcing in enabling new business models.

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Chase Rief of California runs a small media company, Rief Media, with 14 employees – except that none of them are actually his employees and they are scattered around the world. They all work for him through an online platform called oDesk. At the other end of the size spectrum is life insurance giant Aegon, which has an on-demand staff of 300 virtual licensed agents who are managed through another online intermediary, LiveOps. They are also not Aegon employees, but are scheduled for inbound and outbound calling through LiveOps routing software.

We call this phenomenon the "human cloud" - a sourcing environment where a pool of online workers can be tapped on-demand to provide a wide range of services to any interested buyer around the world. In the next five years, the "human cloud" will change sourcing and, in parallel, begin to transform labor markets.

The idea of leveraging an online virtual talent pool to help organizations complete tasks and projects is not new. At least two inter-related phenomena followed this line of thinking in the past.

Traditional crowdsourcing, as defined by **Jeff Howe** of *Wired* magazine, allowed organizations to transfer a task previously performed in-house to a large, usually undefined, group of people – the crowd. Several high-profile examples, such as Wikipedia and iStockPhoto, demonstrate the power of crowdsourcing in enabling new business models. Crowdsourcing also proved valuable for traditional organizations. NASA, for example, developed a successful initiative – NASA Clickworkers – where volunteers from all over the world were given access to images of the surface of Mars to help identify and label craters. In general, crowdsourcing involved large-scale projects completed by a collective of people with no direct/guaranteed monetary incentive to participate.

The second phenomenon behind the concept of the human cloud is microsourcing. Having emerged in the late 1990s, before traditional crowdsourcing, early microsourcing platforms, such as Guru and Elance, sought to provide an online marketplace for freelancers. The idea was similar to that of eBay but instead of goods, buyers and suppliers would exchange services. Microsourcing, thus, has always relied on a one-to-one relationship between a buyer and a supplier and involved jobs with limited scope and scale that could be completed by a single supplier. Yet microsourcing was similar to traditional crowdsourcing in that the initial search for a supplier would start with an open call aimed at a large and mostly undefined collective of potential workers.

While both crowdsourcing and microsourcing won a number of loyal followers among the buyer-organizations, neither managed to make a significant impact on the business world. Why is that? Our research suggests a number of obstacles.

First, general awareness about crowd- and microsourcing remains fairly low among the business audience. But even the buyers that are aware of these approaches tend to use them on a limited basis due to the perceived high risk involved. Our existing work culture is based on the idea of building trust through face-to-face interactions and longer-term relationships. Managers feel anxious delegating work to a person or company with whom they have only been in virtual contact. Hence, sourcing work from the crowd is perceived to be risky and requires "a leap of faith."

Another obstacle concerns the limited capacity of these approaches to handle work that is more complex or requires greater scale. The models based on the microsourcing approach, for instance, rely on dyadic relationships consisting of one buyer, one supplier, and a well-defined final deliverable. They provide easy and efficient mechanisms to connect the buyer to the supplier but offer limited collaboration and coordination. This makes them great for facilitating limited short-term projects that can be completed by a single supplier. Yet, many types of sourcing involve work comprised of multiple interconnected tasks and requiring diverse supplier skill sets. Other types are not project- or task-based at all but rather engagement-based, such as support, helpdesk and infrastructure.

Models based on traditional crowdsourcing, on the other hand, usually are better equipped to handle large-scale projects (indeed, the scale of Wikipedia is impressive by any standard). Yet, the lack of established ready-to-use mechanisms to mobilize and monetarily compensate the suppliers make them impractical for most businesses. Consider, for instance, the case of the Netflix Prize. In 2006, the company launched an online competition with the goal of improving the quality of its movie recommendation engine, Cinematch. Teams of scientists from all over the world competed to create an algorithm that would improve on the existing algorithm used by Cinematch by at least 10 percent.

MANAGERS FEEL ANXIOUS DELEGATING WORK TO PEOPLE WITH WHOM THEY HAVE ONLY BEEN IN VIRTUAL CONTACT.

The company spent more than a million dollars and three years to ramp up the competition and get the desired outcome. While this certainly was worth it for Netflix, as accurate recommendations translate into higher revenue and customer retention, this kind of effort – both in terms of time and money – would hardly be justified for most other businesses.

THE RISE OF THE "HUMAN CLOUD"

Recently, traditional crowdsourcing and microsourcing approaches have started to merge. The models evolving in the intersection zone show great promise in lowering the main obstacles and spurring growth. The enablers are the middlemen – the platforms – that are building and fine-tuning their delivery. We note four major developments, which together underlie the broad concept of the "human cloud."

BUILDING TRUST THROUGH RISK REDUCTION

To attract new buyers and retain existing ones, the platforms have been looking for ways to alleviate perceived risks associated with sourcing work in an online virtual environment. The microsourcing platforms such as Elance and Guru have made a big push into reducing supplier anonymity. Buyers may still not be able to look the supplier in the eye, as they are used to in the traditional offline environment, but today they have access to a wealth of information about them. The platforms have built frameworks for suppliers to share their professional and personal backgrounds, show off their portfolios and earning history, and demonstrate credentials through standardized skill tests. Buyers now can also interview suppliers before making the final hiring decision. All this makes the virtual relationship less anonymous and more trustworthy.

The platforms have also worked hard to make project progression and supplier work practices more transparent to the buyer. Elance, for example, offers project management tools enabling buyers to create project milestones, receive status reports from suppliers and link payments to milestone completion. Similarly, oDesk has developed a sophisticated system of remote work management that monitors suppliers' online work activity and tracks how much time has been spent on each task. In fact, oDesk uses its own platform to employ programmers who develop and maintain its site. This also allows firms such as Rief Media to hire and manage their entire staff virtually.

ACHIEVING SCALE THROUGH TASK AGGREGATION

The "human cloud" can now also serve buyers that need to source jobs comprised of a large number of mundane/highly repetitive tasks, such as assigning categories to products or verifying a large contacts database. The model we call "aggregator" achieves that by providing buyers with a single interface to send work to a large number of small suppliers. Utest, for example, allows buyers to leverage its on-demand virtual pool of software testers to find and fix errors in programming code. Other examples of platforms adopting the aggregator approach include Amazon Mechanical Turk, CrowdFlower and Clickworkers among others.

With regards to trust and perceived risks to buyers, the aggregator model addresses this by shifting the focus from individual suppliers (the crowd) to the platform (the company). The platform now becomes the primary point of contact for the buyer and, therefore, assumes partial responsibility for project-related risks. This set-up is no different from that in traditional outsourcing relationships and, hence, requires a much smaller "leap of faith" on the part of the buyer.

ENSURING QUALITY THROUGH SUPPLIER REDUNDANCY

Companies often have to source work that is highly unstructured, difficult to evaluate, and/or requires

special expertise, such as design or R&D. A common challenge among these projects is that their outcome is often uncertain and quality is best evaluated in comparison to other alternatives. Tapping into the global talent pool and engaging multiple skilled providers to work on the same project is, in this context, highly attractive yet beyond the reach for most firms (consider the Netflix Prize example).

The crowdsourcing model, that we call "filter," aims to make this idea more accessible. Filters provide buyers with on-demand access to a specialized community of skilled suppliers, where multiple suppliers can be engaged on a project through a competition- or contest-based mechanism. The buyer then chooses from multiple competing inputs/deliverables and pays only for the one he or she finds most valuable.

Examples of platforms that operate under this model include Crowdspring, a global community of creative designers, and Innocentive – a community of scientists and researchers ready to take on your toughest unsolved R&D problems. Buyers that actively use these platforms span a wide range of industries and include both small and large companies. LG Electronics, for instance, has for the past three years leveraged Crowdspring's global community of "creatives" to run a competition to design a mobile phone of the future.

ENABLING COMPLEXITY THROUGH PROJECT GOVERNANCE

Perhaps the mightiest challenge of the "human cloud" lies in enabling sourcing of more complex projects that require significant coordination and control. To tackle this, platforms are stepping up with a much thicker layer of project governance. This usually includes collecting project requirements from the client, breaking them up into smaller tasks, coordinating completion/sequencing of individual tasks and ensuring quality of the final deliverable. To accomplish this, the platforms employ a combination of actual human project managers working inside the platform and a sophisticated software-enabled framework for monitoring and coordinating individual tasks.

TopCoder and its community-based model of software development provide perhaps the most advanced example of an intermediary platform. The model works by breaking down traditional steps of software development projects, such as conceptualization, requirements specification, architecture design, component production, assembly and certification and deployment into a series of online competitions – the "game plan." Multiple suppliers take part in each of the competitions and the output of each preceding round becomes an input to the subsequent one. The entire process is coordinated by a TopCoder employee, the platform manager, who also serves as a liaison with the buyer. By following this model, TopCoder has built and deployed enterprise-grade software for large multinational firms, such as UBS, Phillip Morris and ESPN among others.

Similar to aggregators, the intermediary platform operates by establishing a dyadic one-to-one relationship on the buyer-platform side and a one-to-many relationship on the platform-supplier side. This, again, offers a more familiar environment for the buyer and alleviates the perceived risks of having to deal with the "crowd."

"Human cloud" is still a small slice of the global sourcing landscape. We estimate its volume in 2010 at $500 million globally, with all the platforms reporting double-digit growth. Elance President and CEO, **Fabio Rosati**, claimed that independent online "cloud" workers earned nearly $1 billion in 2010. As "human cloud" continues to scale up, we may be at the beginning of a major disruption. Its consequences will be felt throughout the entire sourcing ecosystem – from small and large buyers to suppliers to sourcing intermediaries, including outsourcing providers and staffing agencies.

TAPPING INTO THE GLOBAL TALENT POOL AND ENGAGING MULTIPLE SKILL PROVIDERS IS BEYOND THE REACH OF MOST COMPANIES.