GOLDCORP CROWDSOURCING

An Industry Best Practice for the Intelligence Community?

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A growing number of businesses use crowdsourcing—that is, they outsource tasks to people outside the organization—in a way that harnesses the capabilities and knowledge of external individuals on a mass scale to create innovative solutions. This article describes how Goldcorp, Incorporated, an international gold-mining company on the brink of collapse, used crowdsourcing via the Internet to turn its business around. The article then explores some challenges and successes behind crowdsourcing initiatives and offers crowdsourcing as an approach with applicability for the Intelligence Community (IC).

Goldcorp

In Wikinomics, Don Tapscott, a Canadian business executive and one of Thinkers50’s most influential management thinkers, works with coauthor Anthony D. Williams to describe how Goldcorp turned its struggling 1950s gold-mining company into a multimillion dollar success. Headquartered in Vancouver, British Columbia, Goldcorp employs 14,000 people who operate 10 mines in Canada, the United States, Mexico, and Central and South America. In the 1990s, the company was struggling with high production costs, debt, and strikes. The new chief executive officer, Rob McEwen, was new to the gold-mining business, serving previously as a young mutual fund manager at Merrill Lynch. Goldcorp analysts projected the death of a 50-year-old mine in Red Lake, Ontario. Without discovery of new gold deposits, the company seemed likely to go down with it.

McEwen wondered if he could use the same model with the gold mine.

Back at Goldcorp, McEwen pitched his idea to take “all of our geology, all the data we have that goes back to 1948, and put it into a file and share it with the world . . . [and] ask the world to tell us where we’re going to find the next six million ounces of gold.” He experienced some resistance. For example, the information that McEwen wanted to make public was proprietary. A mining company had never made this information public before. Second, the geologists were concerned how the message would reflect on their reputations, which essentially told everyone—including their competitors—that they were unable to find the gold. Nevertheless, McEwen prevailed, and in March 2000 he launched the “Goldcorp Challenge,” the world’s first Internet gold rush.

The idea was simple. The company posted its entire repository of information on the 55,000-acre Red Lake property on its Web site and offered $575,000 to participants with the best methods and estimates. More than 1,000 participants from 50 countries registered for the challenge with submissions coming from graduate students, consultants, mathematicians, physicists, and military officers. “There were capabilities I had never seen before in the industry,” stated McEwen. Contestants identified 110 potential sites, half of which were new to the company, and 80 percent of them yielded substantial quantities of gold, eventually totaling 8 million ounces. The company estimates that the challenge saved 3 years of exploration time, and in 2001 revenues increased 170 percent, cash flow grew 1,180 percent, and profits soared from $2 million to $52 million.

The company awarded the top four “virtual explorers” a shared prize of $325,000, and 25 semifinalists prizes totaled $250,000. As Wikinomics ends its story about Goldcorp:

McEwen . . . realized the uniquely qualified minds to make new discoveries were probably outside the boundaries of his organization, and by sharing some intellectual property he could harness the power of collective genius to tap into the knowledge and expertise outside of its boundaries when appropriate. To explore this possibility, we need to understand how crowdsourcing works and its benefits and risks.

Crowdsourcing

Crowdsourcing is a portmanteau that refers to outsourcing tasks from within an organization to people outside the organization. The term originated in 2006 from a Wired magazine article in which Jeff Howe modified the term outsourcing to describe a business model using the Internet workforce without the need for a traditional outsourcing company. A variety of other terms are used to describe similar activity, such as open access, open innovation, open source, and collective intelligence. Over the last decade, a number of successful companies have incorporated this approach. Proctor and Gamble uses crowdsourcing to support up to 50 percent of its innovations, helping produce such products as Mr. Clean Magic Eraser and Pringles Prints. Other examples include Affinnova, Amazon, Bell Canada’s I.D.ah!, Delicious, Dell’s IdeaStorm, Digg, Goldcorp, Google, IBM, InnoCentive, Kimberly Clark, Kraft, LG Electronics, ManyEyes, Marketocracy, Reckitt Benckiser, Salesforce.com’s Idea Exchange, Swivel, Threadless, and Unilever.

A key difference, however, between crowdsourcing and open innovation in general is that crowdsourcing typically uses some kind of incentive or reward for the work. The most well-known crowdsourcing Web site is Amazon’s Mechanical Turk. The site gives businesses and developers access to 250,000 on-demand workers. Requestors post jobs and workers choose

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the jobs they want for the money offered. One highly cited example was the attempt to use Mechanical Turk to find the crash site of American entrepreneur and aviator Steve Fossett, who went missing in his plane between the Sierra Nevada Mountains and the Nevada desert. Although the effort did not find the crash site, an estimated 50,000 people looked for Fossett’s plane by reviewing two million snapshots of commercial imagery covering 17,000 square miles. Wikipedia, the world’s largest encyclopedia, is another example of crowdsourcing. It has over four million articles (and growing) produced, edited, and reviewed by volunteers. Their reward is simply the satisfaction that their work is instantly available to the world. Tara Behrend, an organizational sciences professor at The George Washington University, states that one unrealized benefit of using crowdsourcing over the Internet for research is the potential to reach a wider and more diverse audience to solve a common research challenge.

Challenges
The director of innovation and policy at the European branch of RAND, Joanna Chataway, stated, “We have seen plenty of anecdotal evidence that crowdsourcing can work, but there has been little research into how and where it works best.” Indeed, organizations must use caution when launching crowdsourcing initiatives to ensure that they do not harm the image of the company and that they strike the right balance between diversity and expertise, offer the right incentives, and determine up front who has intellectual rights over the information.

For example, the coach of a Finnish soccer club crowdsourced the recruitment of players and game tactics to the team’s fans via cell phone voting. The season ended in disaster and the owners fired the coach. James Euchner, a vice president at Goodyear, argues that many online crowdsourcing initiatives are underdeveloped and unsuccessful. For instance, during the Deepwater Horizon oil spill in 2010, public and private parties launched Web sites and wikis to garner ideas from the public about how to stop the oil flowing from the sea floor. Volunteers submitted approximately 20,000 suggestions on the United States Deepwater Horizon Unified Command Web site. However, as Euchner points out, most of the submissions were “notional” and lacked real potential. Moreover, it required vast resources to weed through all the information.

Although there are challenges to crowdsourcing, there are certain conditions that make success more likely. As we saw with Goldcorp and Mechanical Turk, given the right circumstances, companies can accomplish more by opening their work to the masses than relying only on company workers. In The Wisdom of Crowds, James Surowiecki provides four conditions that enable the aggregate decisions of large groups to make better judgments than experts:

- diversity of opinion
- independence (avoids groupthink)
- decentralization (so individuals can draw on local and tacit knowledge)
- aggregation (using a mechanism to turn individual information into collective judgments).

The Finnish soccer fans, for example, likely lacked the diversity of opinion and tacit knowledge required to determine recruitment or game tactics.
Applicability to the Intelligence Community

Like Goldcorp, the Intelligence Community (IC) deals with sensitive information and challenging problems. IC assessments establish what is known, unknown, and where developments might be heading. The IC continues to monitor traditional issues such as the capabilities and intentions of nation-states, but it is now responsible for assessing a growing number of nontraditional topics, such as health threats, resource scarcity, and even global climate change.26

For example, the IC’s 1996 Annual Threat Assessment covered China, North Korea, Russia, Iran, a few unstable states, terrorism, proliferation, narcotics, crime, and economics.27 In 2012, however, the threat assessment included all of the above intelligence topics plus an extended list of unstable nations, countries in our own hemisphere (Mexico, Cuba, and Haiti), the Arab Spring, tense relationships between countries in various regions, space, water security, health threats, and natural disasters.28

Two trends make crowdsourcing via the Internet an attractive option for the IC. First, as exemplified by NIC assessments on global trends,29 many of the new intelligence topics (and their sources, methods, and judgments) are unclassified and less sensitive than traditional political and military related topics. Thus, classification restrictions are minimal. Second, the required knowledge and expertise on these issues are not typically available through the traditional intelligence disciplines (human, signals, and geospatial) and exist outside the IC in academia, nongovernmental organizations, and business.

In 2007, the DNI published a directive on analytic outreach, defined as the “open, overt, and deliberate act of an IC analyst engaging with an individual outside the IC to explore ideas and alternative perspectives, gain new insights, generate new knowledge, or obtain new information.”30 Acknowledging the need for the IC to expand its knowledge base and share burdens, the new policy directs analysts to tap outside expertise, IC elements to establish an analytic outreach coordinator, and the IC to use outside experts whenever possible. The preparation of the 2008 NIC report Global Trends 2025 included American and non-American contributions through conferences, commissioned studies, and for the first time through a special Web site to allow comments on drafts.31

Embracing expertise wherever it resides is an increasing requirement. Just in the last year, the Defense Advanced Research Projects Agency launched a crowdsourcing challenge to build an amphibious tank, offering $1 million.32 However, the IC has not attempted a crowdsourcing effort of its own. Building on the DNI directive on analytic outreach and the work of Global Trends 2025, the IC could conduct a pilot program and crowdsource an intelligence problem to the world over the Internet. It could identify existing outreach initiatives and establish a framework to clear certain intelligence topics for public crowdsourcing initiatives. Like Goldcorp, the DNI or NIC would review agency proposals and host the Internet site to pose intelligence challenges with some type of incentive or reward. Contestants would register so the IC could establish contacts and address any counterintelligence concerns.

Goldcorp and a growing number of busines industries have successfully harnessed the power of crowdsourcing to enlarge their pool of talent and create innovative solutions. The DNI directive and NIC report are a step in the right direction. Globalization will likely continue to drive economic, political, and social tension, thus it is only natural for decisionmakers to have more questions on more issues and to direct those questions to the IC. Given the right circumstances and intelligence issues, the IC can adopt this industry best practice to take advantage of the talent, expertise, and knowledge available across the globe to solve some of the most perplexing problems related to U.S. national security, generating additional capacity to deliver decision advantage to the Nation’s policymakers. JFQ

NOTES

1 Adapted from Clare Sansom, “The Power of Many,” Nature Biotechnology 29, no. 3 (2011), 201. A portmanteau is a combination of two or more words into one new word.


4 Tapscott and Williams, 8.


6 Ibid.

Goldcorp_%28GG%29/Data/Gross_Profit/1999/Q4%3B%20Goldcorp%2C%20Inc.


5 Tapscott and Williams, 10.

10 Adapted from Sansom.


14 Sansom.


17 Behrend et al.

18 See, for example, Intrade, available at <www.intrade.com/v4/home/>. For background on examples in business that have predicted circumstances accurately, see Aleksandar Ivanov, "Using Prediction Markets to Harness Collective Wisdom for Forecasting," Journal of Business Forecasting (Fall 2009), 9–14.


20 Sansom.

21 Bonabeau.

22 Ibid.


24 Ibid., 7.


26 For example, compare Director of Central Intelligence, ”Worldwide Threat Assessment Brief to the Senate Select Committee on Intelligence by the Director of Central Intelligence, John M. Deutch," February 22, 1996, available at <www.cia.gov/news-information/speeches-testimony/1996/dci_speech_022296.html>, with Director of National Intelligence, "Unclassified Statement for the Record on the Worldwide Threat Assessment of the US IC for the House Permanent Select Com-