Crowdsourcing, the Evolution of Project Development?

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What is crowdsourcing? The Merriam-Webster Online dictionary defines crowdsourcing as “the practice of obtaining needed services, ideas, or content by soliciting contributions from a large group of people and especially from the online community rather than from traditional employees or suppliers.” While this is an excellent definition, it is very broad and there will be many concepts within crowdsourcing that, while interesting, are completely outside the scope of the Information Technology (IT) world. To explain crowdsourcing as it relates to IT means five questions are asked. Where did the term “crowdsourcing” come from? Who is the crowd? What are the rules for contests? What are the disadvantages? Are there other types of crowdsourcing related to IT? Answering these questions will better define crowdsourcing and show how complex a concept it really is.

**A Brief History of Crowdsourcing**

“The term crowdsourcing was coined by Jeff Howe in 2006” (Stieger, Matzler, Chatterjee, Ladstaetter-Fussenegge, 2012, p.44) in an article he wrote for *Wired* magazine. In the article he was discussing the new trend that saw companies and institutions move away from using theirs employees or outsourcing. Outsourcing is when a company or institution contracts a specific outside company or institution to complete various tasks, projects, and other work. He called this move away from traditional solutions “crowdsourcing”. Crowdsourcing as Howe described it was essentially outsourcing with two main differences: The size of the talent pool, and the potential cost savings (Howe, 2006).

**Talent Pool**

When a company or institution outsources the work normally done by its employees, it gives the contract to a specific company or institution; whereas with crowdsourcing the work is given to anyone who is willing to help. This means that instead of dozens, there might be thousands, of developers available to tackle whatever task is at hand (Howe, 2006).

**Savings**

The main reason for a company or institution to outsource is because the work that is outsourced cannot be completed internally. Outsourcing can be very expensive for a company or institution. Crowdsourcing on the other hand can cost a fraction of what outsourcing costs, potentially even in some cases costing a company or institution nothing (Howe, 2006).

Finally, Howe spoke about the division of labour as a benefit of crowdsourcing. He explained that some projects were simply too large to be completed by a company or institution (2006). With crowdsourcing the company or institution could call upon thousands or even millions of people to tackle these projects. This would allow massive projects to be chopped into manageable pieces and completed.

**The Crowd**

Who is the crowd? In IT, it is defined as anyone who is not the company’s or the institution’s internal developers, or any developers hired via outsourcing. The crowd consists of three main groups: external developers, external/internal clients, and the general public (Howe, 2006; Stieger, Matzler, Chatterjee, Ladstaetter-Fussenegger, 2012)

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**External Developers**

The first group and arguably most important are the external developers. They are by far the most likely to offer benefit to a company or institution from a technical standpoint. Another advantage is that a developer would likely have some understanding of the design process. They will know what can and cannot realistically be done. The downside is that they might not be quite as creative as external/internal clients or general public (Poetz, Schreier, 2012).

**External/Internal Clients**

**External clients**. This group is made up of those who already use a company’s or institution’s products. The big advantage with this group is that it has a vested interest in the company’s or institution’s success. This translates to external clients giving far more detailed and useful feedback then someone who does not use a company’s or institution’s products. The downside is that, unlike developers, external clients might have some unrealistic expectations (Poetz, Schreier, 2012). Also, clients will be likely involved over in the design and testing process, potentially limiting the overall benefit to the company or institution.

**Internal Clients.** A company or institution can use its own staff to help design a project as long as they are not the developers (Stieger, Matzler, Chatterjee, Ladstaetter-Fussenegge, 2012). While this might seem a bit of a contradiction based on how crowdsourcing has been so far defined, this concept is another change to how the definition of crowdsourcing has changed since 2006.

Internal clients might be asked to test a product and give feedback or even brainstorm ideas for a product that would help the company or institutions productivity. They will also have very close ties with the development staff (Stieger, Matzler, Chatterjee, Ladstaetter-Fussenegge, 2012). This means that feedback can be face to face and clarifications of any misunderstandings are much easier. The main downside is quite literally the threat of the boss judging you on your contributions.

**General Public.** The general public is everyone else. Consequently, this group will be massive and fairly diverse. This can be invaluable in understanding how a product might be received by people from various parts of the world and all walks of life. Also the general public will have “the sky is the limit” type ideas (Poetz, Schreier, 2012). This will give a company or institution access to ideas that might not have occurred to them or anyone else. This of course is also the greatest downside for this group. Many of the ideas might be impossible to implement (Poetz, Schreier, 2012).

**The Rules**

Crowdsourcing was never intended as a way for a company or institution to get free labour. Developers generally expect some kind of reward for work done, especially if a company or institution plans to make money off that work.

While there can be direct payments in some cases and some projects are done in a truly altruistic fashion, most crowdsourcing projects are treated as contests. These contests usually have prizes involved and there are specific rules that need to be followed.

**Contest Rules**

If a crowdsourcing project is set up as a contest with prizes, the rules become far more complicated. Tatiana Melnik nicely covers the basics for the rules regarding contests. They are: eligibility criteria, sponsor, contest dates, how to enter, prizes and odds of winning, and finally the selection of winners.

**Eligibility Criteria.** The eligibility criteria define who can enter the contest. The eligibility of a candidate can vary by location, residency status, age, convictions and other factors. Age is particularly important as a minor is not legally allowed to sign away the rights to their Intellectual Properties (IP) (Melnik, 2012).

**Sponsor.** “The Official Rules must clearly state the name of the organization that is sponsoring the contest as well as the organization that is operating the contest if different from the sponsor” (Melnik, 2012, p. 63).

**Contest Dates.** The start date, end date and time zones must be clearly defined. Also the contest sponsor must provide the official clock for the timing of the contest (Melnik, 2012).

**How to Enter.** The entry methods must be clearly defined. Also the sponsor must offer a free method of entry if there is a prize that is given away randomly to contestants and that prize is considered a gift (Melnik, 2012).

**Prizes and Odds of Winning.** The sponsor must clearly define all the details of the prizes and what the odds of winning them are. The sponsor must also take into account the various rules and regulations of any state, province, or country that submissions to the contest will be allowed from (Melnik, 2012).

**Selection of Winners.** “The Official Rules also must state the date on which winners will be selected, the method used to select winners, such as any judging criteria to be used, and who will be making these selections” (Melnik, 2012, p. 63).

**The Disadvantages**

Crowdsourcing is a terrific alternative solution to help a company or institution develop a project, but there are drawbacks. A company or institution must be very careful to make sure they avoid some of the pitfalls when dealing with the public or even their own employees.

**Bad Ideas and Faulty Data**

The first issue is the quality of the ideas or data being presented to the company or institution. In the most benign cases it might simply be that ideas are unrealistic or the data faulty, so it will be discarded. In more serious cases it is possible that bad ideas or data might make it past the vetting process and into the development process. This could slow the development and cost the company or institution money. In extreme cases it could cause the project fail.

**The Worst Case Scenario**

While the loss of time and money due to bad ideas can be very frustrating, it does not compare to the potential disaster that accepting work from outside sources can cause. Poor work can usually just be discarded, but there is a “worst case” scenario. The danger is that there could be malicious code in the work being submitted. This code might be designed to be destructive in nature, or designed for the purposes of corporate espionage. Both could lead to a great deal of lost money and time, and in extreme cases, it could lead to the collapse of the company or institution. While these scenarios are extremely rare, it is something that has to be acknowledged.

**Unintended Legal Costs**

If extreme care is not taken in laying out the rules of a crowdsourcing project, a company or institution could find themselves in trouble. Improperly worded rules could allow people to challenge the results causing delays and costing money (Melnik, 2012). If any laws were unintentionally broken the project might have to be scrapped and fines paid (Melnik, 2012). The result of a mistake in the wording of the rules could end up costing the company or institution far more than it would have to simply outsource the project.

**Resentful Employees**

The final issue applies to companies or organizations using their internal staff to crowdsource. The danger is that the management might judge the staff based on their participation (Stieger, Matzler, Chatterjee, Ladstaetter-Fussenegger, 2012). Being judged on work outside your normal scope of tasks can cause frustration and resentment.

Another issue is that a contest might be held and rewards given out to those who “contributed” the most. While prizes would increase participation, is a double edged sword Stieger, Matzler, Chatterjee, Ladstaetter-Fussenegger, 2012). Staff who were either too busy, or unable to contribute for any reason would like feel the contest was unfair and could become embittered towards those who won (Stieger, Matzler, Chatterjee, Ladstaetter-Fussenegger, 2012).

**Other types of crowdsourcing in Information Technology**

There are two other types of crowdsourcing related directly to IT. They are crowdfunding and opensource. Crowdfunding fits very well within the concept of crowdsourcing, while opensource is more the application crowdsourcing with a very specific set of rules.

**Crowdfunding**

Crowdfunding is a way for the general public to help a company or even an individual fund a project. A company or individual, who are referred to as the developer in the case of IT, will ask for money which they will then use to create the project. The main benefit of crowdfunding is that the funds generated allow the developer to create the project without stakeholders hovering over their shoulders. This means that there will be far less outside influence on the development cycle of a project than with stakeholders.

**Opensource**

Opensource is a bit of a tricky concept. Opensource refers to software development and the unique set of rules that will define how the software can be developed and distributed. These rules can be summarized as follows:

1. An opensource project cannot have restrictions on who can develop, distribute, or redistribute it (The Open Source Initiative).
2. Anyone can modify the source code as they see fit (The Open Source Initiative).
3. The software must not restrict the platform that it can be run on, who can use it, or what other software can be run alongside it (The Open Source Initiative).

This does not mean opensource is totally free of cost, it simply means that a vendor using the source code cannot “lock it down” and restrict what can be done with it. In fact many vendors charge clients for product support.

**Conclusion**

What is crowdsourcing to IT? Crowdsourcing is a way for any company or institution to create a project more economically and potentially better than they might have been able to otherwise. Crowdsourcing can also help large organizations deal with workloads far beyond their capabilities. Crowdsourcing, like everything else, is not perfect and it has its advantages and disadvantages. Hopefully this report has given a clearer picture of the concept known as crowdsourcing.

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