Crowdsourcing Concepts and Benefits in Business Environment

Suganthy. A., Arokia Berdila Anand. M

Department of Banking Technology, Pondicherry University, India.

Abstract

The most recent branch of collaborative design emerging in the last few years by the Internet is Crowdsourcing. Crowdsourcing works on the principle of distributed problem solving involving the crowds in the social networking communities. This paper introduced the concept of crowdsourcing in business environment and also gives the benefits of the organization. This paper also examines the companies involved in crowdsourcing and making their business process more effective. This paper also proposes the basic criteria to be followed for effective crowdsourcing.

Keywords: Crowdsourcing; Collective intelligence; open innovation.

I. INTRODUCTION

With a boom in internet, people share their ideas on social networking sites, blogs and twitter. Crowdsourcing provides a way to harness the collective ideas for the productivity of any business activities. When a task is crowdsourced, the productivity of the task will be improved since highly distributed workforce working in parallel performs the task.

Crowdsourcing has been followed by many companies like Procter and Gamble, IBM and Dell for designing their new products [4]. The task that can be crowdsourced to the crowd ranges from a micro-task to an innovative one.

The remainder of this paper is structured as follows: Section 2 discusses the basic concepts of Crowdsourcing, the methods of crowdsourcing and the benefits of crowdsourcing. Section 3 presents the list of companies involved in crowdsourcing and their value to their business. This section also proposes the basic criteria for effective crowdsourcing. Section 4 concludes the paper with the ongoing research areas in crowdsourcing.

II. CROWDSOURCING

The term crowdsourcing is first introduced by Howe in 2006 in Wired Magazine [3]. Howe defined crowdsourcing as “outsourcing the task to a large group of people in the form of an open call”. When a company has a problem they may have previously hired an employee or contractor to solve it. Instead they can involve the “crowd” to solve their problem and by doing so, there is a hope to get a better solution.

To solve a problem using crowdsourcing method, the employer needs to submit the task to the unknown crowds with the help of any crowdsourcing platform. The workers are free to choose the task by their own and submit the solution for the chosen task. The platform then checks the correctness of the submitted task and gives the result to the employer. The employer can then verify the task for its completeness and correctness and gives the reward for the workers who submitted the correct task. Figure 1 shows the method of crowdsourcing a task. And some of the well-known examples of the crowdsourcing platforms are MTurk, Microworkers, Innocentive, TopCoder, Micropreneur, Kickstarter, OpenStreetMap, Profounder, Crowdrise, threadless, istockphoto, vworker,Crowdspring, NineSigma.

Figure 1. Crowdsourcing Scheme

A. Methods of Crowdsourcing

Crowdsourcing methods explain how the task can be completed with the help of human intelligence. The most common methods of crowdsourcing the task are running a contest, online forums and by the use of crowdsourcing sites. These methods are briefly explained as follows [5]:

- Running a contest: This is the formal method of crowdsourcing a task to the crowds that does not require any new technology. In this method, the task to be crowdsourced is submitted to the crowds in the form of games by broadcasting them in radio or TV...
and by instructing the rules to be followed for submitting the answers. In this method, one or more judges choose the winner. This method is almost followed in most of the TV game shows for selecting the winner among the contestants. The contestants will be given an identification number and the audience are requested to vote for the contestants by sending SMS and the winner will be the one who gets more number of supporters among the audience.

- **Online Forum:** Asking for help in online forum is the other form of crowdsourcing. In this method of crowdsourcing, the participants were not given any reward. Wiki’s fall under this category. The contents in the Wikipedia are written by many volunteers belonging to many communities without expecting any rewards for their contributions.

- **Crowdsourcing sites:** The task can be submitted to the sites, which are specifically devoted for crowdsourcing. Some the sites which are devoted for crowdsourcing are Amazon’s Mechanical Turk where the workers complete the task for a small amount of money. Innocentive is the other one that helps to crowdsource R&D problems. CrowdFlower, a crowdsourcing platform also helps to crowdsource the task to an on-demand workforce. Clickworker [11] works on text creation, data categorization, web search and surveys. Other platforms like Microworkers [13] or ShortTask [14] offer a framework that enables the employers to design their task. These platforms help to solve a variety of task. Many companies create their own platforms to crowdsource their business process involving their own employees and people from outside their companies for making their contributions and the best contributors are also rewarded.

**B. Benefits of Crowdsourcing**

Completing the task with the help of the worker pool provides more advantages than providing in-house solution to the task. The major benefits of the crowdsourced task as defined by the author in [23] is given in Figure 2.

![Figure 2. Benefits of Crowdsourced Task](image-url)
III. CROWDSOURCING IN BUSINESS ENVIRONMENT

Many companies have started to use crowdsourcing for a diverse range of tasks like marketing, product development and research activities. DELL started to use crowdsourcing and gained thousands of new ideas and this was the beginning of crowdsourcing application by the business organization. Later, many companies applied the concept of crowdsourcing some of them are Procter & Gamble, Electrolux, Unilever limited and Philips Electronic. Table I gives a list of companies involved in crowdsourcing and the benefits of using crowds in their business.

<table>
<thead>
<tr>
<th>Companies</th>
<th>Purpose</th>
<th>Platform Used</th>
<th>Value to the Business</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dell</td>
<td>Innovative ideas for new product design and services</td>
<td>IdeaStorm</td>
<td>Received 17,652 ideas and implemented 514 ideas</td>
</tr>
<tr>
<td>Starbucks</td>
<td>Innovative ideas</td>
<td>MyStarbucksIdea</td>
<td>Received 100,000 ideas</td>
</tr>
<tr>
<td>P&amp;G</td>
<td>New Product Design</td>
<td>P&amp;G Connect</td>
<td>20% of the new products are from open innovation</td>
</tr>
<tr>
<td>Top Coder</td>
<td>Programming</td>
<td>Topcoder.com</td>
<td>Less coding errors</td>
</tr>
<tr>
<td>Unilever Limited</td>
<td>Ideas, inventions and patents</td>
<td>IdeaConnection</td>
<td>By applying the concept of Crowdsourcing, Unilever has saved 60% of their marketing cost.</td>
</tr>
<tr>
<td>IBM</td>
<td>New product development</td>
<td>Innovation JAM</td>
<td>Brainstorm ideas</td>
</tr>
<tr>
<td>Amazon</td>
<td>General Purpose</td>
<td>Mechanical Turk</td>
<td>Expertise solutions for the problems</td>
</tr>
<tr>
<td>NOKIA</td>
<td>Designing new device</td>
<td>DailyCrowd source</td>
<td>Gets better idea to produce the new product to suit the public requirements</td>
</tr>
<tr>
<td>TCS</td>
<td>Allocate resources to the project</td>
<td>Internal software</td>
<td>Optimal utilization of the skills of the employees</td>
</tr>
</tbody>
</table>

(Source includes the companies web sites and others. Actual values in figures may differ)

A. Criteria for Effective Crowdsourcing

When a business process is to be crowdsourced there are certain criteria that needs to be followed. Table II gives the basic criteria that are required to be followed by any organization for making crowdsourcing process more effective.

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Requirement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Problem</td>
<td>The problem or the task that needs to be crowd sourced should be analyzed for its applicability using crowdsourcing.</td>
</tr>
<tr>
<td>Platform</td>
<td>Check the variety of available platforms and choose the suitable one or build a platform as required by the task to be crowd sourced.</td>
</tr>
<tr>
<td>Community</td>
<td>Post the problem in an existing community or build a community involving the experts.</td>
</tr>
<tr>
<td>Quality</td>
<td>Once the solution is received from the solvers, quality check needs to be conducted to choose the best solution. Set criteria for choosing the best solution.</td>
</tr>
<tr>
<td>Renumeration</td>
<td>Check the mode of payment to the volunteers if the contributors are required to be rewarded.</td>
</tr>
</tbody>
</table>

IV. CONCLUSION AND FUTURE RESEARCH WORK

Crowdsourcing techniques gains the knowledge of the experts and therefore increases the quality of the task. But the possibility of the enormous amounts of the results for the same task has a disadvantage of choosing the best quality results from a pool of results. Setting a Quality measure for the outcomes of the crowdsourced data is a major research area as crowdsourcing is concern. Best results were also proved by applying crowdsourcing in the application areas like product design, idea generation, problem solving etc. More research work is being done in this area to see the effectiveness of using unknown crowds in the business process.

REFERENCES

[4] Bons, Emile, Daams, Mark, Neijens, Erik, Ottenhuyem, Dirk, Segene, Maartje, Van de Sommen, Ghislaine,

[5] Crowdsourcing – Three ways you can find a great new company or product name free or at low cost. Source: Ezine Article.


[22] Thomas P. Walter, Andrea Back, Crowdsourcing as a Business Model: An Exploration of Emergent Textbooks Harnessing the Wisdom of Crowds”, 23rd Bled eConference: Trust: Implications for the