

Wisdom of Crowds Vs Crowdsourcing

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Abstract: Crowdsourcing and Wisdom of Crowds are the two most popular terms being used popularly. This comparison has been done between Wisdom of Crowds and Crowdsourcing in the present study. Both the techniques involve a group of individuals but are disparate in many ways. Wisdom of Crowds is collective opinion of a group of people whereas Crowdsourcing is assigning a task to a group of people. Applications of both the techniques in the real world have been studied and presented to differentiate between the two. We have also analysed the limitations of both the techniques in the practical world.

Keywords: Crowdsourcing, Wisdom of Crowds, Crowd, Wisdom.

I. INTRODUCTION

The term 'crowd' is common to both the phenomenon. A 'crowd' is defined as any group of people such as a group of researchers, group of people of same corporation, people of varying knowledge, or simply the general public. The group need not be cohesive; for example a group of people answering questions on Yahoo! Answers may not know each other outside of that forum [5].

A. Wisdom of Crowds

It is defined as a collective opinion of the group rather than a single expert. A larger group's aggregated answers to questions involving estimation, general knowledge has often been found to be better than any of the individuals within the group. Wikipedia, Quora are few such examples which exploit the phenomena of Wisdom of Crowds.

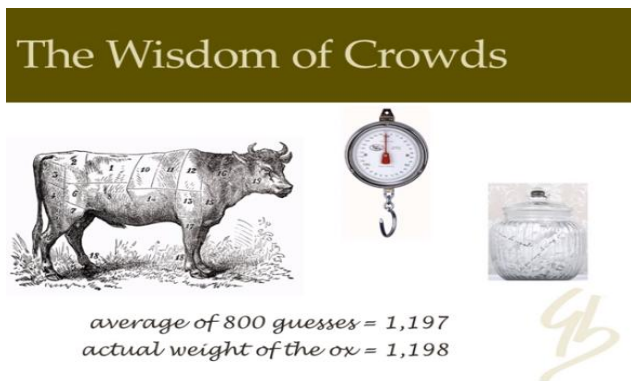


Fig. 1 Classical Example of Wisdom of Crowd Guessing the Weight of Ox.

B. Crowdsourcing

It is the act of taking a job traditionally performed by a designated single individual and outsourcing it to an undefined large group of people in the form of open call [1]. This can involve division of labour for tedious tasks split to a crowd. Amazon Mechanical Turk, Facebook are examples of Crowdsourcing.

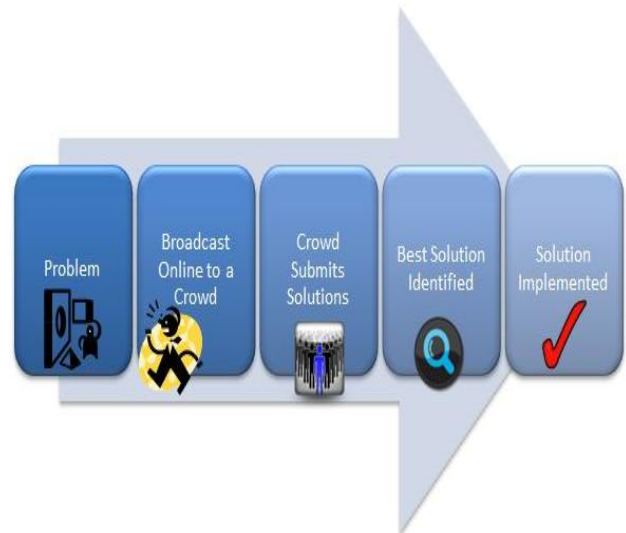


Fig. 2 Process Flow of Crowdsourcing.

II. WISDOM OF CROWDS

Wisdom of Crowds is a goal which aims at a better output by aggregating the knowledge of every individual in the group.

A. Applications

Applications of Wisdom of Crowds is divided broadly into three categories. These three categories are as follows:

1) **Prediction Markets:** Are speculative markets created for making predictions. Prediction markets ask questions like, "Who do you think will win the election?" and predict outcomes rather well. Answers to the question, "Who will you vote for?" are not as predictive. Several companies now offer enterprise class prediction marketplaces to predict project completion dates, sales, or the market potential for new ideas. Common examples of this category are 'Yanomoi', 'Betfair' etc.

2) *Delphi Methods*: This method is a systematic method of forecasting which relies on a panel of independent experts. It involves answering questionnaires in two or more rounds. A facilitator provides an anonymous summary of the experts' forecasts from the previous round as well as the reasons they provided for their judgments. Each participant is encouraged to revise their earlier answers in light of the replies of other members of the group. The 'TechCast' Project uses a panel of 100 experts worldwide to forecast breakthroughs in all fields of science and technology.

3) *Human Swarming*: Designed as an optimized method for unleashing the wisdom of crowds, this approach implements real-time feedback loops around synchronous groups of users with the goal of achieving more accurate insights from fewer numbers of users.

B. Limitations

1) *Flawed Thinking*: One requirement of a good crowd judgement is that people's decision are independent of one another. If everyone get's influenced by others guesses, the result will lead to inaccuracy. [10]

2) *Non Diverse Group*: Findings [9] suggest that a non - diverse group are not the wisest. A diverse group of problem-solvers made a better collective guess than that produced by the group of best-performing solvers.

3) *Crowd Size*: Size of the crowd plays a huge factor, when the size of the crowd will be too small or too large, the inaccuracy of the outcome increases.

4) *Lack of Motivation*: One of the driving factors of the crowd is crowd's motivation. It can be towards better research, incentives etc. When motivating factor is missing. It leads to incorrect results.

III. CROWDSOURCING

Crowdsourcing is process of problem solving using distribution.

A. Applications

Applications of Crowdsourcing are very popular , some of the applications include the following:

1) *Research Studies*: One of the most popular application of Crowdsourcing is in research field. Not only presently but this technique has been in use before the personal computers became common. Example of this is Genealogy research [6], the church started the three-generation program. In this program church members were asked to prepare documented family group record forms for the first three generations. The program was later expanded to encourage members to research at least

4 generations and became known as the four-generation program.

2) *Funding*: Crowd funding is an example of Crowdsourcing technique. Crowdfunding is the process of funding your projects by a multitude of people contributing a small amount in order to attain a certain monetary goal, typically via the Internet. [6]. One such example is 'Kickstarter' website which uses this technique to fund creative projects.

3) *Data Collection*: It is used to collect data from the people of the crowd , more people results in a faster data collection. For dictionary work, it was applied by the Oxford English Dictionary editors, to collect data for the dictionary.

4) *Astronomy, Journalism and Public Policy*: Crowdsourcing is increasingly used in professional journalism. Journalists crowdsource information from the crowd. A modern day version of crowdsourcing in astronomy is NASA's photo organizing project [12].

B. Limitations

1) *No Confidentiality*: This is the biggest downfall of crowdsourcing. Putting your naming challenge out for crowdsourcing can clue in competitors to what you're up to and make it possible for someone else to see your great new idea and run away with it. [13]

2) *Poor Quality*: The crowd involved in the process normally submit whatever that comes to their mind. They might not properly research the findings, leading to a poor quality.

3) *Hidden Costs*: Curling through many submissions of the crowds, involves a long time consuming process and a lot of money. It can become a very costly process.

4) *Manipulation*: The common reasons for discrepancies in a community are often manipulative behaviour from individuals or intentional disregarding of process rules.

IV. DIFFERENCES BETWEEN WISDOM OF CROWDS & CROWDSOURCING

A. Process vs. Goal

One of the biggest difference between the two is that Crowdsourcing is a process whereas Wisdom of Crowds is a goal. Crowdsourcing is the process of dividing the task among the people of the crowd whereas Wisdom of Crowds is a goal to achieve with the help of the crowd. [1]

B. Size of the Crowd

While Crowdsourcing aims to have a bigger crowd for the distribution of the task at a larger scale whereas Wisdom

of Crowds requires a smaller but a more accurate and wise crowd for a better output.

C. Relationship

Applications that leverage Wisdom of Crowds are necessarily crowdsourced because they outsource the task, However Crowdsourcing applications do not necessarily leverage the Wisdom of Crowds. [3]

D. Diversity

Wisdom of Crowd requires for a better outcome, on the other hand this is not true for Crowdsourcing which requires crowd with similar skills and mindset for a better output.

V. CONCLUSIONS

Analysis, comparison and study of Wisdom of Crowds and Crowdsourcing was done to visualize the practicality and differences of both the techniques. Both of the terms were thoroughly studied and explained. Major applications of both the techniques in the modern world as well as historic times were listed.

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