

A task-based crowdsourcing typology

Enrique Estellés-Arolas
Catholic University of Valencia
enrique.estelles@ucv.es

Abstract. When trying to develop a typology about how the crowd works on the Internet, different points of view can be applied. A typology can be developed based on the kind of crowd that participates, the specific area in which the crowd is going to work on, the kind of reward the crowd obtains in exchange, etc. It's also important to have into account the process in which the crowd gets involved. The crowd can participate, for example, in open-innovation or co-creation initiatives. Each one will have its own particularities that will determine the resulting possible typologies. In this paper, a task-based approach to crowdsourcing is exposed and reviewed.

1 Introduction

Among the many effects the Internet development has had on today's society, it's important to highlight the enhancement of many collaborative processes. In some cases, these are not new. They existed previously and have been boosted. One of such processes is Collective Intelligence.

According to Malone et al. (2010), "collective intelligence makes reference to groups of individuals doing things collectively that seem intelligent". This process, which has existed since people relate to each other, has changed from involving a few hundred people to involving hundreds of thousands thanks to the Internet.

This collective intelligence can manifest itself through the Internet in various ways such as open innovation, co-creation or crowdsourcing. In the latter case, the phenomenon of crowdsourcing has become increasingly popular in the last years.

Jeff Howe coined the term crowdsourcing in 2006. This journalist defined crowdsourcing as “the act of a company or institution taking a function once performed by employees and outsourcing it to an undefined (and general large) network of people in the form of an open call”. After this first definition, other authors like Brabham (2008) or Estellés-Arolas & González-Ladrón-de-Guevara (2012a), detailed different aspects of crowdsourcing. Estellés-Arolas & González-Ladrón-de-Guevara (2012a), for example, identified eight elements that should appear in any crowdsourcing initiative: a crowd, a crowdsourcer, an open call, a task to be done with a clear objective and participative nature, a reward and the use of the Internet.

Because crowdsourcing is a way of managing Collective Intelligence, these elements overlap with those proposed by Malone et al. (2010) when defining the genome of Collective Intelligence.

This genome suggests a number of genes that may associate in different ways, resulting in different initiatives of Collective Intelligence.

These genes correspond to four basic questions: what task is going to be done (with two genes: "create" or "decide"), how it will be done (with two genes: "collaboratively" or "individually"), who will do the task (with two other genes: "the crowd " or "a certain group of people ") and why the people will do the task (with three genes: "glory", "love" and "money").

In an effort to clarify and delimitate the crowdsourcing term and the different kind of crowdsourcing initiatives that can be done, different typologies have been proposed. These typologies have been elaborated following different approaches. Different typologies have been elaborated on the basis of different elements of crowdsourcing initiatives: Schenk & Guittard (2009) propose one typology based on the composition of the crowd (that corresponds with the Malone et al. (2010) question “Who”); Corney et al. (2009) propose another one based on the reward element (that corresponds with the Malone et al. (2010) question “Why”). Others are based on the specific area of application: Ooman & Aroyo (2011) propose a typology of crowdsourcing activities used in art galleries; Geiger et al. (2011) propose a typology from an organizational point of view.

In the present paper, a typology based on the task to be done (Estellés-Arolas & González-Ladrón-de-Guevara, 2012b) is going to be reviewed and detailed.

2 Typology and Examples

Estellés-Arolas & González-Ladrón-de-Guevara (2012b) propose a crowdsourcing typology based on five different types. Each type differs from the others in the task that the crowd has to carry out.

This typology was developed integrating other task-based crowdsourcing typologies previously elaborated (Reichwald & Piller, 2006; Howe, 2008; Brabham, 2008; Kleeman et al., 2008; Greets, 2008; Burger-Helmchen & Penin,

2010). The objective was to create a general task-based typology that could be used in any case.

The typology proposed comprises the following types:

1. Crowdcasting

This is one of the most accepted, an easy to identify, crowdsourcing type. In this case, a crowdsourcer (a person, a company or an organization of any kind) proposes the crowd a problem or a specific task to be done, being rewarded that who solves it first or do it better. It is a competition-like event. InnoCentive¹ is a paradigmatic example of crowdcasting: in this platform anyone can expose problems (i.e.: “finding a more efficient way to collect aborted small oranges” or “finding a method or technology that could maintain a localized area on the body at a low temperature for a long period of time”) rewarding its solution with money. In this platform, the crowd provides his specific knowledge in a particular area, solving problems individually (Doan et al., 2011). Other platforms are focused not on solving problems but on doing more creative tasks. 99designs² is a platform in which people is rewarded for designing logos or webs, for example.

2. Crowdcollaboration.

In this crowdsourcing type, unlike crowdcasting, there is a communication between the participants of the crowd, whereas the crowdsourcer (the initiator of the process) does not get too involved. The crowd brings its knowledge to solve problems or raise ideas collaboratively. Normally, there is no financial reward, being the intrinsic motivation the key. Two different subtypes can be found, which differ in the ultimate goal to achieve.

2.1 Crowdstorming. It’s about online brainstorming sessions. Different ideas are proposed and the crowd participates with their comments and votes. This happens in the Ideajam Platform³. These sessions are usually organized by major institutions (i.e.: IBM, Boston University’s School of Management, etc.). They usually look for ideas to improve performance, products, services, etc.

2.2 Crowdsupport. In this kind of initiatives, customers themselves solve the problems or doubts of other customers. Therefore, they don’t have to resort to after-sales services. The main difference in these initiatives is that they seek for help, as in the case of GetSatisfaction⁴, a platform that allows companies like

¹ www.innocentive.com

² www.99designs.com

³ www.ideajam.net

⁴ www.getsatisfaction.com

Microsoft to perform these tasks. Others build their own platforms, like the Indiana University (Latimer et al., 2009).

3. Crowdcontent.

In these tasks, the crowd share their workforce and knowledge to create or find content of different kinds. Crowdcontent differs from crowdcasting because it is not a competition: each individual works individually and in the end, individual results of everyone are joined together. So three subtypes that differ in relation to the contents can be found:

3.1 Crowdproduction. The crowd must create content, either collaborating with others, as in the case of Wikipedia, or individually, performing tasks of various difficulty as the translation of short fragments of text or image tagging, as in the case of some tasks of Amazon Mechanical Turk⁵.

3.2 Crowdsearching. In this case, the partners will search for content on the internet for a specific purpose. There are big projects such as Peer to Patent Review Project⁶, but there are also smaller tasks, as those proposed in microtasking platforms as Microtask⁷.

3.3 Crowdanalyzing. This case is similar to crowdsearching, with the fundamental difference that the search is not performed on the Internet, but in multimedia documents as images or videos. An example would be the stardust@home project, in which anyone can find samples of interstellar dust analyzing 3-dimensional images taken by the space probe Stardust.

4. Crowdfunding.

In these initiatives, an individual or organization borrow money from the crowd, giving a reward in exchange, to carry out a project. The project to be funded can be of any kind: financing a soccer team⁸, publishing a book⁹, creating or boosting a start-up¹⁰ or even absurd ones as cooking potato salad¹¹.

Within crowdfunding, different types that vary mainly in the way of rewarding the contributions of the crowd can be found. If we focus specifically on the task (giving money), we can distinguish three types. In the first place, there is the

⁵ www.mturk.com

⁶ www.peertopatent.org

⁷ www.microtask.com

⁸ www.myfootballclub.co.uk

⁹ www.libros.com

¹⁰ www.crowdcube.com

¹¹ <https://www.kickstarter.com/projects/zackdangerbrown/potato-salad>

crowdfunding in which the crowd gives money waiting a reward (i.e. merchandising, shares, products, etc.). In this case, an amount of money is given obtaining a reward in exchange for a different given the same reward. This kind of crowdfunding comprises pre-sale, reward-based (www.kickstarter.com in both cases) and equity-based¹² crowdfunding. In the second place, the donation-based crowdfunding¹³ can be found, focused on charity projects in which there is no reward for the donators. So the crowd is really donating its money. Finally, the lending-based crowdfunding can be found. In this case, the crowd lends money, being the reward the recovery of that money with interest.

5. Crowdopinion.

These initiatives try to get the feedback from users about a topic or product. One example is Modcloth¹⁴, an online store where any registered user can review products that have not yet gone on sale, obtaining information about their potential market acceptance. The crowd gives its opinion or judgment to make assessments (Doan et al., 2011). Market research can also be englobed inside crowdopinion initiatives. In this the user's opinion is not manifested by a vote but by buying and selling shares linked to the result of an upcoming event, like the possibility of being chosen as a candidate for presidential election. For this type of initiatives, specialized platforms called "online prediction markets" are used. Some examples of these platforms are Intrade¹⁵ or Inkling Markets¹⁶.

3 Conclusion

The result of the paper, as can be seen, is the elaboration of a typology consisting of five excluding types. Describing it as "excluding" means that each type can be carried out independently, although different platforms can use different types of crowdsourcing simultaneously. For example, Threadless uses crowdopinion and crowdcontest in different areas of its website or business model.

Despite the evolution of crowdsourcing, this typology is still useful, as can be shown in Estellés-Arolas et al. (2015). However, this development calls for a constant review to adapt to the reality of the phenomenon.

¹² www.sociosinversores.com

¹³ www.hazloposible.org

¹⁴ www.modcloth.com

¹⁵ www.intrade.com

¹⁶ www.inklingmarkets.com

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