

# Open Innovation in Human Resources and the Use of Crowdsourcing

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## **Abstract**

*While innovation is getting more and more importance and is accepted as a crucial social and economic phenomenon, companies try new ways to make it better. It is a must for managers and already in to do lists but traditional innovation is petered out at the same time. Moreover, the cost of traditional innovation is a burden for companies. Thus, getting innovation from inside people is out fashion now, companies try to get new ideas from outer sources. That's how open innovation has emerged and crowdsourcing is one of open innovation tools that helps companies to get new ideas and approaches with low costs or no fee. This article aims to explain how open innovation has emerged and how companies use crowdsourcing as an open innovation tool specifically in HR.*

## **Keywords**

*innovation, open innovation, crowdsourcing, crowdsourcing in HR*

## **1. Introduction**

Innovation is accepted a crucial social and economic phenomenon that is vitally worth to research. Companies are worried about their innovation abilities, especially the ones about their competitors because they think their future depends on this (Howe, 2006).

Innovation which has not been in company priorities anymore is gradually replacing in to do lists in managers' offices. However, the innovation process in many companies makes cough sounds similar to a rusty old engine. Not in a way that is different from the internal combustion engine, since the parameters have changed completely, traditional innovation is about to peter out (Prahalad and Mashelkar, 2011).

## **2. Open Innovation**

The increase in communication facilities and technological opportunities makes the level of competition rising. The increasing level of competition leads companies to differentiate their products and this situation brings R&D costs with it. The increase in costs caused by producing information which is required for development in the company makes the flow of information from outside a necessity. Procurement of information from internal and external sources by going beyond traditional cooperation in innovation has a significant role in increasing the innovative capacity of the company (Linton & Walsh, 2004, p. 518).

Innovation efforts may be sufficient where uncertainty and variability are limited in a market environment. However, if there are uncertainty and variability, if the company enters an unknown market or starts to produce an unknown product, we will need to show more effort to see the opportunities and threats in front of us (Chesbrough, 2004, p. 24). The increase of uncertainty and volatility in the market with the need for information forces businesses to move beyond the concept of innovation and incapacitates internal R&D activities. This has led to the emergence of the concept of

open innovation by moving beyond innovation. Open innovation is to provide valuable information input and output in order to accelerate the internal innovation and is to make markets such places where innovation is used externally (Chesbrough, 2006, p. 2).

Thus, principles of open innovation are as follows:

- 1) A company cannot recruit all of the smart people; instead, they can work with them both within and outside the enterprise.
- 2) Innovation within the enterprise entity must be proven to be more of value than the outer innovation.
- 3) To have a better business model for winning the competition is more important than being first to market.
- 4) To win the competition does not require to produce the best and the most of the ideas but requires the best use of inner and outer ideas.
- 5) Proactive intellectual property management allows other firms to use company's intellectual property.
- 6) This also makes it possible for the company to benefit from other firms' intellectual properties to develop business models (Chesbrough, 2003, p. xxvi).

Although open innovation has been used mostly in technology companies during the period it has newly emerged, over time, it has started to be implemented and has become widespread in other sectors. With the development of the concept, it has become a process which should be applied systematically moving beyond knowledge transfer (Kaynak & Maden, 2012).

In Table 1, the differences between the principles of closed innovation and open innovation have been indicated.

**Table 1. Differences between the Principles of Closed and Opened Innovation (Open Innovation, 2012)**

Principles of Closed Innovation	Principles of Open Innovation
Our company works with the most talented people.	All talented people cannot work in our company. We have to work with skilled workforce either in our company or outside of our company.
In order to make a profit from R&D, we have to invent, develop and arrogate o ourselves.	R&D comes from outside of the company is precious; Inside R&D should benefit from this precious one.
The company must be the first to offer innovative value to the market.	Rather than being the first in the market, developing a good business model is more important.
The company which produces the most and the best ideas in the industry will get the best of it.	If we know how to make benefit from the best ideas outside and inside our company will get the best of it.
We should control our innovation processes. Thus, our competitors cannot benefit from our ideas and cannot make a profit out of them.	We should make a profit from the use of our innovation processes by other institutions; at the same time, we should buy intellectual property rights of other institutions if it will make our business model better.

### 3. Crowdsourcing

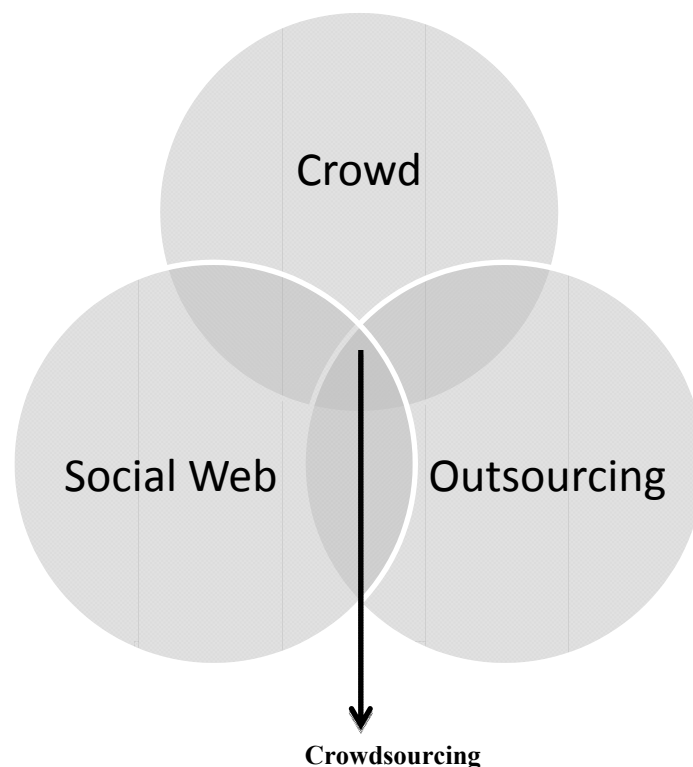
Prior to the World War II, a large group of companies acted within the framework of the structure which is known as closed innovation. Innovating companies kept their works in-house; they didn't consider benefiting from the data that is generated outside of their own R&D labs. In the past decades, the world has experienced technological and social changes that information has spread much faster. After this has been experienced, open innovation system has come with that hypothesis: since companies cannot stand against the fact that the spread of information cannot be prevented, they should find ways to benefit from that (Open Innovation, 2012). One of the ways to benefit from this information is the crowdsourcing method which is seen as a new concept.

Crowdsourcing is a concept invented by Jeff Howe in 2006 (Howe, 2006) and it has aroused considerable attention by researchers and practitioners. Unless the otherwise has happened, it refers to the use of crowds for the solution of problems which are expected to be resolved by internal and external customers (Brabham, 2008 February).

Crowdsourcing which is a relatively new open innovation tool consists of a combination of the words outsourcing and crowd. Jeff Howe defines the term of crowdsourcing in his article (Howe, 2006) published in Wired magazine, as "taking a job which is traditionally performed by an appointed trustee (generally a worker) and giving it to undefined, mostly large scale of people as an open call". Saxton et al. (2013) define the term of crowdsourcing as follows:

*"Crowdsourcing is a sourcing model where organizations use mainly advanced Internet technologies to benefit from the efforts of a virtual crowd for accomplishing certain organizational tasks".*

As shown in Figure 1, crowdsourcing can be understood at the intersection of three factors: crowd, outsourcing and advanced Internet technologies.



**Figure 1. Three Factors Define Crowdsourcing**

Gregory et al., 2013.

### 3.1 Types of Crowdsourcing

According to Jayanti (2012), crowdsourcing can be divided into three basic types: content crowdsourcing, Technical crowdsourcing and Competition crowdsourcing.

1) Content crowdsourcing: content crowdsourcing occurs when organizations are connected directly to users to produce content. Users are either paid very little or take no money, or they rarely have the opportunity to compete for larger payments. Content crowdsourcing occurs both in organizations for profit and nonprofit organizations. One of the best examples on the content crowdsourcing method for nonprofit organizations is Wikipedia. The participants of Wikipedia write tirelessly, they regulate an open, online encyclopedia. It is possible to give organizations such as Facebook, Twitter and YouTube as examples.

2) Technical crowdsourcing: technical crowdsourcing occurs when organizations want to take advantage of external sources for the technical, non-strategic tasks probably led to the contracted parties before. Web sites such as Mechanical Turk, oDesk and eLance can be given as examples.

3) Competition crowdsourcing: competition crowdsourcing occurs when companies convince very talented participants to compete to complete the company's strategic or fundamental tasks with the chance of a reward, and a technical review of the solution. This is because it requires a certain level of expertise, this group of participants can be seen as an immensely contingent core workforce. Doritos has used the competition crowdsourcing method to develop content for a Superbowl ad (Jayanti, 2012).

### 4. Crowdsourcing Process

Crowdsourcing is defined as a distributed problem-solving model (Brabham, 2008 June). In this model, the problem is presented to the crowd through an open call; people come to the platform, work on tasks and submit their solutions and receive incentives offered on that platform. Crowdsourcing architecture consists of three main components: platform, applications and crowd (Zhang, 2011). Platform will be the stage where the crowdsourcing is applied; application includes all the tasks that are led to the crowd and the crowd represents the people who will contribute to the solution of the problems. This architecture can be modeled as in Figure 2.

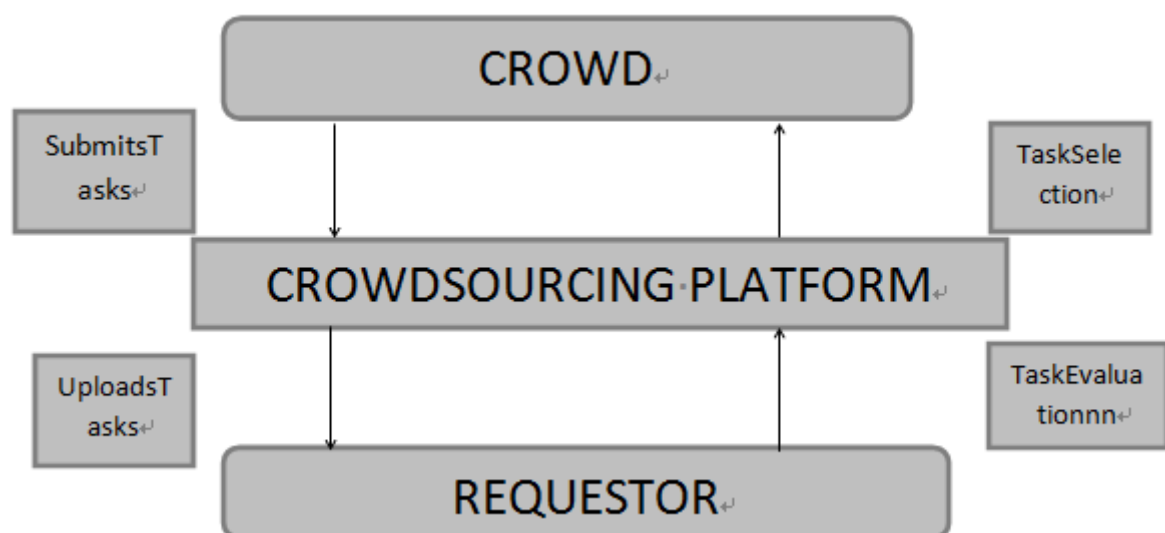


Figure 2. Architecture of Crowdsourcing

Thawrani et al., 2014.

The crowdsourcing platform is a platform which acts as an interface between the requestors and crowd. Requestors and crowd interact through this way easily. It follows these steps: requestor uploads the existing problem on the platform and makes it passto the crowd; crowd reaches and sees the problem, solves it, and submits the solution on platform, and then the requestors access the solution and assess it. Thawrani states that “*Crowdsourcing requestor is an entity that submits a task request and initiates the process of crowdsourcing. Crowdsourcing platform is a trusted broker ensuring those crowds successfully complete the task requests*”. Crowdsourcing platform can carry out crowdsourcing requests in very different ways. It can advertise them on the marketplace, can allow providers to bid for them, or it can provide a competition. Requestor can identify criteria to be used for selection of the winner (Thawrani et al., 2014).

Vukovic (2009) expresses this process in certain stages:

- 1) Registration and specification: in the beginning of the process, providers and requestors register the platform. Their identities are needed to be verified, their credentials should be issued, and skills of providers are needed to be evaluated and certified. The requestor chooses the task he/she wants to be crowdsourced, addresses what it is required and declares the task and crowdsourcing mode (e.g., competition), start and end date, and other parameters.
- 2) Initialize crowdsourcing contest: the crowdsourcing request might be either in the form of a bidding item in the marketplace or an open competition call. Requestors and participants may collaborate during the process and discuss the requirements and other things. Participants are allowed to join as groups or teams.
- 3) Carry out crowdsourcing request: the platform acts as an interface between requestors and providers because IP governance, legal issues and payment are need to be secured. If requestors and providers came to an agreement, platform forms the terms. This may include the provisioning of services required by the task request, if necessary instantiation of the work item and team management tools, etc.
- 4) Complete crowdsourcing request: when the participant completes the request, he/she submits it to the platform; requestor evaluates it considering the completion criteria. Then, if it is successful, the requestor confirms that, platform executes award payment, and platform may ask requestor and providers to rate their crowdsourcing experience. Because, after the task is completed, others may benefit from their experience by reviewing their experiences and they might want to contribute to the next competition (Vukovic, 2009).

Brabham (2013) also defines crowdsourcing process in eight stages:

- 1) Company Has A Problem—You take action when your company, organization or institution has a problem.
- 2) Company broadcasts problem—You upload your question or request. You choose the problem parts with a (large) number of employees in the organization.
- 3) Crowd is asked to give solutions—You challenge your employees to come up with solutions. Then employees are challenged in teams to come up with solutions.
- 4) Crowd Submits Solutions—Your employees submit their ideas. Each team submits the solution they come up with.
- 5) Crowd fat solutions-Evaluate and assess—An appointed jury assesses the submitted solutions. The jury may include the contributors to the problem.
- 6) Company rewards winning solvers—And the winner is ... The winning team will of course be rewarded for the winning solution.

- 7) Company owns mining solutions—your solution!
- 8) Company profits—Your company or organization can benefit from the results. After all, the organization is the biggest winner. Because the suitable solution for an important issue comes from your own employees. This creates a sense of urgency, commitment and support which are important conditions for success.

## 5. The Use of Crowdsourcing in Human Resources

As production, moves towards emerging markets more and as it gets further away from headquarters, companies now come to realize that research and development is a special influence area for engineers who wear smocks. With a tendency toward “Open innovation”, now not just Sales, Marketing, Finance activities are being done in cooperation with R&D but also partners, suppliers, customers and competitors are in cooperation with R&D (HBR Siemens Report, 2011).

Today, we are at the most advanced stage of a major change in the way companies were managed. Strategic leaders talk about social hierarchies and social, community-based collaboration and methods of goal setting. Unlike the completely execution oriented, flexible, non-hierarchical management, in management’s grass root version, they use their internal information markets.

Open innovation allows internal and external ideas whose requirements are defined by the business model to be integrated with the architecture and the system of an institution (Open Innovation, 2012). Crowdsourcing is a method that organizations use within this architecture to solve problems or to perform certain tasks easily with internal and external ideas. Information can be shared, it can be benefited from the wisdom of crowds and social recognition can take place by the help of this method. Great managers know that the information alone is more valued than the truth. Information at the workplace is not just memorizing facts but is to manipulate facts, experiences, intuition, understanding, insight, memories, impressions and feelings at the same time. Information is something that is shared through social communication and it reveals not just by words but by the behavior (Mosley, 2013).

In this sense, Mosley has revealed the importance of information sharing, to benefit from the wisdom of crowds and social recognition as outlined below:

- 1) *In practice, social recognition means that peers are inspired to publicly recognize each other’s accomplishments on an ongoing basis.*
- 2) *With a mechanism to harness the wisdom of crowds, a large amount of new data about individual behaviors, on a number of dimensions, becomes available for performance reviews.*
- 3) *HR values that all these data about individuals are based on observed behaviors and on facts, not opinions.*
- 4) *The bigger changes brought on by crowdsourcing performance management are cultural.*
- 5) *The crowd-sourced performance review re-imagines the performance review system by adding cultural practices and habits that keep pace with the changes in business thinking and technology.*
- 6) *In practice, everyone involved has to offer his or her positive opinion about performance.*
- 7) *Workers who fear personal risk in offering their opinion of others might be less inclined to participate.*
- 8) *A culture of collaboration also means that no single person comes up with the ultimate, definitive assessment of someone’s performance (Mosley, 2013).*

However, the way HR will benefit from the wisdom of crowds is not clear. This often varies as innovative people begin to put crowdsourcing in various HR fields. Some of the places that they use the technique of crowdsourcing (and its cousin social networking) are as follows (Jacobsen, 2013):

- 1) Talent Searches;
- 2) Building and managing company reputation;
- 3) Crowdsourcing non-traditional labor;
- 4) Refreshing and realigning corevalues;
- 5) Culture management beyond the engagement survey;
- 6) Social recognition or social collaboration;
- 7) Crowdsourcing your benefits choices.

In addition to these, it is possible to see that the crowdsourcing method is being used for HR in different ways. Since many of the tasks of human resources are labor-intensive tasks such as eliminating so many employer candidates and they are based on a subjective evaluation, these tasks are perfect candidates for crowdsourcing (Harris, 2011).

A difficulty that companies face all the time is to increase worker productivity without increasing costs significantly. New technologies have helped the majority of the increase of this productivity. However, the most difficult increases are related to the repeated, subjective tasks and they are not easy to describe algorithmically.

A company's Human Resources (HR) department's being responsible for procurement of new employees is the typical example of this. The typical one who recruits people reviews average 200 resumes to fill a single position at the middle level; for a very desirable position they receive resumes ten times this number. Technology, can aid in the search process to find thousands of online resumes but still they would not be able to make a subjective assessment of sufficient resumes for a job in exchange for an inadequate resume.

The task of hiring mid-level and top employees is often supplied by outsourcing from authoritative research companies. These external hiring companies generally receive approximately one third of the new employee's annual base salary as payment. Therefore, employers can benefit from a cheap method of viewing resumes or if this activity can be done effectively, external hiring companies significantly lower costs (Harris, 2011).

At a time when resources are limited, companies might consider crowdsourcing method as a faster, cheaper and a better way of creating new knowledge and capital. Crowdsourcing can be especially difficult to deal with for the organizations that are under competition pressure for developing their knowledge assets. And as crowdsourcing becomes more prevalent, some companies might be dragged into using crowdsourcing just because their competitors have attempted to use it (Jayanti, 2012).

The idea of crowdsourcing as a consumer concept might be quite nice to most people. But when applied to HR, crowdsourcing looks like an extreme suggestion. Although the convergence between the two fields tends to scare the Human Resources Department, the idea of rating systems in crowdsourcing method is common in both consumer applications and in human resources. Allowing employees and managers to provide entries so that others can find information is a concept that does not sound easy for a corporate function which is perceived as a privileged service organization. Besides, to maintain control over the HR conversations, HR, tends to hide behind compliance and regulatory reasons in the case of giving false information to an employee. However, another referred cause is that employees have privacy concerns when they have HR related questions.

Still, human resources department fundamentally exists to answer managers and employees who need information. Employees must have access to information about jobs and feedback (Wu, 2014).

According to (Wu, 2014), HR may use the method of crowdsourcing in two cases to achieve effectiveness and efficiency: to be able to give better answers to questions about providing service to employees and to convert talent management function in HR.

**Crowdsourcing to Provide HR Services:** according to Wu the services organizations such as Amazon and Yelp, which consumers use in daily life, offer to their consumers is possible to adapt to HR. Customers, who bothered to give the order after calling to the call center and holding the line for 30 minutes, now can sort everything out with a click on a site like Amazon and can get the opinions of other consumers. For HR, this may be an opportunity to be able to respond to the HR related questions of employees. At the same time, is also very important for the participants to know that they are taken seriously and their voices are heard (*Harnessing The Power of crowdsourcing*, 2011). In this way, they can find the opportunity to benefit from thoughts and experiences of other employees as well as HR.

Wu (Wu, 2014) gives the dialogue on a question entry by an employee as an example as follows:

**Question:** Can my partner also take advantage of our health services?

**Answer 1.** (Employee) Yes, this has changed for us a few years ago. You need to start using it!

**Answer 2.** (HR) Yes, our institution fully supports all regulations about partners. Here is the link related to this policy.

**Answer 3.** (Employee) I have asked this question last year. You can register your partner as you register your spouse.

**Answer 4.** (Employee) I'm not sure what the policy is about this but there is a group in social media in order to discuss some of these issues (here is the link).

The important thing to be aware of is that social questions directed to HR not only offer the possibility of finding appropriate answers to their questions but provide sources from others at the same time and probably give additional responsibility (Wu, 2014).

### 5.1 Crowdsourcing for Talent Management

Most people unwittingly become the source of the crowdsourcing. For example, a customer who shops on Amazon's website and make an entry in the consumer rating system becomes the resource. Other consumers firmly believe in the wisdom of crowds because so many people cannot be wrong. This is such a powerful phenomenon that the next logical step seems to be to include this into HR practices because the talent wants to see a similar experience at the work place. Crowdsourcing can help solving some basic problems of talent management. Performance assessment activity is an area where HR has been struggling for decades- everyone hates performance assessment and managers find very little value in these assessments as well as employees. The performance assessment process can create a valuable dialogue for HR analysts when they need some numbers for procurement or compensation. If HR hadn't needed tangible and quantitative data entries to be used in other processes, they also would have left the performance assessment. Crowdsourcing solves problems of the annual assessment by extending managers' capability of making the right decision (Wu, 2014).

## 6. Conclusion

To sum up, as technology evolves, especially as of consumer technologies continue to get into the business places rapidly, although HR is a traditional and conservative function, crowdsourcing method is a great opportunity for HR to improve efficiency and productivity and to ensure employee participation. As consumers shift to the websites from the shopping centers, staff also will demand more effective solutions from HR management to their HR related problems. If the HR departments use the crowdsourcing method to answer questions of employees and to provide feedback, this method will



be the most effective way for employees to able to receive the information they need. At the same time, as previously presented in different ways, crowdsourcing can become a key method that HR can benefit. It is beyond any doubt that it will be more important in the near future.

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