CROWDSOURCING ASPECTS

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The term **"crowdsourcing"** was coined in 2005, after conversations about *"how businesses were using the Internet to outsource work to individuals"*.

The conclusion was that what was happening was like **"outsourcing to the crowd"**, which quickly led to the portmanteau "crowdsourcing".
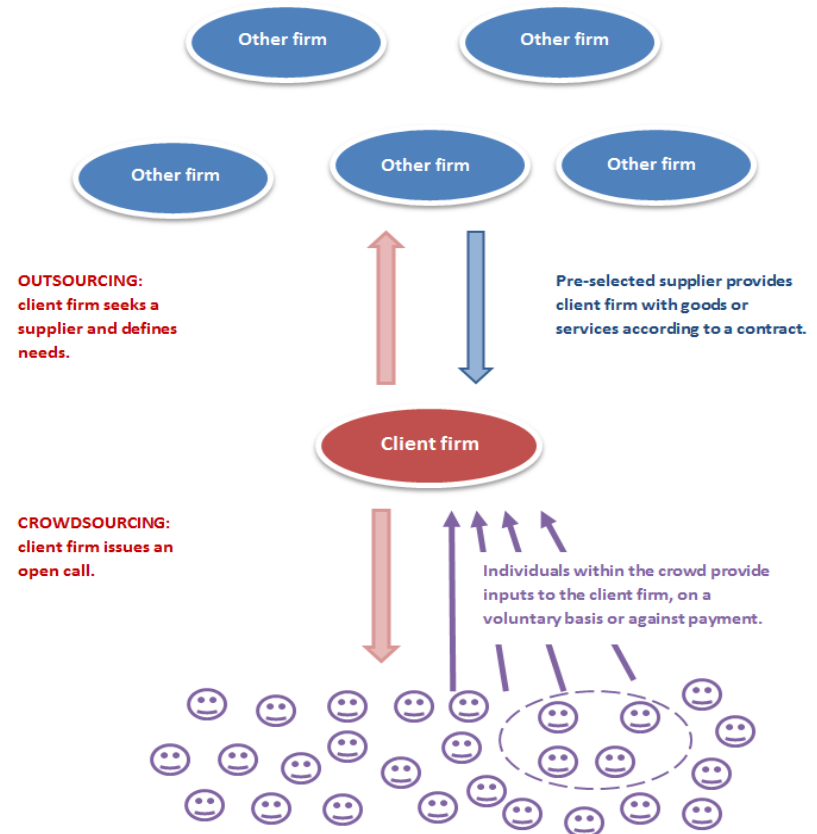
Crowdsourcing & outsourcing

Definitions for the term crowdsourcing (I)

☎ "Simply defined, crowdsourcing represents the act of a company or institution taking a function once performed by employees and outsourcing it to an undefined (and generally large) network of people in the form of an open call.
This can take the form of peer-production (*when the job is performed collaboratively*), but is also often undertaken by sole individuals.
The crucial prerequisite is the use of the open call format and the large network of potential laborers"

☎ An "*online, distributed problem-solving and production model*"

Definitions for the term crowdsourcing (II)

Crowdsourcing is a type of participative online activity in which an individual, an institution, a nonprofit organization, or company **proposes** to a group of individuals of varying knowledge, heterogeneity, via a flexible open call, **the voluntary undertaking of a task.**

The undertaking of the task, of variable complexity and modularity, *and in which the crowd should participate bringing their work, money, knowledge, and/or experience*, **always entails mutual benefit.**
The user will receive the satisfaction of a given type of need, be it economic, social recognition, self-esteem, or the development of individual skills,
while the crowdsourcer will obtain and utilize to their advantage what the user has brought to the venture, whose form will depend on the type of activity undertaken.

History

❑ In the 1700s, Louis XVI of France offered a cash bounty, the so-called **Alkali Prize**, to the public for a better method to produce alkali. Nicolas Leblanc came forward with a solution.

❑ In the late 19th century a professor at Oxford, James Murray, called on the public for volunteers to assist him in a large literary project. 70 years and hundreds of thousands of contributions later the first **Oxford English Dictionary** was completed. This project continues today and still is following a **crowdsourcing model.**

❑ **The first crowdsourced software was began in 1991 and completed in 1994.** This software was the operating system Linux 1.0. The project was began by a 21 year old Linus Torvalds with the following post to Usenet:
"I'm doing a (free) operating system (just a hobby, won't be big and professional like gnu) for 386(486) AT clones. This has been brewing since April, and is starting to get ready. I'd like any feedback on things people like/dislike in Minix...."

14 years after the completion of **Linux 1.0**, the revenues associated with the project total 30 billion euros. With its obvious economic benefits and global pool of volunteers, the **crowdsourcing software development** model has grown significantly in popularity.

The key ingredients of crowdsourcing

- ☎ An **organization** that has a task it needs to be performed
- ☎ a **community (crowd)** that is willing to perform the task voluntarily
- ☎ an **online environment** that allows the work to take place and the community to interact with the organization
- ☎ **mutual benefit** for the organization and the community.

How Crowdsourcing Works in 6 Easy Steps

Company has a problem	Company broadcasts the problem online	The online "crowd" submits solutions	The crowd & company vet solutions jointly	Company rewards winning solivers	Company & community profits
1	2	3	4	5	6

The interplay between the crowd and the organization is crucial for crowdsourcing, because it ensures a **mutually beneficial outcome** *that probably could not have existed without the cocreative efforts of both parties.*

Moving the Crowd

All individuals engaged in crowdsourcing are, *in some way*, motivated to participate, and understanding how and why crowds participate is necessary for designing effective crowdsourcing applications.

The motivation to participate in crowdsourcing is not very different from the motivation to participate in blogging, creating open - source software, posting videos to *YouTube,* contributing to *Wikipedia*.

Individuals who participate in crowdsourcing have the following motivations:

- ❖ to **earn** money,
- ❖ to **develop** creative skills,
- ❖ to **network** with other creative professionals,
- ❖ to **build** a portfolio for future employment,
- ❖ to **challenge** oneself to solve a tough problem,
- ❖ to **socialize** and make friends,
- ❖ to **pass** the time when bored,
- ❖ to **contribute** to a large project of common interest,
- ❖ to **share** with others, and
- ❖ to **have fun**.

Crowdsourcing types based on the kind of problems being solved (I)

❖ **the knowledge discovery and management approach**

Organization tasks a crowd with finding and collecting information into a common location and format ⟶ *Ideal for information gathering, organization, and reporting problems, such as the creation of collective resources.*

Example: Peer-to-Patent

At Peer-to-Patent, the crowd seeks out evidence of prior art via the Internet and submits it to the Peer-to-Patent site. Prior art is any evidence that a similar invention already exists and that would negate the originality of a patent application.

❖ **the broadcast search approach**

Organization tasks a crowd with solving empirical problems ⟶ *Ideal for ideation problems with empirically provable solutions, such as scientific problems.*

Example: InnoCentive.com.

Corporate research and development (R&D) for scientific problems is taking place in a crowdsourced way at InnoCentive.com.
InnoCentive enables scientists to receive professional recognition and financial award for solving R&D challenges, while it simultaneously enables companies to tap into the talents of a global scientific community for innovative solutions to tough R&D problems.

Crowdsourcing types based on the kind of problems being solved (II)

❖ **the peer-vetted creative production approach**

Organization tasks a crowd with creating and selecting creative ideas → *Ideal for ideation problems where solutions are matters of taste or market support, such as design or aesthetic problems.*

Example: *Threadless*

Threadless.com is a web-based t-shirt company that crowdsources the design process for their shirts through an ongoing online competition.

❖ **the distributed-human-intelligence tasking approach**

Organization tasks a crowd with analyzing large amounts of information → *Ideal for large-scale data analysis where human intelligence is more efficient or effective than computer analysis.*

Example: *Amazon's Mechanical Turk*

Amazon's Mechanical Turk service lets organizations farm out tasks to an online community of workers cheaply and efficiently, tapping into a workforce that provides language translations, survey responses, information gathering, and other tasks that humans are better qualified to perform than computers.

Importance of Security, Privacy and Data Protection in Crowdsourcing

❏ Contributors in any crowdsourcing initiatives would look for high level of privacy, security, anonymity and guarantee for data protection.

❏ Unfortunately, not all crowdsourcing platforms could provide the same and high level of security, privacy, personal data and sensitive personal data protection.

❏ These aspects attached are really vital in the context of securing contributors and also in terms of security information attached with a particular crowdsourcing platform.

Ethical Issues

Charges of **"click servitude", "digital slavery"** and **"crowdsploitation"** have been lodged against crowdsourcing operations by critics.

On the surface, crowdsourcing is an easy path to **fast and cheap labor.**

Crowdsourcing organizations **benefit from the work of crowds** without offering the kinds of **monetary rewards** that are the norm in traditional work arrangements.

Some claim that crowds **undercut the professional class**, undoing years of advocacy by professional associations to boost pay rates, protect workers, and establish ethical standards for professional work.

Advantages for the project company

- Ability to select the **best result from a variety of contributors.**
- Results are delivered in a **much more timely manner** than traditional methods.
- **Much cheaper alternative to hiring a dedicated professional**.
- Larger group is more likely to find bugs than a smaller group of testers.
- High amount of people ready to work at any time.

Disadvantages for the project company

- Because the task is completed by the public, the expected final product may lack the quality that could be expected from the professional.

- Constant management and guidance required to explain the direction and goal for completing the task.

- Because completed by contributors and is publicly available, the confidentiality of task may be compromised.

- Members of the crowd can leave or stop contributing at any time as no contract is involved.

- Cheaper labor means the potential of less credible product.

Conclusions

Crowdsourcing can be explained through a theory of crowd wisdom, an exercise of collective intelligence. We should remain critical of the model for what it might bring about to the **working conditions** and how it will affect the **user privacy**.

Crowdsourcing is not just another buzzword. It is **a model** capable **of aggregating talent**, **leveraging ingenuity** while **reducing the costs and time** formerly needed to solve problems.

Crowdsourcing **is enabled** only **through the technology of the web**, which is a creative mode of user interactivity, not merely a medium between messages and people.

It is the challenge of communication studies, science and technology studies, and other scholars to take up this new, hearty agenda for research.

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Thank you for your attention!

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