

# Crowdsourcing

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# Learning objectives

- Describe crowdsourcing with examples
- Explain the relationship between wisdom of crowds and crowdsourcing
- Explain the difference between wisdom of crowds and crowdsourcing
- Give examples of crowdsourcing
- Explain why crowdsourcing is possible and successful

# Crowdsourcing

- “The Act of taking a job traditionally performed by designated agent and outsourcing it to an undefined , generally large group of people in the form of an open call. “ Jeff Howe, WIRED, June 2006
- For example
  - You use the internet and computer software to contact individuals, offer them things to do, reward them, and collect the results of their work
- Made possible by technology
- Companies capitalize on a crowd’s excess capacity to design new products, review products, rate videos etc.
- Maps companies with needs to people with solutions to their needs
- Amazon’s Mechanical Turk (MTurk), Threadless, InnoCentive

# Crowdsourcing

- Uses technology to foster collaboration and meaningful exchanges between people across geographical locations
  - Also between companies and customers
- Companies are moving tech support functions to user forums where volunteers can help customers in need
  - Kodo Mobile <https://community.kodomobile.com/>

# Wisdom of crowds Vs Crowdsourcing

- The crowd is a crucial element of both concepts
- Both concepts are based on distributed systems
- Both benefit from diversity
- The key difference lies in the extent to which the crowds contributions are aggregated
  - In crowdsourcing, input of the crowd isn't necessarily aggregated into a final output
  - Wisdom of a crowd requires the aggregation of individual contributions into an output
- Focus of “wisdom of crowds” is increasing quality. Focus of “crowdsourcing” is increasing efficiency
  - The **quality (wisdom of crowds)** of the result or the **efficiency (crowdsourcing)** of the process leading up to it.
    - Not always the case

# Amazon Mechanical Turk

Access a global, on-demand, 24x7 workforce

Get started with Amazon Mechanical Turk

Amazon Mechanical Turk (MTurk) is a crowdsourcing marketplace that makes it easier for individuals and businesses to outsource their processes and jobs to a distributed workforce who can perform these tasks virtually. This could include anything from conducting simple data validation and research to more subjective tasks like survey participation, content moderation, and more. MTurk enables companies to harness the collective intelligence, skills, and insights from a global workforce to streamline business processes, augment data collection and analysis, and accelerate machine learning development.

While technology continues to improve, there are still many things that human beings can do much more effectively than computers, such as moderating content, performing data deduplication, or research. Traditionally, tasks like this have been accomplished by hiring a large temporary workforce, which is time consuming, expensive and difficult to scale, or have gone undone. Crowdsourcing is a good way to break down a manual, time-consuming project into smaller, more manageable tasks to be completed by distributed workers over the Internet (also known as 'microtasks').

## Benefits

Optimize efficiency

Increase flexibility

Reduce cost



Requesters have tasks they need to be completed



MTurk Marketplace



Workers want to earn money and work on interesting tasks

# Benefits

## Optimize efficiency

MTurk is well-suited to take on simple and repetitive tasks in your workflows which need to be handled manually. Using MTurk to outsource microtasks ensures that work gets done quickly, while freeing up time and resources for the company – so internal staff can focus on higher value activities.

## Increase flexibility

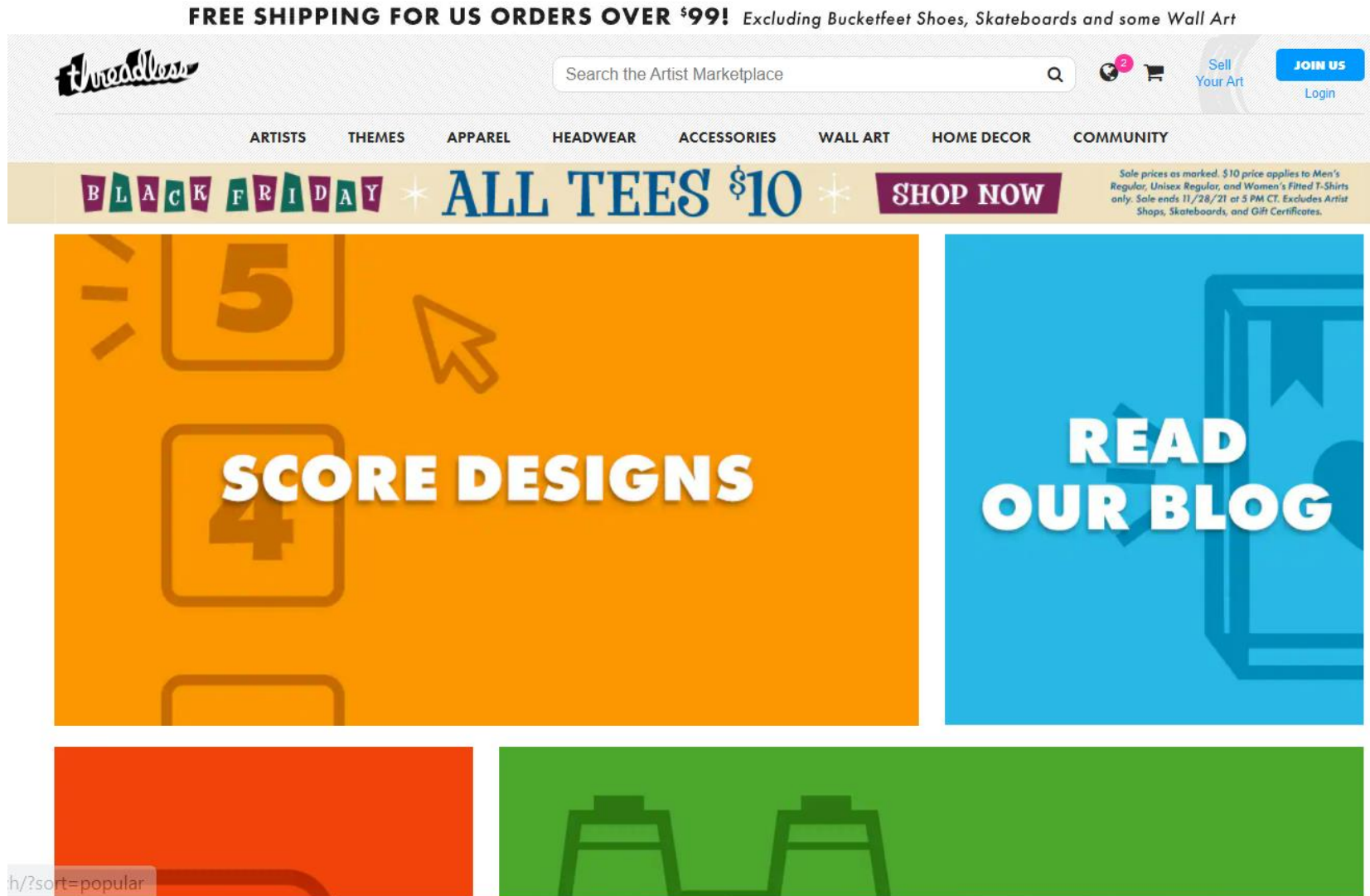
Scaling up and down a workforce isn't the easiest undertaking. With access to a global, on-demand, 24x7 workforce, MTurk enables businesses and organizations to get work done easily and quickly when they need it – without the difficulty associated with dynamically scaling your in-house workforce.

## Reduce cost

MTurk offers a way to effectively manage labor and overhead costs associated with hiring and managing a temporary workforce. By leveraging the skills of distributed Workers on a pay-per-task model, you can significantly lower costs while achieving results that might not have been possible with just a dedicated team.

Source: <https://www.mturk.com/>

# Threadless



Source:  
<https://www.threadless.com/designs/>



# InnoCentive

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Register as a Solver

## Solving some of the World's biggest problems

There are many types of people in the world and many types of problems that need solving. Since 2001, InnoCentive has helped global businesses, governments, public sector organisations and charities harness the power of a crowd. With over 500,000 Solvers tackling problems from facilitating access to clean water at a household level to passive solar devices designed to attract & kill malaria-carrying mosquitos InnoCentive has become the market leading Open Innovation organisation.

## Our origins

The idea for InnoCentive came to Alph Bingham and Aaron Schacht in 1998 while they worked together at the pharmaceutical giant Eli Lilly and Company. In 2005, InnoCentive was spun out of Eli Lilly.

Source: <https://www.innocentive.com/about-us/about/>

# Kiva



Lend ▼



Borrow

About ▼

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**Asunta**

A loan of \$1,950 helps to increase  
the income of more artisans for

## Make a loan, change a life.

With Kiva you can lend as little as \$25 and make a big change in someone's life.

[Find a borrower](#)

Source: <https://www.kiva.org/>

# GoFundMe

🔍 Search

For individuals ▾

For charities



How it works

Sign in

[Start a GoFundMe](#)



## 1. Start your fundraiser

- Set your fundraiser goal
- Tell your story
- Add a picture or video
- [Watch a video tutorial](#)



## 2. Share with friends

- Send emails
- Send text messages
- Share on social media
- [Watch a video tutorial](#)



## 3. Manage donations

- Accept donations
- Thank donors
- Withdraw funds

[Start a GoFundMe](#)

Source: <https://www.gofundme.com/>

# Others



- <https://ideas.lego.com/>



- “Do Us a Flavor” campaign



- <https://videodirect.amazon.com/home/landing>



- <https://www.istockphoto.com/>

# Crowdsourcing

- Why it is possible and successful
  - Contributors
  - Accessible tools
  - Online communities
  - Diversity
  - User-generated content

# Contributors don't have to be professionals

- Crowdsourcing attracts people with and without professional credentials
- Contributors are not always motivated by money
  - Some projects pay their contributors (iStock) while others do not (Wikipedia)
- Crowdsourcing capitalizes on our interests being more diverse than our formal training/education
  - Many people are performing tasks (and can perform tasks) they were not formally trained for
- Crowdsourcing has no regard for professional qualifications, same with nationality

# Increase in availability of tools of production

- Means of production have become accessible to consumers
  - Many open source and free to use software
  - Lots of user generated content that contributors can learn from
- Multiple cheap online venues to publish content
- Cost of creating content has decreased significantly over the years
  - Mobile phones have good cameras that non-professionals take advantage of
  - Decline in cost of recording equipment and software
- E.g., iPhoto feature that allows users to upload photos to iStock website using one click, uploading to platforms is easy
- Over time, technology has become cheaper, faster, smaller and easy to use

# Increase in online communities organized according to people's interests

- The **community** is the basic organizing force behind crowdsourcing
- Online communities don't form along geographical lines
- People are creating online communities that perform the same functions as "offline" social communities
- Availability of personal computers and the internet made forming of online communities possible
- Almost every interest has an online community
  - Sewing, moms, dads, programing, data science, job search



# Increase in online communities organized according to people's interests

- Many readers have turned to writers
  - Blogs. Social media, Medium, Blogger
- Newspapers now provide the opportunity for a 2-way conversation between paper and readers – comment section
- Motivation to participate in crowdsourcing can be intrinsic – e.g. Wikipedia or extrinsic – e.g. Amazon Mechanical Turk
- Online communities are often moderated to ensure quality – Amazon Mechanical Turk

# Diversity

- Individuals possess knowledge that others find valuable
  - Crowdsourcing makes a connection between the two
- Collective intelligence works better – group cognition
- Collective intelligence should be diverse too
- Diversity can be based on ideas, knowledge level, culture, skills etc.
- Diversity will only help if the crowd/group has some pre-existing knowledge

# User-generated content

- Crowdsourcing creates user-generated content
- This gives companies multiple cheaper options
  - Buying photos from iStock instead of hiring a professional photographer
  - Getting idea to solve specific problems instead of appointing “Experts” – OpenIdeo (<https://www.openideo.com/challenges>)
- Other users also benefit from the content
  - Solutions of problems posted online
  - People can shop for products on Threadless
- Crowd creates content, crowd is in charge
- Rule of participatory media (by Bradley Horowitz, VP at Yahoo)
  - 1:10:89
  - For every 100 people on a given site, 1 will actually create something, another 10 will vote on it and 89 will consume the creation (e.g. reading a review)

# Issues in crowdsourcing

- Labour and the status of creative professionals
- Quality of work
- Legal issues
- Intellectual property and copyright issues
- Ethical issues
  - Critics of crowdsourcing have accused crowdsourcing organizations of “click servitude,” “digital slavery,” and “crowdsplotation”(exploiting crowds) (Brabham, 2013)

# Summary

- Crowdsourcing
- Crowdsourcing Vs Wisdom of crowds
- Examples of crowdsourcing
- Why crowdsourcing is possible and successful
- Issues in crowdsourcing

# References

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- Lecture notes. Prof. Julita Vassileva