

Crowd-Sourcing Capsulation by Information Technology: A Survey

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ABSTRACT: Crowdsourcing is the process of getting work or funding, usually online, from a crowd of people. The word is a combination of the words 'crowd' and 'outsourcing'. The idea is to take work and outsource it to a crowd of workers.

Famous Example: Wikipedia. Instead of Wikipedia creating an encyclopedia on their own, hiring writers and editors, they gave a crowd the ability to create the information on their own. The result? The most comprehensive encyclopedia this world has ever seen.

Crowdsourcing & Quality: The principle of crowdsourcing is that more heads are better than one. By canvassing a large crowd of people for ideas, skills, or participation, the quality of content and idea generation will be superior.

Crowdfunding is a way of raising finance by asking a large number of people each for a small amount of money. Until recently, financing a business, project or venture involved asking a few people for large sums of money. Crowdfunding switches this idea around, using the internet to talk to thousands – if not millions – of potential funders. Typically, those seeking funds will set up a profile of their project on a website such as those run by our members. They can then use social media, alongside traditional networks of friends, family and work acquaintances, to raise money. There are three different types of crowdfunding: donation, debt and equity.

KEYWORDS: Crowd-sourcing, Crowd-funding, Crowd-testing, Digital India, apps.

I. INTRODUCTION

The concept of crowdsourcing has been around for a long time now. Crowdsourcing is the process of getting work or funding, usually online, from a crowd of people. The word is a combination of the words 'crowd' and 'outsourcing'. The idea is to take work and outsource it to a crowd of workers. Picture the very image of our currency, it was a result of extensive crowdsourcing campaign done by the Indian government. With the advent of digital media, crowdsourcing is one of the fastest and the most effective ways for brands to reach out to relevant audiences.

Take an Example of Wikipedia. Instead of Wikipedia creating an encyclopedia on their own, hiring writers and editors, they gave a crowd the ability to create the information on their own. The most comprehensive encyclopedia this world has ever seen.

The principle of crowdsourcing is that more heads are better than one. By canvassing a large crowd of people for ideas, skills, or participation, the quality of content and idea generation will be superior.

Companies such as Mahindra, HUL, Toyota, Airtel, Ricoh are the few companies that are regularly investing in crowdsourcing initiatives in India. Brands are using crowdsourcing for various purposes from product development and packaging to brand communication and engagement[1].

The first online crowdfunded project is thought to have occurred in 1997. Rock band Marillion were unable to afford to tour after the release of their seventh album so American fans used the then fledgling internet to raise \$60,000 so they could play in the US. Although the band wasn't involved in the first round of fundraising, they have since used the same techniques to successfully fund the production of their following three albums. Other creative projects soon followed suit, such as films and journalism, and the first crowdfunding website appeared in 2001. In 2012, there were over 500 crowdfunding platforms online and February of that year saw the first crowdfunded project raise over £1,000,000 [2].

“Every application that is being built needs to be deployed on different hardware and software platforms. Therefore, it becomes very difficult to determine in a testing lab, whether an app is working fine and hence comes the

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need for crowdtesting. One of the many advantages that a crowd can provide is scalability,” said Mayank Mittal, director and country head, PassBrains.

The only dark side of this fairytale is the security angle. Security still seems to pose a great challenge to the acceptance of crowdsourcing in India. The very fact that one has to outsource an app to unknown people can send shivers down a CIO’s spine.

Paper is organized as follows. Section II describes related work i.e. literature review. Section III describe about the types of crowd-sourcing. Section IV discuss about application of crowd-sourcing in government sector. Section V presents some funding agencies and sources in tabulation form. Finally, Section VI presents conclusion.

II. RELATED WORK

DARPA (US Government) is using crowdsourcing for new Spy Drone designs whereas Netflix has used crowdsourcing consistently even to caption its video library, and scientists are using it to understand earthquake patterns, etc. Design seems to be one of the most popular routes to engage with consumers. Happydent, Kurkure have crowdsourced product design, Vodafone sourced the jersey and cap design for IPL finals, and Opium eye wear crowdsourced a sunglass design. The concept of crowdsourcing has been around for a long time now. Picture the very image of our currency, it was a result of extensive crowdsourcing campaign done by the Indian government.

Today, testing an application accurately has become more critical for a company’s reputation than never before and this has resulted in companies waking up to the need of crowdsourcing and crowdtesting. For instance, owing to different screen sizes of phones and varying processing powers, every mobile phone today reacts differently to an application. Crowdsourcing addresses this challenge and ensures that an app is rightly tested on different platforms. The reach of crowdsourcing extends far and wide and is gaining traction. A recent Gartner report said, “By 2017, over half of consumer goods’ manufacturers will achieve 75 per cent of their consumer innovation and R&D capabilities via crowd-sourcing.”

Indian market is a door to the global market. Large IT companies are willing to use crowdsourcing because things like field testing, testing apps in real-world conditions etc. are not possible inside a lab. So crowdsourcing becomes a good solution [3].

Alec Lynch is the founder and CEO of DesignCrowd , an Australia-based design crowdsourcing service that recently launched in India, Singapore, and the Philippines. Follow him on Twitter @aleclynch [4] [5]. When most people think of crowdsourcing, they think of websites like iStockphoto, Mechanical Turk, Threadless, or Wikipedia. Others might think of Greenpeace crowdsourcing Shell Oil ad ideas or Marissa Mayer crowdsourcing her baby’s name. Some might even think of Lil Wayne’s crowdsourced collaboration with Mountain Dew (“DEWeezy”) [6].

5 things about crowdsourcing in Asia, illustrating the secret crowdsourcing boom unfolding in the continent is as follows.

i. A Chinese Crowdsourcing Site Is The Biggest ‘Employer’ In The World:

Chinese-language outsourcing/crowdsourcing service Zhubajie, which uses a similar model as Elance.com’s, claims to have 7.6 million workers. If this is true, it would mean that Zhubajie, despite having a cartoon pig as its mascot, is the largest online outsourcing/crowdsourcing site in the world by some margin, having more “workers” than Freelancer.com (6.5 million users) and Elance.com (2 million users) combined. Zhubajie’s might even be the largest employer in the world, as it has more workers than the U.S. Department of Defense, which has 3.2 million employees.

ii. Indian Crowdsourcing Power Users Earn 40 Times Than The Average American:

English-speaking crowdsourcing sites tend to be dominated by power users from India. For example, more than half of the top 25 earners on Elance.com are from India. The top three Indian users on Elance have taken home \$17 million in total and more than \$4 million in the last 12 months. At an average of more than \$1 million each in the last year, these Indian power users took home more than 40 times the the median salary of an American worker.

Other countries from Asia and Eastern Europe also have large user bases frequenting crowdsourcing sites. But India is clearly the “King of Crowdsourcing”.

iii. Crowdsourcing In Asia Is About To Quadruple:

Here’s the exciting part: Asia is just warming up. The use of crowdsourcing in the continent will quadruple in the next five years.

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iv. Australia Has Become a Global Crowdsourcing Hub:

Australia (part of the Asia Pacific or “Australasia” region), which is normally noted for its beaches, boxing kangaroos and made-up words like “crikey,” has become a global hub for crowdsourcing. In fact, crowdsourcing Down Under is on fire, with websites consistently punching above their weight and assuming market leadership in multiple crowdsourcing verticals.

v. A Space Crowdsourcing Race Has Begun:

While the main game for crowdsourcing services continues to be the disruption of traditional industries, such as the graphic design or photography industries, an interesting sub-plot is the race among crowdsourcing sites for Asia. Shutterstock and iStockphoto have launched Japanese, Chinese, and Korean versions of their sites. Last month, one launched DesignCrowd in India, Singapore, and the Philippines [7].

III. TYPES AND DESCRIPTION OF CROWDSOURCING

Following is the short description of types of Crowdsourcing in tabulation form [8].

Sr.No.	Types of Crowdsourcing	Description	Example	Result
1.	Crowdsourcing Design	If you're looking for a logo design, you can tell a crowd of designers what you want, how much you will pay, and your deadline. All interested designers will create a finished design specifically according costumers.	logo Designers, furniture, fashion, advertisements, video, & product designers	Increases the quality & decreases the price, compared to online freelancing.
2.	Crowdfunding	It involves asking a crowd of people to donate money to the project & start-ups to raise money for projects.	It is mostly used by artists, charities, such as filming a documentary, manufacturing an iPod watch, cancer research, or seed money.	You must raise 100% of your goal before the deadline. It is also possible the donations are returned to the donors.
3.	Microtasks	It involves breaking work up into tiny tasks and sending the work to a crowd of people. If you have 1,000 photos on your website that need captions, you can ask 1,000 individual people to each add a caption to one photo. Break up the work and decide the payment for each completed task (typically .01¢ – .10¢ per task).	It involve tasks such as scanning images, proofreading, database correction and transcribing audio files.	With this type you can expect to see results within minutes. Work is done faster, cheaper, and usually with less errors.
4.	Open Innovation	If you are unsure of where to begin with an idea for a business opportunity, whether it's product design or perhaps a marketing firm. Open innovation allows people from all aspects of business such as investors, designers, and marketers to collaborate into a functional profit making reality.	Business beginners can be done either through a dedicated web platform to gain outside perspective, or used with only internal employees.	Open innovation brings together people from different parts of the world and different sectors of business to work together on a project. This is effectively a collection of different fields and levels of expertise that would not otherwise be available to any budding entrepreneur.

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IV. GOVERNMENT'S ADOPTION OF CROWD SOURCING

In the first quarter of this year, the central government kick-started an ambitious Digital India initiative, which includes digital infrastructure, digital literacy and delivery of service digitally. First major goal of this initiation is to connect 2,50,000 more villages with high-speed internet networks so that rural people get access to information like their urban peers. In that order, it has begun a massive project to install fiber optics lines that will run through the length and breadth of the country. This project is slated to be completed in 2019.

As part of digital literacy initiative, the government has chalked out plans to inculcate computer knowledge to the poor and rural people. The third major goal delivery of digital service has already begun with the release feature-rich Smartphone apps to bring in basic services right into the hands of the citizens via e-governance.

There are over hundreds of government initiated apps for Android, Apple and Windows devices. With Narendra Modi's Digital India initiative, the government has released several new feature-rich Smartphone applications [9].

1. *myGov (MyGovIndia):*

This feature-rich app is a product of government's initiative to crowd-source ideas from the common citizens. Users can send their opinions (or suggestions) to Central Ministries and associated organisations to improve government services or bring in new initiation for the betterment of the society as a whole.

2. *Swachh Bharat Abhiyaan –*

It will give details on the government's cleanliness drive programmes and also enables users to ask friends to join welfare groups to clean local streets and premises. Earlier this year, a group of young Indian girls pitched an idea for a mobile marketplace for waste inspired by this app.

3. *Narendra Modi:*

Released on June 17, 2015, this app connects user directly with the prime ministers himself. User can follow Modi's progress as he posts live updates of this work, read his blog and even earn badges by doing small tasks.

4. *IRCTC:*

Say goodbye to the days of sitting and growling at the IRCTC website. With one-step login for existing users, journey, saved passenger details and cancelling tickets, the app has made train reservations much easier.

5. *MEAIndia (Ministry of External Affairs):*

An app which works as a single window to the Ministry of External Affairs of the country, it is an user oriented app targeted towards Indians overseas.

6. *mPassport Seva:*

Also released by the ministry of External affairs, this app aims at providing all passport related information and services to citizens. User can also track the progress of your passport application and other details.

7. *Incredible India:*

Released by the Ministry of Tourism, it is a user driven app containing information for domestic and international tourists. With information from recognized service providers like travel agents, tour operators and guides readily available, the app also has tips regarded which areas to visit at a particular location.

8. *Honorable Mention- RTI India:*

Although **not an official government app**, it is a very useful app for RTI activists and already has about 4,00,000 users. People can read blogs on RTI get instant help on your RTI and also upload images and videos related to RTIs using your phone's camera.

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V. FUNDING SOURCES / AGENCIES OF CROWD-SOURCING

As crowdfunding accelerates at an unprecedented rate, it's impacting government policy, informing enterprise innovation and changing the role of financial institutions around the world. Today the research firm Massolution which specializes in the crowdsourcing and crowdfunding industries released its annual 2015 CF – Crowdfunding Industry Report. After collecting data on 1,250 active crowdfunding platforms (CFPs) worldwide and undertaking significant further research, the results reveal that CFPs raised funds as follows [10][11].

Years	CFPs raised funds
2013	\$6.1 billion
2014	\$16.2 billion
2015	\$34.4 Billion

Report Forecasts Total Global Crowdfunding to Reach \$34.4 Billion in 2015.

North America Remaining the Largest Market and Asia, Outpacing Europe in 2014, in Second Place.

Crowdfunding sites in India - Opportunities and facts					
	CATEGORY	FUNDSRAISED SO FAR	UPFRONT LISTING FEE	SITE FEE	PAYMENT PROCESSING FEE
BITGIVING	Social Causes	35 Lacs INR *	FREE	???	???
MILAAP	Social Causes	4.18 Million USD as Loan disbursed	FREE	Their website says that 100% amount is disbursed to borrowers	???
KETTO.ORG	ALL	4 Crores INR	FREE	5%	5%
START51	ALL	INR 16,95,062	FREE	5%	???
FUNDDREAMSINDIA	ALL	???	FREE	5%	3.95%
WISHBERRY.IN	ALL	4.5 Crores INR	Rs.2500 plus taxes	10% (includes Payment processing)	NA
CATAPULT	ALL	75 Lacs+ INR	Rs. 1499	Standard – 10% Premium – 15% Advanced – 15% plus	???

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Top 10 Crowdfunding sites:

This list is based on independent traffic data found on Alexa & Compete [12].

Rank	Crowdfunding Site	2014 Volume	US Alexa Rank	Fee	Important to Know...
1	gofundme	\$470M	288	5%	Over \$1 Billion raised for personal fundraisers. Processing fee of 2.9% + \$0.30 applies.
2	kickstarter	\$444M	212	5%	Personal fundraising not allowed. creative only. Processing fees of between 3-5% apply.
3	indiegogo	---	759	5%	3% processing fees. \$25 fee for International wire.
Rank	Crowdfunding Site	US Alexa Rank	Compete Rank	Fee	Important to Know...
4	teespring	1119	823	10%+	T-shirt crowd-funding site. Fees vary based on t-shirts selected for sale.
5	patreon	1386	2378	5%	Must pledge an on-going amount. Creative projects only. Additional processing fee of 4%.
6	YouCaring.com	3342	2110	5%	5% free is suggested to campaign donor. Processing fee of 2.9% + \$0.30 applies.
7	crowdrise	3621	4703	5%	Free accounts charge 5%, paid accounts are 3%. Processing fee of 2.9% + \$0.30 applies.
8	DonorsChoose.org	4139	6467	15%	Optional 15% fee to support DonorsChoose.org. Donation is 100% tax-deductible.
9	KIVA	6322	5946	15%	5% fee is suggested to campaign micro-lenders. Processing fee of 2.9% + \$0.30 applies.
10	Giveforward	10147	4169	5%	5% fee is charged to campaign creators. Processing fee of 2.9%+\$0.50 per transaction applies.

VI. CONCLUSION

Crowdsourcing's biggest benefit is the ability to receive better quality results, since several people offer their best ideas, skills, & support. Crowdsourcing allows you to select the best result from a sea of 'best entries,' as opposed to receiving the best entry from a single provider. Results can be delivered much quicker than traditional methods, since crowdsourcing is a form of freelancing. You can get a finished video within a month, a finished design or idea within a week, and microtasks appear within minutes.

Clear instructions are essential in crowdsourcing. You could potentially be searching through thousands of possible ideas, which can be painstaking or even complicated, if the instructions are not clearly understood. Some forms of crowdsourcing do involve spec work, which some people are against. Quality can be difficult to judge if proper expectations are not clearly stated.

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“There are a lot of places where the process of crowdsourcing can fall off. People may not turn up or instructions may not be passed off properly. But a managed crowd can be a remedy here. The biggest concern that people have when it comes to crowdsourcing is that unknown people are involved in the process of testing,” said Mittal. But with appropriate solutions, crowdsourcing can work wonders. There are ways by which crowdsourcing can be made more secure in order to ensure that an application does not reach wrong hands.

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