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Title of the Paper/s.....Crowd Sourcing- Concepts, Advantages, Applications,.....
.....Challenges and Future Work in Government of India.....
.....

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ABSTRACT: It's a brave new World, indeed! Data flies around the World at the speed of light and exchanging information and rapid ideas are wise for any enterprise that wants to remain competitive. In the following literature intension is to elaborate it in a palpable fashion. It commences with the concept of the subject in itself along with its properties. The comprehensive study further goes on to elucidate the applications of Crowdsourcing in all diverse aspects of economy and being. The challenges that are hindering the growth of Crowdsourcing are accounted for in depth in the paper. This paper argues that the Crowdsourcing model, a successful, Web-based, distributed problem solving and production model for Business, Economies, Societies, Politics and Nations, is an appropriate model for enabling organizations in their processes.

Keywords: Crowdsourcing, Crowd Funding, Turker

I: CONCEPTS

"For the many, of whom each individual is but an ordinary person, when they meet together may very likely be better than the few good, if regarded not individually but collectively, just as a feast to which many contribute is better

than a dinner provided out of a single purse." — Aristotle, Politics, Book III

Howe (2006) creator of Crowdsourcing defines: "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".

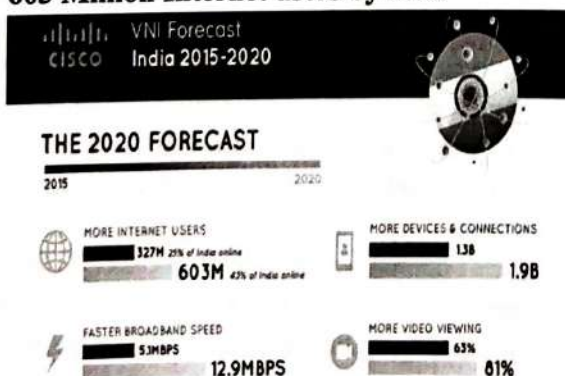
Crowdsourcing – the umbrella term for a variety of approaches that harness the time, expertise and resources of large crowds of online people, rather than from traditional employees or suppliers. Crowdsourcing offers a way for enterprises to find new solutions and to offer otherwise frustrated and nomadic employees a greater diversity of work. It's also creating new opportunities for individuals to change the way they work, learn new skills and earn rewards wherever they are, even in remote corners of the planet. Open innovation can help companies tackle complex business problems that they can't solve on their own. In some cases, the barrier is a lack of expertise; in others, it's cost.

Diversity Trumps Ability Theorem[4] proved by professor at University of Michigan, Scott E. Page, who

proved his Diversity Trumps Ability in 2007 and his book titled *The Difference: How the Power of Diversity Creates Better Groups, Firms, Schools and Societies*. The author uses mathematical modeling and case studies to show how variety in staffing produces organizational strength and more efficient solutions. The research revealed—diverse groups of people bring to organizations more and different ways of seeing a problem and, thus, faster/better ways of solving it. The essence of this theorem is **“A randomly selected collection of problem solvers outperforms a collection of the best individual problem”**.

“By 2018, Crowdsourcing will constitute 20% of all enterprise application development sourcing initiatives.” – Gartner

603 Million Internet users by 2020



The internet is the engine of the modern-day CrowdSourcing platform. It provides both a broadcast mechanism for

organizations to set or announce challenges and a network for connecting people and their diverse ideas, skill sets and knowledge. The number of internet users in World is growing exponentially. "With over 3,424,971,237 internet users, India is the second largest online market, ranked only behind China. By 2021, there will be about 635.8 million internet users in India[1] . Mobile access to the internet is also growing, with 52.7 per cent of the global mobile phone population accessing the internet from their mobile phone in 2015. This number is expected to reach 63.4 per cent by 2020, which means that mobile phones will be the most popular way for people to access the internet within three years. One of the principal benefits of greater online connectivity is improved access to and provision of education – particularly in developing economies and currently impoverished nations.

Growing labor forces in India and China, democratic an expansion that allows more individual choice, lower friction in work moving across the globe in milliseconds instead of months, and more interconnected people and problems — all drive the need for more than just subtle shifts in collaboration and creation.

The main idea of Crowdsourcing is to help for society in reaching positive goals. In a world changing so quickly, **new models** for work will and must emerge.

II: ADVANTAGES

1. The ability to reach and engage a broader intelligence pool with broader set of mind organizations can develop something new and very exciting for the whole community.
2. The cutting edge where technology like "the cloud" and virtual goods themselves are invented, constructed, and consumed must be a leader in this change.
3. Open innovation platforms cumulatively revolutionize the organization.
4. Calling for crowd sourced ideas, information, opinions and analyses has emerged as a viable and enriched resource of enterprise-data.
5. Crowdsourcing
 - For Silicon Valley start-ups launching a big data platform, the best way to reduce expenses is to pay remote workers so that they can distributes tasks to people who have internet access anywhere in the world.
 - Adds more reliability and accuracy in Big Data Analytics and also reveal hidden insights into big data information spread out in various but connected sources, manages big data and helps in reducing 25% time of Data Scientists spent for structuring unstructured datasets.
 - Has eased the process of performing tasks that are hard to crack for computers including audio transcriptions, sentiment analysis, document summaries, document editing, entity resolution and image

annotation.

6. Disruption of traditional labor models and resulting in higher quality end results.

Crowdsourcing brings the necessary diversity into the co-creation process.

III: BIGGEST CHALLENGES & ISSUES

1. **Defining problems:** By the source "Solving Problems Through Open Innovation." It's often better to divide the problem into smaller chunks where problem solvers can come up with a solution that would demand fewer resources[12].
2. **Validation is the critical step:** Validation is the only way to know whether one part of a problem has been solved and that is ready to proceed to the next step then integrated into the ultimate solution, and the issue is redefined to explore another component. The process can be repeated until the entire desired solution is achieved.
3. **Detail document ready:** Crowdsourcing doesn't allow continuous discussions & hence it is better to share as much information as possible.
4. **Lack of Credibility:** There is no established national minimum standard to ensure quality level of local crowdsourcing platforms, which reduce credibility of local platforms in local and international markets.

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Certification program for Crowdsourcing platforms have yet to be created.

5. **Lack of Skilled/ Experienced Talents:** Designing multi sourcing platform requires specific skills and experience. There is a lack of skilled/ experienced talents for platform operators to support growth of local platforms.

6. **Weak Payment Mechanism:** A better payment mechanism is needed to ensure guaranteed payment to crowd workers for completed tasks.

7. **Cyber Psychological Issue:** Possibility of cybercrimes in cyber transactions such as those in Crowdsourcing activities has instilled reservation among potential job providers and crowd workers from joining the industry.

8. **Lack of Auto Matching Mechanism:** There is lack of auto mechanism to match the tasks in the platforms with the most suitable crowd workers available which can be a barrier for job provider to crowd source the internal task to crowd workers.

Despite the challenges though, Crowdsourcing as a concept appeals too many entrepreneurs and companies; especially start-ups and small companies that might not always have the necessary resources to hire new people or teams or agencies.

IV: APPLICATIONS:

1. **Customer Co-Creation** – A partnership between an organization and group of customers, to jointly produce a mutually valued outcome while encouraging a more active involvement from the customer to create a value rich experience e.g. Lego, Mindstorms, Threadless,

2. **Crowd Tasks and Creativity** – The effort of obtaining requested labor, services, solutions, ideas, or content by soliciting contributions from groups of people, typically online and geographically dispersed e.g. Amazon Mechanical Turk, Crowdspring, Freelancer

3. **Mass Collaboration** – a form of collective action that occurs when large numbers of people work independently on a single project, often modular in nature, that produce shared understandings and outputs e.g. Wikipedia.

4. **Open Innovation** – use of inflows and outflows of knowledge to accelerate innovation inside organizations, and expand markets for external applications, through more permeable, open organizational boundaries and combining the organization's resources with external co-operators e. Nine Sigma, OpenIDEO.

5. **Crowd Intelligence** – the shared or group intelligence and insight that emerges from the collaboration, collective efforts, and/or competition of many individuals e.g. Netflix, Quora.

6. **Civic Engagement** – digitally-connected platforms and activities to help

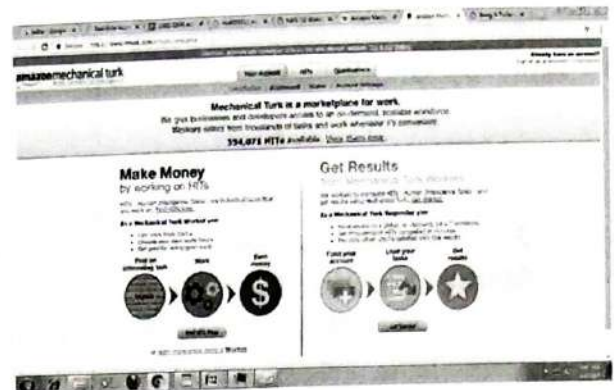
inform, organize, empower and mobilize users, communities, national, regional and global movements e.g. Code for America, MyGov.

V: CASE STUDIES

Crowdsourcing is driving innovation in technology organizations around the globe. Here are a few well-known case studies of technology Crowdsourcing in action, demonstrating the impact that it can make in an organization.

1. BHIM: BHIM – Bharat Interface for Money – a tool that can be a one-stop solution for all digital payments. Now, with more than 1.8 crore people having downloaded the app, the Government of India has launched two exciting new offers to reward BHIM users.

2. Amazon Mechanical Turk (MTurk)[10]: Crowdsourcing Internet marketplace enabling individuals and businesses (Requesters) to coordinate the use of human intelligence to perform tasks that computers are currently unable to do. Employers are able to post jobs known as Human Intelligence Tasks (HITs). Workers (*Providers/Turkers*) can then browse among existing jobs and complete them in exchange for a monetary payment set by the employer.



3. Google Maps Google: Google Maps has decided to address these concerns by turning all of its one billion plus users into editors. A single user can report a change, and after enough users verify a change, it goes live. This change will not only allow users to feel empowered and increase the power of the Google Maps product, but it will save Google untold hours and millions of dollars in reviewing and editing change requests in house.

Proposed System[9]:

The goal of the proposed system is to make Citizen Engagement an integral part of Planning and implementation.

The key components of a proposed system are as follows:

1. Public Consultation

Proposed System should enable continuous, sustained and multi-faceted engagement between Organization and the users on issues of Organization policy and program implementation. Consultation should have structured framework through pre-defined questionnaire.

2. Discussion Groups

The Platform provides for multiple parallel online discussion forums for concurrent subject specific discussions on Organization issues.

3. Crowd Sourcing (Task Management)

Organization should define specific tasks to be performed by users, each task to be assigned certain credit hours, well-defined timelines for execution and periodically announce Credit based incentives. Status updates of "Task Completed" would include completion and success parameters such as results of peer review / audit and organization's response.

4. Contests Management

To ensure sustained user motivation and engagement, the platform will provide for organizing contests sponsored by Organization and user organizations for executing various tasks with prizes / awards / letters of appreciation for winners and participants.

5. Blogs, Newsletter, Social Media Presence

To promote the use of platform & encourage users to join the platform, both online & offline promotional events should be organized.

1. Swatch Bharath mission : Since it is an ongoing process, Technology can be an enabler in this process by providing tools, processes, and structures to make cleanliness and sanitation achievable and sustainable.

2. E-Governance: The Indian national government in coming years it intends to make available much of its data to the people. Since India still lacks automation of processes at all levels of government which has led many e-governance initiatives. Mobile Crowdsourcing can resolve the above problem by work opportunities with willing people and providing job seekers with added flexibility and ability.

Citizens can provide details on Job Creation, Clean Ganga, Digital India, Skill Development, Clean India, Green India, and Girl Child Education . One can also provide their skills in Research & Analysis, Policy Planning and Field Surveys among others[19].

For instance, the Digital India group lists topics like *"With mobile and e-banking becoming common in urban India, how can we take similar services to rural India using similar technologies?"*

3. Universal Basic Income[6]

UBI is a "powerful idea" and would be more effective at combating poverty than existing state benefits, according to the country's 2016-2017 Economic Survey. Under UBI scheme the government would

provide minimum cash to poor people to meet their basic needs. With a single stroke of pen, the Indian Government would be able to counter corruption, plug loopholes in social welfare measures and ensure that benefit reaches the targeted audience. The survey expects the UBI to cost between 4 and 5 per cent of GDP[11], which is almost equal to the amount that the government spends on explicit subsidies. But it would cut absolute poverty from 22% to less than 0.5%. With all these precautions, time has come for out of box thinking and implementing schemes like the UBI scheme in India using CrowdSourcing.

VII: CONCLUSION

In the last several years, Crowdsourcing has emerged as a popular financing, visioning, production, and governance tool. Crowdsourcing, if used properly, requires far more effort than most Organizations put in. To get the best output we need to spend time and effort to drive it in right direction. With a burgeoning middle-class population in World, the capital formation power of Crowdsourcing can provide competitive edge to Government that can use this tool for their advantage. But time is not far when it will become an alternative channel for various Organizations for sourcing the knowledge, expertise, time and resources of a predefined crowd.

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