

The Unsupported Crowd: Exclusion of Indian Workers in Amazon Mechanical Turk Communities

Kristy "spamgirl" Milland

McMaster University

Toronto, Canada

millandk@mcmaster.ca

ABSTRACT

Amazon Mechanical Turk ("mTurk") has become popular among researchers in recent years, but few have considered how mTurk affects its most socioeconomically vulnerable users. New workers often find themselves lost on mTurk, which is a labour platform like no job they have experienced before. It is fiercely competitive but unregulated. Without help from offsite communities and tools, many prospective workers quit mTurk before their first task is approved. Indian "Turkers" are at an additional disadvantage because language differences and stereotypes prevent them from accessing community resources they need to succeed. This paper presents quantitative data about participation of Indian Turkers in offsite worker communities and interviews with one Indian Turker who has overcome these obstacles to become successful. The paper adds to the growing body of research on the lived experiences of crowd workers. Specifically, it contributes an exploration of the dynamics and consequences of exclusion in online worker communities.

Author Keywords

Crowd work; Amazon Mechanical Turk; worker communities; inequality, inclusion and exclusion; mutual aid.

INTRODUCTION

Amazon Mechanical Turk ("mTurk") is an online platform where employers, called requesters, post piecemeal work, and workers, many of whom call themselves "Turkers," complete that work for pay. Turkers collect in online communities, such as forums and Facebook groups, to share information about Turking—information which helps some of them earn a living wage (e.g., Martin, Hanrahan, O'Neill, & Gupta, 2014a). MTurk has been widely adopted and celebrated in academic research, both in computing (see Heer & Bostock, 2010, and Kittur, Chi, & Suh, 2008 for widely-cited methods papers) and social science (e.g., Paolacci & Chandler, 2014; Paolacci, Chandler, & Ipeirotis, 2010). While early research focused on how to most effectively use mTurk as a resource, in the last few years more focus has landed on the ethical considerations involved in using the platform—how, for example, workers are being used as research subjects and whether their treatment is fair (e.g., Busarovs, 2013; Fort, Adda, & Cohen, 2011; Gupta, Martin, Hanrahan, & O'Neill, 2014; Kingsley, Gray, & Suri, 2014; Martin et al., 2014a). There is as yet little research on how workers actually work. To my knowledge the only studies thus far that bring worker

communities into the frame are those by Martin et al. (2014a) and Gupta et al. (2014). (Though these studies have different first authors, they are by the same team.) And the makeup of these communities—and how they include or exclude members based on characteristics such as gender, age, or nationality—has not been studied at all, despite a large body of research on inclusion and exclusion in voluntary online communities such as Wikipedia and others (e.g., Collier & Bear, 2012; Forte et al., 2012; Geiger & Ribes, 2010; Gelley, 2013; Lampe & Johnston, 2005).

Contributions

This paper presents three empirical findings at the intersection of two topics of interest: the lived experiences of crowd workers and the dynamics and consequences of exclusion in online communities. The remainder of this section summarizes these findings.

First, online worker communities are vitally important to crowd workers. The communities include a dozen forums and websites which offer information on tasks that are worth doing, requesters to avoid, scripts and tools to aid in day to day Turking tasks, and social support for when the work becomes frustrating or real-life disaster occurs. To put it broadly, Turkers *learn how to Turk* in communities. Community membership remains valuable once a Turker is an expert: community members share real time information about good tasks—information crucial to a Turker's financial success. Perhaps equally importantly, they offer social and sometimes even financial support in hard times, and provide a stimulating social context for what might otherwise be dry, difficult, lonely work. Without the support of other workers, it becomes extremely difficult to make Turking a viable job, as it increases the amount of effort it takes to find and complete tasks all by oneself.

Second, racialized workers can encounter consequential discrimination. Indian Turkers specifically may meet with stereotypes, linguistic and cultural barriers, and a lack of inclusion efforts. These hurdles are then used against them: fellow workers post about their shortcomings, Amazon has prevented or made it difficult for Indian workers to open new accounts since July 2012, and requesters publicly state that Indian workers do substandard work. The struggles encountered by "developing world" workers to work around technological complications such as low bandwidth relative to the expectations of site designers and employers located in the "developed world" are well-documented (in crowd

work, see Gupta et al. 2014). But discrimination poses an additional and underexamined social barrier that prevents Indian workers from participating fully—or in some cases at all—in the online communities that have proved so vital for other workers' long-term success. Hurtful comments are posted about individual Indian workers or Indian workers generally, and this may cause those Turkers to avoid the forums entirely. As a result, these displaced Indian Turkers may earn less money and have less access to social support than their non-Indian counterparts. In some cases, exclusion from worker communities can lead Indian Turkers to give up on Turking entirely.

Third, this discrimination can be overcome, but the ability to do so may rely on prior education and cultural competence and may thus be largely out of the hands of those subjected to it.

The barriers Indian Turkers face also have consequences for requesters. Turkers from India make up as much as 40% of the overall mTurk population (Pavlick, Post, Irvine, Kachaev, & Callison-Burch, 2014), and this is a boon to requesters. With an international workforce available 24 hours a day, tasks can get done quickly at any time. Since a large portion of that population lives in a country where a few dollars an hour can be a significant income, the cost of posting work on mTurk is minimized, making the platform cost-effective for businesses and researchers. Not only do they offer affordable labour, but it can also be said to be ethical to employ them as often the extra income is something they could not attain on their own offline (Martin, O'Neill, & Gupta, 2014b). On top of all this, Indian workers have been shown to be highly educated (Khanna, Ratan, Davis & Thies, 2010), more so than even U.S. workers, which means that they may offer labour of a higher quality.

For these same reasons, Indian Turkers need to be cultivated and protected. Indian workers have been blocked from signing up on mTurk since 2012 (Project 2501, 2012), therefore suspension spells the end of their Turking career. As the suspension process is not transparent, and there is no dispute resolution offered, the worker is constantly in fear of making a misstep. Without the assistance of the Turker community, they may never know how to protect their account, and they also lose access to tools, scripts and advice that can help them maximize their earning potential. Currently, Indian Turkers are not found in large numbers on the forums and other Turker websites, so they are missing out on the valuable information the community offers. In order to ensure Indian workers are able to make a good living through crowd work, keep their account safe from suspension, and continue offering affordable labour to researchers and businesses alike, it is important we investigate what can be done to ensure they find mTurk valuable enough to stick around. To do this we must learn from Indian workers who are already in the community about what factors they feel are pushing them to be included or excluded. Once we understand these issues, we can build

new tools or alter current offerings to welcome Indian workers and help keep mTurk a vibrant, multicultural workplace.

RELATED WORK

mTurk is a relatively new platform, having only been launched in October 2005 (Amazon Web Services, 2006), but the shortage of research on the lived experience of workers is remarkable—all the more so when one considers the vast, interdisciplinary, and sometimes troubling literature that aims to support *requesters* in their attempts to make data collection through mTurk faster, cheaper, and more efficient (e.g., Dow, Kulkarni, Klemmer, & Hartmann, 2012; Downs, Holbrook, Sheng, & Cranor, 2010; Grier, 2011; Ipeirotis, Provost, & Wang, 2010b; Jung & Lease, 2012; Kochhar, Mazzocchi, & Paritosh, 2010; Mao, Procaccia, & Chen, 2012; Oleson et al., 2011; Rao, Huang & Fu, 2013; Snow, O'Connor, Jurafsky, & Ng, 2008).

Morris, Dontcheva, and Gerber (2012), for example, discuss how priming can be used to improve the quality of the results of Turk workers. Priming is a psychological technique used to force subjects into a specific mindset and alter their behaviors. Morris et al. focus on performance gains for the requester; they do not consider at all whether workers *want* to be manipulated in this fashion.

Paolacci et al. (2010) investigate Turker demographics. They show that over one third hail from India, and then instruct requesters on how to use workers appropriately. They advise that requesters keep in mind that Turkers do not disappear at year's end as undergraduate students do and that Turkers have indirect avenues for "retaliating" against requesters who misrepresent their tasks. Citing prior work, they even write that "in principle requesters can offer workers wages that are disproportionately low [...] with little concern since data quality seems to be not affected by payments" (p. 417). The question of whether it is morally acceptable to do so, however, is not addressed.

A few papers focus on the ethical issues surrounding mTurk, such as low wages, lack of collective bargaining rights and recourse when wronged by an employer, and other serious vulnerabilities (e.g., Fort et al., 2011). Some studies ask requesters to use mTurk with the consideration that not only do many Turkers—especially those in low-income countries—Turk for a living, but also for their *families'* living (ibid.). Other studies, on the other hand, argue that because workers themselves seldom claim to be exploited, they are not (e.g., Horton, 2011, and Busarovs, 2013); in this category, Busarovs (2013) claims that the "small compensation [offered by] routine crowdsourcing [tasks] is adequate income" for people in "third world countries" (p. 13).

Those papers which detail the problems Turkers experience directly tell a harrowing tale. Silberman, Ross, Irani, and Tomlinson (2010) discuss the many dangers faced by workers, from the difficulty in avoiding HITs ("human

intelligence tasks,” AMT parlance for pieces of work) which could put them in peril, be it due to stolen identity or undeserved rejections, to the requirement to use offsite tools, such as Turkopticon, to protect themselves from nefarious requesters. The necessity of the latter becomes evident as Irani and Silberman (2013) detail the invisibility of workers which has been designed as an intentional part of the mTurk platform. They cite the fact that academic and professional discourse is not much concerned about the human costs of using the crowd, nor is Amazon concerned with providing the ability for workers to form a community which can act together to fight against the mistreatment they receive. It is only when those who are neither requesters nor platform developers provide tools to the workers, like Turkopticon, that they can be afforded a way to collectively pressure the employers to change their negative behaviours. While these problems are endemic for all Turkers, research has yet to identify issues Indian workers face and how it affects their work experience.

Bederson and Quinn (2011) further document the fact that the platform itself does not adequately support the workers, driving them to create their own tools and forums in order to create the shared information resources necessary to make work on mTurk lucrative. And thanks to mTurk being a "market for lemons", where the requester cannot judge the quality of the product they will receive before pricing their HITs, this leads to lower pay upfront and lower quality results in return, which they say not only drives away "good" workers, but decreases the quality of the market itself. What they fail to question is who might be left working on the platform after this process, and how those people so desperate as to work in a market where they are undervalued might be further, and continually, exploited.

In their discussion of what a future crowd work platform might look like, Kittur et al. (2013) focus on how to make the framework they present able to support valuable, complex work. They discuss job design, reputation systems, and motivation when speaking specifically of the needs of workers, but do not address the social requirements that current workers consider necessary (Martin et al., 2014a). Their focus is solely on the time a worker spends "on the job" with no mention of how workers will congregate, learn and support each other. Kittur et al. (2013) call for us to build an industry in which our children would want to participate, yet excluding the social structure necessary to support workers means they would lack vital support. Sadly, research supporting both typical and ethical versions of crowd work platforms tends to omit all but the business infrastructure.

Studies which purport to be about ethical crowdsourcing seem to overlook ethical infractions on the part of their subjects, such as Fish and Srinivasan's (2011) investigation of Samasource. This company uses platforms such as mTurk to provide work to those in developing countries who have no other opportunities for income, giving requesters the ability to use crowdsourcing while appearing ethical to their

own clients. While this seems like a noble cause, the paper highlights the fact that the participants are still paid only pennies for their efforts, and "high-skill" tasks are not made available by the company—perhaps those tasks would go undone or result in low-quality work. Instead of themselves considering the ethics of the "ethical" platform, Fish and Srinivasan's report touts the cheap labor available and the fact you can use the service without having to worry about ethics yourself.

Literature about offline coworker communities and the benefits they provide teach us about these social situations. Madlock and Booth-Butterfield (2011) demonstrate the importance of relationships between coworkers and how these relationships increase the well-being of the worker, providing friendship, support, and job satisfaction. They make clear it is communication which fulfills interpersonal needs and ensures workplace survival. Sloan, Newhouse, and Thompson (2013), and Hellerstein, McInerney, and Neumark (2011) both show that relationships in the workplace are often racially segregated; that racialized workers are at a disadvantage when it comes to support and social ties due to inability to join white coworker networks and therefore access new or better jobs; and that they have smaller support groups which offer fewer benefits. Coworker relationships are no less vital, or volatile, online.

Neither Hellerstein et al. (2011) nor Sloan et al. (2013) investigate *why* it is difficult for racialized workers to permeate non-racialized networks, online or offline. What studies there are regarding coworker communities do not apply their theories to the need for and benefits derived from coworker support to teleworkers. mTurk-focused studies which have been completed mainly look at the platform from the lens of the requester, and, with a few exceptions (e.g., Martin et al., 2014a; Martin et al., 2014b; Gupta et al., 2014), when they do analyze Turkers it is to provide a description of their demographics.

METHODS

This paper is informed by over ten years of participation and observation as a professional mTurk worker and requester and as the community manager of Turker Nation—the oldest mTurk worker community. I have spent the last four years as a researcher investigating who works on mTurk, how and why. The specific findings presented here were arrived at through focused quantitative investigation of the representation of Indian workers on the tools and forums currently available to them. I compare this quantitative data with the number of Indian workers on mTurk. To build upon the numbers with data that represents the experience of Indian Turkers, I also conducted multiple interviews with Manish Bhatia, an exceptional worker from India. At the time of these interviews, Manish was the only Indian worker, out of the thousands still active on mTurk, who makes his identity known publicly on all of the worker communities which currently exist. Together, this data elucidates the

experience of Indian workers and their exclusion from Turker communities.

Manish stands as an example of how an Indian worker can break through the language and culture barriers which exist in Turking communities. Through interviews with Manish I have explored whether he has taken a different approach to entering these communities and, if so, how it has changed his lot as a Turker. I also discuss how he felt community managers could enact changes that would help Indian Turkers feel more welcome within these communities. As a result of the data collected, this paper takes a positive look at how Indian Turkers may be able to overcome those hurdles and make use of the various tools available to increase their income.

Manish was recruited in the Turker Nation chat room and interviewed three times, one main interview, a second follow-up interview a short time later, and a third six months later. These interviews investigated his experience with fellow Turkers regarding community culture, Turker relationships, resource availability and use, and what role communities play as a benefit or detriment to his work. The data was then paired with a document analysis of online forum posts which further elucidate the experience of Indian Turkers in general, and studies on the demographics of Turker websites. Analysing this data with a grounded theory approach, I examined both the overarching context of barriers in Turking communities and the example Manish offers as someone who was able to overcome those barriers.

FINDINGS

Indian workers were blocked from signing up on Turker Nation until 2014. The reasons were varied, but they hinged on the fact that communication between workers whose first language was not English and the workers from North America had a tendency to go badly. In an environment where the participants are working very hard to earn even a small amount of money, tempers would flare at the drop of a hat. It is likely a cultural clash was also at play, with Indian workers coming from a collectivist upbringing where one relies on others frequently, including in their work life, while North American individualist culture tells us to keep our information to ourselves. When an Indian worker would bluntly state, "Tell me where the good HITs are," an American worker would typically reply with incredulity. In order to keep the wars to a minimum, we did what we could to reduce friction, which included only allowing signups from English-speaking countries. When I look back on this now I see that it was likely the wrong way to go about things, but it was a reflection of the environment Amazon cultivated on mTurk. When international users became a problem, be it because they begged for the ability to get paid in cash instead of gift cards or because requesters complained that these workers were inadequate (Kingsley et al., 2014), Amazon opted to close their site to all new international workers

(Project 2501, 2012). This culture of exclusion had become ingrained in the community, and it would stand to be difficult to overcome.

Indian Turkers are often grouped and judged by negative stereotypes, by mTurk itself through usability barriers (Kang, Brown, Dabbish, & Kiesler, 2014), researchers (Ipeirotis, 2011; Schulze, Seedorf, Geiger, Kaufmann, & Schader, 2011) and requesters (Kingsley et al., 2014), and other workers on the forums (Admin, 2013; denzacar, 2010; razorbacks0121, 2012; Tiger, 2010). Studies have been published deriding the quality of Indian Turkers' submissions, such as Schulze et al.'s (2011) paper which states bluntly, "Unfortunately, 102 workers answered at least one of the two "test questions" incorrectly and were excluded from the results. 79 of the invalid answers could be geo-located to respondents from India". There is no mention of whether the poor results were mistakes or intentional, just the implication that Indian workers provide low quality results. El Maarry and Balke (2015) describe the difference between honest workers who may not submit correct answers all the time, potentially due to a lack of education or skills, and those who are intentionally cheating the requester. The former are referred to as "rough diamonds," workers who need and deserve employment, especially those from the "bottom of the income pyramid." To ensure they are fairly treated, it is important that we not just lump them in with those who truly commit fraud, but instead we offer them tasks which suit their other skills. The authors offer some techniques for weeding out the truly bad apples, which will retain the rough diamonds and allow requesters to leverage their low cost labour. They also do not name the countries from which the poorest quality results came, an indicator that it is not the worker's nationality which is at fault.

Other researchers accuse Indian Turkers of falsifying submitted information, such as in Ipeirotis' (2011) blog post titled "Do Mechanical Turk workers lie about their location?" where he discussed a recent mapping HIT. "The biggest liar? A worker from Chennai, India who reported a zip code corresponding to Tampa in Florida. The IP was a cool 9500 miles away from the reported location!" Whether accurate or not, these papers do not discuss the context of their results, they just further the stereotype that Indian workers are out to cheat the system.

Posts on Turker forums and blogs perpetuate the stereotype of Indian Turker as cheater, liar, or sweatshop slave. An mTurk Forum¹ user named razorbacks0121 (2012) asserts that international workers are scammers, spammers, and cheats, stating that "these Over-See's people cannot quit scamming trying to make extra money instead of being honest. ... Watch who all the spamming (on the forums) comes from... you will notice they all come from over see's. ... most of the work I graded in the past on Mturk... half of the HITs some scamming over see's people typed "English"

¹ <http://mturkforum.com>

in the transcription box on hundreds of hits". A Slashdot forum² user named denzacar (2010) posts that "[o]nly USA-ians and Indians (dots, not feathers) actually get paid. Everyone else gets amazon.com gift certificates. Meaning that they get paid in CDs/DVDs and books as amazon.com does not deliver most other items outside of USA. Intriguing option only if you have loads of free time, no credit card and possessing a thirst for cultural artifacts like books, movies and music. I.e. - if you are an underage second- or third-world kid. As a result from such paying practice most Indian workers on mTurk today are "employed" by sweatshops, churning out mostly worthless HITs. Many of them are probably just copy/paste or random-click scripts". Tiger's (2010) post on mTurk Forum about why so many requesters have HITs which are qualified for only American Turkers reads, "The truth is: US only because they want proper English. That's the main reason. Read some of the posts in this forum made by Indians and it becomes very clear ... it has nothing to do with discrimination. Stop self-pitying." The suspension of new registrations by and crackdown against current international workers³ further solidified the stereotype that Indian Turkers engage in fraud, poor quality work, and cheating (Admin, 2012). Turkers assumed that mTurk was getting rid of these workers because they were not as good as the Americans (Project 2501, 2012). Based on the backlash against them, it is no wonder that Indian Turkers are uncomfortable in joining English-focused Turkling communities.

To understand whether or not Indian Turkers are making use of Turkling resources, I enumerate their presence on mTurk. Fort et al. (2011) estimate that there are between 15,059 and 42,912 active Turkers. In 2008 Indian Turkers made up only 5% of the total worker population (Ross, Irani, Silberman, Zaldivar, & Tomlinson, 2010), while that number grew through 2010 to 34% (Ipeirotis, 2010a) and 2011 to 50% (Fort et al, 2011; Schulze et al, 2011). Between the 2011 studies and 2012 no further demographic research was completed, but it is likely that the increase continued until July of 2012 when Amazon disabled the ability for international users to register a new account (Project 2501, 2012), and then began the unfettered suspension of Indian workers². These suspensions were not up for discussion², leading to a slow extinction of Indian Turkers, as evidenced by their decline in numbers to between 33-40% in 2014 (AppAppeal, 2014; Pavlick et al., 2014). As a result, Indian workers are forced to be more careful than ever about what they say publicly, what work they choose to do, and how much effort they are forced to put into each project. If they slip up they will lose their account, which means their use of the available tools and forums has moved from a want to a need.

² <http://slashdot.org>

³ M. Gray, audience comment, Digital Labour 2014 conference November 15, 2014

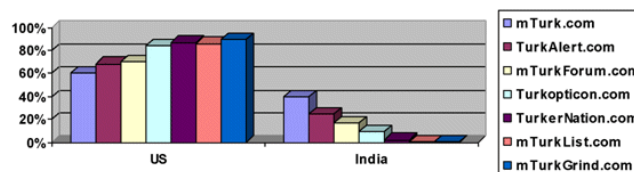


Figure 1. The purple bar indicates US and Indian worker representation on mTurk for comparison. AppAppeal, 2014; S. Giminez, personal communication; Google Analytics, November 18, 2014; L. C. Irani, personal communication; K. Serge, personal communication]

Yet as Figure 1 shows, they are not using these tools. The two tools with the highest representation⁴ stand at less than 25% Indian membership each, while the average percentage for the rest is less than 1%. This underrepresentation must be explored with causes identified and remedied.

Indian Turkers face many barriers, and they are not using the resources available as a result, therefore it is imperative to speak to those who are able to leverage these resources in order to learn from their experience. Sadly, trying to coax information out of subjugated workers about their experiences with discrimination is no easy task. Habtegiorgis and Paradies (2013) relate the lack of racialized worker self-reports of discrimination to workers not attributing these negative experiences to racism, the events being too painful to think about further, or feared potential repercussions from the perpetrators and others. In the case of Manish, he is well-spoken and educated, and possibly as a result of not standing out, claims to have faced discrimination only a few times in his life. Some customers hurled racial epithets at him when he worked at a technical support call center offline, but he says those are the only incidents he can remember. When it comes to his experience in the mTurk community, he feels that most of the discrimination he sees is directed at Indian workers in general or targets other than himself. In fact, he feels like he is welcomed in the community as one of its own, and his status as an Indian worker has never been held against him. Yet he had witnessed enough discrimination in the Turker community to share his feelings about why others were uncomfortable on the forums and how he is able to make best use of the resources other Indian workers seem unable to benefit from.

Manish laid out three main obstacles he believes Indian Turkers face. The first is that non-Indian Turkers feel Indian workers accept HITs which are substandard in reward, leading to a reduction in pay across all work. He feels that the stereotype of Indian workers as inferior makes them feel unwelcome on the forums, which is the second obstacle. When they do post, they get replies "shunning" them, he

⁴ <http://turkalert.com> and <http://mturkforum.com>

says. His remedy to the problem is that non-Indian Turkers need to allow Indian workers to post about any HIT they need help with, and any requester they want to learn more about, without being derided for their choice of work. He worries that changing workers' mindsets would be too hard, so he believes that community managers must be more welcoming so members have no choice but to follow in their footsteps. The third obstacle, the language and culture barriers Indian Turkers feel exist, causes them to feel shy, Manish says, because they cannot overcome the "communication gap". Thankfully, he has an easy solution: instead of creating sites in their language, he feels if we stop pointing out that their language skills are not perfect (Tiger, 2010), they will become comfortable and more active.

Manish has been able to overcome all of these hurdles himself, and he feels that this has not only helped him to earn more, but also to build strong relationships. He believes that the benefits he receives from his forum memberships are knowledge about tools available, access to tips and tricks, being able to reach requesters to gain access to work he would not have received on his own, and social support through the friendships he has made. He initially joined a forum because he wanted to become a more efficient Turker, but that led to building camaraderie so strong he sees his closest coworkers as equal to the friends he has offline. Most of all, he feels that he has influenced people's stereotypes about Indian Turkers in a positive way, although he does not think his example has convinced other Indian Turkers to participate more. In the end, he has a sense of pride in the place he has taken amongst his coworkers, and he states, "I think my identity in the communities is just as important to me as the actual turking I do." He also asserts that community membership is "essential" to a Turker, and that the benefits he sees himself deriving from his community involvement back up that claim.

It is clear from Manish's experience that he deeply believes that his membership on forums is key to his success on mTurk. Despite having to deal with cheques lost in the mail, restrictions disallowing him from doing most HITs, the inability to earn Masters⁵ until 2014, and all of the regular hurdles Turkers face, he has found a way to make mTurk a lucrative side job. He also has leveraged the social support of his peers through sharing his experience and knowledge abundantly, and being a friend to them when they need a shoulder to lean on. He is one of the most respected members of the Turker community, and he feels his nationality has never stood in his way, but admits that his fluency in English has likely assisted in his assimilation on English-based forums.

Manish has also worked towards change for all Indian Turkers, participating in the Dear Jeff Bezos letter writing

campaign via WeAreDynamo.org (2015). In his letter he writes that he is thankful for having the mTurk platform available to work on, both because it gives him something to do when bored and has introduced him to "some of the nicest and helpful people". He then details his biggest concerns, beginning with the fact that the cheques Amazon mails out rarely ever make it to the Indian workers they are intended for. The second major concern he voices is that workers are losing their accounts without knowing why, and this lack of transparency must be addressed through direct communication between platform staff and the workers. While the second issue has not been rectified yet, Manish and his fellow Indian workers have had their hopes for bank transfers replacing rarely received cheques realized. Amazon announced that Indian workers may now transfer their earnings directly to their bank account, a win for Manish and his coworkers (Amazon Mechanical Turk, 2015). Another outcome of Manish's participation in the letter writing campaign is that other Indian workers joined him, writing their own letters and even sharing them publicly on the website. While a preliminary step towards further joining the community publicly, their acceptance by those also in the campaign is a hopeful sign.

CONCLUSION AND FUTURE WORK

Through an investigation of the demographics of mTurk and Turker websites, and interviews with Manish, I have investigated the barriers Indian Turkers face and how they can be overcome. We have seen that workers require membership in the communities to access the tools and resources necessary to maximize their income on mTurk. It has also been shown that Indian workers are currently unable to leverage that membership, and are underrepresented on all of the major Turker websites. Lastly, the ability to overcome this exclusion may be based in breaking down stereotypes and acceptance of all workers regardless of their proficiency in English or work choices on mTurk.

Future research should endeavour to reach out to Indian Turkers who are not on forums to learn from them whether Manish is right in his assessments. This is best done by posting a fairly compensated survey on mTurk targeted to Indian workers which asks them where they connect with other workers, be it online or off, who they connect with, and what resources they need to boost their earnings. With such a large number of active Turkers living in India, it should be easy to reach many individuals to find out what their experiences to date and future needs are. Once completed, this information must be shared with Amazon, forum and tool owners, and Turkers at large so that change can be realized.

For now, we must rely on the answers Manish provided here as he explained what he believes prevents Indian Turkers

must be reached to achieve Masters status, nor when it will be handed out again, nor how the status can be maintained.

⁵ The Masters Qualification is bestowed upon a group of Turkers, curated by Amazon, who are offered to requesters as the best workers on mTurk. The algorithm used to hand it out to workers is closely guarded, and Amazon has never revealed what milestones

from fully realizing the benefits of the tools available. As forum and tool providers, requesters and researchers, and fellow workers, we must rectify these shortcomings and offer sites which are optimized to fit the needs of those who feel reticent about using online tools. One suggestion is to create new sites, tools and forums which provide how-tos for all Turker resources, as well as offer information on and links to scripts and tools which Indian Turkers can use. I personally have paired with Manish to create IndiaTurkers.com, a site we hope to grow into a place where Indian workers are able to maximize their earnings through knowledge of all the tools available to them, as well as best practices on the platform. In the future, I would like to include more Indian workers in the production and maintenance of the site to ensure they are able to mold it into what they really need. It is important that we do not create what we believe workers need, but instead involve them in the process to create what they know they need.

Burrell (2012) discusses how hiding evidence of one's racialized identity is inefficient at helping online users blend in on outside communities. This echoes what is seen on Turker forums, where identities are rarely exposed, and yet workers are still marginalized through the behaviours of others posting there. As Burrell describes, few spaces online are truly diverse, so we must spend more time identifying how this is occurring in those spaces and what sort of changes we can make to our own communities in order to follow their lead. What is especially interesting in Burrell's observations is how youth from Ghana were able to appropriate the stereotypes wielded against them in order to leverage the assistance they needed, if only through fraudulent means. Is there a way for Indian workers to do the same (without engaging in fraud), turning the belief that they are uneducated, unskilled, ignorant workers into a plea for help that garners them more attention in the community?

In the spirit of Turkopticon (Irani & Silberman, 2013), another option would be to create an Indian Turker Bill of Rights. Gathering the input from multiple Indian workers, potentially through a platform such as WeAreDynamo, it could lay out how they feel they should be treated. It could also touch on issues such as what they feel is acceptable pay, the fact they are capable of working on a variety of tasks, and what sort of resources they are looking for access to. The document could continuously be updated with new information, allowing for an evolving text representing the most current state of the workforce. A coordinated effort would represent to the world that Indian workers are ready to break from the reputation and stereotypes forced on them in the past. It would gather their needs in one place so that other workers, requesters and Amazon itself could learn directly from the source what needs to change.

If we work together to create resources which are accessible to Turkers whose first language is not English, and forums which are welcoming to Turkers from around the world, we

can change the experience of all mTurk users, workers and requesters alike, for the better.

ACKNOWLEDGMENTS

I thank Manish Bhatia for his time and willingness to be interviewed, and Bonnie Nardi and Noopur Raval for their comments on a draft of the paper. I also thank Edwin Chen and Michael S. Bernstein for their editing assistance and many brilliant suggestions, and Sara C. Kingsley for her cheerleading. Lastly, I am deeply indebted to M. Six Silberman for his input on this paper.

REFERENCES

- Admin. (2013, January 17). The Reasons Why Amazon Mechanical Turk No Longer Accepts International Turkers. *Tips For requesters On Mechanical Turk*. [Web log comment]. Retrieved from <http://turkrequesters.blogspot.ca/2013/01/the-reasons-why-amazon-mechanical-turk.html>
- Amazon Mechanical Turk. (2015, May 21). *Bringing Future Innovation to Mechanical Turk*. (21 May, 2015). Retrieved from <http://mechanicalturk.typepad.com/blog/2015/05/bringing-future-innovation-to-mechanical-turk.html>
- Amazon Web Services. (2006). *Release: Amazon Mechanical Turk on 2005-10-13*. Retrieved from <https://aws.amazon.com/releasenotes/Amazon-Mechanical-Turk/66>.
- AppAppeal. (2014). *Amazon Mechanical Turk Alexa Map*. Retrieved from <http://www.appappeal.com/maps/amazon-mechanical-turk>
- Bederson, B. B., & Quinn, A. J. (2011). Web workers unite! Addressing challenges of online laborers. In *CHI '11 Extended Abstracts on Human Factors in Computing Systems (CHI EA '11)*, 97-106. doi:10.1145/1979742.1979606
- Burrell, J. (2012). *Invisible Users: Youth in the Internet Cafés of Urban Ghana*. MIT Press.
- Busarovs, A. (2013). Ethical Aspects of Crowdsourcing, or is it a Modern Form of Exploitation. *International Journal of Economics & Business Administration*, 1(1), 3-14.
- Collier, B., & Bear, J. (2012). Conflict, criticism, or confidence: an empirical examination of the gender gap in Wikipedia contributions. In *Proceedings of the ACM 2012 conference on Computer Supported Cooperative Work (CSCW '12)*, 383-392. doi:10.1145/2145204.2145265
- denzacar. (2010). Inside the Mechanical Turk Sweatshop [Msg 33189968]. Message posted to <http://beta.slashdot.org/comments.pl?sid=1748198&cid=33189968>
- Dow, S., Kulkarni, A., Klemmer, S., & Hartmann, B. (2012). Shepherd the crowd yields better work. In

- Proceedings of the ACM 2012 conference on Computer Supported Cooperative Work (CSCW '12)*, 1013-1022. doi:10.1145/2145204.2145355
11. Downs, J. S., Holbrook, M. B., Sheng, S., & Cranor, L. F. (2010). Are your participants gaming the system?: screening mechanical turk workers. In *Proceedings of the SIGCHI Conference on Human Factors in Computing Systems (CHI '10)*, 2399-2402. doi:10.1145/1753326.1753688
 12. Fish, A., & Srinivasan, R. (2012). Digital labor is the new killer app. *New Media & Society*, 14(1), 137-152.
 13. Fort, K., Adda, G., & Cohen, K. B. (2011). Amazon Mechanical Turk: Gold Mine or Coal Mine? *Association for Computational Linguistics*, 37(2), 413-420.
 14. Forte, A., Antin, J., Bardzell, S., Honeywell, L., Riedl, J., & Stierch, S. (2012). Some of all human knowledge: gender and participation in peer production. In *Proceedings of the ACM 2012 conference on Computer Supported Cooperative Work Companion (CSCW '12)*, 33-36. doi:10.1145/2141512.2141530
 15. Geiger, R. S., & Ribes, D. (2010). The work of sustaining order in Wikipedia: the banning of a vandal. In *Proceedings of the 2010 ACM conference on Computer supported cooperative work (CSCW '10)*, 117-126. doi:10.1145/1718918.1718941
 16. Gelley, B. (2013). The dynamics of gatekeeping in online collaborative systems. In *Proceedings of the 9th International Symposium on Open Collaboration (WikiSym '13)*, Article 34. doi:10.1145/2491055.2491089
 17. Grier, D. A. Error identification and correction in human computation: Lessons from the WPA. (2011). In *Proceedings of the 3rd Human Computation Workshop at AAAI (HCOMP '11)*.
 18. Gupta, N., Martin, D., Hanrahan, B. V., & O'Neill, J. (2014). Turk-Life in India. In *Proceedings of the 18th International Conference on Supporting Group Work (GROUP '14)*, 1-11. doi:10.1145/2660398.2660403
 19. Habtegiorgis, A. E., & Paradies, Y. (2013). Utilising self-report data to measure racial discrimination in the labour market. *Australian Journal of Labour Economics*, 16(1), 11.
 20. Heer, J., & Bostock, M. (2010). Crowdsourcing graphical perception: using mechanical turk to assess visualization design. In *Proceedings of the SIGCHI Conference on Human Factors in Computing Systems (CHI '10)*, 203-212. doi:10.1145/1753326.1753357
 21. Hellerstein, J., McInerney, M., & Neumark, D. (2011). Neighbors and Co-Workers: The importance of residential labor market networks. *Journal of Labor Economics*, 29(4), 659-695. doi:10.3386/w14201
 22. Horton, J. J. (2011). The condition of the Turking class: are online employers fair and honest? *Economics Letters* 111, 10-12.
 23. Ipeirotis, P. G. (2010a). The New Demographics of Mechanical Turk. Retrieved from <http://www.behind-the-enemy-lines.com/2010/03/new-demographics-of-mechanical-turk.html>
 24. Ipeirotis, P. G., Provost, F., & Wang, J. (2010b). Quality management on Amazon Mechanical Turk. In *Proceedings of the ACM SIGKDD Workshop on Human Computation (HCOMP '10)*, 64-67. doi:10.1145/1837885.1837906
 25. Ipeirotis, P. (2011). Do Mechanical Turk workers lie about their location? *A Computer Scientist in a Business School*. Retrieved from <http://www.behind-the-enemy-lines.com/2011/03/do-mechanical-turk-workers-lie-about.htm>
 26. Irani, L. C., & Silberman, M. S. (2013). Turkopticon: interrupting worker invisibility in amazon mechanical turk. In *Proceedings of the SIGCHI Conference on Human Factors in Computing Systems (CHI '13)*, 611-620. doi:10.1145/2470654.2470742
 27. Jung, H. J., & Lease, M. Improving quality of crowdsourced labels via probabilistic matrix factorization. (2012). In *Proceedings of the 4th Human Computation Workshop at AAAI (HCOMP '12)*.
 28. Kang, R., Brown, S., Dabbish, L., & Kiesler, S. (2014). Privacy attitudes of mechanical turk workers and the US public. In *Symposium on Usable Privacy and Security (SOUPS '14)*.
 29. Khanna, S., Ratan, A., Davis, J., & Thies, W. (2010). Evaluating and improving the usability of Mechanical Turk for low-income workers in India. In *Proceedings of the First ACM Symposium on Computing for Development (ACM DEV '10)*. doi:10.1145/1926180.1926195
 30. Kingsley, S., Gray, M., & Suri, S. (2014) Monopsony and the Crowd: Labor for Lemons? In *Proceedings of the Internet, Policy & Politics Conference (IPP2014)*. London, UK. September 25-26, 2014. [pdf]
 31. Kittur, A., Chi, E. H., & Suh, B. (2008). Crowdsourcing user studies with Mechanical Turk. In *Proceedings of the SIGCHI Conference on Human Factors in Computing Systems (CHI '08)*, 453-456. doi:10.1145/1357054.1357127
 32. Kochhar, S., Mazzocchi, S., & Paritosh, P. (2010). The anatomy of a large-scale human computation engine. In *Proceedings of the ACM SIGKDD Workshop on Human Computation (HCOMP '10)*, 10-17. doi:10.1145/1837885.1837890
 33. Lampe, C., & Johnston, E. (2005). Follow the (slash) dot: effects of feedback on new members in an online community. In *Proceedings of the 2005 international*

- ACM SIGGROUP conference on Supporting group work (GROUP '05), 11-20.
doi:10.1145/1099203.1099206
34. El Maarry, K., & Balke, W. T. (2015). Retaining Rough Diamonds: Towards a Fairer Elimination of Low-skilled Workers. In *20th International Conference on Database Systems for Advanced Applications (DASFAA '15)*.
 35. Madlock, P., & Booth-Butterfield, M. (2011). The Influence of Relational Maintenance Strategies Among Coworkers. *Journal of Business Communication*, 49(1), 21-47. doi:10.1177/0021943611425237
 36. Mao, A., Procaccia, A. D., & Chen, Y. (2013). Better Human Computation Through Principled Voting. In *Proceedings of the 27th AAAI Conference on Artificial Intelligence (AAAI '13)*, 1142–1148.
 37. Martin, D., Hanrahan, B., O'Neill, J., & Gupta, N. (2014a). Being a Turker. In *Proceedings of the ACM Conference on Computer Supported Cooperative Work (CSCW '14)*. Baltimore, MD. February 15-19, 2014. [pdf]
 38. Martin, D., O'Neill, J., & Gupta, N. (2014b). Turk-Life in India. In *Proceedings of the ACM International Conference on Supporting Group (GROUP '14)*. Sanibel Island, FL. November 9-12, 2014. [pdf]
 39. Morris, R.R., Dontcheva, M., & Gerber, E.M. (2012). Priming for Better Performance in Microtask Crowdsourcing Environments. *IEEE Internet Computing*, 16(5), 13-19. doi:10.1109/MIC.2012.68
 40. Oleson, D., Sorokin, A., Laughlin, G. P., Hester, V., Le, J., & Biewald, L. (2011). Programmatic Gold: Targeted and Scalable Quality Assurance in Crowdsourcing. In *Proceedings of the 3rd Human Computation Workshop at AAAI (HCOMP '11)*.
 41. Paolacci, G., Chandler, J., & Ipeirotis, P. (2010). Running experiments on Amazon Mechanical Turk. *Judgment and Decision Making*, 5(5), 411-419.
 42. Paolacci, G., & Chandler, J. (2014). Inside the Turk: Understanding Mechanical Turk as a participant pool. *Current Directions in Psychological Science* 23(3), 184-188.
 43. Pavlick, E., Post, M., Irvine, A., Kachaev, D., & Callison-Burch, C. (2014). The language demographics of Amazon Mechanical Turk. In *Transactions of the Association for Computational Linguistics*, 2(Feb), 79-92.
 44. Project 2501. (2012, July 29). It seems like Mturk is no longer creating new Mturk worker accounts [Msg 1]. Message posted to <http://turkernation.com/showthread.php?12227-It-seems-like-Mturk-is-no-longer-creating-new-Mturk-worker-accounts>
 45. Rao, H., Huang, S. W., & Fu, W. T. (2013). What will others choose? How a majority vote reward scheme can improve human computation in a spatial location identification task. In *Proceedings of the First AAAI Conference on Human Computation and Crowdsourcing (HCOMP '13)*, 130-137.
 46. razorbacks0121. (2012, October 22). Checks for Indians [Msg 2]. Message posted to <http://mturkforum.com/showthread.php?4435-Checks-for-Indians>
 47. Ross, J., Irani, L. C., Silberman, M. S., Zaldivar, A., & Tomlinson, B. (2010). Who are the crowdworkers? Shifting demographics in Amazon Mechanical Turk. In *CHI '10 Extended Abstracts on Human Factors in Computing Systems (CHI EA '10)*, 2863-2872.
 48. Salehi, N., Irani, L. C., Bernstein, M. S., Alkhatib, A., Ogbe, E., Milland, K., & "Clickhappier". (2015). We Are Dynamo: Overcoming Stalling and Friction in Collective Action for Crowd Workers. In *Proceedings of the 33rd Annual ACM Conference on Human Factors in Computing Systems (CHI '15)*, 1621-1630. doi:10.1145/2702123.2702508
 49. Schulze, T., Seedorf, S., Geiger, D., Kaufmann, N., & Schader, M. (2011). Exploring task properties in crowdsourcing - an empirical study on Mechanical Turk. In *Proceedings of the 19th European Conference on Information Systems (ECIS 2011)*.
 50. Silberman, M. S., Ross, J., Irani, L. C., & Tomlinson, B. (2010). Sellers' problems in human computation markets. In *Proceedings of the ACM SIGKDD Workshop on Human Computation (HCOMP '10)*, 18-21. doi:10.1145/1837885.1837891
 51. Sloan, M., Newhouse, R. E., & Thompson, A. (2013). Counting on Coworkers: Race, social support, and emotional experiences on the job. *Social Psychology Quarterly*, 76(4), 343-372. doi:10.1177/0190272513504937
 52. Snow, R., O'Connor, B., Jurafsky, D., & Ng, A. Y. (2008). Cheap and fast--but is it good?: Evaluating non-expert annotations for natural language tasks. In *Proceedings of the Conference on Empirical Methods in Natural Language Processing (EMNLP '08)*, 254-263.
 53. Tiger. (2010, July 26). Payments to indians [Msg 13]. Message posted to <http://mturkforum.com/showthread.php?142-Payments-to-indians&p=4865&viewfull=1#post4865>
 54. WeAreDynamo. Dear Jeff Bezos. (2015). Retrieved from <http://wearedynamo.org/dearjeffbezos>