

# Exploring microwork opportunities through cybercafés

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## ABSTRACT

Microwork in cybercafés is a promising tool for poverty alleviation. Using experiments in three cafes in Pune, India, and two cafes in Nairobi, Kenya, we investigate questions of practical feasibility. In surveys, 99% of potential workers do want the work. In addition, measured typing speeds support pay rates several times the local median pay. We additionally compared typing speeds on mobile phones and computers, finding that even inexperienced users are faster using computers.

## Keywords

Human Computation, Crowdsourcing, Microwork, Cybercafés, Amazon Mechanical Turk (MTurk), ICT4D, India, Kenya

## 1. INTRODUCTION

Microwork is a promising tool for poverty alleviation. Outsourcing generally has brought digital work to many, and microwork organizations like Samasource specifically target the needy when contracting their workers. Microwork often focuses on short simple tasks that may be suitable for even the poorest. However many questions remain. If the work is so profitable and accessible, why haven't we seen large numbers of the poor entering cyber-cafés to perform digital work? Khanna et. al suggest that tools such as Mechanical Turk are simply too difficult to use, and show that a simplified interface dramatically increased successful work completion among potential workers [2]. Nevertheless they conclude that worker pay rate for typical tasks is barely acceptable at best.

This work investigates additional questions related to determining why cybercafés have not yet become informal work centers. *Will workers be interested in working in cybercafés?* Perhaps the cafes are inconveniently located, the owners aren't willing, or this style of work is simply not interesting. *Are the workers skilled enough to earn an acceptable pay rate?* Perhaps they lack computer skills, cybercafé rental is too high a cost, or payments are simply too low?

Organizations like txtEagle and MobileWorks provide work via mobile devices, following the sentiment that potential workers already have access to this technology platform, and thus don't need to obtain access to a computer at all [1]. This raises one additional question. *What is the relative productivity of workers on mobile devices versus computers?* Perhaps familiarity with mobile phones will mean that workers are faster with this device or perhaps the affordances of a full keyboard and mouse will allow better productivity.

## 2. EXPERIMENTS

Initially, the experiment was conducted in three cybercafés over the course of three months, in the city of Pune, India. A custom application was installed, that required typing words as they appeared on the screen. The pay rate was set at 0.055Rps/word

(9words/US\$0.01). Payments were made through the cybercafé owners (who were funded by us). The first cybercafé was located in a residential area; the second one was in a busy marketplace while the third was near an academic institution. The cafes charged 20Rps/hr (US\$0.40/hr) rent. In all cases, usage was logged, and users answered survey questions in addition to the work.

To validate in a second country, the experiment was repeated in two cybercafés in Kibera, an informal settlement in Nairobi. The pay rate was set at 0.33Ksh/word (2.5words/US\$0.01). This experiment lasted only a couple days.

Finally, a study was performed comparing typing speed on basic mobile phones, QWERTY mini-keyboard mobile phones (Nokia N900), and full computer keyboards. Twenty-three participants from Nairobi were given 3 minutes to transcribe as many words as possible on each of the three devices.

## 3. RESULTS

*Will workers be interested in working in cybercafés?* Of 105 people surveyed in Pune and 30 in Nairobi, 99% stated that they would like to do microwork in cybercafés. Some users spent a few minutes, and some several hours. Many users returned multiple times to do more work. Anecdotally, many asked if we could extend the experiment, and it is clear to the authors that this mode of work is desired.

*Are the workers skilled enough to earn an acceptable pay rate?* Workers in Pune had an average typing speed of 20 words/minute. In Kibera it was 23 words/minute. Online jobs for transcribing CAPTCHAs currently pay between US\$2-10 per 1000. Using US\$3 per 1000, and measured typing speed, we obtain pay rates of about US\$4/hr. Among those with jobs in Kibera, the median monthly pay was 13,500Ksh. Assuming 40hrs/week of labor, this is 79Ksh/hr (US\$0.95/hr). Thus, at the measured typing speed, those in Kibera would have a large improvement in pay, even accounting for cybercafé fees.

*What is the relative productivity of workers on mobile devices versus computers?* Average typing speed was 6.8 words/minute on the basic phone, 7.4 words/minute on the mini-keyboard, and 9.5 words/minute on the computer. Error rate was comparable on all devices at about 0.2 words/minute. The tested users were lower skilled than the self selected users in the prior experiments, and we expect that practice would improve their computer typing speed.

## 4. REFERENCES

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