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Microwork in Brazil. Who are the workers behind artificial intelligence?

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MICROWORK IN BRAZIL

WHO ARE THE WORKERS BEHIND ARTIFICIAL INTELLIGENCE?

REPORT DIPLAB & LATRAPS

June 2023

Matheus VIANA BRAZ, Paola TUBARO, Antonio A. CASILLI

MICROWORK IN BRAZIL

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WHAT IS MICROWORK?

Microwork refers to a type of online work that is carried out on digital platforms. This work typically involves performing low-complexity, repetitive, on-demand microtasks, reduced to a service and paid per-piece. Workers performing microwork receive a few cents in local currency or US dollars for each completed task. While this type of work is informal and typically lacks social and labor protections, it plays an important role in the technological development of our society, particularly with respect to the production of Artificial Intelligence.

WHAT ARE THE PURPOSES OF MICROTASKS?

Since 2010, there has been a proliferation of microwork platforms worldwide. We have identified the existence of over 50 microwork platforms in Brazil alone, each with different objectives that range from data training for machine learning to remote usability tests, and even the creation of fake profiles to boost social media (in click farms). Microtasks encompass a wide variety of activities, including:

- Categorizing images, classifying advertisements, transcribing audios and videos, evaluating ads, moderating content on social media, labeling data, and scanning documents.
- Participating in market surveys, testing and evaluating apps, websites, and products, researching URLs, and browsing websites to generate traffic.
- Watching videos, subscribing to channels, listening to music, sharing, and voting. Also creating fake accounts to follow, like, and comment on profiles on social media platforms like YouTube, Facebook, Instagram, Twitter, TikTok, Kwai, and Spotify.

KEY FINDINGS

1 IN 3 MICROWORKERS
has no other paid work.

70% ARE BETWEEN 18 AND 35 YEARS OLD
The states with the highest concentration of microworkers are São Paulo, Rio de Janeiro, and Minas Gerais.

MICROWORKERS EARN THREE TIMES LESS
than their expected monthly income on platforms.

66% OF WORKERS WOULD NEED TO EARN A MINIMUM AMOUNT
on platforms in order to pay their bills.

BRAZIL'S MICROWORKERS EARN 31.5% LESS
than the general population.

US$ 112.05 IS THE AVERAGE MONTHLY INCOME
on microwork platforms.

15 HOURS AND 30 MINUTES
is the average time spent per week on paid activities on the platforms.

31.9% WORK 7 DAYS A WEEK
on microwork platforms.

3 IN 5 MICROWORKERS ARE WOMEN
Women work proportionally more than men. They earn slightly more, too, because they enter the platforms more frequently and do microtasks at better-paying hours.

73.7% OF UNEMPLOYED MICROWORKERS ARE WOMEN

THE HIDDEN WORK BEHIND AI

In the age of ChatGPT, when we think of massive data production, we often associate it with concepts like deep learning, machine learning, and artificial neural networks. Furthermore, when we consider the main professions at work on AI production, our thoughts are limited to software engineers and data scientists. However, what is not well-known in Brazil is that the production of Artificial Intelligence (AI) actually relies on a large number of precarious workers who perform underpaid microworks from their homes. These workers perform tasks that humans do more efficiently than machines.

All machine learning relies on generating, classifying, preparing, verifying, and annotating data. And this is where human work is sorely needed. Globally, training and data annotation work is outsourced by tech companies and is performed by workers on global microtasking platforms such as Amazon Mechanical Turk, Appen, LionBridge/Telus, ClickWorker, and more. Essential in the supply chain of all AI development worldwide, microwork implies data extraction and generation, reduced to a service and paid per piece, performed on digital platforms, controlled and organized by algorithmic management. In this report, we aim to understand Brazil's place within this global chain.

According to a report published in 2018 by the International Labor Organization (ILO), based on a survey of 3,500 people from 75 countries, the average age of microtask workers was 33.2 years. In developing countries, one in five workers were women. 37% of microworkers had a bachelor's degree and 20% held graduate degrees. The average hourly rate earned by workers was $4.43, and they spent an average of 18.6 hours per week on paid activities on microwork platforms. 32% of workers relied on these platforms as their primary source of income, and 36% worked on them seven days a week.

METHODOLOGY

This report provides a summary of the findings from the largest empirical investigation conducted on microwork in Brazil. Its goal is to analyze the working conditions in the microtasking market and their relationship with new technologies. In order to obtain the results, the following methods were used:

- In-depth interviews with 15 workers. Ten women and five men were interviewed, ranging in age from 22 to 54, with an average age of 36.2 years. Among the participants, 13 workers had completed a bachelor's degree in various fields, including law, petroleum engineering, physiotherapy, civil engineering, administration, biotechnology, literature, foreign trade, and computer science. They were active on a minimum of one platform and a maximum of four platforms concurrently, including Amazon Mechanical Turk, Appen, Telus (formerly known as Lionbridge), Clickworker, Quadrant, and OneForma.

- A sociodemographic online survey involving 477 microworkers on the platform Microworkers. The choice of this platform is justified because it encompasses various types of microwork,

The study was directed by Matheus Viana Braz (UEMG), Paola Tubaro (CREST), and Antonio Casilli (Polytechnic Institute of Paris), and was co-funded by CNRS, MSH Paris-Saclay, and Minas Gerais Research Fondation (FAPEMIG), through FAPEMIG/UEMG program (05/2021). Interviews were also conducted by researchers from the Laboratory of Work, Health, and Subjectivation Processes (LATRAPS) at the Minas Gerais State University (UEMG), including Thiago Casemiro Mendes, Yasmin Alexandre Ferreira, and Dafyne Krisch Marçal.

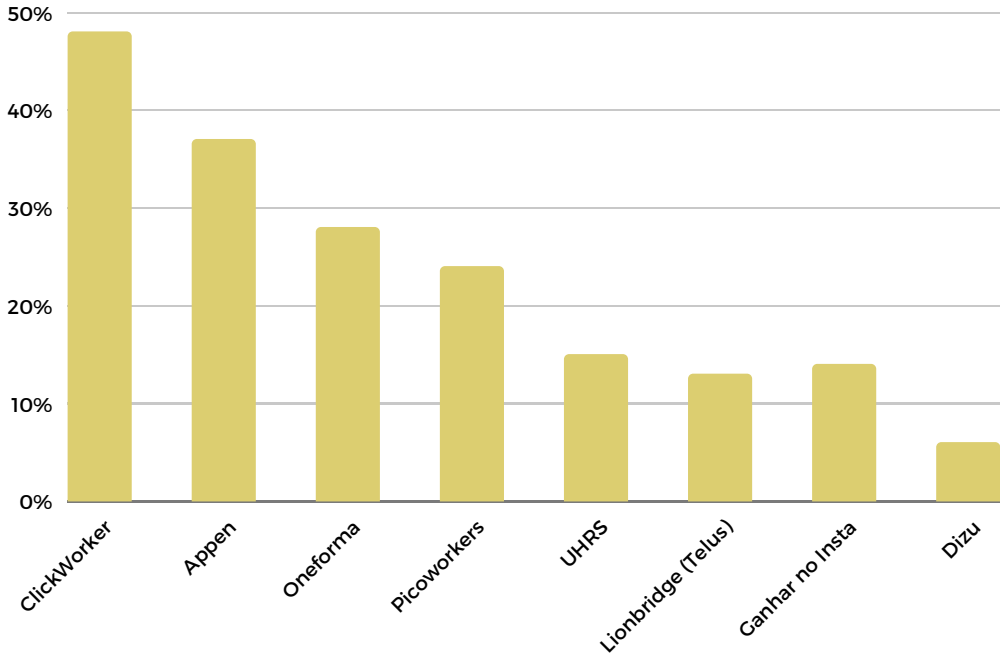
Data collected from the survey were handled in compliance with the General Data Protection Regulation (GDPR) of the European Union and registered with the data protection service of the French National Centre for Scientific Research (CNRS), France. The names used in this report are fictitious to safeguard the anonymity of the workers.

WHAT ARE THE MOST USED PLATFORMS BY BRAZILIANS?

In a previous study, we identified at least 54 microwork platforms in Brazil. Then, we characterize them into five different categories:

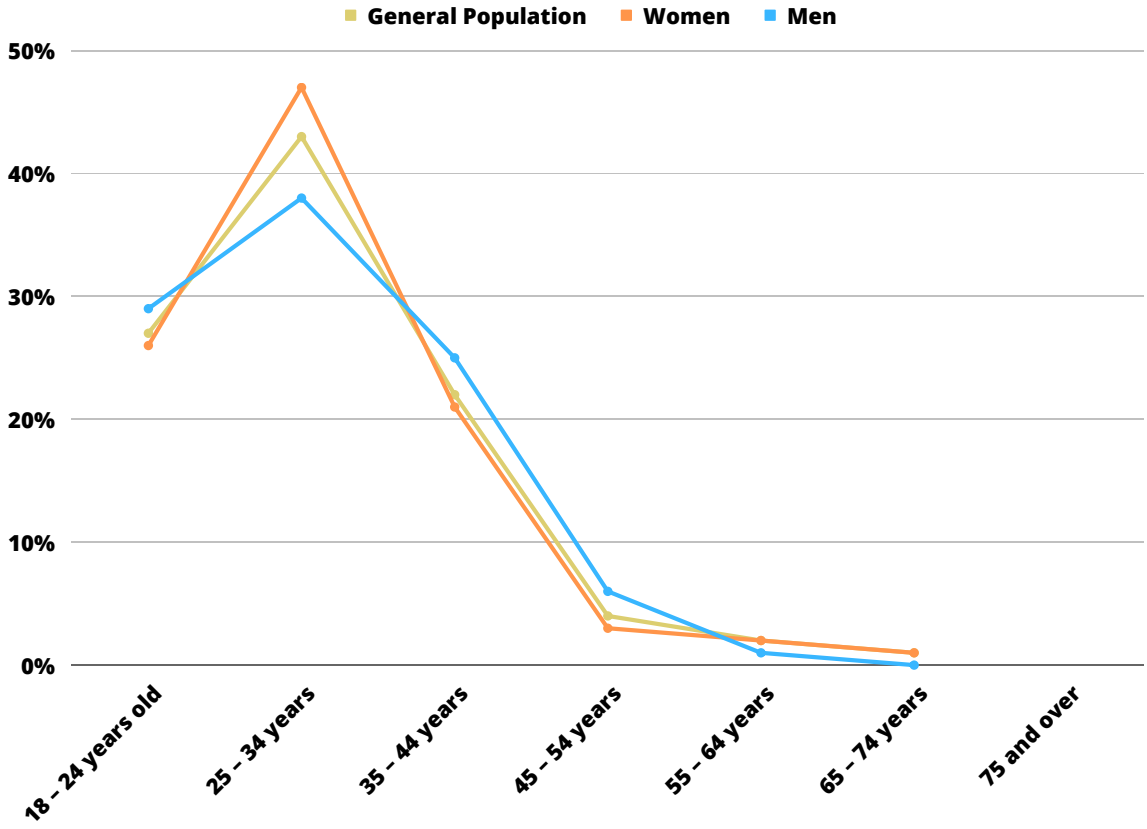
1. Platforms for data annotation and AI training;
2. Platforms for conducting market research;
3. Platforms for boosting social media (also called click farms) that sell followers, likes, comments, and subscribers on apps such as Instagram, Facebook, YouTube, TikTok, Kwai, and Spotify;
4. Platforms for providing small freelance services;
5. Platforms for remote usability testing.

Many workers in this market operate on multiple platforms from different categories. On the platform Microworkers, a significant number of respondents (n=342/477) reported having worked on other platforms. Regarding Brazilian click farms, the most commonly used platforms were Ganhar no Insta (currently known as Ganhar nas Redes) and Dizu.

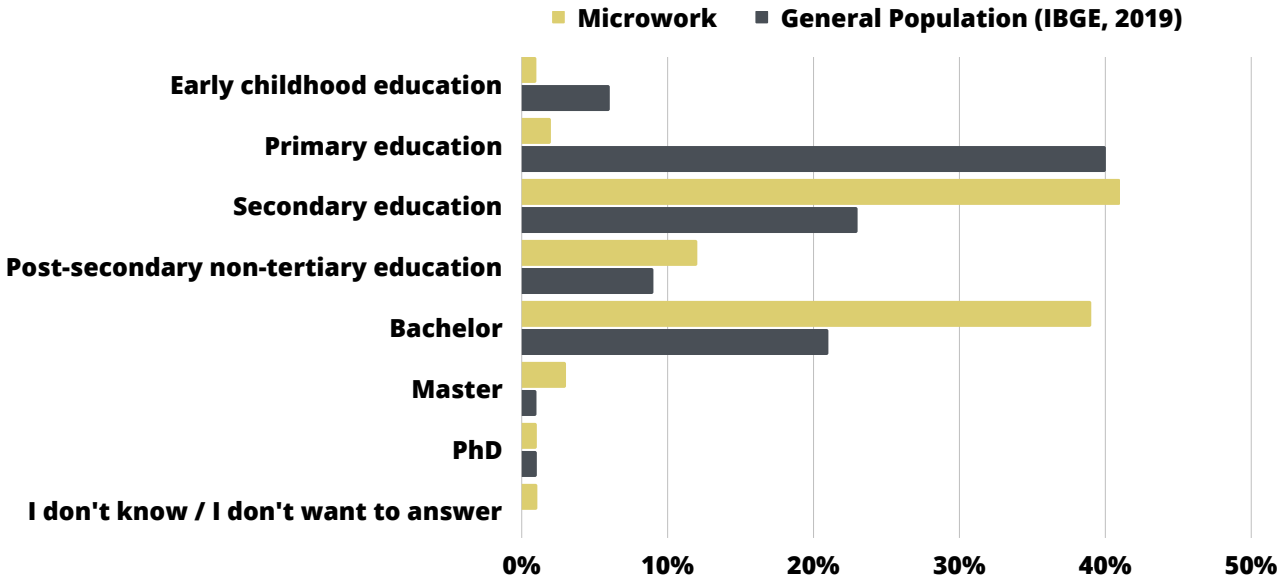


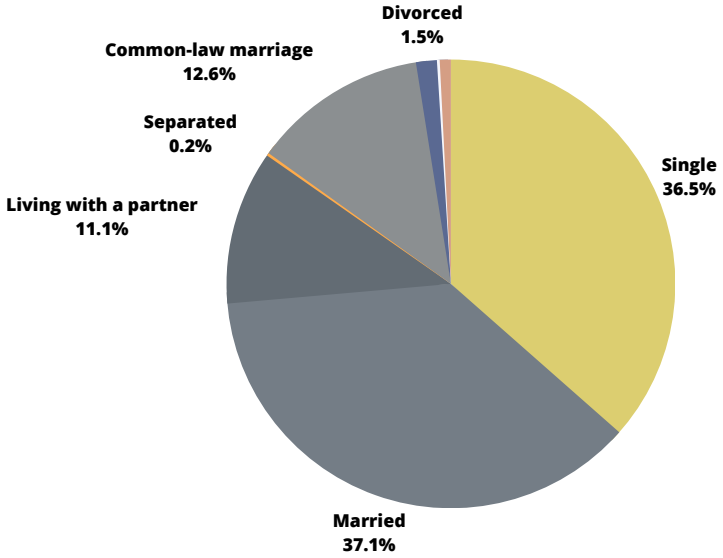
WHO ARE THE BRAZILIAN MICROWORKERS?

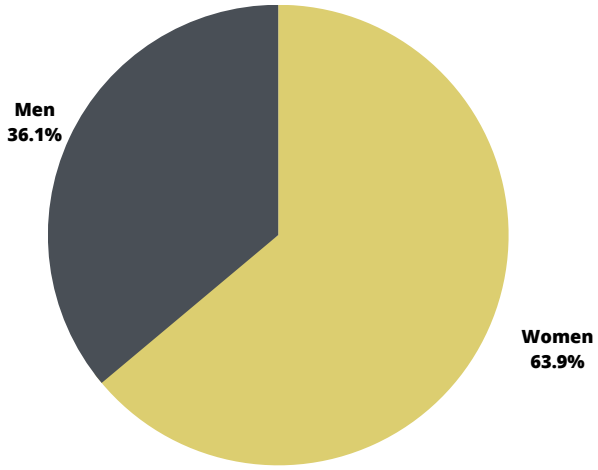
Brazilian microworkers are mostly young, between 18 and 35 years old (70.6%), women (63.9%), and married, living with a partner or living in common-law marriage (60.8%). The states with the highest number of workers are São Paulo (28.8%), Rio de Janeiro (12.6%), and Minas Gerais (9.7%). Moreover, the workers' education levels are above the national average.

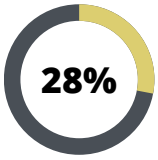


WHO ARE THE BRAZILIAN MICROWORKERS?









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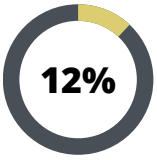

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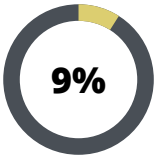

MINAS GERAIS

REMUNERATION

33.5% of workers rely solely on microwork platforms as their source of income

REMUNERATION

33.5% of microworkers have no other paid work, and US$1.80 is the average hourly rate earned on microwork platforms.

31.9% work 7 days a week on microwork platforms.

US$ 112.05 (BRL 582.71 reais) is the average monthly income on microwork platforms.

15 hours and 30 minutes is the average time spent per week on paid activities on platforms.

The average monthly income of workers, including all sources of income, is US$358.84, corresponding to 1.41 minimum wages in Brazil*.

*According to the Inter-Union Department of Statistics and Socioeconomic Studies (DIEESE, 2022), the estimated monthly living expenses for a single person in cities like Rio de Janeiro, São Paulo, and Belo Horizonte exceed US$1038 (BRL 5400).

REMUNERATION

38.8% of workers were either unemployed, without a professional activity, or working informally.

When asked about their expected earnings from microtask platforms in the previous month, the average response was US$320.98. The actual payment they received from the platform was nearly three times lower.

The average monthly income of workers (US$358.84 BRL 1866 reais) is 31.5% lower than the general population's income (US$524.42 / BRL 2727 reais).

Among formally employed workers, 40.5% work part-time.

66% of workers would need to earn a minimum amount on platforms in order to pay their bills.

MOTIVATING FACTORS FOR MICROWORK

The main motivations that lead workers to perform microtasks are the need for money, time flexibility, and a preference for working from home.

Platforms are seen as an alternative income source due to the rise of precarious and informal work. In addition to microtask platforms, over 50% of the participants have engaged in activities related to online sales, gambling, or sports betting, indicating that microwork is part of a larger ecosystem aimed at providing additional income on the internet.

GENDER

Proportionally, more women than men work on microwork platforms. They earn slightly more, too, because they enter the platforms more frequently and do microtasks at better-paying hours.

- 65.2% of women work on platforms from Monday to Friday, compared to 55.3% of men.
- 36.6% of men work on Saturdays and Sundays, compared to 35% of women.
- Among unemployed workers, 73.7% are women.

- 67.9% of women and 55.8% of men log in at least once a day to search for new paid tasks on the platforms.
- While the largest proportion of men (43.6%) work on the platforms after business hours (6:00 pm to 10:00 pm), 54.8% of women usually work between 2:00 pm and 6:00 pm.

GLOBAL COMPARISONS

To position Brazil in the global geography of microwork, we compared our data with the 2018 ILO study on microwork, which covered 75 countries.

- The ILO findings revealed that nearly 70% of users of the platform Microworkers identified as men globally. However, in the case of Brazilian workers on this platform, the majority were women, revealing nearly an inverse proportion.

- The average hourly rate for microtasks in developing countries is $4.43, while in Brazil, it is $1.80.

- Regarding marital status, 55% of microworkers in developing countries were married, living with a partner or living in common-law marriage, compared to 60.8% in Brazil. Globally, on average, 43% of microtask workers have children living in their households, while in Brazil, this number reaches 53%. Furthermore, 57% of workers globally have completed at least a bachelor's degree, whereas in Brazil, it is 44%.

- In terms of healthcare, globally, 66% of microworkers have some health insurance, whereas in Brazil, it is only 31%. It is worth noting that in our research, 46% of Brazilians workers gave up on any medical treatment in the last year, because of lack of money.

- In Brazil, among workers who have a formal job, 40.5% work part-time, while the global average is 33%. Among Brazilian workers who have other jobs in addition to microwork, 72% are engaged in high-skilled occupations, compared to 65% in Latin American and Caribbean countries, 61% in Asia and the Pacific, 59% in Europe and Central Asia, and less than 20% in North America.

WHICH ARE THE WORST MICROTASKS?

Interviews with workers revealed that the "worst tasks" are moderating violent and pornographic content on social media, as well as tasks that are considered "weird".

For example, Helena, 54 years old, shared that she worked on a project that involved training data for "vacuum cleaner robots" to recognize and avoid running over dog and cat feces. The microtasks involved taking photos of animal excrements in various domestic settings, with just a few cents paid for each photo. Antonia spent two days "moving her dog's poop" and took more than 250 photos in different locations at her home.

Yeah, there are definitely some weird tasks, but I guess I see them as a necessary evil since they often pay more than normal. Among them, taking photos of dog poop, evaluating porn sites, moderating violent content of images, and shooting videos of yourself in specific situations (like different environments, lighting, and positions). (Angelica, 27 years old)

In the transcription, I almost went crazy, because they sent some audios with screams, very loud, with some very crazy audios, with time. One of them was so chaotic that I just gave up on transcribing it. [...] There are many people talking and you have to transcribe everything, the coughs, the sneezes, there are some keys, the punctuation is also really hard to hear At night I was very irritated, I couldn't even hear my voice (Renata, 32 years old)

WHICH ARE THE WORST MICROTASKS?

When it comes to moderating violent and pornographic content on social media, workers have expressed concern about the psychological cost of such activities, and the lack of support they get from the platforms. Anger, distress, impotence and sadness were some of the feelings reported by workers on these tasks.

I was working on a Facebook project where I had to review ads and determine whether they contained violent or abusive content, blood, or weapons. Many times, the ads were heavy. [...] You really have to have a strong psyche to handle that kind of work. You had to do everything within an hour, they just pay the hourly rate. They tell you not to even start if you can't finish it. Personally, I think we needed more psychological support and protection. A woman I knew had to seek treatment. It's crucial to try to minimize the impact on workers who are constantly being exposed to images of death and violence, because nobody can really get used to that (Pedro, 23 years old).

You can't really feel good about that, can you? It's just disgusting to think that this kind of behavior is coming from our own species. It's really awful to see how human beings are capable of doing things like this (Cláudio, 54 years old).

I think something should be developed to provide psychological support for professionals, especially to help us deal with the emotions that we feel, this whirlwind of emotions caused by this type of work (Higor, 31 years old).

WHAT ARE THE MAIN WORKERS' COMPLAINTS?

In addition to the repetitive and perceived meaningless nature of the tasks, workers complain about the asymmetries between them, task requesters, and the platforms.

- **UNCERTAINTY and INSTABILITY:** the availability of tasks on platforms is unpredictable, and is often unclear how they are distributed. Since most platforms are based in the Global North, workers complain that task replenishment tends to follow the time zones of the clients' countries, putting Brazilians at a disadvantage when working on global projects. One way to overcome this disadvantage is to start working in the early morning hours when replenishment occurs. This may explain why 27.9% of the sample works on the platforms between 10 pm and 1 am, and 9.4% works between 1 am and 5 am.

- **LACK OF TRANSPARENCY and INSECURITY:** the processes of managing and controlling work is not clear. In particular, workers complain about unclear termination policies (and blocking), admission to projects, as well as the approval and rejection of tasks on platforms. 67.6% of workers who had their microtasks rejected on platforms (and therefore were not remunerated) claim to have received no feedback or justification for the rejection. Claudia, 38 years old, who dedicated hours of her day to micro-work, shared her experience when she was suddenly disconnected from a project on a platform:

> *After I was fired [from the platform], I had a pretty terrible crisis. I had to find a psychiatrist, and he put me on medication. [...] It was disgusting, it hurt a lot - all of a sudden, I was without a job in the middle of a pandemic. I sent several emails after I was let go, but didn't get any response. [...] There was a time when there were no tasks available, unless you woke up at 3 or 4 in the morning to work. I know someone who did this and got very sick. But there are plenty of people who do it. Now that April and May are coming up, whoever wakes up at 3 am will be able to work (Claudia, 38 years old).*

WHAT ARE THE MAIN WORKERS' COMPLAINTS?

- **TIREDNESS and LACK OF INTERACTION:** workers report that the repetitive nature of their tasks leads to fatigue, which is worsened by the lack of interaction. Only 22% of workers engage in discussion spaces such as WhatsApp, Telegram, and Facebook groups. Among them, 45.4% state that they participate in these groups to communicate with other online workers. Sharing information about tasks, raising grievances about the platforms, and updating others on available tasks are other reasons for joining such groups.

It's not a pleasant thing to do, sitting in front of the computer for hours doing it, it's too repetitive. it's exhausting." (Anderson, 54 years old)

There are Whatsapp groups, which are not allowed according to platform's rules. But it's a way for us to communicate. I feel that Whatsapp groups generate a collectivism there, even though it is a work group, we can talk about other things too (Andressa, 29 years old).

I don't talk much in groups because they talk too much. When I can help, I help. Working remotely, we are a bit dependent on the internet and need to interact. I like to follow up, I'm part of three or more groups, including the Appen group. Participating in a group allows me to learn from others and get help when I need it." (Denise, 51 years old)

EXPLORING BRAZILIAN MICROWORK: TRENDS AND IMPLICATIONS

Resulting from a fruitful collaboration between the Brazilian research lab LATRAPS and the French DiPLab research program, this report was inspired by a range of projects we conducted between 2018 and 2022 across Europe and Latin America. This previous research work first provided us with methodological experience and background knowledge to inform the present survey of Brazilian microworkers, and it helps us now to single out its unique outcomes.

When compared to their peers globally, Brazilian microworkers are slightly younger, have lower levels of education, and include distinctively more women. Unlike the female microworkers previously studied in other countries, these women tend to earn more than men, partly because they devote more time to this activity. This strikes as a major novelty. In future, we aim to delve into this phenomenon to understand whether it is a local specificity or reflects broader trends in the evolving market of online microtasks.

Brazil stands out in comparison to Global North countries, particularly in terms of the place of microwork in society. Given the growing trend of work flexibility in an economy where 39 million people work informally (38.8% of the Brazilian labor market), remote microtasking platforms provide a viable alternative. Thus, microwork has become a cultural phenomenon among urban adults, particularly among women. It aligns with other forms of platform labor, such as delivery services and transportation, while also representing a continuation of informal work in cities.

The picture we observe today has been shaped by a series of exogenous shocks experienced in international markets, including the COVID-19 pandemic and subsequent economic and geopolitical crises. These events have prompted a growing number of individuals to turn to remote work platforms as a means of earning money online while working from home and without facing significant barriers. But labor demand has remained largely volatile and has not grown as fast as supply, so that the inflow of such large masses has put downward pressure on remunerations.

EXPLORING BRAZILIAN MICROWORK: TRENDS AND IMPLICATIONS

Meanwhile, the emergence of new intermediaries has also contributed to reshaping the landscape. Unlike the pure platform-as-online-marketplace model known since the mid-2000s, these organizations bring about stability by carefully curating pools of workers and imposing strict nondisclosure agreements and terms of service. While this report does not delve into organizational structures, it is important to briefly note the growing diversification of the sector, with smaller boutique platforms, business process outsourcing (BPO) companies, and multi-layered "deep labor" structures that encompass multiple inter-related organizations with different roles and expertise, for example in software provision, worker recruitment, payment management, tax compliance, and technical support. These new economic actors compete alongside online marketplace platforms, each offering their unique specialization to cater to specific sub-sectors, use cases, and types of products.

Our study showcases the diverse range of outputs of microworkers. One is clickwork, and our study is in line with the research by the Digilabour team on the rise of click farms in Brazil over the past few years. Their work has shed light on the structure of the Brazilian platform-based remote labor market, which revolves around small, repetitive tasks that aim to boost the popularity of clients' contents on social media. The other is data work to feed the development of artificial intelligence (AI), which relies heavily on human labor to train and fine-tune algorithms, despite its promises to automate business processes. The recent rise of so-called generative AI, and the success of language models like ChatGPT, require country- and language-specific data. The need to provide examples and inputs for these language models is one driver of the demand for microtasks in Brazil. GPT stands for Generative Pre-trained Transformer, an algorithm that generates content after being "trained" by humans: micro-workers play a pivotal role in its development.

Trainers, annotators, or data workers, whom we refer to as microworkers, play a pivotal role in the development of this new generation of digital solutions. Unfortunately, their contributions often go unrecognized, and they themselves sometimes overlook the significance of their work.

EXPLORING BRAZILIAN MICROWORK: TRENDS AND IMPLICATIONS

The tasks they undertake may appear deceptively simple at times, such as paraphrasing a sentence, transcribing a conversation, or providing words to describe an image. Yet they are often highly educated and learn new skills online, for example to do tasks more quickly or more effectively.

All the elements we have highlighted are closely tied to ongoing efforts to regulate technology that are taking place across continents. The attempts to regulate gig work and AI in both Brazil and Europe have been welcomed by public opinion as necessary steps toward aligning technology with human values, social needs, and collective well-being. However, these regulatory endeavors have largely overlooked the vital roles played by micro-workers in AI development and their central position within the platform economy.

Our investigation into this form of work aims to illuminate the presence of microworkers in Brazil and to assist local policymakers in gaining a deeper understanding of this emerging occupation within the intricate web of economic and political dependencies in which it is embedded. Microtasking platforms enable tech companies from the Global North to leverage the skills of microworkers to train their technological solutions. However, the benefits derived from this arrangement predominantly flow to wealthier nations, while countries like Brazil miss the opportunity to raise more tax income, and fail to provide extra welfare benefits to workers and to develop infrastructure.

Given that microwork in Brazil is intertwined with the long supply chains of global data, connecting humble homes on the outskirts of São Paulo to data centers in Northern California or Ireland, it becomes evident that effective regulation of AI and informal platform labor cannot be achieved without addressing and regulating these complex global dependencies.

Before concluding this commentary, we must address an important terminological issue: the usage of the term “microworkers” to characterize the digital workers engaged in remote earning activities revolving around data. It is noteworthy that this terminology occasionally coincides with the commercial nomenclature employed by certain platforms, suggesting it is about menial and low-skilled assignments.

EXPLORING BRAZILIAN MICROWORK: TRENDS AND IMPLICATIONS

This interpretation of labor has garnered attention and apprehension within academic and expert circles due to the potential implications it carries. Some of our Brazilian colleagues, like Ludmila Costhek Abílio and Rafael Grohmann, have emphasized the need to move beyond this definition.

Here, it is important to return to the origins of the term “microwork” and its political implications. The concept, which gained popularity in the late 2000s and early 2010s, was initially modeled on “micro-credit,” an economic approach that aims to provide financial inclusion to marginalized and underserved populations with no access to banking services. The notion that data-driven labor platforms could offer a similar opportunity, this time in terms of work, was put forth, sometimes with naive optimism and at other times with a hint of irony.

The controversy surrounding this term does not stem from its potential to devalue labor by minimizing it. Rather, it lies in the unfulfilled promise of development, which indirectly hints at a free-market ideology with traces of colonialism. Although we have chosen to title this report “Microwork in Brazil” to maintain continuity with existing scientific literature (to which we have also contributed), we acknowledge the issue this linguistic choice entails.

Therefore, we are actively engaged in negotiations, involving prominent voices from emerging countries, to develop new analytical categories that accurately capture this phenomenon. These fresh concepts will likely emerge from a dialectic process between academic and activist circles. The latter have displayed remarkable adaptability in selecting labels to organize their struggle for labor recognition. Whether referred to as "data annotators," "information analysts," "AI reviewers," "moderators," or "outsourcing experts," they all belong to a burgeoning category of workers who shape contemporary modes of production. Understanding their experiences is crucial for comprehending the transformations occurring in our work, both in its intrinsic nature and its broader significance.

Matheus Viana Braz
Paola Tubaro
Antonio A. Casilli

FURTHER READINGS

Below, we share bibliographical references that analyze microwork in Brazil and in the world,

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