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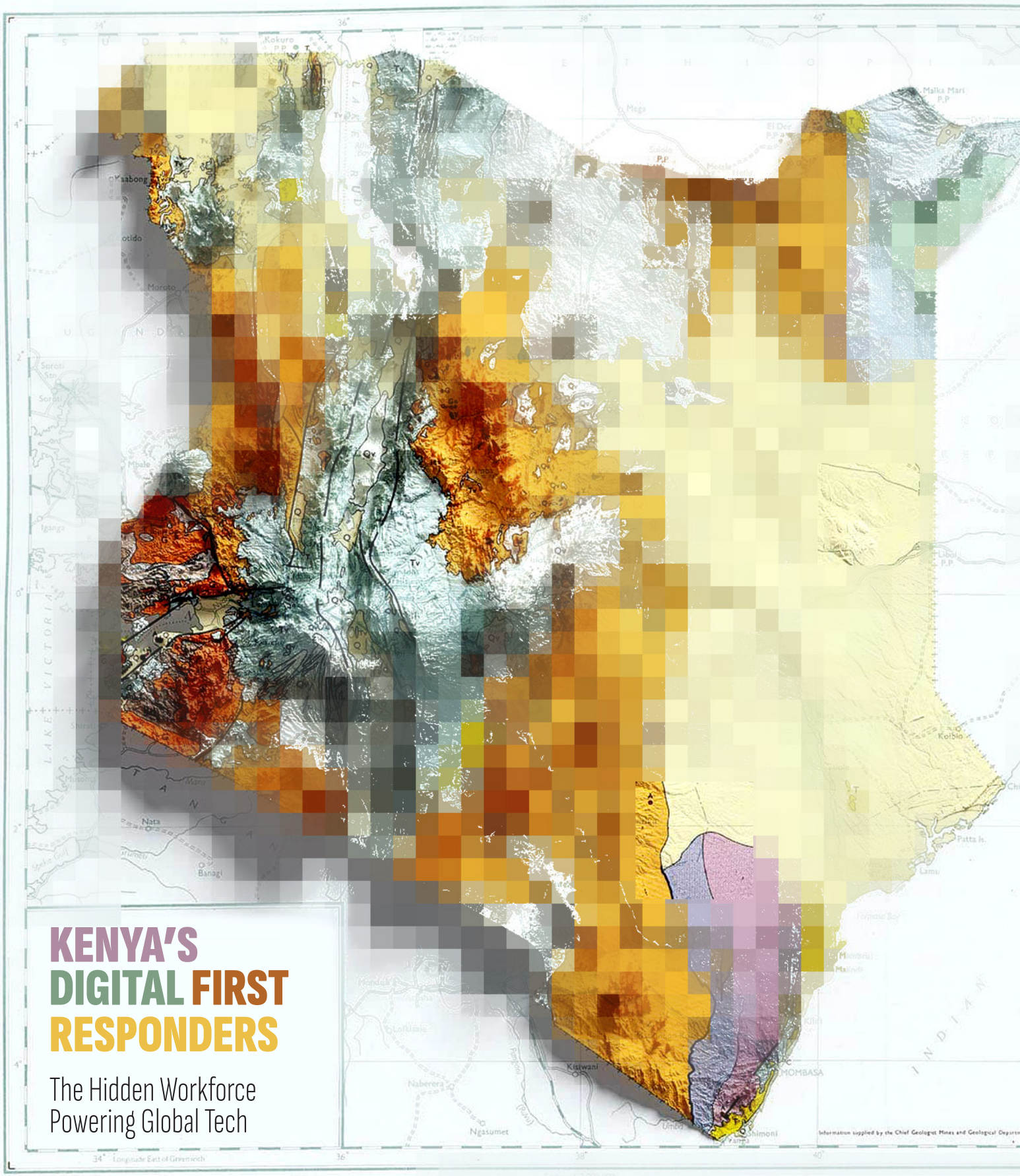

KENYA'S DIGITAL FIRST RESPONDERS

The Hidden Workforce Powering Global Tech

KENYA'S DIGITAL FIRST RESPONDERS:

The Hidden Workforce Powering Global Tech

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Introduction

On a sunny afternoon in Nairobi, Kenya, a data worker receives footage from a Roomba vacuum. The worker labels the objects that the Roomba encounters, such as table legs and floor lamps, in order to teach it to avoid obstacles, and identifies a carpet so that the vacuum learns when it should apply greater suction. Another data worker is given a one-minute pornographic video. The worker types a list of 40 hashtags that describe the video based on the characteristics of the actors—the color of their hair or skin, the size and features of their bodies—so that the video can be categorized for search results. A third data worker is provided images of a murder victim at a crime scene. The worker zooms into an image to trace the outline of a bullet wound and a smashed skull, and labels them as such, to train AI to perform post-mortem analyses. A final worker monitors reels on TikTok, flagging user-generated content for infractions of the platform's terms, such as violent threats or graphic footage.

The seamless functionality of artificial intelligence and the relative safety of online spaces are made possible by a vast, often hidden, global workforce. Data labelers and content moderators form the essential human infrastructure for the world's largest technology firms, performing critical tasks that machines have not mastered. Labelers meticulously annotate images, text, and videos—training the algorithms that power everything from facial recognition and self-driving cars to chatbots and recommendation engines. Content moderators serve as the frontline guardians of online platforms—"digital first responders"—reviewing vast quantities of user-generated content to identify and remove harmful material, including hate speech, misinformation, and graphic imagery. These workers are fundamental to building trustworthy AI and maintaining the integrity of the virtual world, yet their contributions are undervalued and obscured from public view.

This report focuses on data workers in a growing technology hub: Nairobi, Kenya. Fueled by a young, educated, tech-savvy population, a workforce with cultural and linguistic proficiency, an economy with globally competitive labor costs, and significant government efforts to lure tech-related investment, Kenya has emerged as a center for digital labor. Thousands of Kenyans are employed by business process outsourcing companies (BPOs) or work for online labor platforms, undertaking data annotation and content moderation on behalf of major global corporations. A defining characteristic of the digital economy, in Kenya and elsewhere, is the complex web of outsourcing relationships. Major tech companies rarely employ labelers or moderators directly. Instead, they contract the work to large multinational BPOs or specialized platforms that, in turn, often subcontract parts of the work to smaller, local BPOs or use labor brokers to enlist workers from local labor markets. The layers of subcontracting in digital supply chains create opacity: workers at the end of the chain have no visibility into the end client whose products they are building or safeguarding. Outsourcing has profound impacts on working conditions, as layers of intermediaries skim margins and make it difficult for workers to hold lead firms accountable for labor violations or poor treatment. This report sheds light on the experiences of Kenyan data workers at the far reaches of digital supply chains and offers recommendations based on workers' desires for improved working conditions.

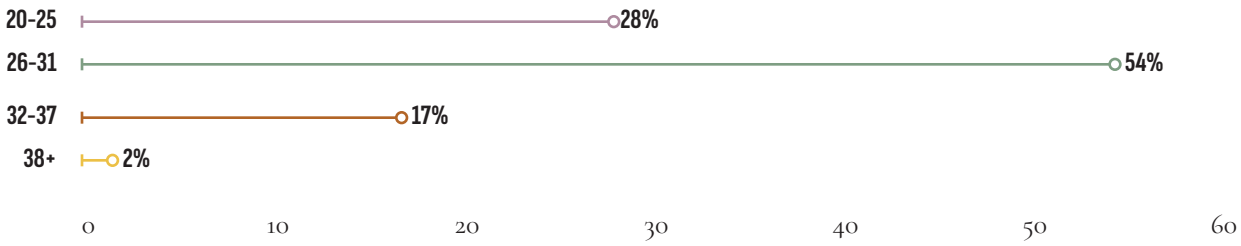
Methodology and Sample

During July 2025, the Data Labellers Association administered an in-person survey to digital supply chain workers in Kenya to better understand their working conditions and the impacts of this work on their wellbeing, yielding 226 valid surveys. All survey responses are anonymous. The sample includes data labellers (87%), content moderators (8%), and other digital workers such as transcribers (5%). Of these respondents, 54% worked for online platforms and 46% were employed by BPOs. Among the respondents who worked for BPOs, 19 firms were represented.

In terms of educational attainment, 39% of respondents have earned a bachelor's degree, 39% have completed some university studies, 22% have a high school diploma, and 1% have a master's degree. The top areas of study were computer science (22%), engineering (11%), and business administration (10%).

More than one-quarter (28%) of respondents are age 20 to 25, more than half (54%) are 26 to 31 years old, 17% are 32 to 37 years old, and 2% are 38 years old or older (Figure 1).

FIGURE 1 **Age of Survey Respondents**



Fifty-eight percent of respondents were men and 42% were women.

All respondents were born in Kenya.

Leading global corporations, including technology firms, major retailers, and online platforms, outsource essential data tasks like content moderation and AI training to BPOs and digital labor platforms. These BPOs and platforms manage global workforces of data workers who perform tasks according to the end clients' specifications, while workers have little insight into who their work benefits and how it will be used.

While most data workers opt to work for either a BPO or a platform, 23% of workers surveyed are working for both a BPO and a platform, an indication of workers' attempts to diversify income sources and increase their take-home pay.

Workers hired by BPOs are likely to have an employment contract with their employer (82%). Yet one quarter of those workers say they do not understand everything in their contract. Nearly all (93%) of BPO workers are asked to sign a non-disclosure agreement as a condition of employment, which can have consequences for speaking out about substandard conditions or other workplace challenges.

Platform workers are far less likely than those employed by BPOs to have a contract with the platform they use most frequently (26%), and of those, two-thirds (67%) do not understand everything in their contract. Contract documents can be lengthy and use legal language unfamiliar to workers. Thirty-four percent of platform workers report being asked to sign a non-disclosure agreement.

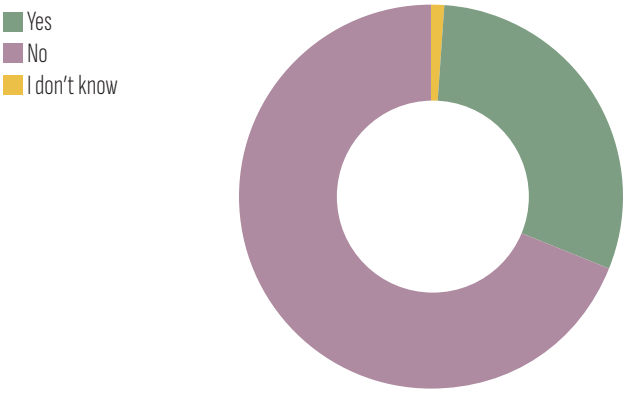
Non-payment of work is a common issue: more than half of platform workers (53%) report that, in the past year, they have done platform work and not been paid for the tasks they completed. Workers report tasks being rejected, often with no explanation, account deactivation without notice or recourse, and waiting long periods between task completion and payment. Lack of payment and delayed payment can have substantial impacts on workers' financial insecurity, a topic we turn to next.

Data Workers Face Mounting Financial Hardships

Despite playing a critical role in the digital economy, many data workers face persistent financial hardships. With inadequate job security and compensation well below a living wage, they struggle to meet basic needs, including paying for housing, healthcare, and education and childcare, even as their labor fuels the development of cutting-edge technologies. This disconnect between the value of their contributions and their economic personal realities underscores the growing inequality in digital supply-chain labor markets.

FIGURE 2

In the last two months, were you able to comfortably afford housing?



When asked whether in the past two months they were able to comfortably cover their housing costs, the vast majority of respondents–69% –indicated that they are not able to do so (Figure 2).

Nearly three in four respondents (73%) reported that in the past two months, they were not able to comfortably cover childcare or school fees (Figure 3).

FIGURE 3

In the last two months, were you able to comfortably afford childcare/school fees?

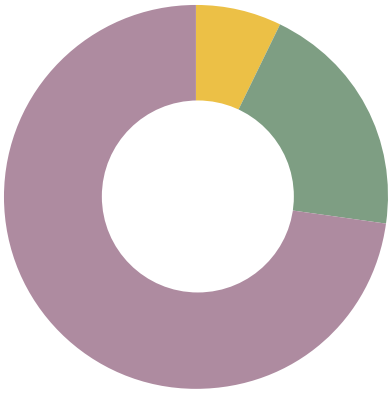
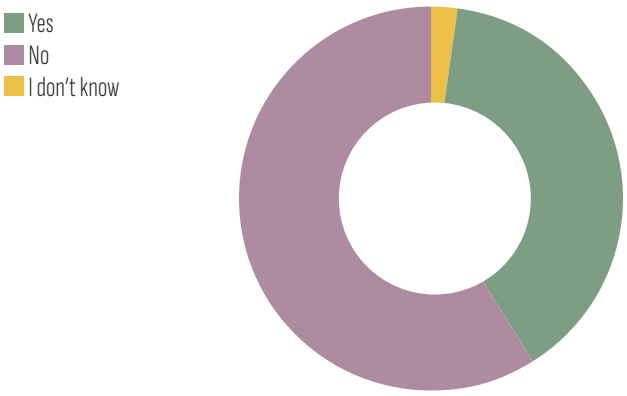


FIGURE 4

In the last two months, were you able to comfortably afford medical expenses?

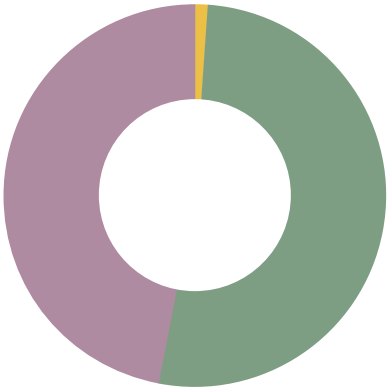


When asked whether in the past two months they were able to comfortably cover the costs of their medications and medical fees, 59% of respondents indicated that they are not able to do so (Figure 4).

Nearly half of respondents (47%) reported that over the past two months, they were not able to comfortably afford the cost of food (Figure 5).

FIGURE 5

In the last two months, were you able to comfortably afford food?



Because of the challenges data workers face in covering the costs of basic necessities, many also face difficulties paying for work-related expenses. Nearly half (47%) indicated that in the past two months, they were not able to comfortably cover the costs of internet service (Figure 6), and 55% were not able to comfortably cover their transportation costs (Figure 7).

FIGURE 6

In the last two months, were you able to comfortably afford internet service?

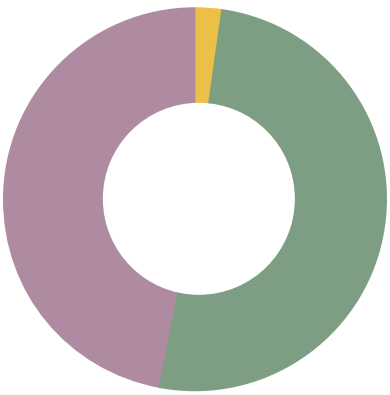
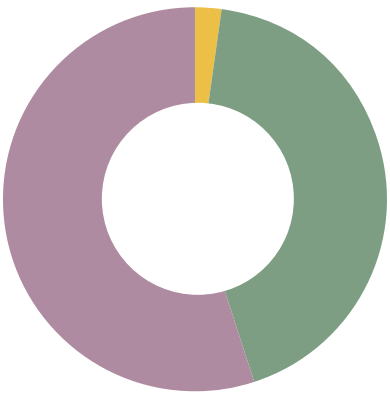


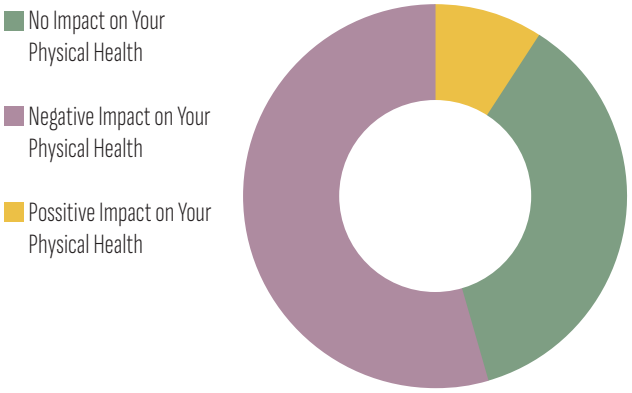
FIGURE 7

In the last two months, were you able to comfortably afford transportation?



Data work poses significant physical and mental health risks to workers. Many data annotators and content moderators experience isolation, inadequate support from their employer, and burnout. Physically, both roles involve prolonged sedentary periods staring at screens, which can lead to eye strain, headaches, repetitive injuries such as carpal tunnel syndrome, and musculoskeletal disorders resulting from poor ergonomics. While 54% of survey respondents report that working as a data worker has had no impact on their physical health, 36% report a negative impact, and just 9% report a positive impact (Figure 8). By far, the leading negative impact is degraded eyesight and eye strain as a result of prolonged screen time, followed by back pain that comes from sitting for extended periods.

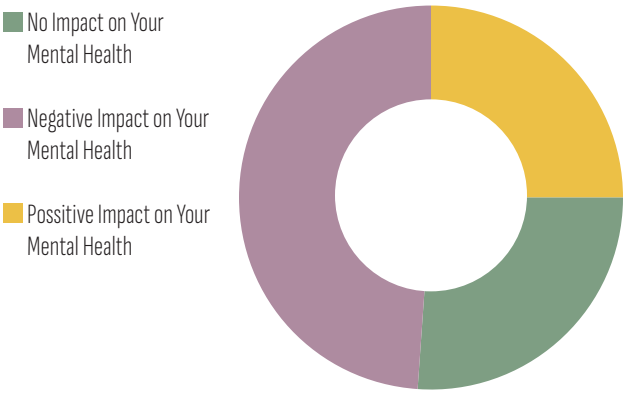
FIGURE 8 **Impacts of Working as a Data Worker on Physical Health**



Mentally, the impacts of data work can be severe, particularly for content moderators who are regularly exposed to graphic, violent, or disturbing material. Data annotators, depending on the project, also face psychological risks, while even mundane annotation tasks can lead to fatigue and low morale due to repetition and pressure to intensify the pace of work. The survey finds that 48% of data annotators report that working as a data worker has had no impact on their mental health, 27% report a negative impact, and 25% report a positive impact (Figure 9).

FIGURE 9

Impacts of Working as a Data Worker on Mental Health



The most commonly reported negative impacts are insomnia, anxiety, stress, and depression. Underreporting is common with mental health issues, given the continued stigma surrounding psychological challenges, so these are likely conservative estimates. The sample size of content moderators is too small to allow for separate analysis, but we believe the prevalence of negative mental health impacts is considerably higher among content moderators.

Eighteen percent of data workers report having to repeatedly view content that was violent or disturbing, and the vast majority (80%) report that viewing disturbing content caused them to experience negative feelings. Many workers keep these feelings to themselves, lacking a person with whom they feel comfortable sharing such difficult experiences. Workers report that some employers (41%) offer what they call "wellness coaches" to support workers, but many workers say they fear that the information they share will be used against them. Others lack confidence that talking with a wellness coach would be helpful.

Data Worker Demands

Data workers are essential to the functioning of today's digital economy, yet many continue to face low pay, insecure employment, and health challenges related to their work. In response, data workers are developing an employer code of conduct that affirms workers' right to fair treatment and dignified labor. This includes improvements in pay that reflect the value of their contributions, reasonable working hours and predictable scheduling, transparent and secure contracts, and access to essential benefits such as mental health and medical care. These standards are not only a matter of fairness—they are foundational to building a more ethical and sustainable digital economy.

Survey respondents identified four key components of more fair and equitable employment. The first concerns pay: the most commonly cited desire is changes in pay standards, principally the need to raise pay rates. As the survey data showing widespread financial hardships makes clear, data workers in Kenya routinely struggle to cover their basic living expenses.

Employment insecurity is a reality for many, if not most, data workers in Kenya. Because of this, a second key demand is the adoption of longer-tenure, legally binding contracts written in language workers understand. Many data workers operate as independent contractors or through layers of subcontracting, which strips them of job security, benefits, and avenues for recourse against substandard working conditions. This precariousness contributes to a constant sense of instability and pressure to accept any available work, regardless of its impact on workers' well-being.

Relatedly, respondents called for revisions to company policies governing work hours. This includes calls to reduce the required number of work hours, allowances for greater working time flexibility, and the easing of deadlines that require overly long workdays. Data annotators often face sporadic work schedules, ambiguous task instructions, and constant performance monitoring. Mistakes can lead to immediate loss of income or access to future assignments. Data workers are employed in high-pressure environments, often under conditions that are physically, psychologically, and emotionally taxing. Underlying the demand to alter scheduling practices is the need to alleviate some of the work stresses that have been so debilitating for the workforce.

In recognition of the physical and mental hardships faced by data workers, a fourth demand concerns the need for companies to provide better mental health counseling as well as medical insurance. Data workers involved in content moderation are frequently exposed to graphic and disturbing material—such as violence, hate speech, and sexual abuse—at a rapid pace, sometimes reviewing hundreds of items per day. This has led to widespread reports of trauma, depression, and substance abuse among workers, especially in outsourced operations. Companies in the digital economy bear some responsibility for the harmful exposures to which workers are subjected, and they must do more to safeguard their well-being. Harms could be at least partially mitigated by (a) contracts that provide greater transparency about work tasks and ensure workers' informed consent to undertake these tasks, (b) a more robust support infrastructure that helps workers cope with the emotional toll of these tasks, and (c) more worker-friendly scheduling that eases the burdens associated with intense periods of exposure to harmful material.