

Digital labour in Africa: Opportunities and Challenges

- ❖ **Low internet penetration rates are reflected in the extremely low levels of platform work undertaken in Africa.**
- ❖ **However, work disparities extend beyond access issues. There are disparities even among those who are online. Individuals with digital skills, measured by years of using the Internet, are more likely to participate in digital labour markets.**
- ❖ **Individuals residing in Asian and Latin American countries are more likely to work on platforms that require digital skills while those in Africa participate in platforms, which source largely domestic and e-hailing piecework.**
- ❖ **An analysis of males and females who have similar digital skills and education levels shows that males (USD 9.44) earn more than females (USD 5.97), resulting in a significant wage gap of USD 3.47.**
- ❖ **The large percentage of income differentials between males and females is unexplained by quantifiable factors such as education and digital skills, but correlates highly with invisible factors that are assumed from qualitative studies to underlying cultural and particularly patriarchal factors**

Introduction

Increased access and use of the Internet has led to the advancement of online labour, which is driving the gig economy. The ‘platformisation’ of the global economy enables virtual labour mobility—the remote buying and selling of digital labour, which is by its very nature highly mobile and not non-geographically constrained. It is estimated that these platforms have created a market worth over USD5 billion for online work with over 48 million workers worldwide (Kuek et al., 2015; Wood et al., 2020). Digital work can be roughly categorised into microtasks and macrotasks. Microtasks include tasks that can be performed within a short time horizon and are often clerical in nature, while macrotasks are long-term projects that typically require specialised skills and usually attract much greater remuneration.

Virtual labour mobility therefore has the potential to raise incomes by decoupling workers from the geographical constraints of local labour demand and improving the matching of work with individual skills. At the same time, online work may erode labour protection standards and unleash a ‘global race to the bottom’ in wages and workers’ rights (Graham et al. 2017a; Mothobi et al., 2017). Further, there is evidence that online labour platforms exacerbate the frictions that result in inferior labour outcomes for women, ethnic minorities and other disadvantaged groups (Belle & Mudavanhu, 2018).

"Digital labour platforms compound market frictions that results in inferior outcomes for the poor"

There is a growing body of literature that seeks to understand the nature of online platforms and their contribution to worker welfare. Most existing studies on digital platforms examine labour participation on digital labour platforms in developing countries using either microstudies of limited numbers of workers provided by platform owners or accessed through the purchasing of their services or big data approaches, consisting of quantitative data extraction from work platforms and stakeholders’ interviews (S4YE, 2018). The nature of this research, which tends to depend solely on data extracted from only one specific online platform or a limited number of in-depth interviews from a few platforms limits the findings.

As an alternative, Research ICT Africa (RIA) in collaboration with Learning Initiatives on Reforms for Network Economies Asia (LIRNEasia) Asia and Diálogo Regional Sobre Sociedad de la Información (DIRSI) in Latin America, conducted a demand-side nationally representative survey, between 2017 and 2019 across the three regions.

The main objective of the study was to assess the implications of changes in the nature of work (digital labour) for developing countries in the Global South, for marginalised groups in particular, for equitable growth and inclusive social development.

Evidence from the Future of Work in the Global South (FoWIGS) study reveals that online labour platforms compound market frictions that result in inferior outcomes for the poor, particularly for women, ethnic minorities and other disadvantaged groups. Although there is evidence from other research that digital labour platforms might exacerbate historical inequalities, most of the studies have remained descriptive in nature - their conclusions and recommendations are based on results obtained from summary statistics and hence their results cannot be subjected to any statistical or robustness checks.

“There are several barriers for workers in Africa that limits workers’ ability to reap welfare gains from platform or digital work”

The FoWIGS study contributes to the current literature by identifying the nature of inequalities in developing countries and understanding the extent to which involvement in the digital economy closes, reproduces or widens existing inequalities to improve public policy design and implementation. The Study analysed how the digital economy can be harnessed to mitigate traditional market frictions, such as the digital skills gap, discrimination and stereotyping, and how digital labour markets, in particular, can contribute to more socially inclusive digital labour markets.

Barriers to Digital Platform Participation in Africa

Despite their perceived potential to contribute to both economic growth and job creation, especially in developing nations with low levels of industrialisation and employment, there are several barriers for workers in developing countries that limit their ability to reap welfare gains from platform work. One of the major barriers in Africa is the low levels of Internet

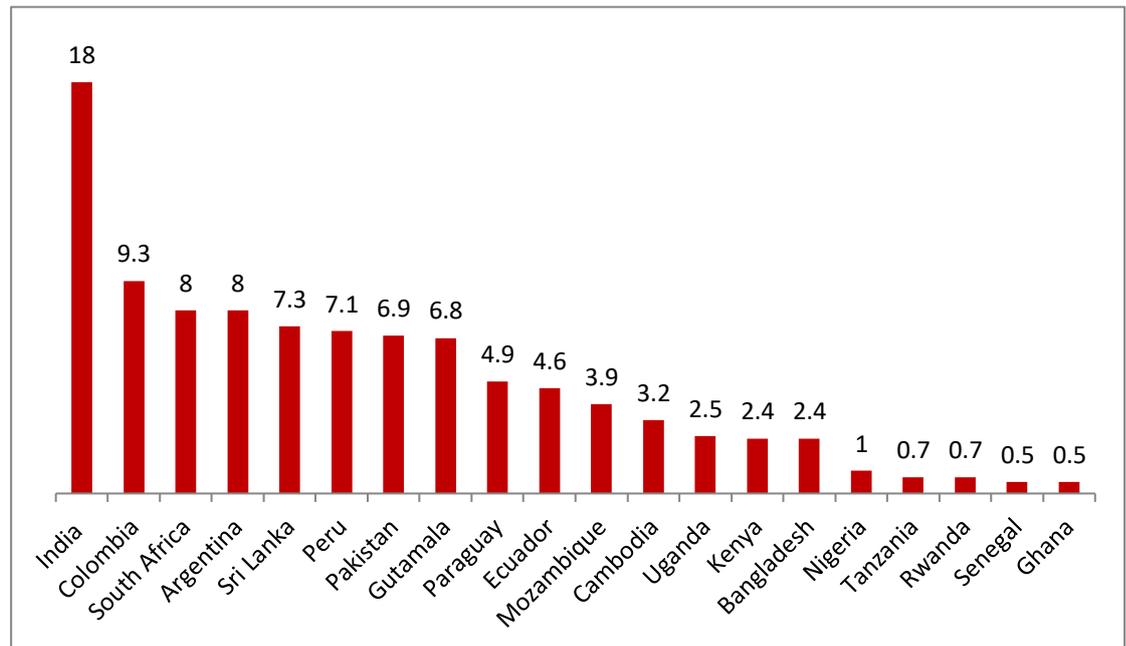
penetration. According to the After Access survey, less than a third (29%) of people residing in Africa, who are 15 years and older, use the Internet. Among the 10 surveyed African countries, South Africa is the only African country with more than 50% of its population using the Internet, followed by Lesotho (32%) and Senegal (31%). Internet use in some of the largest economies, such as Nigeria, Kenya and Ghana, was found to be less than 30%. Mozambique (10%) and Rwanda (9%) has the lowest Internet penetration, with other least developed countries – Uganda and Tanzania at 14% only marginally higher.

Evidently, the majority of African countries have not reached the critical mass required for a country to benefit from the network effects associated with economic growth and other positive development multipliers. Furthermore, the majority of people living in developing Africa do not have the necessary devices such as computers and laptops, which are necessary for meaningful participation in the digital labour market and are largely restricted to tasks that can be performed on smartphones such as e-hailing and online delivery with limited opportunities for microwork such as coding, tagging and the categorisation of content (Mothobi et al., 2017). Other barriers include lack of information and communication technology (ICT) education and digital skills as well as lack of payment mechanisms for those financially excluded.

"There are gender disparities in income received from platform work, with women receiving significantly less than men."

Platform work is also not gender neutral, as often claimed. As indicated, there are gender disparities in income received from platform work, with women receiving significantly less than men. Gender stereotypes are often reinforced online. A study by RIA shows that females are less likely to be hired on e-hailing platforms, while more likely to be hired on online housekeeping services platforms (Mothobi et al., 2017). This phenomenon could be attributed to traditional inequalities and cultural beliefs that women are not capable of performing certain work. This has disadvantaged women and compounds gender inequality.

Digital inequalities are not only observed within countries, but also across regions and countries. These inequalities are highly correlated with Internet inequalities and traditional inequalities. For instance, evidence from RIA's comparative report on ICT usage indicates that Internet usage and digital gender inequalities are highly aligned with gross national income (GNI) per capita, which implies that high income countries are more likely to have higher Internet penetration than low income or developing countries. Similarly, as most of the online digital work platforms are hosted online, countries with higher Internet penetration are found to have a greater number of individuals who participate on online digital work platforms. As evidenced by the findings of the After Access survey, the majority of African countries have a lower GNI compared to most Latin American countries and, as a result, tend to have low levels of Internet usage and very minimal digital work. As shown in Figure 1, although still miniscule, South Africa is the only country in Africa that has more than 3% of Internet users participating on online work platforms, while for the majority of African countries (Tanzania, Rwanda, Senegal and Ghana) less than 1% of people who use the Internet are microworkers.

Figure 1: Distribution of digital workers, by country - % digital workers

Source: Based on [After Access](#) data

Determinants of Digital Labour Participation in the Global South

"Digital exclusion is not only an issue between those who are online and offline, but discrepancies also exist among those who are online."

An assessment of the determinants of digital work using a logit model suggests a positive and significant relationship between digital skills, measured by years of experience using the Internet and the ability to solve technical problems, and participation in the labour market. There is evidence that digital exclusion and inequality is not only an issue between the online and offline, but even among those who are online where there is some form of discrepancy. The majority of those who are online and not digitally competent tend not to benefit from the digital economy in the same way as those who are offline.

The results further show that the availability of devices, specifically computers, are a critical determinant of participation in the digital labour market. Individuals who own computers are more likely to participate in digital work than those who do not have computers. These results show that people who live in African countries are less likely to make meaningful contributions via online digital platforms. This is because African countries have leapfrogged fixed line technology (desktop computers and laptops) into mobile technology. Studies by RIA have shown that the majority (68%) of Africans who are online, access the Internet via smartphones. The ownership of computers and laptops has remained very low on the continent at 3% and 6% respectively. This result explains why most of African digital online workers participate in microtasks that are generally sourced through online platforms, but performed offline.

The findings also suggest that the current digital inequalities build on and exacerbate historical disparities. The results show a positive and significant relationship between participation on digital labour platforms and education and income. Relatively richer individuals are more likely to participate in the digital labour market than those who are

"Online work disparities extend beyond access issues. For instance, in Asia and Latin America, online workers participate in macrotasks that requires digital skills, while in Africa the majority participate in low-skilled microtasks."

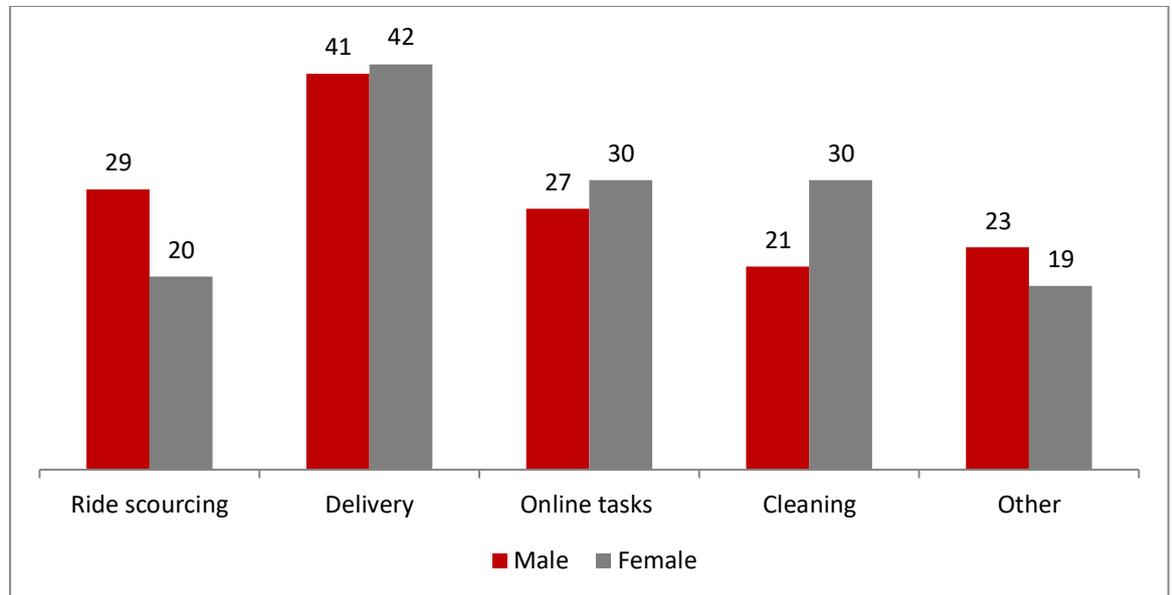
relatively poorer. On the other hand, individuals who reside in rural areas are more likely to be poorer than those who live in urban areas.

The FoWIGS study also shows that online work disparities are beyond access issues. For instance, in Asian and Latin American countries, most online workers participate in macrotasks that require digital skills, while in Africa, the majority of those who participate in online work perform microtasks (traditional piecework) such as domestic work and e-hailing (driving). The findings implicitly reveal that the speed and transformational nature of these digital platforms varies across countries and tends to widen income inequalities across countries and within countries. While online platforms have the potential to contribute to Sustainable Development Goals (SDGs), employment creation and economic growth, this is not guaranteed and, in fact, can exacerbate historical inequalities (Mothobi et al., 2017). The Study reveals noticeable differences between men and women in the type of digital work being performed as follows:

1. Gender differences in labour and motivation to engage in online work

As Figure 2 demonstrates, 29% of men work in ride-sourcing versus only 20% of women, resulting in a statistically significant difference of 9%. The differences are less noticeable in other types of work, except for domestic work in which 30% of women engage in these activities, compared to 21% of men.

Figure 2: Distribution of workers among online platforms by gender (%)



Variables	Male (1)		Female (2)		Difference (1) - (2)	P-value
	Mean	N	Mean	N		
Socioeconomic characteristics						
Total income	1259.726	347	911.089	243	348.637	0.0014***
Education level	2.334	347	2.251	243	0.083	0.1504
Rural	0.271	347	0.235	243	0.036	0.3205

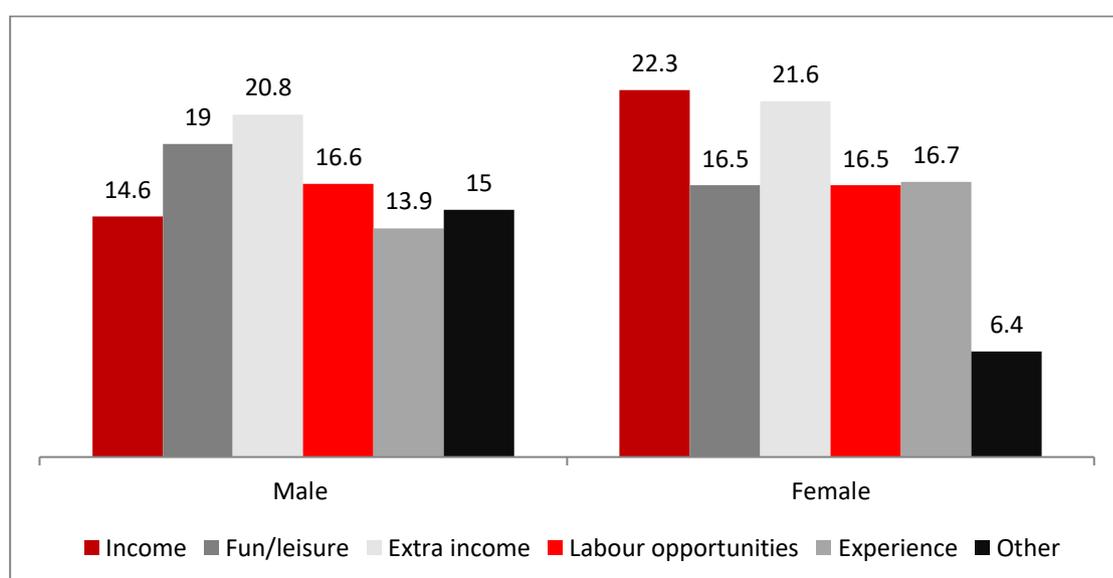
Note: ***p<0.01, **p<0.05, *p<0.1.

Note: Agricultural, property rental, government transfers, pension, allowances, scholarships, and investment income excluded. Income is expressed in 2015 international US dollars converted using PPP exchange rates. Source: Based on [After Access](#) data

"Average income for male microworkers is USD 1259.73 compared to USD 911.09 for women."

Overall, Figure 3 shows that the main motivation to participate in the online labour market is highly correlated with income. Interestingly, while women are more motivated by income (22%), most men are motivated by getting more labour experience (21%). In addition, in terms of digital literacy and skills, 47% of respondents said they are able to solve technology related problems by themselves of whom 50% are female workers and 46% male workers, suggesting that women who work on online platforms are somewhat more skilled than their male counterparts. Similarly, when examining the number of years of experience online workers have using the internet—overall, all workers had an average of 6.1 years of experience using the Internet. Men had six years of experience with women slightly higher, at 6.2 years of experience.

Figure 3: Reasons for participating on the digital economy by gender - % digital workers



Source: [After Access](#). Authors' own elaboration.

2. Gender income differences despite similar profiles

A key finding of the FoWIGS study, when analysing both males and females with similar digital experience and education levels, is income differences. The average income for male microworkers is USD 1259.73 compared to USD 911.09 for women. This shows a significant difference in income of approximately USD 348 in favour of men. This result demonstrates that even after overcoming the first phase of digital inequality, i.e., access, women still face challenges once they are online. Men are more likely to generate higher incomes from participating in the digital labour market and the difference cannot be attributed to differences in education and age, but to the gender effect. The results show that even after surpassing connection and education barriers as well as experience differentials, women still face significant challenges in the digital labour market. For example, the study finds that if women do get hired, they are likely to be paid less than their male counterparts. Thus, the results show that platform work indeed tends to mirror and even amplifies historical inequalities that exist between men and women.

3. Income differences may be due to unobservable characteristics

"Even after surpassing the hurdle of being connected, women still face challenges in the digital labour market."

To quantify the digital gender effect, the FOWIGS study employed the Blinder-Oaxaca decomposition model, which permits the decomposition of mean (log) incomes by gender. The results from the Blinder-Oaxaca decomposition model show that digital labour tends to build on existing inequalities between men and women. Overall, the difference in the wage gap between men and women is significantly different. The results show that the mean log-income is 9.44 for males and 5.97 for females, resulting in a significant wage gap of 3.47. These results are consistent with Gillwald and Mothobi (2019) who conclude that even after surpassing the hurdles of being connected, women still face challenges in the digital labour market. These differences in incomes might be attributed to existing patriarchal values and norms, which tend to treat women as second class citizens, but the quantitative data is unable to demonstrate this and will require qualitative verification. The results further show that differences in employment status, labour experience, education, time spent socially online and offline account for 8% of the income gap. More importantly, the study shows that if women were not historically excluded, i.e., if they were afforded the same chances of schooling, socializing and not excluded from the traditional labour market, they would be more productive in the labour market than males. These results build on the existing literature that shows that even though females are excluded, they have the capability to outperform their male counterparts once they skip the first level of exclusion. For instance, Mothobi, Gillwald and Aguera (2020) show that once females skip the first level of exclusion in accessing finance for their informal businesses, their businesses are less likely to default on their loans and more likely to be profitable than their male counterparts.

Dividing the income differentials into parts that can be explained by group differences in education and skills or work experience and a residual part that cannot be attributed to group differences and unexplained differences, the study shows that a large percentage of

differences in incomes between males and females remain unexplained. This is an indication that income differentials between males and females are due to other factors such as discrimination, culture and other patriarchal factors that tend to exclude men. Secondly, the study concludes that being female has a negative impact over the total log-income of those, both who participate and do not participate in the digital labour market. However, the coefficient is large for those who do participate. This suggests the vulnerability that women face in the labour market. Nevertheless, for women participating in the digital labour market, their income is doubled.

Conclusion/Recommendations

It is evident from this quantitative study that even after surpassing the main barriers of being online, women are more likely to face challenges even when they are online. Women are more likely to face significant challenges when participating on online digital platforms. Other than being susceptible to harassment online (Bartlett et al., 2014; Jane, 2014) the digital market often treats women differently despite having similar digital experience and education levels. Women are more likely to participate in platforms that offer less pay compared to men. For example, the results show that even when females have achieved the same level of education and skills, they seem to earn less than males. This difference cannot be attributed to variations in education, age and skills, but rather to an 'invisible' gender effect. To tease out what could be the sources of these differences the study adopted the BOC model, which shows that the differences in income levels or the gender disparities in the online work might be due to other behavioural and cultural factors that were not captured in the quantitative survey. These factors might include gender discrimination, patriarchal tendencies, cultural aspects and other factors that cannot be quantified.

The findings of the study confirm the structural and intersectional nature of gender inequality. The need to redress this inequality is fundamental and will require a systemic shift that can be addressed through rapid interventions. While governments may be able to enforce the compliance of local platforms with industrial relations legislation most online workers are working cross-jurisdictionally on global platforms, which are very often not even accountable to the countries in which they have their headquarters. There has been pushback by governments, particularly in the European Union, but also the OECD and G20 to making international platforms more accountable with regard to the protection of fundamental rights such as privacy and freedom of expression or to pay taxes to countries in which they generate revenues. Bringing platforms in line with progressive international labour laws, such as those promoted by the International Labour Organisation (ILO) as well as local laws and practices that do exist in some countries covered by the study, such as South Africa, which makes gender discrimination illegal, would go some way to reducing the gender disparities revealed in the findings, such as unequal pay, in the medium term. This will require African governments engaging far more actively in processes of global governance that are seeking to make platforms more accountable and demanding the protection of the rights of citizens under international normative frameworks.

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References

- After Access Surveys (2017). Household and Individual Surveys. Research ICT Africa. https://www.datafirst.uct.ac.za/dataportal/index.php/catalog/765/related_materials
- Bartlett, J., Norrie, R., Patel, S., Rumpel, R., Wibberley, S. (2014). Misogyny on Twitter. London, England: Demos.
- Belle, J.V., & Mudavanhu. (2018). Digital labour in Africa: A status Report. Centre for Developing Informatics Global Development Institute, Paper No.5. SEED. <https://diodeweb.files.wordpress.com/2018/01/digital-labour-in-africa-diode-paper.pdf>
- Gillwald, A., & Mothobi, O. (2019). After Access 2018: A demand-side view of Mobile Internet from 10 African countries. Policy paper No.7, Series 5. Research ICT Africa.
- Graham, M., Hjorth, I., & Lehdonvirta, V. (2017). Digital labour and development: impacts of global digital labour platforms and the gig economy on worker livelihoods. *Transfer*, 23(2), 135–162.
- Jane, E. A. (2014). “Back to the kitchen, cunt”: Speaking the unspeakable about online misogyny. *Continuum: Journal of Media & Cultural Studies*, 28, 558-70
- Kuek, S.C., Paradi-Guilford, C., Pina, P. & Sign, M. (2015). Global opportunities in online outsourcing. World Bank Group. Available at: <https://openknowledge.worldbank.org/bitstream/handle/10986/22284/The0global0opp0n0online0outsourcing.pdf>
- Mothobi, O., Gillwald, A. & Aguera, P. (2020). A demand side view of informality and financial inclusion. Policy paper No.10 series 5. After Access. Research ICT Africa
- Mothobi, O., Schoentgen, A., & Gillwald, A. (2017). What is the state of microwork in Africa? A view from seven countries, 1–19.
- S4YE. (2018). Digital Jobs for Youth: Young Women in the Digital Economy, (September).
- Wood, A.J., Graham, M., Lehdonvirta, V., & Hjorth, I. (2019). Good gig, bad gig: autonomy and algorithmic control in the global gig economy *Work. Employ. Soc.*, 33 (1) (2019), pp. 56-75