The Formal and Informal Regulation of Labor in AI: The Experience of East and Southern Africa

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Abstract: The spread of AI technologies has had far reaching consequences for work and employment regulation around the world. This conceptual paper explores the case of AI and formal and informal regulation in southern and east Africa, according particular attention to the cases of South Africa and Kenya. Within the region, governments seem primarily concerned with the potential of AI to promote economic diversification, rather than the protection of employees whose work autonomy – and, indeed, jobs – have been affected by the rise of AI technologies. There have been periodic efforts to promote codes of conduct, but these are primarily voluntary and industry centred. Unions and ad hoc worker associations have sought to push back; here, progress has been very uneven, although in some cases, this has made for employers accepting the need for basic rules of fair play. Meanwhile, several governments in the region have purchased AI technologies to monitor citizens and have deployed them against unions.

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AI holds profound consequences for workers and in doing so, raises many regulatory concerns. Although many African countries have serious infrastructural challenges or shortfalls, the production and deployment of AI systems has penetrated many nations on the continent, leading to two related regulatory concerns. The first is around the regulation of laborlabor to encompass those African workers performing low end work around the development of AI systems, the second around the sharing of information in authoritarian states and the implications for organized labor and civil society. This paper explores these issues, looking at the case of southern and east Africa, according to the two largest economies in this area, South Africa and Kenya.

Regional Developments

AI-Enabled Surveillance of Unions

Kenya - along with Zambia, Botswana, Uganda and Zimbabwe - appears to have engaged the services of Circles, an affiliate of the NSO group, whose AI-based cellphone hacking software was deployed by authoritarian countries to spy on opposition members, civil society and trade unions (Ongeri, 2020; Dadoo, 2021). This has been supplemented, in at least the case of Uganda and Zambia, by the purchase of facial recognition systems and digital surveillance systems from China (Karombo, 2020). In all these countries, unions have played an important role in seeking to hold governments to account; AI-enabled monitoring of key leaders has the potential to weaken campaigns and there is nothing to stop authorities sharing data with employers. In other more authoritarian societies in the region, governments have been uncertain as to whether technology will enable or undermine their power; an extreme

case of the latter was a bungled plan by the Eswatini government to switch off internet access in the country ahead of the launch of a new opposition movement in 2022 (Mamba, 212).

There have been moves towards regulation of AI in some or other form in the region, although some of the focus has been on the support and development of AI based industry. For example, as with many other countries in the region, the primary focus in Botswana has been on encouraging AI industry, although recently a *Data Protection Act* has been promulgated. In Eswatini, there have been moves to constrain negative credit profiling of individuals on racial grounds UNESCO, 2022). Namibian legislation again has had limited scope, but there have been moves to promote greater transparency in terms of user data, as is the case in South Africa (ibid.). However, to date, there has been little that has expressly addressed worker rights.

Malawi has approached AI regulation in a similar fashion, but with a stronger emphasis on the benefits of data sharing, and on facilitating AI usage through PPPs (Public Private Partnerships), which themselves have an unenviable reputation for opacity around the world (UNESCO, 2022). In Mozambique and Angola, there has been a tendency to emulate policy initiatives elsewhere in the Lusophone world, most notable around the usage of video surveillance technologies (ibid). This is particularly the case for Angola which has very close historical, cultural and economic ties with Brazil, and Angolan elites, with Brazilian commercial interests deeply interpenetrating the Angolan political elite (Dye and Alecastro, 2020). However, AI policy in the region is only emerging; this has led to a number of NGOs (eg the African Leadership University Foundation) and governmental funding agencies (eg the Canadian IDRC/CDRI) providing support for the development of policy options.   There have been periodic drives by industry and third sector players to promote voluntary standards (eg alignment with international codes of conduct, such as the G7 one) and to raise

awareness. In respect of the latter, an example would be, Sentech, a South African state-owned electronic communications enterprise, which has sought to promote wider awareness and discussion around the ethics of AI, focusing on concerns of bias and privacy.

Low end work in the AI economy

There is much hype about the potential of AI to free workers from routine tasks and create new high value-added areas of economic activity. Governments have sought to facilitate this process to become winners in what is seen as a race for leadership in the area. However, the development of AI systems involves much low-end work, and, in the case of southern and east Africa, this has been poorly regulated. Indeed, it can be argued that existing labor relations legislation is poorly equipped to manage this new area of economic activity, given the widespread prevalence of remote, insecure and yet closely monitored work. Researchers argue that as countries compete for advantages in the AI race, this has often led to the overlooking of worker interests, even as there are concerns as to the consequences for existing decent jobs, and the creation of new low-end ones around both the production and deployment of them (Ponce, 2022). In South Africa and Kenya, there has been a rise in workers employed as 'data janitors' in structuring and classifying the large amounts of data needed for machine learning algorithms (Graham et al., 2017). Graham and Anwar, (2020) argue that whilst for many, such work may be a means of survival, only a very small proportion of the profits generated accrues back to such workers (). Moreover, some work suggests that, as workers were in a poorer bargaining industry in Kenya, they were more inclined to accept very low wages as a survival strategy (Graham et al., 2017). Other

research suggests that in South Africa, many performing such work do so as a survival strategy (NEDLAC, 2023).

Digital janitorial work includes tasks such as identifying images and objects in photographs, tagging them and matching names (Anwar and Graham, 2020; Irani, 2019). In other words, the latter is image annotation, so that an AI system, for example, in an autonomous auto, is better able to cope with the analysis of visual information (ibid.). Another common task would be matching salient information for search engine optimization, in helping ensure that some material comes to the top of searches and other does not (ibid.). However, in either instance, workers often have very little information for understanding as to the ultimate purposes of such work. This in turn, means that workers are placed in an extremely disadvantaged position, circumscribing the range of skills they can accumulate on the job, and as we discuss below, subjecting them to harm. It might seem that it is difficult to regulate such work given both the global nature of the internet, and how nodes of data janitorial work emerge, prosper or decline in many countries. However, as Graham et al. (2017) note, digital working is always spatially embedded, and with political will greater regulation is possible. It is possible for regulators to broaden the definition of employment (most workers are categorized as independent contractors), and to promote support for better regulation in countries that purchase such work.

AI and Bias

In a study of Fintech in four African countries – South Africa, Kenya, Nigeria and Ghana - Ahmed (2021) argues that as technology is not neutral, AI is 'inherently biased' and negatively impacts women for example through sexist credit scoring systems, inhibiting

financial inclusion and creating a gendered digital divide that ultimately hinders digital entrepreneurship. This requires initiatives and policy reforms to tackle inherent discrimination and vulnerabilities, and the adoption of algorithms that actually support inclusion for example through access to credit facilities, loans and investment opportunities as well as adequate computing infrastructure (Ahmed, 2021). Fintech has been one of the most visible sectors due to the volume of activity and the very direct impact on livelihoods. However, there are other sectors that lend themselves to further scrutiny and development. Focusing on four key employment sectors - healthcare, education, e-commerce and manufacturing – Gaffley et al (2022) suggest that frameworks for guiding and implementing AI technologies should focus on the lack of data, infrastructure, investment in R&D, costs, power supply, and skills/training.

Country Specific Dynamics

South Africa

 In South Africa, AI is already being used to enhance healthcare, transportation systems, and assist with wildlife conservation efforts. South Africa has launched the first of its kind AI industry association, the South African Artificial Intelligence Association (SAAIA). It encourages the adoption of responsible AI practices and brings together professionals from various sectors such as commerce, government, academia, start-ups and non-governmental organisations (but not unions), as there are ethical concerns about the repercussions of AI concerning issues such as privacy, data security, and algorithmic bias. SAAIA is aware that there is a need to guarantee that AI systems are developed and used responsibly, without infringing on individual rights or perpetuating discrimination (Haripersad 2023). However, the main focus remains voluntaristic. An initiative that has presidential support, the South

Africa in the Digital Age (SADA), states that there are considerable income opportunities in three broad areas of AI: technology hubs, globally-traded services and labor-absorbing platforms (SADA, 2019); the economic potential seems to have trumped regulatory concerns.

In general, the established South African unions have only accorded limited attention to AI. A notable exception is the COSATU affiliated South African Society of Bank Officials (SASBO). SASBO has argued that AI is potentially disruptive to jobs and careers, and has demanded employers provide reskilling for affected workers; however, it has also argued that AI has been opportunistically used by employers to justify branch closures, rather than simply a desire to cut property rental and infrastructural costs (Kulkani, 2019). Indeed, digitalisation has already taken place in South Africa's banking sector which has been followed by the retrenchment of thousands of bank staff. This is particularly worrisome given the high rate of unemployment rate and the impact of the implementation of AI on economic and employment insecurity. Researchers argue that AI has the potential to lead to job losses and may also exacerbate trends towards insecure gig working (Rapanyane and Sethole, 2023) as a result of technologies like robots, AI and machine learning. Most notably, some observers anticipate that automation in the financial services sector will have a considerable impact on the banking sector where every two out of three jobs will be taken over by AI (Malinga 2019). However, in addition to new data janitorial work being created, this may enable productivity increases that might make existing firms more competitive. Moreover, there is very little evidence that AI has encouraged firms to accelerate reshoring away from the global south, and hence, the impact on South Africa in this area may be limited (ibid.). labor

The top ten jobs at risk from AI supported automation are a diverse set of blue and white collar roles, including clerks, tellers, mining and maintenance workers, insurance claim and

policy processors, bill and account collectors, moulders, casters, furnace operators and team assemblers. Many of these jobs are held by those who are unskilled to semi-skilled and typically are unionised, yet are easily replaced by automation as repetitive and predictable activities make up the tasks, which can be reproduced by machines or automated. According to the Accenture report (Malinga 2019), the workforce would need to double the pace at which it acquires skills that are appropriate for human-machine collaboration and in doing so, the number of jobs at risk would decrease from 3.5 million (or 20 percent) by 2025 to 2.5 million. An example of the risks of AI for jobs would be the call centre industry. Call centres in South Africa have received more than R4bn in investment in anticipation of creating more than half a million jobs in this sector over the next decade (2020-2030). (Falkenberg 2020). Yet, while South Africa has a favorable time zone and a digital infrastructure is in place, the usage of AI has the potential to make many call centre roles obsolete.

South Africa lacks an AI policy and regulation; there are low levels of awareness, there is minimal pressure on South African organisations to show a commitment to ethical AI. Other emerging markets such as Brazil, Egypt, Mauritius and India have national policies and strategies that support the responsible use of AI (Ormond 2023).

Whilst the rise of the 'gig' economy is celebrated by some as the much-needed shift to entrepreneurialism, this necessitates changes in social policy as the burden of economic risk is shifted onto workers when gig workers are removed from the 'employment-bound New-Deal-era social insurance program' (Webster 2020). Once employed, the food courier drivers who are part of the gig economy, are managed through these online platforms, monitored indirectly and are supposed to produce quantifiable outputs (such as favorable ratings by the Uber Eats customers who rate the driver on their efficiency, friendliness and care taken in delivering the food order). A new form of AI centred control has emerged – control by smart algorithms,

making for a new form of authoritarian managerial control, adding to the problems of precarity in the gig economy. This has led to resistance to this kind of control by workers leading to new forms of organisation (Webster 2020). In Johannesburg, 90 percent of food couriers are foreign nationals, coming from Uganda, Zimbabwe, Malawi and the Democratic Republic of Congo (DRC) and many languages are spoken among riders. There is no trade union for food couriers but their WhatsApp groups function like a trade union. There are separate WhatsApp groups for where the good courier comes from: the Ugandans, the Congolese and the Zimbabwean riders have their own groups. The possibility of forming a worker organisation, the South African Food Couriers Association (SAFCA) is being considered (Webster and Masikane 2021). The platform workers have also made effective usage of WhatsApp groups, to organize strike action and to build on strengthening ties in immigrant communities.

Kenya

Ever since Kenyan mobile network operator Safaricom launched M-Pesa, the groundbreaking money store and transfer service in 2007, Kenya has developed a strong and vibrant Fintech sector based on the robust usage of AI technologies. Part of the motivation for this innovation was the ability of mobile telephony to bypass infrastructural barriers that are widespread on the continent and to provide services to individuals and micro and small enterprises (Litondo, 2018), and also because at the start of the new Millenium, Kenya had record numbers of 'unbanked' who had no access to formal banking services and sources of credit. Thus, M-Pesa came to represent a new wave of technological advancement and financial inclusion, and the sector became the leading arena for AI innovation. Advances in technology have become pervasive in all sectors of the economy, more recently facilitated by AI and digital platforms that have accelerated the speed of innovation in the provision of good and services,

and opened up new opportunities for entrepreneurialism. However, regulation has not kept pace with innovation, and important questions remain about fraud control, regulation around use of data and data privacy, protection of users and employees, including union representation in particular for content providers, in spite of public calls for more scrutiny. The main legal framework is provided for in the Data Protection Act which came into effect as recently as 2019, which indicates the slow pace at which legislation has followed technological progress. However, there is still some way to go for AI practitioners to evolve an 'actionable framework' that aligns technological innovation with data privacy and ethical safeguards (Mugo, 2023). This lacuna means that abuses are likely to persist, remain undetected and unresolved, with serious consequences for users and employees. Concerns also remain about the real benefits of digital credit and the impact of technology and AI on financial inclusion due to the limited research (Ahmad et al, 2020).

A case in point is the highly publicized challenge brought by content providers against Facebook/Meta and outsourcing firm Sama in which the plaintiffs argue that they were made to watch disturbing images which left them traumatised, yet were provided no protection or support, while being paid as little as US$1.50 an hour (Perrigo, 2022; Rowe, 2023; Sarasvati, 2023). Sama, headquartered in California, describes itself as 'an ethical outsourcing AI company'. The content providers subsequently won a legal challenge to establish the first African Content Moderators Union which will seek greater protections for workers providing services to firms such as Facebook/Meta, TikTok and ChatGPT (Perrigo, 2023). What this case highlights is both the apparent legal vacuum around the industry as a whole, and the general absence of employee voice, leading to a constant state of precarious labor for thousands engaged by third party outsourcing companies providing services for foreign, mostly western firms. Progress in providing legal and ethical safeguards is often triggered by

a public outcry and media scrutiny. In the Facebook/Meta/Sama case, it was reported that Facebook/Meta content moderators would receive salary increases of between 30% to 50% two weeks after a TIME magazine report on low pay, poor working conditions and opposition to unionisation by their direct employer, Sama (Perrigo, 2022). This highlights the important role of social activism as technological innovation outpaces legislation. This echoes the argument that over the last four decades, many in Kenya have engaged with various generations of AI without realizing it, and may have been impacted adversely for example by the use of personal data for predictive policing and various forms of discriminatory algorithms (Odongo, 2023). The issues at stake have relevance for the many high-tech firms that have been attracted to Kenya by the high levels of IT knowhow and English language proficiency. According to Saravasti (2023), the workers' demands, which in our view go beyond the Facebook/Meta/Sama case, can be summarised as follows: investigating the conduct of IT firms, interrogating the role of the Ministry of Labor and its ability to provide necessary protections for and prevent the exploitation of Kenyan youth, and regulate the outsourcing of harmful tech work and content that should be classified as an occupational hazard.

In Kenya, alongside the growth of digital platform work has been the emergence of union-like organisations supplementing and working alongside traditional trade unions, to serve the interests of digital economy workers. When the traditional taxi labor market was disrupted by the Uber business model in 2018, the Transport and Allied Workers' Union of Kenya (TAWU-K) set in motion the organization of drivers in the platform economy (Webster and Masikane 2021) in order to assist them with collective bargaining. However, TAWU-K discovered that the drivers, many of whom were informal workers, had already organized themselves into associations and different societies. A hybrid form of organization emerged when the TAWU-K restructured the union so that it could recruit platform workers and collect

fees from them, among other changes made. This hybrid organization thus contains different the types of associations that exist among the Uber drivers. This obscures and blends the features of cooperatives, traditional unionism and informal workers' associations (Webster and Masikane 2021).

There is now a lively public debate in Kenya on the way forward with respect to the development of AI, and the need for legislation that facilitates rather than impedes innovation, as well as the need to incorporate the necessary protections. According to Mugo (2023), progress involves, inter alia, the removal of barriers to the adoption of AI, strengthening local technical knowhow, and developing policy frameworks to ensure technology serves humanity, which could ultimately help achieve Sustainable Development Goals (SDGs) pertaining to sectors such as healthcare, energy and agriculture. Initial indications of this potential were observed through various innovations during the pandemic where the population came to rely heavily on technologies based on mobile telephony, particularly amongst small scale entrepreneurs operating in the informal sector and for example having groceries and medicines delivered to people under quarantine. Earlier work demonstrated the impact of mobile telephony particularly in the informal sector which employs a large section of the population yet is still largely unregulated and vulnerable to institutional barriers (Litondo, 2018). Ironically, neither the content moderators nor the traditional unions have been particularly vocal about the potential loss of jobs to AI.

A key issue is the impact of AI on minorities and under-privileged communities as well as those with poor connectivity. Researchers have observed that AI technology may in fact be creating problems for borrowers as 'many mobile app algorithms are crude, non-individualised and are not in fact tailored to individual needs' (Gaffley et al, 2022: p5). These authors argue further that while the Data Protection Act provides some protections regarding

automated data processing, consumer protection and so forth, lending itself is unregulated, and anyone can provide such services.

Mgala (2020) examined the current developments in AI vis-à-vis Kenya's Big Four Agenda (food security, affordable housing, manufacturing and affordable healthcare), and found that developments in agriculture could be leveraged to achieve the food security agenda, but in other areas, challenges remain, in part due to scarcity of data and talent shortages. In exploring how AI may contribute to the Big Four, Mgala (2020) argues that machine learning can enhance decision making in agriculture, and there is much room for AI driven robotics in crop management and harvesting; however, this is may make the livelihoods of agricultural workers more precarious. AI may also facilitate urban planning, but this will not, of course, provide new resources for affordable housing (ibid.). However, intelligent manufacturing may enhance the quality of production, even if this opens risks of job losses. Finally, AI in health care may make for more rapid diagnosis of complex conditions, but may also provide frontline support for overstretched primary healthcare workers (ibid.).

Conclusion

This paper highlights how AI centred forms of economic activity – and, indeed, of surveillance have penetrated into East and Southern Africa. This has included the emergence of new types of work – AI janitorial work - and employers taking advantage of AI to cut jobs and increase control. Many governments have tended to see AI in terms of its possibility to promote new areas of economic activity or intensify monitoring of trade unions and other civil society actors. In contrast, formal regulation has been uneven and patchy, with an abiding reliance on voluntarism. This has led to unions and other actors driving informal regulation, placing employers under closer scrutiny, whilst working to build broad based alliances. However, progress has been uneven; high unemployment and a lack of meaningful

political alternatives has meant that the balance of power rests firmly with employers. In short, progress towards informal regulation has been patchy, even as formal regulation remains incomplete.

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