

AFRICAN WOMEN'S DIGITAL FLIGHT: THE BRIGHT FUTURE OF THE GIG ECONOMY

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Abstract

Women have been underprivileged in terms of economic security for years. While the 20th Century saw their lives getting better through the informal sector employment, the 21st Century has brought in a new outlook with the coming of the digital age. This paper focuses on how women's livelihoods in Africa are changing in the era of rapidly evolving information and technology space with specific focus on the Kenyan scenario. The Gig Economy has grown tremendously over the years and unlocked new opportunities for women to access freelance work on digital platforms from the comfort of their homes. The paper uses desktop review to analyse the status of the digital economy and women's empowerment in Africa. It highlights existing challenges and reflects future prospects to promote women's economic empowerment in this emerging sector by addressing gender gaps in access to suitable technology and infrastructure, unpaid care work, social protection, gender earning gap, education and skills development and legal protection. It proposes key recommendations, including strengthening labour laws and regulations, equal employment opportunities, need for more investment in new technological innovations, collaboration with training institutions to equip gig workers with soft skills such as communication and marketing and addressing negative gender norms and stereotypes on access and use of technology.

Key Words: Gig economy, employment, women economic empowerment

Introduction

The Gig economy is referred to as “*exchange of labour for money between individuals or companies via digital platforms that actively facilitate matching between providers and customers on a short-term basis*” (BEIS, 2018). The ‘Gig Economy’ was initially formulated in 2009 by Brown (Brown, 2009). The gig economy is also known as the ‘sharing economy’, ‘collaborative economy’, ‘platform economy’, ‘on-demand economy’ and ‘human cloud economy’

(Steward & Stanford, 2017; O'Connor, 2015). This economy refers to economic activities involving temporary or freelance workers to perform jobs for the service sector. It entails work carried out on digital platforms that users depend on for the supply and demand of work (Hunt & Samman, 2019). As it is a digital economy, it involves use of digital platform applications to market labour (Taylor et al., 2017). It includes two forms of work. One is the transaction via platforms but delivered locally, hence,

requiring workers to be physically present such as the Uber taxi drivers and food delivery. The other form is the transaction and delivery of work through remote digital platforms which include software programming to data entry (Huws et al., 2016). Local gig work is in demand due to the workers' ability to organize themselves for employment. The gig economy has huge benefits for workers, especially women, businesses, and customers, as working is becoming adaptable from any location and flexible to the needs and demands of today's lifestyles (Staff, 2020).

As jobs are being built-up based on global value chains, companies are locating their job functions where there are labour market strengths. Overall, technology takes lead into the revolution of the job market. This includes mobile apps and on-line platforms which work wonders with mobile internet and availability of cheap power. This has resulted in the changing of business models as they can use remote workspaces, have flexible job hours, use digital age technology and on-demand work. This new emerging economy is referred to as the 'gig economy' (World Economic Forum, 2016).

Globally this economy has experienced tremendous growth in the last few years. Its success is attributed to increased adoption by companies which were experiencing high operational costs. This economy has also played a key role during the pandemic of COVID-19 where many companies have suffered. According to Mr. Ryder, Director General of the International Labour Organisation (2020), unemployment levels rose to approximately 25 million, including 190 million globally unemployed people, resulting in income loss of approximately US\$3.4 trillion due to the COVID-19 pandemic. Companies are now geared towards changing the future of job markets through digital technology via online platforms and mobile applications (Johnston & Land-Kazlauskas, n.d.).

The objective of this paper is to establish how women in Africa can be empowered through the Gig economy by the theory of drivers of change. The paper aims to seek answers on improving women's lives with the adoption of the Gig economy in Africa, the challenges as well as the successes.

Women's Employment Evolution in Africa

This section discusses how women's employment has evolved over time. The Gig economy has brought new opportunities for women's employment as a significant growth is forecast in traditionally women-centred sectors – especially in areas of household chores (Atkinson, 2017). The 'gig' economy can help reduce the gender wage gap as more than half of it is due to women being inflexible to the nature of work (German et al., 2019). Online platforms can provide new opportunities to enhance women's employment. Women can benefit from part-time flexible working (Cook et al., 2020). Hyperwallet reports show 86% female gig workers find this new economy as an opportunity to be at equal levels with their male counterparts in terms of payment. (Hyperwallet, 2017).

Over the years, global gender disparities in economic investment patterns and employment opportunities have widened across different areas of the economy (Atkinson, 2017; Suda, 2002). The inequality is partly attributed to the slow process of mainstreaming gender towards poverty eradication and employment policies, strategies and programmes in cross-cutting, coordinated and multi-sectoral way. Another reason is the structural, social and cultural barriers to women's participation in the formal and informal employment sectors. These factors have contributed to the low productivity and pay of women's labour and persistent under-representation in senior management positions in both the private and public sectors.

Women's Employment in the Twentieth Century

During the precolonial period Africa saw women's participation in herding and farming. Their contribution increased in these two sectors during the British colonial rule due to more men leaving subsistence farming to join the world wars (Baumann, 1937). These tasks were burdensome and time-consuming for the African women (Bosurup, 1970). Studies by Over (2020) and Hunt et al. (2019) have shown that women were disproportionately few in the formal wage employment sector. The number of women as compared to that of men among regular employees and skilled workers as very low in the twentieth century. They also suffered limited opportunities and access to formal employment, hence, they confined themselves to activities in the informal sector which is still the case in the twenty-first century.

Women's participation in the labour force is explained by specific factors (Stichter, 1977). One hindrance was the lack of access to factors of production and services such as education and training, assets and technology (Over, 2020). The other factors were changes in the economic and political landscape and the social attitudes towards women, especially lack of gender sensitive employment and inadequate skills. Women-owned enterprises in the informal sector were small and experienced slower growth in comparison to men.

Some key issues facing women in the employment sector include social justice and social security which is still the norm in the twenty-first century (Bardasi & Wodon, 2010). Social justice is a tool used to attain human dignity by enabling equity and equality for both men and women. It seeks to achieve an increase in business growth while promoting the protection of workers from exploitation. It requires mutual understanding and fairness between employers and workers. This takes into consideration the different

areas in which women engage, availing engagement platforms and addressing the needs of women living in poverty who do not have access to the digital economy but could engage in it, if facilitated. Social security is aimed at protecting employees from social conditions such as poverty and unemployment. It is a tool to ensure income maintenance and social protection. Social security is important for enhancing the working conditions of women workers and protecting them from financial instability and poverty (Bardasi & Wodon, 2010).

Women's Employment in the 21st Century

The International Labour Organization (ILO) has recognised women's work through setting up protectionist laws and laws on promoting the principles of equality. Women's working rights were acknowledged in 1919 when the 1st International Labour Conference was held and laws prohibiting women working at night and ensuring maternity protection for working women were passed. In the 1970s, the ILO defined informal as 'working poor' and these people were mostly in the urban areas of developing countries and worked on small scale, were self-employed, and were not recognised by governments (ILO, 1991). However, things have been changing as the majority of women are working in both rural and urban areas but are hardly recognised economically, socially and culturally as most of their jobs are in the informal economy and involve agriculture, tailoring, housework and taking care of children. Globally, as per the World Bank, women representation in total employment is less than 40% (World Bank, 2021).

Women's lives have changed since the Beijing Conference of 1995 and the adoption of the Sustainable Development Goals (SDGs) as they focus on changing the lives of women by economically empowering them through SDG No. 5. The 2030 Kenyan Agenda for Sustainable Development is also

a way forward to address the gender inequalities at work whereby women continue to be affected by obstacles in getting access to decent work.

Employment in Kenya in the 21st Century is categorized into three sectors namely: formal (wage employment), informal which entails work in the household sector and small-scale agriculture and pastoral activities (De Giusti & Kambhampati, 2016). In the formal sector, there are the private and public sectors. The informal sector forms an integral part of the Kenyan economy. It is essential in employment creation, income generation and production. The informal sector mainly entails semi-organized, unregulated and small-scale activities. They are characterized by simple and low use of technologies. In 2020, the female labour force in Kenya accounted for 49.03% of the total labour force (Trading Economics, 2021). The data in Figure 1 shows working women in the last ten years.

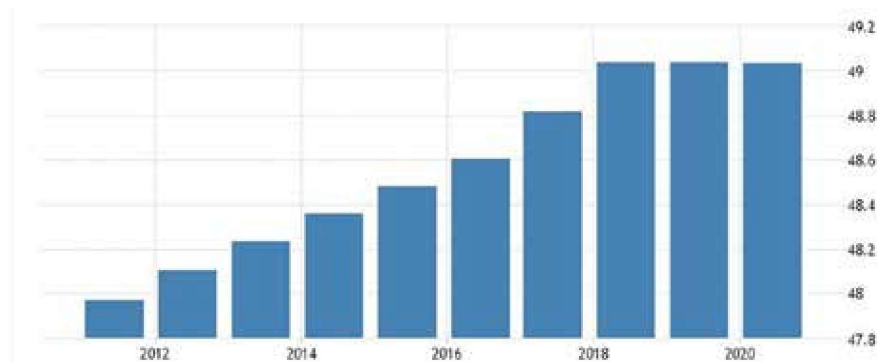


Figure 1: Working women in the last ten years in Kenya

Source: Trading Economics (2021)

Women's Labour Force Participation Rate (LFPR) is at 49.03% compared to men's LFPR which is at 77.73 percent (Trading Economics, 2021). In terms of wage employees, 30% are women and 50% are men. Women earn less than half of men's salaries in the same jobs (USAID, 2017). The majority of women still work in agriculture (55%) compared to men (40%), while 18% of the men work in the industries as opposed to only 5% of the women (Government of Kenya, 2020).

Women remain lowly represented in the formal sectors, especially in higher occupations (Kimani, 2017). Nevertheless, there are positive outcomes in the private sector with companies such as Safaricom promoting gender responsiveness in the workplace. In Kenya, 54% of micro, small and medium enterprises are owned by women. However, women-led businesses earn 47% less profit than those under

men as women have low access to finance (12.3%). Also, many women (31%) compared to men (20%) depend on mobile money markets such as MPesa (Central Bank of Kenya, 2019). This increases the cost of their loans as interests on loans are high. In addition, social and cultural norms prevent women from making economic decisions in the 21st century (UN Women, 2016).

In Kenya, women work longer hours than men. Men work six to seven hours while women work 15 to 17 hours (Oxfam, 2019). For women in rural areas, their time use is worsened by climate change resulting in reduced access to wood fuel and water, forcing them to travel longer distances for water and fuel (Wambui, 2019). At the same time, the society continues to assign girls and women reproductive roles, resulting in their vulnerability to diseases (Nyasimi & Huyer, 2017).

The 21st century ushered in the Information and Communications Technology (ICT). ICT is a productive resource facilitating access to markets and information (World Bank, 2018). It has promoted women's economic empowerment by allowing them to operate multiple roles simultaneously. It is critical to note that the gender gap in access to ICT is reducing. An example is of mobile phone ownership where both gender own mobiles equally. Internet use in urban areas is 20% for women while 25% for men in comparison to rural areas where it is 11% and 16% respectively. At the national level, computer usage is quite balanced, 9% for women and 11% for men.


In the education sector, enrolment rates are fairly distributed through to the university (KNBS, 2020). However, there are gaps in the selection of subjects. For example, 21% male students compared to only 11% females have completed Science, Technology and Mathematics (STEM) courses. Since less women take up STEM courses, it prevents them from obtaining higher status and professional jobs (World Bank Group, 2019). In the last two decades, though women have accelerated in educational achievements, it has not contributed to an improvement in their work positions. As women still tend to be regarded as household workers, this has contributed to an important determinant of gender inequalities at work (ILO, 2016).

Digital Gig Economy and Women's Employment in Africa

The world has moved to the start of the fourth industrial revolution where everything is part of a sharing economy. There are lots of developments taking place, including the 5G tech world, 3D printing, the world becoming one-global economy and all systems are becoming SMART - jobs, homes and economy. This means that there is economic transformation where many jobs are threatened and existing jobs are undergoing vast changes. This

includes changes in space as new opportunities are arising due to change in management and a recognition of gender equity. This change is inevitable and will continue, indicating that jobs which exist today may not be there tomorrow while there will be many totally new jobs! This is taking place due to such drivers of change as demographic, educational, socio-economic, geopolitical and technological. With technology and innovation, there is need for change of skills and occupational requirements (Behrendt et. al., 2019). In this paper, the theory of drivers of change is applicable where the change is of many

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women being employed due to the drivers, namely education, technology and innovation, changing roles of society where jobs done by men are also being done by women and the implementation is being put in place by Conventions, national policies and institutional approaches (Dentinger & Derlyn, 2009).

The theory of drivers of change can be explained from the point of African Feminism and economic empowerment of women. The African Feminism supports that man is privileged with all the rights at the expense of women. This stereotype runs in the blood of the African men since the times of Adam and Eve and continues even today. However, with the 4th Industrial Revolution, Africans are realising that for economic progress, both men and women should

play an equal role and should be equally recognised by the society. The African man has realised that though being patriarchal, with the digital economy, the womenfolk can manage both household chores as well as do office work from home – an indication that both jobs can be managed simultaneously without necessarily leaving the house. This helps women contribute towards household expenses and thus improve the standard of living of the family. This further means that if women are educated and are ready to embrace the available digital technology, they can pull themselves out of the poverty trap. The digital technology is a blessing in disguise for women as it is enabling them to be equal participants on the job markets. A country like Kenya now needs to come up with policies on how women can be protected in the digital job market. Individual companies, such as Safaricom which is a telecom company, have already put in place structures to protect women's rights. At the same time, they are aiming to provide equal opportunity and are applying the principle of 'leave no one behind'.

With the growth of the digital Gig economy in Africa and the globe, there are opportunities for the youth and women as they can work from any space and at any time (Microsave, 2020). Figure 2 illustrates the motivations between men and women taking up gig work where women have additional income, can make their own decisions and have self-identity.

Figure 2: Motivations between men and women taking up gig work



Source: MicroSave (2020)

Today things are brightening up for women. Many companies are prioritising women to be at the helm of senior management. According to the World Economic Forum (2016), 53% respondents indicated that they would promote women in senior management positions. A further 58% indicated that if women were promoted at the highest level, there would be better efficiency. This increase in the women labour force further improves the women's economic power and shows a positive correlation between the

gig economy and women's employment growth. This proves the theory of drivers of change – demography, socio-economic and technology being effective. As per the World Economic Forum (2016), from 2006 to 2016, only 3% of the gender gap had been reduced but with the advancement of the gig economy, it is projected that this gap will reduce further.

With the gig economy, women can balance office work and chores at home. According to the Uber Newsroom (2016),

Freedom is helping (literally) drive another wave of women's empowerment: the opportunity to fit work around life, rather than the other way around. For women around the world, Uber offers something unique: work on demand, whenever you want it. Drivers can make money on their own terms and set their own schedules.

Furthermore, the Uber app is also a blessing for women. *"The Uber app is liberating for the single mom who can turn off the app to pick up her children from school, and then turn it back on once they've been dropped off at soccer practice"* (Uber Newsroom, 2015). Egypt's women have taken this to their advantage. The freelancing platform Upwork (formerly Elance) states, *"the majority of women working for labour platforms find it easier to be hired for a job online while working for multiple clients than to compete for a full-time job in a traditional fashion"* (Elance, 2013). This is ideal for women globally as they are the care givers of their family.

Africa has been termed as the future Silicon Savannah. This is based on the real-life problems where real-life solutions are obtained using digital solutions such as M-Pesa. Kenya has been doing very well in this area as Safaricom has been the first mobile provider of mobile money globally. Moreover, it caters for 45% of Kenya's Gross Domestic Product (GDP). It also has mobile banking facilities through banking applications. This has been a plus point because of faster broadband speed where Kenya is even ranked higher than Austria (Identifier, 2019). At the same time, mobile penetration is at 87% (ibid).

In Kenya, the growth of the gig economy is attributed to the vibrant digital technology. This system was backed by the undersea optical fibre cable that increased the country's internet connectivity and made broadband cheaper (Stuart et al., 2015). In addition, the country has pro-tech entrepreneurialism policies that

promote economic development through technology under Vision 2030 (Graham & Mann, 2013). There are also active government programmes such as the Ajira Digital that seeks to enable over a million women and youth to access digital work. Kenya's Incubator Hubs with their labs are women focused. For example, in Nairobi, the Nailab focuses on start-ups and involves women. Also, there is the Akirachix which has been encouraging women to join e-technology (De Beer et al., 2017). Nairobi city is growing as a 'freelance capital' following the merger of tech companies including Taxify, Lynk, Uber, AirBnB and Kuhustle

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(KenDesk, 2017). These online platforms connect individuals with available jobs. Labour conditions in Kenya have been instrumental for the growth of the gig economy.

The Lynk platform was setup for the informal sector in Kenya in 2017. This sector has over a thousand members who are connected in two ways – one by using an online job matching platform where blue-collar professionals and artisans are connected and the other is by setting up an online store where artisans show their skills and sell their products to the prospective buyers. The focus of this platform was to cater for jobs for women and enable them to

be paid better. The overall aim was to understand the challenges and needs of women. The online platform provides training tools and low cost loans to informal workers with focus on women. The platform's initial research indicated that 38% of blue-collar workers were women (Lynk, 2020). According to research done by Chege and Kariuki in 2016, 30% of Kenyan women have technical and vocational training but only 5% worked in construction and engineering-related sectors where hands-on approach skills were needed. In order to help women overcome these hurdles, Lynk has been encouraging women to participate more in male-dominated jobs such as carpentry. It also helps them find markets, buy materials at subsidised prices and get micro-loans. This pilot project is bringing in success as the women earned 73% more than those in the beauty parlours. Based on the assistance the women got from Lynk, 93% indicated that their livelihoods had improved after joining Lynk. At the same time 64% indicated that they acquired new skills (Lynk, 2020).

South Africa has emerged as the entry point for Africa as the leading international gig players, including Fon, Airbnb and Uber (EOS Intelligence, 2017). Incorporation of freelance workers, especially women has been identified as one of the factors that have a positive impact on the country's business (Deloitte, 2017). Local competition and entry of global companies have improved employment chances resulting in local gig companies catering for similar services.

The poor economic conditions of South Africa, like in Kenya, have provided a supply of labour. Besides employees, especially women, are ready to work for poor pay as they do not have any better options. Labour force survey data shows 48% of employed women work in the informal sector as compared to 31% men (STATS SA, 2018). Black African women have been experiencing low formal employment rates due to Apartheid laws prohibiting them from

entering paid labour force. These women have been restricted to domestic work for the white households (Du Toit, 2013). Women are not being 'attracted' by demand for their work but are 'forced' into jobs due to low-income generation by male members (Casale & Posel, 2002).

Women gig workers and consumers may risk their lives when work requires physical presence (De Stefano, 2016). Female customers complain of insecurity when riding taxis on digital platforms. There have been reports of sexual harassment and women being reserved to serve male customers at night. In terms of income disparities, the South African Uber case study found that male drivers earn 7% more per hour than female drivers. This is because of the mechanisms of higher pricing and variation in idle time. In essence, hourly earnings on Uber vary by time of week and location. Men also tend to drive in more lucrative locations. In addition, men earn better incomes due to their willingness to drive in areas with more drinking establishments and higher crime rates (Valentin & Emanuel, 2019).

Methodology

The development of this paper was informed by a comprehensive literature review on the existing landscape of gig work in Africa. The paper has relied on secondary data from reports of high-ranking institutions such as the Bretton Woods Institutions (World Bank and IMF), global organizations, including ILO, government reports and researches. The paper explains the role of women in the informal sector and how their lives are changing with the adaptation of the gig economy where both informal and formal employments are a value addition. More specifically, the paper looks at the types of platform work where female workers are engaged the challenges they face and the opportunities they have. The paper makes some key observations and suggests recommendations to enhance women's participation in this sector.

Findings: Gaps in the Gig Economy and Women's Empowerment

The gig economy is a novel sector on the labour market. However, some specific issues that touch on gig workers have already emerged. These include social protection, financial inclusion, gender earning gaps and education. This section discusses the key issues affecting women in the gig economy in each of these areas.

Social protection stands at the core of the debate on the gig economy. This is a key factor, especially for the precarious and marginalized workers, most of whom are women. In the gig economy, challenges about social protection are founded on historical issues such as unequal distribution of unpaid work between men and women and rampant undervaluation (De Stefano, 2016). On-demand platforms might have the adverse risk of increasing the vulnerability of women gig workers. In contrast, bad social protection policies can reinforce and replicate gender inequalities (Behrendt et al., 2019). This is because policy designs based on assumptions concerning gender roles compounded by the interaction between existing inequalities and policy design can result in gender gaps and may fortify gendered divisions of labour. Social protection reform offers an opportunity to deal with work-related inequalities and gender policy gaps (Berg et al., 2018).

Infrastructure development and service delivery is an essential step for spurring growth in Africa. Infrastructure has long operational life, hence, exclusion of gender in the infrastructure life cycle can lead to gender inequalities for decades (Prassl, 2018).

The gig economy is a new avenue and there is little known about the challenges workers will experience in future (Barzilay & Ben-David, 2016). For example, the working relationship between workers and companies exposes employees to the risk of

exploitation. Lack of regulation in the gig economy will result in novel imbalances in the relationship between workers and companies. There is a possibility that the new system will give companies a chance to escape from certain responsibilities touching on the rights of workers. Due to toxic masculinity, women can be seen as only suitable for work in the domestic spheres. Clients might refuse to be served by women service providers because of sexism in society.

The educational system in a particular country is one of the factors that can explain gender segregation on the labour market (Manyika, et al., 2016). Caring and educating jobs are viewed to be feminine while science remains to be perceived as a male discipline. Lack of education can be a barrier to women who wish to participate in the gig economy (Lepanjuuri et al., 2018).

Under the Gig Economy, employment insecurity is a major issue, especially for women. Employment in the gig economy is not protected in the way other jobs are secured by contracts which are for two or more years and both parties have an option to end the contract by giving notices. To the contrary, in the gig economy all users have the freedom to end contracts any time. This is very risky as it can make one redundant without any preparedness. It can also have a devastating physiological impact as this job firing comes without any notice (Cheng & Chan, 2018).

Research carried out in Kenya, Nigeria and South Africa by Graham et al. (2017) indicates that 43% of all gig workers feel they can be replaced anytime and anywhere. According to a South African woman gig worker, *"there's a lot of people out there, if they're not satisfied with you, they are going to try somebody else ... So they can replace you. This is one of those jobs that you can be replaced."*

This indicates that the online platforms always boast that their workers are on call when on-demand and when they don't need them, their services can be terminated at any time. In most cases women suffered the most because they were the ones who were fired more often than the men as women were told that they were less productive since their focus was more at home because they were working from home and gave less dedicated service to their work.

As the gig economy is now global, people can be employed from anywhere. However, women have indicated that when they apply and disclose the country they are from, they receive discouraging emails that they cannot be employed because they are women from the developing countries, especially Africa. This is because most people feel that women from Africa are illiterate and only know how to take care of their families and bear children (World Bank, 2015).

People with disabilities, especially women in developing countries, have lesser chance of being employed. This is based on cultural taboos and literacy issues. In many societies in Africa, children with disabilities, especially girls, are seen as a bad omen and are denied their basic rights. For example, research amongst girls aged over 17 years and with disabilities from the Plateau State of Nigeria showed that 54.1% of them had no income (Jerry et al., 2015). Furthermore, cultural taboos hinder the way forward for income generation as many communities believe that such girls have low intellectual levels. Moreover, employers judge potential female employees more on their disabilities rather than intellectual levels. Research by Enfield (2019) has highlighted that most workplaces do not provide even the most basic facilities for people with a disability such as Braille, lifts, ramps and handles. There is often the notion that disabled girls are only good at household work such as knitting and weaving; and even if these women sell their hand-made wares at the markets, people avoid

buying from them. These women are mistreated by other traders at the market and are denied their basic right of income earning and employment (Jerry et al, 2015).

Conclusion and Recommendations

The gig economy is the future for Africa and can contribute significantly to the attainment of sustainable development. At the same time in Africa there is limited uptake of online professional services and also the corporate world has failed to incorporate gig workers. Furthermore, the gig sector is only of value to urbanites in Africa due to poor network coverage, limited information, and lack of awareness and trust in gig work in the rural areas. At the same time women are the ones who are hurt more under this economy as it limits their participation due to occupational segregation and social norms.

However, there is a possibility that the gig economy may help reduce the gender wage gap in the economy. With more professional jobs that women are being engaged in, wage gaps are narrowing. Research undertaken by the World Economic Forum (2016) has proved that where women are engaged at higher level professions like medicine, then the wage gaps are much lower. This is also due to their high-end education. Similarly, Hyperwallet (2017) reports that 86% of female gig workers believe gig work offers them equal pay to their male counterparts. The online platform economy is growing fast in Kenya and South Africa. As more companies shift towards using gig, the essence of job-flexibility punishment in gender income equality could reduce (Zoe et al., 2018).

Over the years, women have relied on social networks, social collateral, customer centricity and household consumption as central pillars to financial inclusion. Due to patriarchal and cultural norms, women

generally have few assets to use as collateral. (Gupta, 2020). However, financial institutions have always found ways to counter this challenge, for example, group-based lending has been a huge success. Through innovative business models, financial institutions can create favourable environments for low-income women (Morgan et al., 2019).

The gig economy can be on the steadfast track if labour laws and regulations are made strong in the aspects of social protection, equal employment opportunities and labour standards to strengthen the economy and the growth of the gig sector. Without strong labour laws, the gig workers would be forced to continue working in the grey zone. Major steps can be taken to ensure social protection for women in the gig economy. First, new legislation can be enacted or existing regulations should be amended to widen social protection eligibility (Alfers et. al. 2018). Secondly, introduce or expand social assistance schemes such as child/family allowances and social pension with the aim of delinking social protection from employment status. Third, adjust policy tools and contributory requirements to remove gender differences in paid and unpaid work. Fourth, promote initiatives that strengthen links between social protection, services and infrastructure. Fifth, reform policy administration mechanisms and delivery practices to counter implementation-related challenges to women's access to social protection.

Besides labour laws, there is the need for more technological innovations, training institutions and investors in creating demand for gig services. There is also the need for more investors to encourage start-ups to test the innovations and fund them for their initial start. Collaboration is also needed between online platforms and training institutions to equip the gig workers with soft skills such as communication and marketing. This can create employment for women.

Education can be used as a pathway to access benefits of online platforms. Young girls and women can participate in the digital arena, as they are more likely to be tech-savvy. Hence, they can exploit emerging and existing digital technologies. The gig economy offers access to employment despite one having less work experience. Inequality in education is replicated in digital skills connectivity and distributions. In developing countries, gendered differences together with communication, time management, problem solving skills and understanding of cultures and requirements of a particular professional working environment are more likely to be pronounced than in developed nations.

In addition, there is need to ensure that infrastructure development in regard to the gig economy supports equal access for all, there is a need to reform how infrastructure is planned, delivered and managed (Graham & Anwar, 2019). This, in turn, will increase economic opportunities for girls and women. This will require cross-disciplinary cooperation throughout the infrastructure life cycle while continuously asking the question, '*Will this development support all end users?*' If the answer is '*no*', then solutions should be sought. In essence, all disciplines have to make sure gender considerations are mainstreamed through infrastructure life cycles to ensure access and control of women and girls. A gender mainstreaming approach will ensure equal access to resources and infrastructure services for girls and women. This will improve and protect their livelihoods and benefit the entire global economy. Equal access to infrastructure services will help in ensuring women benefit more from the gig economy.

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