

An Evaluation of the Impact of Artificial Intelligence on Socio-Economic Human Rights: A Discourse on Automation and Job Loss

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Abstract

Artificial Intelligence (AI) is already here, and is speedily transforming industries. This paper examines the impact of AI on the socio-political rights of the people globally, particularly in the area of job loss. Automation is not a new concept. It can be traced to the introduction of machines into industries back in the Second and Third Industrial Revolutions. However, the automation introduced by artificial intelligence is of a higher level. Artificial Intelligence is taking risks for humans in the manufacturing industry, mining industry, and even in the Military. It is versatile, that is, it is capable of being used in every sector of the world, and with the rate of technological unemployment, (caused by automation), the significance of Artificial Intelligence has become subject to controversy. This research adopts a desk based doctrinal research methodology to examine the issue of socio-economic human rights in era of automation. This research discovers that AI will create jobs, but an analysis of research studies on job loss due to automation reveals the large margin between jobs created by AI and jobs lost due to AI, thus posing threats to socio-economic human rights. It also discovers that the jobs created by AI require only persons with technical skills and knowledge for employment in the nearest future. AI will cause deskilling and falling wages. This research work recommends that legislations must be put in place to ensure that the use of AI technologies are controlled in order to give the government enough time to balance the inequality created by AI technologies. Technical skills acquisition and robot tax can be adopted by nations to enable them cope with the speed of AI.

Keywords: Socio-Economic human rights, Artificial Intelligence, Fourth Industrial Revolution, Job loss, Automation, Legislation.

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1.0 INTRODUCTION

Socio-Economic Human Right (SEHR) is a merger of social and economic human rights. Socio-economic human rights is comprised of right to work, right to social security, right to education and right to an adequate standard of living among others. It includes among others, the basic requirements for sustenance of one's life and human dignity. The International Covenant on Economic Social and Cultural Rights, 1966 recognizes states and ensures the protection of economic, social and cultural rights. This article shall enunciate on the effects of Artificial Intelligence technologies on socio-economic human rights.

To understand the concept of socio-economic human rights, it is expedient to digress into the meaning of human rights. There are several definitions of human rights ranging from Nigerian scholars and authors and beyond. Prof Osita Eze defines human rights as – “Demands or claims which individuals or groups make on society, some of which are protected by law and have become part of the *lex lata* while others remain aspirations to be attained in the future” [1]. Mike Ikhariale defines human rights as – “sacred rights inborn in man because they are implanted in man by a divine nature and therefore positive law can neither establish nor abolish, but only protect them” [2].

¹ O. Eze. (1995). *Human Rights in Africa*. Macmillan Press, 5.

² Michael Ikhariale. (1995). The Jurisprudence of Human Rights. *Journal of Human Rights and Practice*, (5),58.

Socio-Economic human rights are recognized by the United Nations in almost all its human rights instruments, but wholesomely recognises socio-economic human rights in the International Covenant on Economic, Social and Cultural Rights [3]. (ICESCR), and the UN Committee on Economic Social and Cultural Rights oversees its implementation among state-parties. Furthermore, state parties who are signatories to this international law, are obliged to protect, actualize and enforce the rights therein, but this obligation is often impaired by the economic conditions of the state parties. State parties are enjoined to respect these rights, attach judicial remedies to appease the victims and set up institutions or bodies to oversee the implementation of these rights in their various jurisdictions.

No doubt, the Fourth Industrial Revolution via Artificial Intelligence will reform the industrial sector and beyond with automation, and ironically, this same automation will lead to a decline in physical labour. For advanced countries, new cheap capital machinery and robots replacing manual work could induce companies to return production to high-income countries close to big consumer market [4]. It is obvious that the Fourth Industrial Revolution (4IR/FIR) will take over physical labour, which sounds good to developed countries, but is a great risk to developing and underdeveloped countries where a large percentage of their various populations rely on physical labour for survival. Simply put, the introduction of FIR into the industrial sector is a relief to large companies that can afford the upgrade, and this would increase their efficiency by eliminating bureaucratic bottlenecks, saving time and eliminating human fatigue problems, but this would also be a great decline to the socio-economic sector that will undergo massive unemployment.

Unlike other previous revolutions, the Fourth Industrial Revolution, does not only permeate the manufacturing and industrial sector, but has gone further to interfere with several others sectors that do not only depend on physical labour for its sustenance. Before elucidating the subject matter, it is important to note that the branch of the FIR that poses threat to the socio-economic sector is Artificial Intelligence (AI).

Although the ICESCR comprises of Social, Economic and Cultural rights, this work shall focus primarily on Economic and Social Rights, with little reference to Cultural rights.

2.0 Problems Associated with the Enforcement of Socio Economic Human Rights

Aside automation, socio-economic human rights is controversial and is the most challenging category of human rights [5]. Several countries, scholars, and even state parties to international human right laws, do not see Socio-Economic Human Rights as primary rights, and hesitate to make the bold step of dubbing it a fundamental human right in their national constitutions or even including it as enforceable rights. Furthermore, people are more conversant with civil and political rights than socio, economic and cultural rights, and both private and public organization and Non-Governmental Organisations (NGOs) rarely focus on activities relating to economic, social and cultural rights. Scott and Anne assert that Economic, Social and Cultural Rights are less likely than civil and political rights to be protected in national constitutions [6]. Biyani [7], in her analysis of socio-economic human rights asserts that:

Perhaps, the most perverse form that the marginalization of economic, social and cultural rights take, is how often such rights go unacknowledged as human rights – and are instead included in jingoistic narratives on developments [8].

In the same light, Karel Vasak [9] recognizes civil and political rights as first-generation rights and economic social and cultural right as second-generation rights in his theory of three generations of human rights [10].

It is no doubt that the enforcement of socio-economic human rights is tied to the economic stability of a country. Legally, Nigeria has adopted and ratified the African Charter on Human and Peoples Rights which has a handful of socio-economic human rights [11], and it also provides for same in the fundamental objectives enshrined in Chapter II of the Constitution of Federal Republic of Nigeria, 1999. Unfortunately, regardless of the provision of Section 13 of the constitution below:

³ Will be hereinafter be abbreviated in this work as ICESCR

⁴ UNIDO. (2019). *Bracing for the New Industrial Revolution: Elements of a Strategic Response*. UNIDO.

⁵Neeti Biyani. (2019, November 22). *Economic Rights are Human Rights*. IPS Journals. Retrieved May 24, 2023, from <https://www.ips-journal.eu/regions/global/economic-rights-are-human-rights-3892/>

⁶Leckie Scott and Anne Gallanger. (2006). *Economic, Social and Cultural Rights: A Legal Resource Guide*. University of Pennsylvania Press.

⁷NeetiBiyani, (supra).

⁸NeetiBiyani, (supra)

⁹ KarelVasak. (1977). *Human Rights: A Thirty-Year Struggle: The Sustained Efforts to Give Force of Law to the Universal Declaration of Human Rights*. UNESCO Courier.

¹⁰ Ibid.

¹¹ Articles 15 (Right to work), 16 (Right to health), 17 (Right to education), and 22 (right to development), African Charter on Human and peoples Rights

It shall be the duty and responsibility of all organs of government, and of all authorities and persons, exercising legislative, executive or judicial powers, to conform to, observe and apply the provisions of this Chapter of this Constitution [12].

Section 6 (6) (c) of the Constitution invalidates the above as follows –

The judicial powers vested in accordance with the foregoing provisions of this section –

(c) shall not except as otherwise provided by this Constitution, extend to any issue or question as to whether any act of omission by any authority or person or as to whether any law or any judicial decision is in conformity with the Fundamental Objectives and Directive Principles of State Policy set out in Chapter II of this Constitution [13];

With the above provision, accountability in the aspect of socio-economic human rights is to a great extent compromised. The subject matter becomes the justiciability of Chapter II of the 1999 Constitution of the Federal Republic of Nigeria (as amended). Oluwafifehan Ogunde notes that the intended beneficiaries of these measures face a significant hurdle in holding the government accountable as a result of the constitutional position on social-economic rights. While socio-economic rights are recognised under international and regional human rights law, there is no express recognition of ‘socio-economic rights’ under the Nigerian constitution. Matters relevant to socio-economic rights are generally regarded as fundamental objectives of government policy under the Nigerian constitution. Accordingly, no legal action can be brought against the government for any shortcoming regarding these policies. This implicitly suggests that any failure in the implementation of the social-economic measures outlined above cannot be the subject of any legal action [14].

Socio-economic human rights has always been demeaned and made subordinate to civil and political right which Karel Vasak has describes as first generation rights. There is a controversy on which category of rights should be placed first. Certain scholars and writers are of the view that although civil and political rights are important rights, they should not be evaluated above socio-economic rights, while some other writers argue otherwise. Former American Ambassador to Nigeria,

Mr. Brian Browne in support of the primacy of civil and political rights stated thus:

We realize that there is a school of thought stressing the primacy of economic, social and cultural rights over political and civil liberties. In many countries, this has been used as rationale to suppress free expression and other civil liberties. While the U.S. Government recognizes the importance of these aspirations, experience has sadly taught us that where civil liberties are held subordinate to economic aspirations, a system is created where usually neither of these rights is delivered. Consequently, our human rights policy focuses on basic political freedoms and civil liberties [15].

Professor Claude Ake however opposes Browne’s view and notes that:

...economic need is man’s most fundamental need. Unless man is able to meet this need he cannot exist in the first place. Man must eat before he can do anything else – before he can worship, pursue culture or become an economist.¹⁶

Julius Nyerere is of similar view with professor Ake where he states that:

What freedom has a subsistence farmer? He scratches a bare living from the soil provided the rains do not fail; his children work at his side without schooling, medical care, or even good feeding. Certainly he has the freedom to vote and to speak but these are meaningless [17].

The present issue is not about determining the most supreme category of rights, but to reveal how undermined socio-economic human rights have been since its origin, and how automation is threatening to overwhelm socio-economic human rights. It is noteworthy that Artificial Intelligence in the labour sector particularly poses threats to the rights to work and adequate standard of living, provided for in Articles 6 and 11 of the International Covenant on Economic, Social and Cultural Rights respectively [18].

3.0 An Appraisal of Artificial Intelligence in the Labour Sector

Artificial Intelligence, a sub-field of the Fourth Industrial Revolution, is responsible for revolutionizing

¹² Section 13 Constitution of the Federal Republic of Nigeria 1999 (as amended).

¹³ Section 6 (6)(c) Constitution of the Federal Republic of Nigeria 1999 (as amended).

¹⁴ Oluwafifehan Ogunde, (2020, August 9). *The Future of Socio-Economic Human Rights in Nigeria: Beyond Covid-19*. Oxford Law. Retrieved May 2, 2023, from <https://ohrh.law.ox.ac.uk/the-future-of-socio-economic-rights-in-nigeria-beyond-covid-19/>

¹⁵ Osita Ogbu. (2013). *Human Rights Law and Practice in Nigeria*. SNAAP Press Nig Ltd, 32.

¹⁶ Claude Ake. (1981). *Political Economy of Africa*. Longman, 1.

¹⁷ Julius Nyerere. (1969). *Stability and Change in Africa*. African Ephemera Collection.

¹⁸ Articles 6 and 11 of the International Covenant on Economic, Social and Cultural Rights.

and automating both the labour sector and industries across the globe. It is the most famous sub-field of the Fourth Industrial Revolution as a result of its ability to permeate almost all industries in the world. Toor defines AI as a subfield in computer science which has sole purpose to give human like intelligence to the machines or robots that they become self-relied platforms and can carry out smart decisions autonomously [19].

Uzialko asserts that Artificial Intelligence (AI) is a broad and general term that refers to any type of computer software that engages in human-like activities, including learning, planning and problem solving. So in general, one can say AI is established to overtake physical labour and emulate human thinking [20]. No doubt this work recognizes the overwhelming positive transition pioneered by the fourth industrial revolution and AI in particular, but does not fail to identify its negative traits, particularly as it relates to socio-economic rights.

The positive impact of Artificial Intelligence generally cannot be overlooked. As Artificial Intelligence is revolutionizing industries, it is leaving both positive and negative prints [21]. Substituting AI robots for humans has its positive effects, particularly when the work is hazardous (mining, defusing bombs, exploring the depth of the oceans), repetitive, and time consuming [22]. Artificial intelligence is impactful for reduction of errors, accuracy, precision, and availability [23]. AI is replacing customer service with its 24/7 interaction technologies called chatbots. AI can make unbiased decisions in issues relating to human resources. Furthermore, it is remarkable for its pattern identification. With AI, vast amounts of data, identify patterns and market trends can be analysed without a "human-in-the-loop", thereby helping businesses and organisations better understand customer behaviour, market trends [24]. In the medical sector, AI can reduce the contraction of diseases by medical personnels. AI-

enabled robots can use ultraviolet light to clean patients' rooms so nurses and other medical professionals can avoid them which reduces the spread of pathogens [25].

The impact of AI can also be felt in the legal profession. Marr [26], describes certain tasks AI can perform in the legal profession, and some are stated below:

- i. Review Documents and Legal Research: Recently, programmers are creating softwares that review legal documents with the aim of improving its efficiency. Now, this consumes lesser time and can be said to be more accurate than human review. As a matter of fact, these software and machines can bring up similar documents from other sources for better comparison. No doubt, this is a relief on the legal sector and can go further to reduce the time spent in preparing a case or legal research.
- ii. Aid and Improve Counsel: Softwares or machines are now capable of analyzing a client's case and can confirm facts and figures and thoroughly evaluate the decisions on prior cases to effectively provide counsel for their clients.
- iii. Statistical Analysis and Contract Review: Aside from managing the affairs of a firm, AI softwares and machines are capable of independently analysing statistics in a firm. Contract review, contract making and contract editing are also delicate matters in a firm which can be singlehandedly combined by an AI software or machine and yield a good result. In big firms where contract review is usually ambiguous, AI can step in to alleviate the pressure on humans and eradicate common mistakes caused by human fatigue. Rayo [27] includes automating creative processes in legal work as one of the tasks capable of being handled by AI while Marr specifies that AI

¹⁹ M.J. Toor. (2017). Industry 4.0 as Smart Enabler for Innovative Business Models. *Journal of Business Research Transformation* (1), 22.

²⁰ C. Uzialko. (2023, February 21). *How Artificial Intelligence will Transform Business*. Business News Daily. Retrieved May 4, 2023, from <https://www.businessnewsdaily.com/9402-artificial-intelligence-business-trends.html>

²¹ N. Nnamdi. (2020). *Artificial Intelligence in Today's World: A Conceptual and Analytical Discourse*. ResearchGate. Retrieved May 25, 2023, from https://www.researchgate.net/publication/339124243_ARTIFICIAL_INTELLIGENCE_IN_TODAY'S_WORLD_A_CONCEPTUAL_AND_ANALYTICAL_DISCOURSE

²² NikitaDuggal, (supra).

²³ Nikita Duggal. (2023, May 22). *Advantages and Disadvantages of Artificial Intelligence*. Simplilearn.

Retrieved May 23, 2023, from <https://www.simplilearn.edu.com>

²⁴ Nikita Duggal, (supra).

²⁵Naviant. (2012, December 9) *The Positive Impact of Artificial Intelligence: The Non-scary Side of AI*. Retrieved May 24, 2023, from <https://naviant.com/blog/artificial-intelligence-positive-impact/>

²⁶Benard Marr. (2018, May 23). *How AI and Machine Learning are Transforming Law Firms and the Legal Sector*. Forbes. Retrieved May 11, 2023, from <https://www.forbes.com/sites/bernardmarr/2018/05/23/how-ai-and-machine-learning-are-transforming-law-firms-and-the-legal-sector/>

²⁷ E. Rayo. (2021, September 7). *AI in Law and Legal Practice – A Comprehensive View of 35 Current Applications*. Emerj. Retrieved May 9, 2023, from <https://emerj.com/ai-sector-overviews/ai-in-law-legal-practice-current-applications/>

reduces the cost of divorce settlement by automating divorce. This implies that legal counsel for divorce settlement can now be provided online instead of physically. An example is a software called *Wevorce* that offers divorce services [28].

In addition, CaseGuard [29] explains that AI improves what lawyers do by automating routine mundane tasks enabling them to focus on complex higher-value duties, such as reviewing pre-sorted documents, negotiating deals, and making court appearances [30]. Artificial intelligence can aid the preparation of a case by relating it to similar decided cases or identifying related statutory provisions on the subject matter. Personal assistants in legal firms who have the primary duty of computation and sometimes editing, would soon be totally eradicated.

Writers like Misra [31] argue that an extensive use of AI in the legal sector can lead to the decline of the profession's nobility; "so we must agree that an AI can be of great help to a lawyer but if it means replacing a lawyer, then it is likely to kill the nobility of the profession and pose multiple risks as human interaction cannot be replaced even by the world's best robot" [32]. The emergence of AI will undoubtedly lead to increase in data analysis that can tap into legal and business datasets and generate actionable insights to improve the practice of law [33]. AI can also take over the invoicing duties and send out billable invoices to clients automatically. Furthermore, it can follow up on late payments with the help of process automation algorithms [34].

The Centre for Legal Innovation [35] has made a clear advice that law firms which intend to progress to the future "will need to know what their skill needs are, this will need to be more strategically and carefully considered than in the past". The Centre also stresses on the decision to hire hybrid lawyers, that is, lawyers with knowledge of Artificial Intelligence, seeing that AI will be an important part of the legal sector in the future. The legal sector is not the only sector that will require hybridity in the future – If AI finally permeates every sector, then the workers must have good knowledge of AI. This means that there will be need to take up AI related programmes, certifications, and degrees to be able to fit into any sector in the future.

As at February 2023, there were several publications stating the first appearance of a robot in court. It was discovered that the robot was developed by a company called "DoNotPay. Joshua Browder, the Chief Executive Officer of DoNotPlay defends AI's advance into the legal profession [36]. He claims that their proposition of robot lawyers will be "an alternative and inexpensive solution to lawyers" [37]. Browder's plan to create the first professional robot lawyer went south upon threats by the US State Bar prosecutors to jail him. He wrote on his Twitter account on the 25th of January 2023: "...it seems likely they will put me in jail for 6 months if I follow through with bringing a robot lawyer into a physical courtroom. DoNotPay is postponing our court case and sticking to consumer rights" [38]. The legal profession is facing a threat from AI via legal AI applications called "lawbots" or "robot lawyers" [39]. Upon the non-feasibility of robot lawyers to appear in court, AI is coming through an angle of document automation and legal research [40].

²⁸ Bernard Marr, (supra).

²⁹CaseGuard. (2022, April 22). *How will AI Affect the Legal Profession?* Retrieved May 11, 2023, from <https://caseguard.com/articles/how-will-ai-affect-the-legal-profession/>

³⁰ Ibid.

³¹ Francesca Cassidy. (2018, November 27). *Legal Tech for in-house Lawyers is coming of age*. Raconteur. Retrieved May 11, 2023, from <https://www.raconteur.net/sponsored/legal-tech-for-in-house-lawyers-is-coming-of-age/>

³² Ibid.

³³India Today. (2020, February 4). *How Careers in Law will be Affected by the Emergence of Artificial Intelligence*. Retrieved May 12, 2023, from <https://www.indiatoday.in/education-today/jobs-and-careers/story/how-careers-in-law-will-be-affected-by-artificial-intelligence-1643099-2020-02-04>

³⁴Gramener. (n.d.). *Will Enterprise Reap the Benefits of AI in 2019?* Retrieved May 15, 2023, from <https://blog.gramener.com/enterprise-benefits-of-artificial-intelligence/>

³⁵ Terri Mottershead, (2021, December 7). *Stay Informed About Innovation in Legal Practice*. Retrieved May 15, 2023, from <https://www.collaw.edu.au/about/centre-for-legal-innovation>

³⁶BiodunBusair. (2023, March 14). *Robot Lawyers Sued for Practising without License in US*. Vanguard. Retrieved May 23, 2023, from <https://www.vanguardngr.com/2023/03/robot-lawyer-sued-for-practising-without-license-in-us/amp/>

³⁷ Ibid.

³⁸BiodunBusair, (supra).

³⁹ Megan Cerullo. (2023, January 26). *AI-powered "Robot" Lawyer won't argue in Courts after Jail threats*. CBS News. Retrieved May 17, 2023, from <http://www.cbsnews.com.com/amp/news/robot-lawyer-wont-argue-court-jail-threats-do-not-pay/>

⁴⁰Zeev Fisher and Richard Tromans. (2016, August 26). *Legal Bots: A Partner's Little Helper*. Artificial Lawyer. Retrieved May 23, 2023, from <https://artificiallawyer.com/2016/08/29/legal-bots-a-partners-little-helper>

The legal sector is one out of the many sectors vulnerable to infiltration by Artificial intelligence, or have already been permeated by AI. Other sectors affected or likely to be affected by AI include:

- i. Education Sector: Undoubtedly, AI will take over students' grading and assessment, creating little or no need for assistant teachers. In educational research, which includes project writing, students' assignments inter alia, AI has taken over research aids or companies. AI via ChatGPT is taking over education companies.
- ii. Psychology Sector: AI robots can converse with the patients and give analysis of their condition. In situations where patients do not feel comfortable with expressing their personal issues with a human, AI robots and software applications will bridge that gap.
- iii. Engineering Sector: Alba [41] identifies that automation of many low-level engineering tasks as one of the changes AI will bring in the engineering sector. Architecture, fixations, survey and impact assessment will bear the brunt of AI's infiltration in the engineering sector.
- iv. AI in Business: Customer service will be overtaken by AI. Deepfake technologies have overwhelmed the marketing industry, and Enterprise Resource Planning, which is a versatile software (that is, it can serve every department in the company) [42] that automates business functions such as might leave no jobs for accountants, procurement officers, project managers, risk managers, and even supply chain operators [43].
- v. AI in Media: AI robots can read news and capture occurrences. In digitally advanced countries, drones are used to capture certain events in places that would be dangerous for humans. With drones, the job of cameramen in the media might be ousted.

It is evident that AI takes risks on human behalf, but it still puts humans at risk. The very first disadvantage of AI known to many is "job loss", and as evident in this research work, this threat is not only to

minor jobs requiring physical labour, but also to professional jobs requiring human intelligence and rationality. Perhaps, this is why it is dubbed "Artificial Intelligence".

4.0 An Examination of Job Loss Predictions and Jobs at High Risk of Extinction in the face of Automation

It is noteworthy that the field of AI alongside robotics will pioneer this job loss, as they are fields that deal with the construction, operation, design and programming of robots. Omowole [44] notes that robotics technologies are used to build machines that may be able to replicate some human actions. Job loss pioneered by AI is described as technological unemployment. Omowole [45] defines technological unemployment as a process where people lose their jobs as a result of advancement in technology. Simply put, it involves the substitution of manpower with technology [46].

ImedBouchrika itemizes top ten jobs at risk of automation; Telmarketers, Title Examiners, Abstractors, and Searchers, Sewers, Hand, Mathematical Technicians, Insurance Underwriters, Watch Repairers, Cargo and Freight Agents, Tax preparers, Photographic process workers and processing machine operators, and New accounts clerks [47]. Richard Johnston from Ulster University's Economic Policy Centre [48] said: "sectors like manufacturing, logistics and retail and wholesale and some of the lower skilled occupation within are the most vulnerable to being replaced by some technology or machinery or robots. According to World Economic Forum [49], jobs based on big data analysis, such as credit analysts, financial advisers and mathematical technicians, will face huge risk. It further explains that this is so because jobs based on the analysis of big data can be done better by computers than by humans [50]. Vermeulen *et al.*, in a critical assessment of US occupational data, concluded that occupations most likely to be extinct by automation are 'old' occupations – jobs in production, such as machine assembly, operators and setters – which have routine tasks that are easily standardized [51]. Bughin *et al.*, cite general equipment

⁴¹ M. Alba. (2017, April 11). *Artificial Intelligence in Engineering*. Engineering. Retrieved May 2, 2023, from <https://www.engineering.com/story/artificial-intelligence-and-engineering>

⁴² Lexi Wood. (2020, January 30). *What is ERP and how do ERP Systems Work?* Software Connect. Retrieved May 13, 2023, from <https://softwareconnect.com/erp/what-is-erp/>

⁴³ Oracle India. (n.d.). *What is ERP*. Retrieved May 13, 2023, from <https://www.oracle.com/in/erp/what-is-erp/>

⁴⁴ Agbolade Omowole. Automation and Job Loss: Side Effects of the Fourth Industrial Revolution on the African Economy. In N. Nwaodu, I. Edwin, A.O. Stephen & D. Thakathi.(eds.) (2018). *Fourth Industrial Revolution in Africa: A Socio-Economic Review*. IDAM, 38.

⁴⁵ Ibid.

⁴⁶ Agbolade Omowole, (supra).

⁴⁷ Imed Bouchrika. (2023, April 4). *Job Automation Risks in 2023: How Robots Affect Employment*. Research. Retrieved May 10, 2023, from <https://research.com/careers/job-automation-risks>

⁴⁸ Richard Johnston. (2021). *COVID-19 and the NI Economy: Which Jobs are Vulnerable*. Ulster University Economic Policy Center (UUEPC).

⁴⁹ World Economic Forum. (2020, July 10). *The Future of Jobs*. Retrieved May 10, 2023, from <https://www.weforum.org/reports/the-future-of-jobs-report-2020>

⁵⁰ Ibid.

⁵¹ B. Vermeulen, J. Kesselhut, A. Pyka, & P.P. Saviotti. (2018). The impact of automation on employment: Just

operation and navigation and inspecting and monitoring as jobs likely to be replaced by machines fastest. In essence, jobs that require no extreme technicality, no special or complex skill, no constant upgrade and predictable in nature (computer and telephone operators, typists, and data entry workers, logistics [52], that is transport and distribution) [53] are most likely to be substituted with AI. Currently, the service sector is facing a huge decline as a result of AI. Customer care may as well go extinct. A writer asserts that “Workers that can be called by clients and customers at a click of their mouse or at a tap on their mobile, perform their task and disappear again in the crowd or in the on-demand workforce materially risk being identified as an extension of an IT device or online platform” [54]. Generally, jobs requiring solely human interaction are already phasing out. The EU Parliament is against this and has taken cognizance of this, and in a report, pointed out that “human contact is one of the fundamental aspects of human care” and that “replacing the human factor with robots could dehumanise caring practices” [55].

Daikwo in his analysis, affirms just like several other writers that all industrial revolutions create and destroy jobs, but unfortunately there is evidence that new industries are creating relatively fewer positions than in the past, that is, the new jobs to be created by the 4IR would not be equivalent to the jobs lost. In corroboration with the earlier stated facts in this work, he stresses that the type of jobs being created in these industries tend to require higher level of education and specialized study while those being destroyed involve physical or routine task. Simply put, the complexity of the jobs to be created

by the 4IR will bar several unskilled workers, semi-skilled workers and even some skilled workers from the opportunity to work [56].

The Investment Bank estimates 300 million jobs could be lost or diminished by this fast-growing technology [57]. According to Ed Targett, 44% of workers’ skills will be disrupted in the next five years, and the World Economic Forum stresses that “generative AI models are likely to continue shaping sectoral shifts in employment” [58]. Furthermore, CEO Arvind Krishna, states that of his 26,000 staff working in back-office functions “I could easily see 30% of that getting replaced by AI and automation over a five-year period” [59].

With the introduction of Open AI’s ChatGPT, Chegg, an educational company witnessed a fall in its share value. Students are now turning to Open AI’s ChatGPT for help, leading to a 50% fall in Chegg’s financial situation [60]. In a survey of 800 companies that collectively employ 11.3 million workers across 45 countries, the World Economic Forum has found that global employers anticipate creating 69 million new positions by 2027 and eradicating 83 million jobs – a net loss of 14 million roles; and clerical workers and administrative roles will be mostly affected, with the latter facing a cut of 26 million jobs due to AI [61]. Following a report of the Financial Times in 2016, over 80% of all the jobs lost in the US between 2000 and 2010 were lost to new technologies, and a 2016 joint report from Citi and Oxford University asserts that 57% of jobs across the Organisation for Economic Co-operation and Development (OECD) are at risk of automation [62]. In

the usual structural change? *Sustainability*, 10(5), 1661. DOI: 10.3390/su10051661

⁵² B. Delloit, & F. Wallace-Stevens. (2017). *The Age of Automation: Artificial Intelligence, Robotics and the Future of Low-Skilled Work*. Action and Research Centre.

⁵³ E. Colombo, F. Mercurio, & M. Mezzanzanica. (2019). *AI meets labor market: Exploring the link between automation and skills*. Information Economics and Policy, (47), 27-37

⁵⁴ Valerio, De Stefano. (2016). The rise of the ‘just-in-time workforce’: On-demand Work, Crowdwork and Labour Protection in the ‘Gig-Economy’. *ILO Conditions of Work and Employment Series Working Paper*, (71).

⁵⁵ Ibid.

⁵⁶ Jumoh Daikwo. Fourth Industrial Revolution in Africa and the Economic Rights. In NnamdiNwaodu, Ijeoma Edwin, AdiOdey Stephen & D. Thakhathi (Eds). (2018). *Fourth Industrial Revolution in Africa: A Socio-Economic Review*. IDAM, 84.

⁵⁷ Jack Kelly. (2023, March 31). *Oldman Sachs Predicts 300 Million Jobs will be Lost or Degraded by Artificial Intelligence*. Forbes. Retrieved May 18, 2023, from <https://www.forbes.com/sites/jackkelly/2023/03/31/gold>

man-sachs-predicts-300-million-jobs-will-be-lost-or-degraded-by-artificial-intelligence/?sh=78f04783782b

⁵⁸ Ed Targett. (2023, May 2). *AI will Drive 83 Million “Structural” Jobs cuts in 5 years says WEF*. The Stack. Retrieved May 18, 2023, from <https://thestack.technology/ai-job-losses-wef-future-of-jobs-reports/amp/>

⁵⁹ Brody Ford. (2023, May 1). *IBM to Pause Hiring for Jobs that AI Could do*. Bloomberg. Retrieved May 18, 2023, from <https://www.bloomberg.com/news/articles/2023-05-01/ibm-to-pause-hiring-for-back-office-jobs-that-ai-could-kill?srnd=premium-asia&leadSource=verify520wall>

⁶⁰ Jack Kelly. (2023, May 2). *Artificial Intelligence is already causing Disruption and Job Losses at IBM and Chegg*. Forbes. Retrieved May 20, 2023, from <https://www.forbes.com/sites/jackkelly/2023/05/02/artificial-intelligence-is-already-causing-disruption-and-job-losses-at-ibm-and-chegg/?sh=1150ff675a4>

⁶¹ Ibid.

⁶² Financial Times. (2016, November 2). *Most US Manufacturing Jobs lost to Technology, not Trade*. Retrieved May 16, 2023, from <https://www.ft.com/content/dec677c0-b7e6-11e6-ba85-95d1533d9a62>

England, 1.5 million or more, according to a research by the Office for National Statistics, UK, are at a high risk of technological unemployment [63]. According to Acemoglu and Restrepo, each additional robot reduces aggregate employment by around 5.6 workers [64].

Not only is AI replacing humans, it is also outperforming them in every sector. According to the findings of the New Scientist Study, more than 350 AI researchers believe that there is a 50% chance that AI will outperform humans in all tasks within 45 years. Experts believe AI will be better at translating languages than humans by 2024, AI is estimated to outperform High School students in essay writing by 2026, and although, AI is slated to move in to takeover truck driving by 2027, and Kyle [65] believes that Tesla's progress in autonomous driving will make it happen much sooner. He continues that AI is predicted to be able to write a bestselling book better than humans by 2024, and to perform extremely complex surgery by 2053. This entire estimation which is not everything AI is estimated to accomplish, is exhilarating, and although the manpower substitution by technology is estimated to be in 120 years, it does not better the present consequences. In addition, the CEO of Tesla; Elon Musk, reiterates that AI will be much smarter than humans within five years [66]. His company has even extended to the production of humanoid robots [67]. Humanoid robots are defined as robots that resembles or looks like a human being and has certain human characteristics. In this present technological development and advancements, Humanoid is being implemented in Robotics and these robots are termed "Humanoid Robots" [68]. Now, Tesla is producing self-driving cars which can eliminate both

public and private drivers and it uses more than 160 specialist robots [69].

It is worthy of note that Artificial Intelligence will create new jobs, however, these new jobs replacing the old jobs will require a certain level of technicality, which was not needed initially. McKinsey urges that attention should be shifted from criticizing the technicality of these new jobs, to ensuring that as many persons as possible are able to acquire the needed technical skills to remain relevant in the future [70]. It is impossible that AI will remove all jobs entirely, but what will be left will be exclusive professional jobs like medical doctors and lawyers, and very irrelevant jobs that workers in that sector will be unable to survive on their pay. Writers and tech experts argue that job loss as a result of automation is inevitable, as it is the "price to pay to benefit from the rewards of technological progress" [71]. The situation at hand is complex, leaving automation unchallenged will lead to severe threats to socio-economic human rights, and establishing regulations to control and mitigate Artificial Intelligence innovations on the other hand, may lead to an impediment to technological progress. In essence, there is yet a common ground upon which automation can be controlled and yet technology continues to thrive.

Some writers are of the view that AI will not only lead to digital automation, but also failing wages [72]. Surviving jobs in digital automation that require low-skills will face underpay. It is also argued that not all low-skilled jobs will be extinct. Autor insists that several low-skilled jobs will not be automated because "they

⁶³ Patrick Collinson. (2019, March 25). *Automation Threaten 1.5 Million Workers in Britain, says ONS*. The Guardian. Retrieved May 16, 2023, from <https://amp.theguardian.com/money/2019/mar/25/automation-threatens-15-million-workers-britain-says-ons>

⁶⁴ D. Acemoglu, & P. Restrepo. (2017). Robots and Jobs: Evidence from US Labor Markets. *National Bureau of Economic Research Working Paper*.

⁶⁵ Kyle Cassidy. (2016, December 14). *Driverless Cars: From Fantasy to Reality*. Dept Agency. Retrieved May 20, 2023, from <https://www.deptagency.com/en-gb/insight/driverless-cars-from-fantasy-to-reality/>

⁶⁶ IANS. (2020, July 28). *AI will be smarter than Humans within 5 years, says Elon Musk*. Retrieved May 15, 2023, from <https://www.nationalheraldindia.com/amp/story/science-and-tech/ai-will-be-smarter-than-humans-within-5-years-says-elon-musk>

⁶⁷ Kyle Cassidy, (supra).

⁶⁸ Krazytech, (2021, January 9). *The Truth about Humanoid Robots*. Retrieved May 17, 2023, from [https://www.google.com/search?q=The+Truth+about+Humanoid+Robots%E2%80%99+www.krazytech.com&oq=The+Truth+about+Humanoid+Robots%E2%80%99+www.krazytech.com](https://www.google.com/search?q=The+Truth+about+Humanoid+Robots%E2%80%99+www.krazytech.com&oq=The+Truth+about+Humanoid+Robots%E2%80%99+www.krazytech.com&aqs=chrome..69i57.278j0j7&sourceid=chrome&ie=UTF-8)

[99+www.krazytech.com&aqs=chrome..69i57.278j0j7&sourceid=chrome&ie=UTF-8](https://www.krazytech.com&aqs=chrome..69i57.278j0j7&sourceid=chrome&ie=UTF-8)

⁶⁹ Daniel Bleakley. (2023, January 16). *The Rise of Machines: Tesla drives 50km Autonomously through heavy LA traffic*. The Driven. <https://thedriven.io/2023/01/16/the-rise-of-the-machines-tesla-drives-50km-autonomously-through-heavy-la-traffic/amp/>

⁷⁰ McKinsey Global Institute. (2017, January 12). *A Future that Works: Automation, Employment and Productivity*. Retrieved May 23, 2023, from <https://www.mckinsey.com/featured-insights/digital-disruption/harnessing-automation-for-a-future-that-works/de-DE>

⁷¹ Valerio De Stefano. (2018). Negotiating the Algorithm': Automation, Artificial Intelligence and Labour Protection. *Employment Policy Department, Working Paper, No. 246*.

⁷² D.H. Autor, & A. Salomons. (2018, February 27). *Is Automation Labor-Displacing? Productivity Growth, Employment, and the Labor Share*. Brookings Papers on Economic Activity. Retrieved May 25, 2023, from https://www.brookings.edu/wpcontent/uploads/2018/03/1_autorsalomons.pdf

require human cognitive skills and task-flexibility” [73]. However, the existence of these jobs do not really have any value as the pay will be little to nothing. In the nearest future, wage determination will be in this pattern; highly skilled and high-paid technical jobs, or low skilled, low-paid ones [74]. Acemoglu and Restrepo posit that “one more robot per thousand workers reduces wages in the aggregate by about 0.5 percent” [75].

Deskilling is another issue identified by anti-digital automation writers. With the high technical skill requirement by automation, there will be a reorganized hierarchy of skills, that is, skills that are deemed average will become low skills [76]. Therefore, middle-skill workers now will scamper for “low-skilled” jobs in the future. For example, case workers in the civil service may be reduced from assessing cases, to communicating the outcomes of AI-driven assessments to service users, or call centre workers reduced to undertaking the scripted, deskilled work of communicating automated decisions [77]. High skilled jobs of the future would be jobs requiring AI-complementarity.

Finally, Berg *et al.*, [78] itemize four possible outcomes of digital automation namely: i) 'robots compete against labour in all tasks', ii) robots 'compete only for some tasks', iii) robots 'substitute only for unskilled labour while complementing skilled labour', and iv) robots 'contribute to production only in one sector' [79].

Critics argue that the estimations are not only ambiguous and contradictory, but will also take so long to be realized. However, Frey and Osborne posit that these estimates of job loss will be actualised in “perhaps a decade or two” [80].

5.0 Legal Framework for the Implementation of Socio-Economic Human Rights in the Fourth Industrial Revolution

The duty of the law is to control actions that are likely to disrupt normalcy or have already disrupted normalcy. If the Fourth Industrial Revolution continues to expand and grow to the extent of infringing on peoples' socio-economic rights and societal normalcy,

then it is the responsibility of the law to step in to curb those excesses and limit right infringement whether it is done by a robot or a human.

This socio-economic provisions of the ICESCR in relation to state parties shall be firstly reviewed below: Under Article 6 of the ICESCR, state parties are enjoined to recognize the right to work, and take appropriate steps to safeguard this right.

Under subsection (2) of Article 6, it further states that steps to be taken by state parties to achieve or actualize this right include:

- Technical and vocational guidance and training programmes
- Policies and techniques to achieve steady economic, social and cultural development
- Full and productive employment under conditions safeguarding fundamental political and economic freedom to the individual.

Under Article 7, it enjoins state parties to recognize the right of everyone to the enjoyment of just and favourable conditions of work, which are outlined thus:

1. Remuneration
 - i. Fair wages and equal remuneration for work of equal value, which also applies to women
 - ii. A decent living for themselves and their families in accordance with the provision of this covenant
2. Safe and healthy working conditions
3. No restriction to promote to an appropriate higher level, except those of seniority and competence
4. Leisure and reasonable limitation of working hours among others [81].

Article 11 of the ICESCR provides that: “the States Parties to the present Covenant recognize the right of everyone to an adequate standard of living for himself and his family, and take steps to ensure the realisation of these rights.”

⁷³ D.H. Autor. (2015). Why Are There Still So Many Jobs? The History and Future of Workplace Automation. *Journal of Economic Perspectives*, 29(3), 3-30. DOI: 10.1257/jep.29.3.3

⁷⁴ David Spencer, Matt Cole, Simon Joyce, Xanthe Whittaker & Mark Stuart. (2021). Digital Automation and the Future of Work. *European Parliamentary Research Service*. doi: 10.2861/826116

⁷⁵ Ibid.

⁷⁶ Valerio De Stefano, (supra).

⁷⁷ V. Bader, & S. Kaiser. (2019). *Algorithmic decision-making? The user interface and its role for human involvement in decisions supported by artificial*

intelligence. *SAPB Journal*, 26(5), 655-672. <https://doi.org/10.1177/1350508419855714>

⁷⁸ A. Berg, E.F. Buffie, & F. Zanna. (2018). Should we fear the robot revolution? (The correct answer is yes). *International Monetary Fund Working Paper. Book*.

⁷⁹ J. Berg, M. Furrer, E. Harmon, U. Rani, & M.S. Silberman. (2018). Digital labour platforms and the future of work: Towards decent work in the online world. *International Labour Office*.

⁸⁰ C.B. Frey, & M.A. Osborne. (2013). The future of employment: How susceptible are jobs to computerisation? *Oxford Martin Programme on Technology and Employment*.

⁸¹ Section 6 (2), ICESCR 1967.

It is noteworthy that the ICESCR has been ratified by 160 countries.

In Nigeria, Section 16 (2) (a) of the Constitution of the Federal Republic of Nigeria (as amended) (CFRN), 1999, states thus: “the state shall direct its policy towards ensuring

- (a) The promotion of a planned and balanced economic development.

Furthermore, in (c), it stresses:

- That the economic system is not operated in such a manner as to permit the concentration of wealth or the means of production and exchange in the hands of few individuals or group.

This explains that the CFRN, 1999 will not accommodate the use of the 4IR in such a way that it will cause imbalance in the economy. The government can create an agency, just like the National Environmental Standard Regulation Enforcement Agency, to mitigate harmful technological extensions. Already, Section 16 (3) vests on the National Assembly, the power to set up a body which shall have power to “review from time to time, the ownership and control of business enterprises operating in Nigeria and make recommendations to the President on same”. In (3) (b) of the same section, it states that the body shall also have power “to administer any law for the regulation of the ownership and the control of such enterprises”.

Unfortunately, the entire Chapter II of the CFRN, 1999 where the socio-economic right sections are entrenched in are rendered non-justiciable by Section 6 (6) (c) with an unrealistic proviso which states “except otherwise provided by this constitution”. This implies that the implementation of socio-economic human rights in Nigeria is not feasible.

However, it is submitted that some of the socio-economic and cultural objectives contained in Chapter two of the constitution are captured in fundamental human rights enshrined in chapter four of the constitution. This means that socio-economic rights which are not justiciable may be enforced under chapter four of the constitution. Furthermore, the National Assembly has enacted a number of laws to advance the socio-economic rights of the people. They include, the Labour Act, National Minimum Wage Act, Pension

Reform Act, Employee Compensation Act, National Health Insurance Act, National Health Act, National HIV/AIDS Agency Act, Peoples Bank Act, National Senior Citizen Act 2017, Discrimination against Persons with Disabilities Act 2018, Child Rights Act, etc.

Even if the Fundamental Objectives are non-justiciable, section 14 (2) states that the welfare of the people is the primary purpose of government, therefore, the government should undertake practicable measures to ensure that automation is controlled while technological innovation subsists.

6.0 CONCLUSION

The right to work and the right to adequate standard of living, although not fundamental human rights, are essential to the growth and development of the society. Where the citizens have no job or live in abject poverty, it is not only detrimental to the reputation of the nation, but could lead to rise in social vices. The introduction of machineries during the second and third industrial revolutions, although led to loss of jobs, but were very beneficial to humans as it took over the extremely hazardous, and severely tasking jobs like road constructions, and car assembling among others. It has been noted in this work that although AI will cause job loss, it will also lead to creation of jobs. However, as deduced from the research studies in this material, job loss will be faster than job creation, so people will suffer unemployment during the period between job loss and job creation.

The robots and technologies that Artificial Intelligence is introducing, are being programmed to think like and outperform humans, not just programmed to say particular things, and this makes it even harder to handle. Industries want the best result at the least time and cost possible, and this is what AI presents, hence making the temptation to swiftly replace humans with robots hard to overcome. AI industries are manufacturing more robots to soothe the taste of companies. The International Federation of Robotics (IFR), stated that an expected 1.4 million new industrial robots will be used in manufacturing worldwide between 2014 and 2019 [82], in 2021 there were 517,385 new industrial robots installed in factories worldwide [83], and based on the International Federation of Robotics, there was an expected growth of robot installation to 570,000 units in 2022 [84, 85]. The annual production of new robots has

⁸²Maire Tecnimont. (2019, January 31). *A Future of Collaborative Robotics*. Retrieved May 30, 2023, from <https://www.mairetecnimont.com/en/newsroom/news/a-future-of-collaborative-robotics/>

⁸³International Federation of Robotics. (2022, October 13). *‘World Robotics Report: All-Time High’ with Half a Million Robots Installed in one Year’(2021)*. Retrieved May 30, 2023, from <https://ifr.org/ifr-press-releases/news/wr-report-all-time-high-with-half-a-million-robots-installed>

⁸⁴Automation.com. (2022, October 13). *IFR Presents World Robotics Report 2022*. Retrieved May 30, 2023, from <https://www.automation.com/en-us/articles/october-2022/ifr-presents-world-robotics-report-2022>

⁸⁵Wim Naude. (2017). *Entrepreneurship, Education and the Fourth Industrial Revolution in Africa*. IZA Institute of Labour Economics IZA DP NO. 10855.

increased significantly from 60,000 in 2009 to 322,000 in 2017 [86]. Manufacturing industries are adopting robots and are seeing the greater efficiencies translate into increased labour productivity [87]. Countries are investing more in intelligent robots. Japan's "New Robot Strategy" which aims to make Japan the number one robot innovation hub has received over \$930.5 million from the Japanese Government in 2022 [88]. The South Korean government allocated \$172.2 million in funding for the "2022 Implementation Plan for the Intelligent Robot" [89]. The German Government has made a total budget of \$345 million for five years to fund its High-Tech Strategy 2025 (HTS) [90]. The issue in question remains whether these countries and others not mentioned are investing to protect the socio-economic rights of the citizens?

Worthy of note also is that the new jobs to be created by AI will be hinged on technology [91], thus, ousting persons without technical skills from the labour market. This is a new challenge as people would have to acquire computer degrees and certifications to prove their knowledge of AI. The cost of acquiring them is another challenge, as the prices may hike since AI is the new trend. Countries should take the protection of socio-economic human rights seriously, to protect the social and economic development of humans, as displacement from work will lead to decline in tax payment, and in turn, a decline in the national economy.

Apart from the economic consequences of job loss, it can also lead to insecurity threats as the displaced people might be pushed into social vices as a result of frustration emanating from joblessness. Job loss will not lead to loss of appetite or less need for clothing or shelter, anyone that loses his/her job must still struggle to survive or at least to provide his/her basic needs.

Finally, it is noteworthy that this research work is not against technological progress, rather, it encourages technological progression, but not to the extent of displacement or technological unemployment.

7.0 RECOMMENDATIONS

Due to the impact of the Fourth Industrial Revolution on socio-economic human rights, the following are recommendations:

To regulate and mitigate Production and adoption of AI machines and use of AI software: The first step to ensure that socio-economic human rights will not be trampled upon by the Fourth Industrial Revolution is to set up a unique and distinct body to solely oversee the use of AI technologies. The Agency can then make regulations on novel areas of digital automation. For instance, the Nigerian government has long restricted the importation of vehicles with no emission reduction technology and two stroke engines, seeing that it would impede on Section 20, CFRN, 1999 which provides for safeguarding of the environment. This is particularly provided under the National Environmental (Control of Vehicular Emissions from Petrol and Diesel Engines) Regulation, 2011, with effect from April, 2011, and the above is a regulation under the National Environmental Standard Regulation Enforcement Agency (NESREA). Legislations should be established to impede companies, whether private or public from acquiring robots all at once. This does not imply that companies are forbidden from adopting AI technologies, rather it implies that any company who wishes to adopt AI technologies, must not do so at a swift rate, to avoid mass unemployment. This also does not infringe upon the right of any citizen to make a living for himself or herself, as the government is empowered by Section 17 (1), CFRN, 1999 (as amended) [92] to make policies to enforce justice and equality in the state, and Section 14 (2) (b), CFRN, 1999 (as amended) [93], vests on the government, the responsibility to protect the welfare of the people.

Mitigating and regulating the production and adoption of AI technologies will not only help the government to balance unemployment rate, but will go a long way to stabilize the standard of living which would have severely declined with increased unemployment rate. If mitigation is actualised, before it is called off, the government must have taken steps to reposition the displaced people.

Acquisition of Digital skills: Now that the world is speedily moving into the era of digital automation, it means that very few jobs without need for technical skills will be required, and in order for people to survive or remain relevant during this era, it is expedient to embark on acquiring digital skills, degree and certifications. Furthermore, enlightenment programmes should be organized by the government and even NGOs to create awareness and urge people to acquire digital skills.

⁸⁶Wim Naude (supra).

⁸⁷ Ibid.

⁸⁸Textile World. (12 January 2023). *Robotics Research: How Asia, Europe and America Invest – Global Report 2023 by International Federation of Robotics (IFR)*. Retrieved May 30, 2023, from <https://www.textileworld.com/textile-world/2023/01/robotics-research-how-asia-europe-and-america-invest-global-report-2023-by-international-federation-of-robotics-ifr/>

⁸⁹ Ibid.

⁹⁰ Textile World, (supra).

⁹¹ Klaus Schwab. (2016). *The Fourth Industrial Revolution*. World Economic Forum.

⁹² Section 17 (1), CFRN, 1999 (as amended).

⁹³ Section 14 (2) (b), CFRN, 1999 (as amended). It provides that the welfare of the people shall be the primary purpose of government.

Nevertheless, the government can sponsor free digital skills acquisitions programmes that will offer certifications, and also digital skills scholarship programmes that will award degrees, to aid financially incapable persons.

Protection and Recognition of Socio-economic Human Rights: Finally, and most importantly, socio-economic human rights should be included as fundamental human rights in Nigeria, to make the government liable for actions contrary to socio-economic development and growth in the nation. More so, Chapter II of the 1999 Constitution (as amended) should be made expressly justiciable.

Robot Tax: Robot tax is a strategic tool used by the legislature to balance the replacement of workers by machines and increase the social safety net for those who are displaced [94]. Robot tax is a recent ideology that hinges on taxing robots for their work done. With the above statistics delivered in this work, we can see how AI technologies will displace millions, and this entails no tax from the displaced persons. Tax is the major contributor to the national economy. However, this is a very controversial decision. According to Marwala, “if we automate our factories without changing the corporate tax rate, then the tax collected will decrease. If we automate our factories, and responsibly increase corporate tax rate, we can end up with the amount of tax collected, which is higher than that collected without automation” [95]. The State is not a fixed institution. It operates in a cycle, and if any part of the cycle is intercepted, it will have an adverse effect on the state. When humans begin to lose their jobs in millions, they will not pay tax, and when tax is not paid, public hospitals, public universities and even public schools will not run properly because of unpaid salary, this will then lead to rise in standard of living, insecurity threats and chaos. Regardless of bulk and valuable natural resources of a state, tax is still not dispensable – therefore, if tax cannot be paid by humans as a result of technological unemployment, then it must be paid by robots in the labour market.

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⁹⁴ N. Nnamdi, (2021, October 31). *Robot Tax and the Future of State Economies*. ResearchGate. Retrieved May 26, 2023, from https://www.researchgate.net/publication/355681718_ROBOT_TAX_AND_THE_FUTURE_OF_STATE_ECONOMIES_A_GENERAL_PERSPECTIVE

⁹⁵ TshilidziMarwala. (2018, August 5). *On Robot Revolution and Taxation*. ResearchGate. Retrieved May 1, 2023, from https://www.researchgate.net/publication/326851851_On_Robot_Revolution_and_Taxation

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