

THE IMPACT OF GENDER INEQUALITY IN ARTIFICIAL INTELLIGENCE ENTREPRENEURSHIP

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ABSTRACT

The paper acknowledged the fact that women are not always online. This raises a critical question of why. In addition to the why question, the paper noted that gender inequality in artificial intelligence (AI) entrepreneurship remains a critical challenge that affects innovation, economic growth, and ethical AI development. Despite the increasing role of AI-driven businesses in shaping the global economy, women remain underrepresented in AI entrepreneurship due to barriers such as limited access to funding, biases in venture capital, and societal stereotypes. This paper explores how gender disparities hinder women's participation in AI startups and the broader implications for technological advancement and economic inclusion. It examines the consequences of a male-dominated AI sector, including biased algorithms, reduced diversity in problem-solving, and missed economic opportunities. Using analytical and critical methods, the paper highlights the need for policies, mentorship programs, and inclusive investment models to bridge the gender gap. The study concludes with recommendations for fostering a more inclusive AI entrepreneurial ecosystem, emphasizing the importance of diversity for ethical and equitable AI development.

Keywords: Impact, Gender, Inequality, Artificial Intelligence, Entrepreneurship

Introduction

While E. Liguori et al. affirm that “becoming an entrepreneur can be seen as a career choice”, Frank et al. explain that the emergence of AI, which is displacing people from their jobs, has led to “necessity entrepreneurship.” Whereas “choice entrepreneurship” is voluntarily planned and executed after careful consideration, “necessity entrepreneurship” is a situation where displaced workers attempt to become self-

employed. The studies done by Frank et al., focused on the impact of AI on businesses and entrepreneurship and how this varies “across regions depending on regional occupational structures.” In other words, entrepreneurs who live in regions that expose them to AI are likely to do better than those who are not exposed. There are so many speculations on how AI technologies could enable some entrepreneurs with high technological skills to gain more profit”. The advantages of applying new technological innovations in businesses by entrepreneurs are enormous. The automation of businesses reduces the cost of labour. AI or digital entrepreneurship makes it easier to acquire the knowledge that is necessary to grow one's business.

However, this study intends to enlarge the scope of studies which have been done and those which are ongoing by drawing special attention to the impact of gender inequality in AI entrepreneurship. The term gender or gender inequality has been defined in various ways by different authors, but the central point always indicates the fact that “gender is a man-made attribute”. Gender inequality is a social construct in which people are not treated equally. This inequality can be caused by gender discrimination or sexism. The treatment may arise mostly through cultural norms prevalent in society. While current policies around the world cause inequality among individuals, experience has also proven that it is women who are mostly affected. Gender inequality weakens women's participation in many areas, such as health, education and even business.

Considering the situation highlighted, the question of AI entrepreneurship focuses on job displacement through automation rather than gender inequality. That is why it is important to examine the causal relationship between AI entrepreneurship and gender inequality. The breakthrough in AI entrepreneurship has to be considered from a gender perspective because of the assumption that “digitalization is not gender neutral”, and women seem to be on the disadvantaged side. The impact of gender inequality in AI entrepreneurship will be articulated around the following subtopics: first, gender inequality in AI entrepreneurship; second, barriers to gender equality in AI entrepreneurship; third, consequences of gender inequality in AI entrepreneurship; fourth, African context of gender inequality in AI entrepreneurship; fifth, some recommendations and conclusions.

Gender Inequality in AI Entrepreneurship

Mahboobe Safaei-Mehr & Najmeh Heidarian Baei explained that women are not given full opportunities to be educated, the right to access research positions, and the chance to hold important jobs in the scientific and technical fields. This is not supposed to be the case with AI entrepreneurship that ensures that Information, Communication Technology (ICT) and the Science, Technology, Engineering and Mathematics (STEM) are properly used to “ensure that all voices and perspectives are heard, including those of gender and ICT experts”. But where gender inequality in AI entrepreneurship is perceived, then there will be a need to examine how much it mirrors society patriarchal structure.

There is no doubt that more women have embraced the use of modern technology to improve their entrepreneurial potential. Kathy Sun, Xinyi Liu et al. share the same opinion as Meliou and Ozbilgin by affirming that digital technologies have broadened women entrepreneurs' market opportunities and have broken the constraints of geographic location, enabling women entrepreneurs to reach a wider market for their products and services. However, such a theoretical framework could be affected by gender bias, prejudice and stereotypes.

Gender inequality in AI entrepreneurship refers to a scenario in which individuals are treated differently due to their gender. The biases could occur during machine learning; the latter could be trained on “word embedding”. In other words, those who design AI encode certain words which ascribe a higher level of Entrepreneurial Self-efficacy (ESE) to male entrepreneurs than female entrepreneurs. However, one could argue that such attribution is insignificant, particularly due to the dedication of self-employed women.

It is also important to examine closely the efficacy of the dedication of women entrepreneurs because while this appears to have solved the problem of gender inequality in AI entrepreneurship, it ignores the increasing gap between the male and female genders in some critical areas. Bourdieu uses the term “illusio” to describe the tendency to assume that there is gender equality in entrepreneurship. But his theoretical work on “illusio” reveals that some women are left out.

On the one hand, the idea of “illusio” highlights individualized and masculinized discourses of entrepreneurship. Real and important businesses are considered to be the affairs of men. This seems to construct women entrepreneurs as second-class participants in the field.. On the other hand, a few women who appear to compete on an equal level with men give a false impression of equality between the genders. From this point of view, it is easy to understand that gender inequality in AI entrepreneurship could be attributed to the use of masculinized words and dependence on a false ratio of men and women engaged in business.

Besides, it appears that the digital spaces are also used to promote bias and stereotypes. This reality does not promote women's entrepreneurship through digital technology, especially when they are used to label female entrepreneurs as “unprofessional” or “risk-averse”. This way of thinking appears to be founded on customs, socio-cultural beliefs, religion and tradition of a people who ignore the contributions and abilities of women. The world witnessed how technology promoted gender-based violence during the 2020 COVID-19 pandemic. This could have serious negative social, psychological and physical effects on female entrepreneurs.

Barriers to Gender Equality in Artificial Intelligence Entrepreneurship

Eche argues that the factors responsible for gender inequality prior to the emergence of AI are still barriers to gender equality in AI entrepreneurship. Such a pattern of thought could be founded on the fact that the world is patriarchal, and that gender inequality in AI entrepreneurship mirrors the biases that are present in our society. By implication, the obstacles to gender equality are essentially rooted in social and cultural norms. Therefore, the construction of AI tools which facilitate entrepreneurship is motivated and inspired by the attribution of a role by society and cultures.

The first barrier to gender equality in AI entrepreneurship is AI training data. The training data is defined as “a resource used by engineers to develop machine learning models. It is used to train algorithms by providing them with comprehensive, consistent information about a specific task”. In the context of this topic, such training could consist of training a model that women have low entrepreneurial self-efficacy, encoding words in machine learning that present women's incapacity to manage business and creating different kinds of stereotypes. These barriers do not ensure gender equality in AI entrepreneurship.

Gender stereotypes are other barriers to equality in AI entrepreneurship. The kind of mental images people have about women either motivates or deters them from exploring the advantages of AI in entrepreneurship. When the female gender is not moved to access resources to grow her business due to what people may think about her, it creates an unequal imbalance among entrepreneurs. Where women are already engaged in businesses, stereotypical remarks reduce their desire to access modern AI tools to promote their business. Such remarks could also reduce interest in contributing to the development of AI tools for doing business.

From the point of view of culture, the ratio of female gender who have access to education is low, compared to male gender. The education of the girl child and women in general is an important asset necessary to train efficient AI users to do business. In Africa, certain customs and traditional practices still prevent the girl child from accessing quality education. Due to socio-economic hardship, most families prefer to send the boy child to school in the hope that he will be more productive and give back to the family. This way of thinking and doing things is a potential barrier to gender equality in AI entrepreneurship.

Other barriers are systemic discrimination, social norms and cultural practices, human trafficking, discriminatory laws, intersectionality, economic inequality, gender inequality in healthcare, resistance to change, gender - based violence, digital divide, etc. By implication, this does not encourage equal opportunities for males and females in AI entrepreneurship. It is good to clarify that gender equality in AI entrepreneurship does not mean that “men and women will become the same, but that women's and men's rights, responsibilities and opportunities will not depend on whether they are born male or female”. Women are underrepresented in various areas of life.

Consequences of Gender Inequality in AI Entrepreneurship

AI entrepreneurship did not escape the gender inequality which has plagued the world for many centuries. And AI systems are not neutral; they reflect the biases, perspectives, and values of their creators”. This suggests that one should anticipate certain consequences of gender inequality even in AI entrepreneurship. One of such consequences of transposing cultural prejudices against women in the domain of AI entrepreneurship is evident in what is known as algorithmic Bias. According to Adeniyi, “Biases in AI algorithms can perpetuate gender stereotypes and discrimination (...) For example, a programme will often translate the English term 'nurse' using a female-gendered word, and render 'doctor' as a male noun.” This work does not think that algorithmic bias is a good way to honour our common humanity, it rather casts doubts on whether we are rational beings. Algorithmic bias, which is a significant feature of gender inequality in AI entrepreneurship, undermines the status of human beings in comparison to other lower beings. It amplifies the already existing gender gap, causes discrimination and also influences fair decision-making.

Another consequence of gender inequality in AI entrepreneurship is the loss of talent and potential innovation. When computing is considered a man's world, it reduces the chances of benefiting from the rich human resources, competence and talents in the female gender. Many girls or women are obviously talented and, if given opportunities, can contribute to the “future economic growth and technological advancement”. The call for recognition and inclusion of women to be part of AI experts as entrepreneurs is crucial for developing AI systems that work equitably for everyone. The exclusion of the female gender does not promote equality in society.

Moreover, gender inequality in AI entrepreneurship tends to perpetuate stereotypes. Despite the positive developments recorded in AI tools,

significant challenges remain, as evident in Amazon's AI recruitment tool. The tool, discovered to be biased against women for technical positions, serves as a stark reminder of how AI can perpetuate and even amplify existing societal biases. This case underscores the importance of rigorous testing and diverse input in AI development processes.

The impression that Tech and AI are male-dominated fields discourages females from entering STEM careers. Meanwhile, the practice of not recognizing the contributions of women in the process of manufacturing AI technology is exaggerated and affects equal representation according to gender.

African context: Gender Inequality in AI Entrepreneurship

The African experience of gender inequality in AI entrepreneurship stems from the intentions of AI designers. In particular, the “high tech” sector tends to overrepresent white women and underrepresent black women in the use of AI for their own business. This work considers such a portrayal of reality to be very biased. This is because the application of an AI to different demographics could produce diverse results, depending

on whether the population is urban or rural. It is expected that in urban areas, black or African women are better represented in the use of AI for business than those in rural areas.

An AI-based society functions optimally when there is constant electricity. The epileptic supply of light is an obstacle to the commitment of African women in AI entrepreneurship. In this case, gender inequality in AI entrepreneurship in Africa cannot be attributed to African culture and tradition but to the provision of an enabling environment to thrive as entrepreneurs. African women who are entrepreneurs would have considered the risks of doing business in a place where there is no constant supply of light and made a decision not to invest in a venture that is non-profitable. From this point of view, it will be unfair to make a comparison based on gender, between those in the cities who have a functional light supply and those in the banlieue who suffer from constant interruption of light.

The idea of training machine learning tools to accept that many African women or black women do not exploit the opportunities that AI offers for business is not correct, and should be corrected.

Strategies to Address Gender Inequality in AI Entrepreneurship

Gender bias and limited investor networks have been identified as one of the causes of gender inequality in AI entrepreneurship. Female entrepreneurs can now overcome this bottleneck by accessing Kickstarter, Indiegogo, GoFundMe, AngelList, FundersClub, and CircleUp. The above digital spaces allow female entrepreneurs to show their creativity and possibly get financial support.. Female entrepreneurs can take advantage of many digital platforms and technologies to access education and training that could empower them on how to start and grow their businesses. A plethora of online education platforms like Coursera, Udemy, and Khan Academy provide high-quality entrepreneurship courses and resources. Others include Women's Business Centres (WBCs) and Springboard Enterprises. Part of the educational skill for female entrepreneurs could be realized by promoting mentorship programs either physically or through online mentor-matching platforms, such as MentorCloud and Mogul.

Government and institutional policies are key to promoting gender equality in AI entrepreneurship. In this regard, policymakers and those who enforce them are to ensure that algorithms and artificial intelligence systems which do not discriminate are produced. Cyberspace should give everyone equal opportunity to start and grow their business.

Besides, female entrepreneurs could choose to become a member of some groups of discussion groups, which will allow them to ask questions, share experiences, learn from the discussion and suggestions of others. Some of the online groups are: Women's Entrepreneurship Day Organization (WEDO) and the Female Entrepreneur Association

(FEA), Women Helping Women Entrepreneurs, Women 2.0, SheEO, and Ellevest Network.

Efforts are therefore required in encouraging more girls and women to pursue courses in Science, Technology, Engineering, and Mathematics (STEM) in their academic careers. This will help to improve workplace cultures and retention of female talent in AI careers. To achieve this, the society must do away with gender bias first; if not, women will continue to be underrepresented in many sectors. The World Economic Forum reported in 2023 that women accounted for just 29 per cent of all science, technology, engineering and mathematics (STEM) workers.

Conclusion and Recommendations

One obvious fact noted by this paper is the fact that women are underrepresented in Artificial Intelligence (AI) entrepreneurship. Having considered that there is no equal use of ICT and STEM to make the voices of women heard in business, it also affirmed that biases, prejudices and stereotypes during machine learning affect gender equality in AI entrepreneurship. This work analysed the term “illusion” with a view to explaining the tendency to assume that there is gender equality in entrepreneurship.

This paper admits that barriers to gender equality in AI entrepreneurship could be caused by AI training data, access to education, on the one hand, and prejudices founded on patriarchal society, on the other hand. The African experience of gender inequality in AI entrepreneurship is centered around the capacity to provide a stable light and secure environment for women entrepreneurs.

After a careful study of what is meant by gender inequality in AI entrepreneurship and the barriers to equality, it is possible to conclude that the consequences of gender inequality in AI entrepreneurship distort our common humanity and proposed that government policies which promote gender equality, becoming members of different social support groups as strategies to address gender inequality in AI entrepreneurship. This study therefore recommends that accepting women without prejudice fosters diversity in AI entrepreneurship. The expertise of women in this regard will also contribute greatly to the advancement of science and the development of humanity. AI should not be used to promote biases.

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