Artificial Intelligence and the US Job Market: Impacts and Solutions

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Abstract: With the rapid technological advancement and increased investment in the Artificial Intelligence (AI) industry, AI is gaining popularity in the USA. This implementation of AI will have both a positive and negative impact on the US job market. To address a series of adverse consequences caused by AI, the US Government, as well as experts in AI and economics, have proposed several solutions. This essay is based on data on current and future AI development, as well as literature on how AI affects both high-skilled and low-skilled laborers. This essay employs a case analysis approach and SWOT analysis to illustrate the current state of AI development and its potential for growth, as well as the way in which AI will benefit and hinder both American high-skilled and low-skilled labour. The results of research indicate that AI technology is developing particularly rapidly in the US and has already had an impact on its job market. For high-skilled labour such as the data-processing workforce, medical labour force and computer programmers, they are likely to benefit from improved working efficiency and accuracy, as well as lower working pressure; however, they may also be worsened by higher fungibility, as well as increased dependency and reduced autonomy. For low-skilled labour, such as construction workers and delivery drivers will be provided with plenty of upskilling opportunities and safer working conditions, but would be negatively affected by significant job replacement and widening skill gaps. In short, the most notable aspect is that low-skilled labor is likely to be affected more significantly than high-skilled labor.

Keywords: AI; Job Market; The USA; SWOT

1. Introduction

With the rapid evolution of machine learning algorithms, the era of AI is gradually approaching. Nowadays, it is estimated that the global market size for AI will increase from approximately $500 billion in 2022 to around $2,500 billion in 2032 (AIPRM, 2024). The AI market shows strong potential for growth, which attract a significant number of entrepreneurs to invest. On the one hand, with the help of increased investment in AI companies, various types of AI have been produced and the utilized in the US such as Chat GPT, bringing numerous benefits to residents. However, on the other hand, the fast advancement in AI may hinder the US job market, causing problems such as higher job losses. Overall, the development of AI will both bring convenience to work but also threaten some proportion of the American workforce[2].

With the rapid development of AI, it is urgent for humans to address its potential adverse effects from now on, avoiding the consequences of science fiction films-in the future, AI will replace human beings and become the new master of the world. Moreover, this essay may help to inform policymakers in the USA and other countries on how to approach the threat of AI. To sum up, there is no doubt that the implementation of AI in the USA will generate plenty of adverse consequences, including job replacement, income inequality, and a rising crime rate[5].

This essay begins with a literature review in which we examine past research on this topic. In this section, there will be an interpretation of the the word high-skilled labour and low-skilled labour. What's more, the following parts of paper will give information about experts' views on how AI will affect the US job market. Then we will move on to a discussion where multiple arguments and counter-arguments are considered. In this section, this paper will split up the jobs into high-skilled and low-skilled jobs initially. This is because these 2 kinds of occupation might be affected differently as each type of workforce performs diverse tasks. Secondly, provide three policy recommendations and then

evaluate them accordingly[8].

2. Literature Review

2.1 Research Related to Job Market

Skilled labour is a segment of the workforce that possesses specialized knowledge, training, and experience to perform more sophisticated physical or mental tasks beyond routine job functions (Hayes, Catalano, Courage, 2022)[17]. Skilled labour usually has higher education in any university or expertise levels attained via training and experience. Unlike low-skilled labour, high-skilled labour generally performs intellectual work and is likely to earn a premium salary.

At face value, AI is more likely to affect this type of labour as it can help with mental tasks. However, it lacks the creativity of human beings, so the conclusion remains unclear. These jobs require rich perceptual and emotional experiences, as well as the unique creative abilities of humans. Consequently, even with the assistance of AI technology, it is pretty difficult to replace humans completely[9].

Nevertheless, a low-skilled laborer is the conceptual opposite of a skilled laborer (Hayes, Catalano, Courage, 2022)[17]. It describes individuals with little formal education and training who frequently engaged in low-wage and insecure jobs in industries such as service and manufacturing. Low-skilled labour is not likely to be well-educated, often receiving a high school diploma rather than a degree, which typically results in lower and smaller wages.

Low-skilled labour usually involves manual work, such as cooking, driving, and cleaning. Due to high substitutability, these simple works can be easily replaced by AI. For example, Tesla's cars can self-drive. If this kind of car were to spread around the world, drivers would face unemployment. What's more, those low-skilled laborers are more likely to be unemployed when structural unemployment occurs in their countries, due to the inability to find a new job within a short time period caused by low occupational mobility[12].

2.2 Research Related to AI

2.2.1 Definition of AI

Artificial Intelligence (AI), a term coined by emeritus Stanford Professor John McCarthy in 1955, was defined by him as "the science and engineering of making intelligent machines" (Christopher Manning, 2020)[26]. As time went by, people have given many new definitions to AI. For example, according to Coursera Staff, AI refers to the theory and development of computer systems capable of performing tasks that historically required human intelligence, such as voice and pattern recognition as well as decision-making. A wide range of technologies such as machine learning, deep learning and natural language processing are included under this general phrase (Coursera Staff, 2024)[10]. Besides the explanation provided by Coursera Staff, the term "AI" can also be described as a wide range of technologies that power many of the everyday goods and services – from apps that recommend TV shows to chat-bots that provide customer support in real time.

2.2.2 External concern

The rapid advancement of AI has significantly impacted the US job market, leading to both challenges and new opportunities. A 2013 foundational study from the University of Oxford estimates that approximately 47 per cent of US jobs are at risk, particularly those involving routine tasks (Frey, Osborne, 2013)[14], using mathematical modelling to make predictions. However, this model has limitations, as it did not account for all influencing factors, making precise predictions challenging. Because this paper was published at the primary stage of AI development, it played the role of setting a precedent, laying a theoretical foundation for subsequent related research. Its unique methodology attracted widespread discussion and subsequent studies that sought to refine or contest their findings.

More recent studies have broadened the understanding of AI's implications. Arntz, Gregory and Zierahn (2016) found that merely 9 per cent of US jobs face a high risk of automation when considering task heterogeneity [33]. The McKinsey Global Institute (2017) suggested that while 50 per cent of work activities could be automated, less than 5 per cent may be entirely replaced, indicating that most jobs will be redefined rather than eliminated[15]. Besides job replacement, experts also analyzed the wider socio-economic effects of implementing AI on the US job market. Autor (2015) emphasized a trend of job market polarization, leading to increased income and wealth distribution inequality[3]. Similarly, Acemoglu and Restrepo (2020) noted that industrial robot adoption in the US between

1990 and 2007 remarkably decreased employment and wages in affected commuting regions[1]. These findings underscore the potential for AI to deepen existing disparities in the job market if it is not carefully managed.

In response, literature has started to focus on how to tackle these unintended consequences. Upskilling and retraining programs have emerged as key recommendations. The OECD (2019) underlines the requirement for adaptive education systems and training programs that can equip workers with skills relevant to the digital economy. The World Economic Forum (2020) has similarly launched initiatives aimed at upskilling and reskilling over one billion individuals by 2030[4]. Public investment in sectors such as green energy, healthcare, and infrastructure is also proposed to create stable employment.

Admittedly, while existing research highlights AI's impact on the US job market, few studies examine its effects on specific nations such as the USA. This paper aims to analyse how AI affects both high-skilled and low-skilled laborers within the US job market, and then suggests three potential mitigative solutions based on the current nature of the US job market, along with an evaluation of their effectiveness.

3. Analysis of the Impact of AI on the US Job Market

Based on the analysis of the current situation of AI and the job market in the US and drawing on scholars' research, it is obvious that the implementation of AI will both provide advantages and adverse consequences to the US job market. Overall, AI will cause a great deal of fluctuations in the US labor market through the displacement effect, productivity effect, and the reinstatement effect (Bian, 2024)[6]. However, the extent of the impact highly depends on the type of job-whether they work as a high-skilled labour or a low-skilled labour.

3.1 The Impacts on High-Skilled Jobs

With the rapid development of AI, it will be more powerful and smart quickly in the future, which can help to facilitated a lot of high-skilled jobs. AI can greatly improve job quality for many workers by automating mundane and routine jobs. This shift allows employees to concentrate on more challenging and interesting tasks, potentially increasing job satisfaction and reducing fatigue (Murray, 2024)[27].

3.1.1 How will AI benefit high-skilled jobs?

1. Benefits for the data-processing workforce

AI technology related to multilabel classification could significantly benefit data-processing occupations such as accounting by allowing data points to belong to multiple classes simultaneously. For example, the most important tasks of each accountant would be keeping track of every transaction their firms make and then organize all statistics into a formal financial document like statement of comprehensive income which record in detail about a firm's expenditure and income with a particular time period, requiring high levels of skill and education in areas such as tax law. The job satisfaction and working motivation may decrease due to the repetitive nature of their work[18].

However, with the implementation of AI technology, people related to data-processing occupations will be facilitated. Firstly, AI can enhance efficiency by automating tasks, such as creating financial charts. In this way, accountants can simply input statistics and specify their needs, allowing AI to generate the necessary documents rapidly. This automation reduces the pressure exerted on accountants, enabling them to better balance their personal and professional lives, finally improving their standard of living. Murray (2024) indicates that this improve in efficiency can significantly enhance work-life balance, enabling them to better manage personal responsibilities alongside professional obligations[27]. Moreover, AI increases the accuracy of calculations by automatically applying fiscal approaches without emotional bias. This leads to more reliable financial forecasts, helping shareholders to make informed decisions. As a result, employees might receive recognition and bonuses for their timely work, improving job satisfaction.

2. Benefits for medical labour force

Another group of high-skilled labour force who work in medical industry such as surgeon can also be benefited. Becoming a doctor needs extensive education and training, and one of the most challenging aspects of their job is performing operations, which requires long periods of concentration. However, prolonged standing can impact their accuracy, especially for older doctors who may face fatigue, poor eyesight, or shaky hands. Fortunately, more than 2,000 hospitals in North America now utilize robotic surgical systems, with over 15 percent of

general operations were robotic-associated in 2023, projected to double in five years (Brylkov, 2025)[7]. Now AI is showing up in healthcare industry in a variety of ways, including finding brand new connections between genetic codes, powering robots to assist with surgery, automating administrative duties, customizing treatment plans and much more (Daley, 2024)[11]. A robot's mechanical arms can assist surgeons to do operation while seated at a computer console supported by a 3-D, enlarged image of the operative site provided by the robot (Daley, 2024)[11]. In this way, the accuracy and efficiency will be highly improved so that for patients, less pain and a quicker recovery time could be ensured. At the same time, this technology mitigates the physical demands on doctors, making complex surgeries more manageable.

However, if a patient dies unexpectedly during the operation because of a doctor's mishandling or a machine malfunction, who should be held this responsible-the doctor who does the operation, the hospital that purchased the surgically assisted robotic arm, or its manufacturer? If a hospital does not consider emergency treatment before acquiring technology, family members may suffer due to the lack of accountability, facing both emotional distress and financial burden. This would damage the hospital's reputation and prompt government restrictions on surgical robotics, hindering medical achievements. AI also has significantly potential in drug discovery, tackling skyrocketing development costs and research challenges. While AI can facilitate drug creation and improve clinical trial selection, there is no guarantee that pharmaceutical companies will price drugs affordably. Companies often prioritize profitability over accessibility, potentially exploiting low-income consumers even if AI reduces cost of production.

3. Benefits for computer programmers

Another high-skilled job which can be benefited by AI would be computer programmers. They will be responsible for writing code that tells computers what to do supported by the solid understanding of programming languages, algorithms, and data structures (Steven, 2024). Consequently, this work is quite hard because programming requires highly logical thinking, problem-solving skills, and attention to detail, which makes this a high-skilled occupation (Steven, 2024). Traditionally, computer programmers had to write their own code using languages such as C++ and Python. However, with the implementation of AI, now they are able to utilize AI to generate code by simply describing what they want. This reduces their stress because AI can produce complex code, improving both quality and productivity. Consequently, computer programmers may have more time to concentrate on other tasks such as creating new AI models, accelerating technological innovation[20].

However, the growth of AI may result in a decline in the demand for computer programmers. As AI continues to evolve, the barriers to entering the field may increase, making it more difficult for newcomers, for instance, they cannot know the extremely complex process. In addition, if the development of AI approaches a saturation point and can create new generations of itself, computer programmers may face unemployment or redundancy due to reduced demand for their skills.

In summary, a great deal of evidence has baked up that the implementation of AI has brought benefits to those high-skilled labors, increasing productivity and working accuracy, and not just only in the three mentioned in this essay, medical, data-processing and ICT industries. Nevertheless, while AI brings many benefits to high-skilled labour, will it is still likely to generate a series of adverse consequences on those high-skilled labour such as job replacement or higher fungibility? The answer is still unclear through various research. The following part of essay will discuss how the implementation will hinder high-skilled occupations[22].

3.1.2 How will AI hinder high-skilled jobs?

1. Higher fungibility

The capacity of an item or asset to be exchanged out for other identical goods or assets is know as fungibility. (Invenstopedia Team, Gordon Scott, Vikki, Velasquez, 2024)[30]. In this case, the higher the fungibility of a job, the more people can do it.

The first adverse impact is that the implementation of AI may reduce barriers for high-skilled occupations, leading to potential unemployment for high-skilled laborers. Workers who perform specialized tasks and command a skill premium over low-skilled workers would lose their skill advantage if AI enables them to perform at par with the

high-skilled ones (Chouary, 2024). As low-skilled laborers learn to use AI for complex tasks, they could increasingly perform roles like accountants, diminishing the unique skill advantage for high-skilled laborers. In this way, talents in accounting may not be lacking or scarce than before. While this could lower salaries for accountants, it may lead to higher wages for previously low-skilled laborers. Thus, the effects may cancel out[23].

However, not all accountants can be easily replaced. Despite using AI, some low-skilled laborers may lack the ability to identify errors or maintain high standards in financial documentation. Professions requiring deep degree of education, like doctors and lawyers, are still unlikely to be fully replaced by AI or low-skilled laborers.

2. Increased dependency and reduced autonomy

The second negative impact would be the implementation of AI will lead to increased inertia among workers, diminishing human intuition and creativity. An over-reliance on AI could make workers overly dependent on this technology for decision-making, potentially diminishing human intuition and creativity in the workplace (Murray, 2024)[27]. For example, if medical researchers depends too heavily on AI to predict negative effects and select candidates for clinical trials, they may risk losing essential skills. In the long run, they may lose these capacities and also the independence as well as critical thinking. Furthermore, if AI breaks down, development could be stopped. What's more, medical researchers can conduct various investigations and experiments, obtaining more reliable results that AI, that relies on historical data. Inaccurate AI predictions might mislead pharmaceutical researchers, potentially resulting in harmful outcomes for patients[24].

To sum up, the extent of how high-skilled labors will be negatively impacted by AI depends on the number of trained individuals and their reliance on AI. Nevertheless, due to differences in occupational difficulty between high-skilled and low-skilled jobs, relevant workforce will be affected in a different way. The next section will explore the adverse consequences for low-skilled laborers.

3.2.The Impacts on Low-Skilled Jobs

3.2.1 How will AI benefit low-skilled jobs?

1. Upskilling opportunities

The first benefit is that AI can create opportunities for low-skilled laborers such as drivers and assembly line employees to master more skills. It can enhance productivity and employment prospects, finally improving their quality of life (Tovar, 2024)[32]. AI-powered tools like virtual assistants and chat-bots can save worker's time and effort by streamlining administrative processes. Numerous AI technologies such as the assistants for Excel and platforms like Otter.ai for meeting recording and transcripts are now opening up new learning and upskilling options. Educational options like Coursera also provide various affordable AI courses from reputable organizations, creating pathway for skill development. (Tovar, 2024) [32].

Furthermore, AI also generates new jobs opportunities, requiring advanced skills and potentially offering higher wages in areas such as ethical management, AI maintenance, and monitoring (Murray, 2024)[27]. This can help them transition to higher-paying, more skilled positions within their industry. For example, a factory-machine repairman can now transition to AI maintenance with appropriate training, increasing their earning potential and improving their living standards, as a result.

However, the whole process would be a treadmill so that low-skilled labors might only be benefited in the long run. Although AI is providing more and more upskilling and recruitment opportunities, some low-skilled laborers might struggle to keep up with these changes, leading them miss out these valuable opportunities due to inertia or the perceived difficulty of learning new skills[25].

2. Safer working conditions

The second advantage AI brings to low-skilled workers especially those who work in construction industry is improving safety in working conditions. Safety is often a big concern in industries such as manufacturing and logistics. Fortunately, AI can assess environments to identify and prevent hazards, reducing the risk of accidents (Murray, 2024)[27]. For instance, AI-powered cameras and senors can monitor construction sites for unsafe practices, alerting workers to potential dangers. Additionally, wearable devices equipped with AI can track workers' health metrics and environmental conditions, helping them to manage fatigue and avoid heart-related injuries.

However, some workers may hesitate to share personal health data with employers due to

privacy concerns. Thus, the implementation of such AI technologies may face challenges unless there is agreement among workers to share their vital signs. On one hand, it is clear that AI can basically benefit low-skilled workforce in both improvement of skill, self-actualization and improved working security. On the other hand, while bringing benefits, it may also lead to job replacement. The following part discusses the adverse consequences brought by AI to low-skilled laborers[29].

3.2.2 How will AI hinder low-skilled jobs?

1. Job Replacement

Pessimists think AI is about to eradicate millions upon millions of jobs in the near future (Hernandez, Horwitz, Moller, 2024)[19]. The implementation of AI is likely to lead to significant job replacement, particularly in low-skilled occupations. For example, plants can automate production processes with AI, requiring merely technicians to set up the systems. This can replace tasks such as assembling parts and quality checks, increasing productivity and reducing production costs as machines can work continuously and make fewer errors. As a result, the demand for human labor in these settings may show a decreasing trend, leading to unemployment among factory workers, much like the mass job losses during the Industrial Revolution between 1760 to 1840 caused by steam machines[30].

Currently, AI was responsible for 3,900 job losses in the USA in May 2023, accounting for 5% of all job losses during that month (SEO. AI's Content Team, 2024)[2]. Similarly achievements in self-driving vehicles could reduce the need for human car drivers. As technology develops, firms are racing to capitalize on driverless and autonomous taxis. It is reported that a new kind of driverless taxi manufactured by Google-owned Waymo and General Motors' Cruise has been introduced in the US and then tested in cities including Phoenix, Los Angeles, and San Francisco. This brand new taxi can be navigated and driven just by the AI system empowered by highly advanced radar, lidar and cameras built in rather than the real human-drivers. It has attracted a lot of attention and became very popular among American people due to cheaper prices and safer driving. This results in a risk to existing taxi drivers, who may struggle to find new employment due to low occupational mobility, leading to decreased standard of living as they lose income and find it hard to support their families[31].

2. Widening Skill Gaps

Besides higher job replacement, another adverse consequence AI is bring to low-skilled labors is wider skill gaps. While low-skilled labor can utilize AI to learn new skills, the disparity between low-skill and high-skilled employment may increase, potentially marginalizing those without training and upskilling opportunities (Murray, 2024)[27]. For high-skilled labors, AI can become a tool which can both facilitate their work and help them to accumulate or learn new skills. High education level enables them to adapt and study how to use AI technology more easily. They can use those new skills taught by AI to make themselves more adaptable and valuable in the workforce.

Nevertheless, we acknowledge that many people can learn how to use AI under guidance, but it still could be difficult for low-skilled labors especially the elderly to adapt a brand new technology because it takes them longer to absorb, analyze, and recall new information (Harvard Health Publishing, 2022)[16]. On top of that, some individuals may resist AI, viewing the learning curve as too daunting. In this way, the skill gaps would be more and more significant with the further development of AI, with high-skilled laborers gaining more power while low-skilled laborers face risks of job elimination, particularly in roles like driving or factory work.

In conclusion, the implementation of AI will bring benefits to the US job market, creating more recruitment opportunities and facilitating working but at the same time create a lot of adverse consequences such as higher risk of unemployment and reduced independence. Now addressing these negative effects has become urgent. The following part will first present a SWOT analysis of the US job market regarding AI and the propose practical solutions to mitigate these issues and finally evaluate them accordingly[34].

3.3 A SWOT Analysis of the US Job Market in the Effect of AI

This essay further employs the SWOT analysis model, systematically examining the key characteristics of AI on the US job market from the four dimensions of strengths, weaknesses, opportunities, and threats, in order to provide a logical basis for the subsequent policy

recommendations, as shown in Figure 1.

3.3.1 Strength and opportunity

After the implementation of AI, the US labor market has continued to show a trend of prosperity. We can conclude that that the US labor market is strong (Gould, 2024)[15]. This can be indicated by 2 main features.

First of all, AI will benefit labor in some industries such as healthcare. For example, identifying potential cancerous lesions in radiology pictures can be completely by AI via its more deep learning algorithms. This tool allows medical professors to allocate their own time more efficiently towards specialized tasks like devising creative treatment solutions and resolving associated medical issues, potentially leading to more job creation. Specialization will help to create more job opportunities especially in medical area, one of the strengths of the USA, which potentially reduces unemployment rate (Jain, 2021)[21]. As reported, unemployment rate in the USA decreased from all-time high 15% during the global health crisis to approximately 4.1% at the end of 2024.

Secondly, more extensive application of AI would result in higher wages. With the guidance of AI, high-skilled labors such as surgeons can improve the quality of treatment and operations with less time. This could become a condition for them to persuade higher wages from their employers, which results in higher purchasing power.

3.3.2 Weakness and threat

On top of those strengths and opportunities, the implementation of AI still brings some treat and create several weakness of the US job market. Generally speaking, the US job market will have 3 main challenges.

The first one is that the implementation of AI in the USA may lead to the disappearance of certain industries, particularly affecting routine, service-oriented roles like office support and food service jobs, typically held by low-skilled laborers. For instance, Amazon, one of the world's biggest retailing businesses, has begun adopting automated chain stores, signaling a shift towards entirely contactless grocery shopping (Jain, 2025)[21]. As mentioned before, the implementation of AI would be help for those high-skilled labors to ask for higher wages. While AI can empower high-skilled laborers to ask for higher wages, it could also lead to structural unemployment for low-skilled laborers. In this way, they would experience skill deterioration, widening skill gap and increasing income inequality.

The second one is that digital gap between rural and urban areas is likely to worsen. It seems that although AI technology is rapidly developing in the US, people in rural areas where most low-skilled labors come from is unlikely to be benefited due to the lack of essential infrastructure required to implement high speed internet (Jain, 2025)[21]. This makes them more difficult to be up-to-date as those high-skilled labors, which makes them less employable. To make matters worse, this would make US businesses less willing to provide training for those low-skilled labors. As reported, the percentage of employer-sponsored job-training fell by 7 percent between 2003 and 2013.

The last one is that over reliance of AI would deteriorate current skills owned by especially high-skilled labors. As mentioned before, although the use of AI can improve quality and productivity for medical labour force, if they always rely on AI technology when searching causes of the illness and operating, in the long run, their skills may be deteriorated due to insufficient frequency of actual practice.

To sum up, while AI presents benefits and challenges for the US job market it is essential for Federal Government to develop associated mitigative solutions to address issues like the skill gap, income inequality, and potential skill deterioration. Four policy suggestions will be proposed in the following parts of the essay, in response to these issues.

4. Policy Recommendation

4.1 Firm Intervention

The first two solutions are in response to widening skill gap between high-skilled and low-skilled labors within the US job market. The first approach is called upskilling which refers to the process of improving employee skill sets through training and development programs can be utilized. The goal is to minimize skill gaps and get employees ready for changes in their positions or responsibilities (O'Brien, Downie, 2024)[28].

Firstly, firms should train employees, especially those at higher risk of unemployment, on using AI technology to improve productivity. On-the-job training can be utilized while working time. Owners of a firm could gather staff together in the meeting room and invite AI

engineers to teach them the process of using AI while doing tasks through visuals and demonstrations. This allows staff to access and gradually apply AI tools.

The second method is skill-gap analysis and career path development. Organizations can utilize machine learning to assess employee performance and identify training needs (O'Brien, Downie, 2024)[28]. Consequently, employees can easily identify the area where they need training most so that companies can provide training programs accordingly. After skill-gaps are analyzed, relevant organizations could then help employees especially those who are seeking a job to identify where they want their careers to progress by using AI (O'Brien, Downie, 2024) [28]. A plan is suggested to be made to tell people what kind of preparation such as knowing how AI can help them and how AI can facilitate themselves should be made in advance before joining a new company. In this way, job seekers can early master AI expertly can make an adequate preparation before recruitment. Also, AI can assist job seekers in mapping their career progression and preparing for new roles, boosting their CV competitiveness.

However, there are limitations. First of all, training cost would be higher than usual, especially when hiring AI engineers to conduct lectures on AI. Secondly, if staff is forced to do so, the lack of enthusiasm and motivation will make them refuse to do so, paying less attention during training course. Thirdly, it would be quite difficult for old staff to comprehend the detailed process so that will not actually use AI while working. Also, for staff who have already known the adverse consequences of AI such as high job replacement, they are likely to be scared of AI so that they refuse to use although training is carried out. Thus, the effectiveness of training could be reduced, potentially making the initial investment unproductive.

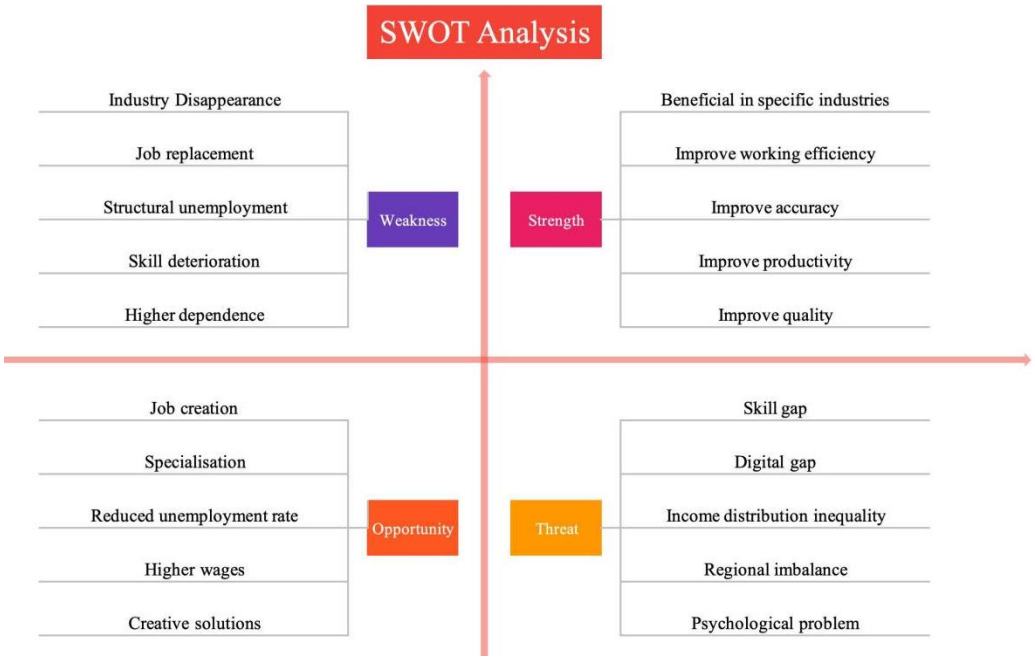

Figure 1. SWOT Analysis of the US Job Market

4.2 Government Intervention

Another solution is the use of government intervention, issuing some regulation and legislation in order to constrain the development and use of AI in society, preventing the abuse of AI and potential skill deterioration brought by AI.

4.2.1 Law and legislation

The first method is to make regulation on what AI can do. In February 2019, President Donald Trump signed a document to emphasizing the requirement for American leadership in AI while advocating for reduced barriers to innovation (Fazlioglu, 2023)[13]. It is important for the US Government to clarify what AI can and cannot do. For example, it should inform medical labour force about the risks of over-reliance on AI and establish oversight to guarantee that AI serves as a support tool rather than fully taking over surgeries.

On top of that, self-regulation among businesses

is also essential. Besides legislation, the most rigid principle in society, should be considered to clearly show that AI cannot be allowed to revise itself with the help of built-in algorithm, replacing those computer programmers. Thus, the whole development process should be fully supervised by the US Government to make sure that AI is not enabled to entirely replace jobs that rely on human skills such as doctor and also make it impossible for AI to escape the shackles of people who invent it. Without suitable regulation, there is a risk that AI could become too powerful, undermining human authority.

However, the effectiveness of government intervention relies on its magnitude. Excessive regulation could restrain innovation and drive AI companies to be cautious while developing new types of AI to guarantee that they are not illegal. Thus, the future growth of the AI field would be slow so that the quantity of people who make investment in those companies may fall as there think the AI industry cannot have a good development prospect. In this way, more and more AI company may leave the industry as they do not want to response to the regulation. They might relocate to less regulated market. Hence, this intervention will lead to several unintended consequences such as unemployment and slower growth of the US economy. Conversely, insufficient regulation seems to fail to mitigate the harmful development of AI, making the laws ineffective.

4.2.2 Government-provided upskilling and safety course

The third method is imposing mandatory upskilling/safety courses on AI by the US Government. If these courses are all compulsory, once provided, all American workforce have to attend in so that the effectiveness will be enhanced compared to those optional courses just offered by companies. In this way, both high-skilled and low-skilled labour can have equal opportunity to be trained on how to use AI appropriately to further facilitate their work. As these courses are provided by government so that company burden will reduce as it could be free for all workforce, companies will not struggle to organize the whole process and spend money inviting relevant AI experts to give presentation to their employees, as a result.

However, the lack of motivation and incentive may prevent the US Government from providing free AI courses for all laborforce. Government official may ignore the adverse consequences of the implementation of AI as those problems may not directly influence their own personal interests or living standard as the rapid revolution in AI technology could bring a plenty of taxation to the government which can be then invested in more technological advancement in order to emphasize American national strength.

Also, the government should assess whether providing free mandatory AI courses can work. Another way it could mitigate adverse consequence is paying subsidy on qualified AI companies, for example, only pay for companies that use ethical souring and develop health AI that cannot do anything against the law. To make subsidy exert its function, government should supervise those qualified AI companies on whether they spent it in an appropriate way. If companies just use this subsidy personally, raising staff wages or saving in bank for future investment, the subsidy paid would be just a loss to the US Government.

To conclude, the implementation of AI will bring benefits and threats to both high-skilled and low-skilled labors within the US job market. The impact of AI on the low-skilled workforce is likely to be much higher than that on the high-skilled workforce. On the contrary, highly skilled labor is likely to benefit more. However, the conclusion is still rough. The extent of AI's impact on the workforce depends on how many jobs AI can replace, the number of American labor force who is willing to study how to use AI and the degree of government intervention. Anyway, the US Government is suggested to chart the right future direction for AI enterprises and step by step reduce the negative impact of AI on the local job market, trying its best to guarantee social welfare is maximized and gradually achieving harmonious coexistence of human and AI.

5. Conclusion

This paper considers that the implementation of AI will burden the low-skilled workforce more as a higher risk of unemployment and replacement may affect them not only financially but also emotionally. The adverse effect will depend on age and the ability to learn. Unemployment will lead to no income, which comes from working, so people may lose the ability to support their families, especially those young laborers who have already had offspring. More pressure will be exerted on them, and they might lose confidence and motivation to find a

new job because they are afraid of being replaced again by AI. Admittedly, we acknowledge that high-skilled labour will also be adversely affected by AI, but the extent of the impact would differ. AI likely brings more benefits to them rather than harming them. With advancements, their work is expected to be facilitated further further, so that in the future, it is possible for those high-skilled laborers to become even more powerful. On the contrary, low-skilled laborers will lose social status and gradually be eliminated by the society. Then less participation of low-skilled labour may also hinder the development of the US economy, as they are required by the primary and secondary sectors, which provide the basic requirements for human survival such as food and capital goods which would be utilized by high-skilled labour working in the tertiary industry, such as offices. In this way, the proportion of development of the three sectors in the USA will be out of whack.

To conclude, as the extent of the impact of AI implementation is analyzed, it is time for the US Government to intervene in the development of AI. The government should enact regulations and legislation on AI as soon as possible to constrain the self-evolution of AI. What's more, the government and enterprise should pay more attention on those low-skilled people and provide retraining programme accordingly to get them used to AI instead of just be replacing. Overall, issuing regulations and legislation would be more effective, as they are more rigid than retraining programs. Once it is issued, everybody within the USA will have no choice but to follow.

This essay still has limitations, as it primarily focuses more on the impact of AI implementation on the US job market, rather than exploring potential mitigative solutions. This is because most literature available analyses how AI will affect the US job market, with a smaller number of studies discussing how to mitigate negative impacts, given the current state of the US job market. Thus, further research would be conducted on how to relief those impacts in specific regions such as the EU, China, and the UK, in addition to the US. Broader study and be conducted to analyze further how AI would affect things like income inequality, the gap between the poor and the rich as well as social crime rate. Future research can also be conducted on other types of mitigative solutions, for example, whether it is effective for governments to issue tariffs or subsidize people who are facing to unemployment due to AI. This was not analyzed in this essay because the available data is limited, and I have already mentioned three diverse solutions.

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