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INVESTIGATING THE SOCIO-ECONOMIC CONSEQUENCES OF ARTIFICIAL INTELLIGENCE: A QUALITATIVE RESEARCH

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Abstract:
It is without any doubt that artificial intelligence (AI) is set to radically disrupt humankind in various dimensions. The global economy is one of the dimensions in which AI is about to have an unsettling effect. Furthermore, AI is expected to change our societal structures in an unprecedented way. It might even change how humanity views concepts such as labour, education, and governance. However, there are conflicting predictions about those effects. Some scholars predict positive socio-economic effects. Conversely, other scholars remain fairly pessimistic. This research attempts to reconcile the gap between AI hype and AI reality by offering insight on AI's potential impact on issues such as employment and economic growth and to highlight the ethical issues that already raise concerns for the future. This article determines the dimensions in which AI is about to have the most disruptive effect in a socioeconomic context. Semi-structured interviews with seasoned industry experts, academicians, and futurists with extensive knowledge of AI have been carried out for this purpose.

Keywords:
Artificial Intelligence, Socio-Economic Effect, Employment, Overdependence, Inequality

1. Introduction
Since the dawn of time, the development of human life has gone hand in hand with technological advances. From the first tools and the invention of the wheel to the present, technology, the visible offspring of the human intellect, has led mankind to longevity, comfort and created tools for understanding the world around it. This change has not always been swift and destructive. But the climate has begun to evolve faster since the 18th century. The disruptive processes were called "revolutions", denoting that these movements were sudden and radical in nature. Each of these has brought in some new technical innovation that would mark the era. And now mankind stands on the verge of the newest: Artificial Intelligence.

Artificial intelligence has become hype across societies. According to a recent study, it's found that there is a broad understanding of what AI is across society (3 out of 4). However, only 2 percent of the respondents really believe that AI has major societal implications (Holder, 2018). Therefore, it could be inferred that although many have acquainted AI as a new phenomenon, only a few portions of the society are aware of its real implications from a socio-economic perspective. As such, this research attempts to reconcile the gap between AI hype and AI reality by offering insight on AI's potential impact on employment, economic growth and to present ethical issues that already raise concerns for the future. Based upon the extant literature, the research first identified ten topics on the socio-economic effects of AI. Afterward, semi-structured interviews with AI opinion leaders have been conducted to find the points in which a consensus is reached and the points that deserve special attention. Using the gathered insights, the research also aims at creating a meaningful dialogue between working professionals and opinion leaders on the aforementioned phenomenon.

2. Defining AI

AI is defined as the ability of a computer system to correctly interpret external data, to "learn" from such data – pretty much like a human being - and to use these lessons to achieve specific objectives and tasks through flexible adaptation (A. Kaplan & Haenlein, 2019).

It is expected that artificial intelligence applications developed to exhibit human-like behaviors will one day exceed the level of human intelligence (Civelek, 2019). Artificial Super Intelligence is the last step in the evolution of AI. It's when AI comes to self-awareness and obtains consciousness. Human brain scanning will be exponentially enhanced, computers will have the requisite hardware and software to mimic not simulate human intelligence, machines will gain access to all information across the Internet and will be able to pool their resources and memory by working together and being one, they will have full independence of design and engineering technologies (Kurzweil, 2005).

3. AI and Socio-Economic Disruption

Disruptive technological innovations can support vulnerable people, create ideas that transcend continents, and even change people's aspirations in daily life. So disruptive technologies are likely to be the trigger of a possible revolution. AI is promising unparalleled social, economic, and political destruction that has not been triggered by any technological advance from the Industrial Revolution to the present. According to some projections, the rise of artificial intelligence in the global economy is projected to invalidate all industries and eventually generate mass unemployment (Goode, 2019). In line with expectations, most of the future people may face the fact of transferring their work to machines and as a result, they may turn into vagrants and purposeless beings (Civelek, 2018a). For example, robots have started to take a serious place in production in China. Foxconn, which supplies parts to technology companies such as Samsung and Apple, replaced 60,000 human employees with Artificial Intelligence, reducing the number of employees from 110,000 to 50,000. Even in the United States, approximately 1 in 6 factory jobs are handled by Artificial Intelligence. With these developments, scientists have begun to question radically new uncertainties, including ethical dilemmas and possible AI development scenarios (Hauer, 2018).

As a result, AI has the potential to lead to an unprecedented socioeconomic disruption. (Osoba and Welser, 2017).

4. Dimensions in Socio-Economic Disruption

4.1. Economic Growth

Until 2008, the global economy grew by 5% per year. After the Great Depression, this percentage dropped to 3-3.5 per cent, even with all the technological advances that have been made in recent years. Productivity is the number one indicator of long-term economic growth. Yet productivity has decreased over the last few years, with no signs of recovery (Schwab, 2017). U.S. labor productivity rose 2.51 percent between 1995 and 2005 and 1.01 percent between 2005 and 2018, while Japan's labor productivity rose 1.86 percent between 1995 and 2005 and 0.68 percent between 2005 and 2018 (Purdy and Daugherty, 2017; Goldin et al., 2020).

Although the rise of Artificial Intelligence is supposed to show the highest efficiency in economic growth, this is not the case. There may be some explanation at the moment about why AI has not improved production and, consequently, economic growth. It may be that the statistical instruments used are insufficient to calculate the effects of Artificial Intelligence, that the downward trend has a possibility that it can be disruptive developments, or that artificial intelligence has not yet been incorporated into production processes and has not yet achieved its maximum potential (Schwab, 2017).

There are some researches which have positive expectation bout the potential effect of AI on economic development. Accenture (It is a global management consulting and professional services company that is on the Fortune Global 500 list and works with many important organizations) claims that by 2035 AI will double growth rates for 12 developed countries and increase labor productivity by as much as a third. PricewaterhouseCoopers International-PwC (With offices in 155 countries, it is one of the leading professional services networks in the world which service about Assurance, Tax, and Advisory services) claims that AI will add $15.7 trillion to the global economy by 2030, while McKinsey (It is an American-based international management consultancy firm, which is the world's first management consultancy company, serving organizations in the private, public and social sectors) projects a $13 trillion boost by that time (Funk, 2020).

4.2. Future of Employment

The biggest challenge for societies and companies will be to take advantage of the benefits of using artificial intelligence technologies, while providing opportunities for new products and services, and avoiding dangers and disadvantages in terms of increased unemployment and greater wealth inequality (Makridakis, 2017).

One of the most anticipated impacts of artificial intelligence is a huge unemployment that has the potential to cause. However, when we look at the consequences of unemployment, we cannot see artificial intelligence as a single independent reason. Unemployment might also be attributed to other technologies, such as automation and advanced robotics.

AI, in its present form, can complement human entrepreneurship and be used as a tool. But what happens when AI surpasses intelligent human? There are two distinct views about what could happen in the future; the positive and the negative. Some scholars claim that technology and job development have always gone hand-in-hand. The use of software displaces some others, thus generating new jobs, but the size still contributes to job growth in new industries. Nevertheless, skill-based unemployment is recognized and emphasizes that it is the duty of policymakers to broaden job retraining programs (McCarthy, 2014). Others, however, claim that in 2010, just 0.5 percent of the U.S. population was working in occupations that did not exist a decade earlier. They also point out that the bulk of the workforce was professional employees with higher skills, most of whom had a degree in STEM (Berger & Frey, 2015). However, as far as short-term predictions are concerned, the 2018 Report on the Future of Jobs predicts that while 75 million jobs will be lost by 2022, a total of 133 million new positions will arise that will establish a more distinctive working atmosphere between humans, machines and AI (Schwab, 2018).

The risk of unemployment stems from the capacity of AI to automate processes that require little or no human interaction. Right now, poor AI can only perform the basic tasks for which it was first programmed. However, in the years to come, the world is about to witness more skills learned by AI, potentially making human labor redundant.

4.3. Society

There are conflicting views about the effect of AI on society. Robots are constantly and increasingly replacing people, and unemployment is inevitably spreading around the world. Despite the advances in technology, the digital divide is felt, especially in developing countries, and there are economic and biological divides beyond the digital divide. This new ecosystem contains many threats (Civelek, 2018b). Coupling with the threat of increased unemployment, AI, in fact, might well lead to social unrest. Additionally, some authors voice their concerns about the risk of social inequality in that those who have ready access to AI technologies are likely to have unprecedented power with regard to those with no access (Stone et al., 2016). Another argument raised by pessimists is the potential risk social credit scoring (SCS) systems currently employed in China. According to SCS, all citizens are constantly being tracked using digital means (i.e. big data, surveillance systems) and receive a numerical score that reflects their trustworthiness in all aspects of life including their social behavior, timely tax payment, etc. (Singer and Brooking, 2018). Those who receive low scores could even be punished by the state. Some authors argue that SCS's could have disastrous effects on societies in the long run (Singer and Brooking, 2018; Crane et al., 2019; Dignum, 2019).

Optimists, on the other hand, argue that increased automation made possible by AI systems will eventually lead to a golden era. In such a vision, there will be a rise in leisure time (Churcher, 1991), and humankind will benefit from the AI by unloading their burden to robots.

4.4. Value of Employment

While several economists assume that AI will ultimately reduce the cost of goods and services, due to its maximum productivity and decreased workforce, the spread of these economic benefits will mean little for the general public, previously working in low or medium-wage jobs, who would be unable to access these products and services in any way.

This will lead to increased discontent, social conflict, and inequality; opportunities will emerge for those with access to AI technology and give them a competitive advantage over those without access (Stone et al., 2016; Microsoft, 2018).

Optimists, on the other hand, assume that the increased automation caused by AI would make the world look. The working week will be reduced to a few hours per week giving rise to leisure; the intelligent machines will take over the economy, while humans will reap the fruits of their labor and be free to devote their time to other more rewarding ventures. (Churcher, 1991; Makridakis, 2017).

4.5. Singularity and Inequality

The concept of technological singularity: is a concept that arises from the combination of nanotechnology, genetics, and robotic technologies, which include artificial intelligence too. The concept of technological singularity is derived from the concept of "singularity", which defines "impossible and unpredictable events" in physics. Technological singularity refers to a threshold that Kurzweil put forward and predicted to happen in 2045, and where artificial intelligence will surpass human intelligence and can no longer be predicted (Big Think, 2009). After the singularity, the level reached will allow us to overcome the limitations of our biological bodies and brains and to greatly increase creativity (Kurzweil, 2005). Kurzweil (2005) argues that together with Singularity, people will gain power over their destinies and mortality will be in the individual's own hands. According to the author, people will be able to live as long as they want. By the end of this century, the non-biological part of human intelligence will be trillions of times more powerful than untouched human intelligence.

Even, if the human-machine gap closes after the singularity, there will be able to consist another type of inequality between those who adapt and those who resist. In order for humans to contend with robots, it is expected that humans will resolve to artificially improve their bodies and minds; one of the predictions includes Nano-bots in our bloodstreams to enhance mental abilities (Kurzweil, 2005).

As Kurzweil argues, even if people increase their capabilities after the singularity threshold, there are still some inequalities. For example, will biological augmentation be possible for all segments of society equally? While this is happening, certain segments of society may not have it, even if they desire to have it, or may not prefer such augmentation. Even if the expense of these changes is brought down as argue, by Moore's Law and therefore made available to the masses, the real question remains: what will happen to people who wish to remain "pure" human beings?

4.6. Ethics of AI

Another emerging problem of AI that will impact society and raise questions in the coming years is the issue of ethics. Ethics and morality have, until now, been a requirement for a degree of awareness; indeed, our entire legal system is based on that principle (Kurzweil, 2005). Kurzweil (2005) suggests that it is too soon to formulate methods to instill a deep AI in human ethics. But inching towards a powerful AI, even if it takes years, with the ability to make decisions for humans instead of human ones, without holding a serious debate on the very pressing question of ethics, would be detrimental to society, and the consequences could be irreversible. Some researchers agree that business leaders, policymakers, scholars, and researchers in interdisciplinary fields must work together to ensure that AI upholds the following preliminary principles: fairness, reliability and safety, privacy and security, transparency, and accountability (Microsoft, 2018).

4.6.1. Fairness

AI should treat everyone fairly, without prejudice, and be able to behave in the same way with similar groups of people. One would assume that since machines are merely logical, that would be an easy obstacle to overcome, but this is not the case. In 2018, Amazon discovered that the algorithm used to recruit workers for technical positions discriminated against women. The explanation for this was that the algorithm was trained using CV data that had been collected for more than a decade. Since STEM occupations are dominated by males, the algorithm concluded that males are preferable to this form of the job description and acted accordingly (Dastin, 2018). One of the problems in the future would be using unbiased data sets and tracking the conclusions made by the algorithms.

4.6.2. Reliability and Safety

A degree of confidence must be achieved for the public to embrace AI-based systems. Reliability and protection are the highest priorities for AI to be disseminated. AI should be tracked and regularly checked not just for normal situations, but also for unforeseen conditions. The system cannot be perfect and therefore requires continuous monitoring to ensure reliability, protection, and accuracy and to deter possible bad actors (Caruana et al., 2015).

4.6.3. Privacy and Security

Large data sets are needed in order to train AI algorithms to perform certain tasks. These data come from all sorts of mediums. The need for privacy and security has always been a common concern by humans during technological progress, but today the protection of privacy is much more important. People are not willing to share their personal information unless there is a guarantee of privacy and protection that the information will not be used in a malicious manner, directly or otherwise. In 2016, the European Union introduced the GDPR to govern the free flow of data through the Digital Single Market. It is intended to enhance the rights of its people to their digital information, enabling them to have control over how, when, and from whom their information is used (Official Journal of the European Union, 2016). Companies and businesses must also demonstrate this degree of dedication to privacy.

4.6.4. Transparency

Incomprehensiveness is a real issue with AI. If AI begins to make a decision that affects people, those people would want to know how it came to their decision; what was the rational sequence of conclusions that led to that decision? Failure to provide these descriptions of the inner workings of AI to the people would result in general mistrust and, in the end, utter disdain for AI's verdicts where possible.

4.6.5. Accountability

Another critical topic that raised questions is the issue of transparency. Who's in charge of AI? Millar et al. (2018) stated that there are currently three forms of AI accountability in the literature. The first form of accountability argues that AI is accountable for being transparent; accountability is paralleled by explicability. The second form of accountability applies to the group of people or entities that would be responsible for the adverse effects of the algorithm or the AI itself. The third and widest form of accountability is the socio-technical framework that produces and deploys.

4.7. Religious Beliefs

There are also theological arguments about faith, transcendence, human and computer evolution, and religion about AI. However, it must be pointed out that if in the future, robots exceed human beings, these questions would not only be posed in philosophic cycles.

Here you can see a trend, political views, as well as religious ones, are part of who we are as individuals. That raises the question, what happens if the AI discussion questions these deeply ingrained beliefs? The effects of this incompatibility on views will be felt very profoundly by society.

In particular, it is cautioned that if AI generally challenges the fundamental assumptions human beings have, it may increase the tensions that exist between deeply religious communities defending their fundamental values and those whose views are influenced by a more secular perspective. Extremist groups battling extreme, politically driven violence can pose the greatest danger to global cooperation and stability (Schwab, 2017).

4.8. Human Interaction

AI and robotics are going to transform our understanding of society and human relations. Machines are likely to replace humans in the labor market and there is no guarantee that AI or computers will not replace humans in their social duties as well. Think of the example of caring for the elderly. Children might find it very convenient to let smart robots take care of their elderly parents while they continue their lives and careers. However, this reality is going to rob us of the chance to feel sympathy and affection. In particular, when we outsource "child care or elderly care" to machines, we deprive others and ourselves of the opportunity for spiritual development and dedication. In addition, this can alter our definition of what is perceived to be a morally worthwhile goal (Visala, 2018).

4.9. Overdependence of AI and Loss of Skills

Overdependence on AI is very troubling. AI is sure to offer us comfort, but it is likely to come at the expense of our critical thought and to eventually lose our skills and talents (Anderson et al., 2018)

Its use in our everyday lives will give us a lot of comforts, but will we eventually give up our independent thought and make it a negative situation?

4.10. AI as a Threat to Democracy

In June 2016, people voted for the Brexit Referendum took place. To be sure, this day went down in history as a bad day for democracy. Facebook and Cambridge Analytica have been accused of targeting people whose personal information has been leaked on social media considered convincing and bombed them with "fake news" days before the elections in order to change direction. Many have accused this reality of tilting the scale benefit to the "Leave" vote. Facebook was accused of creating "Fake News" using Facebook advertising, which then targeted people who were classified as easy to navigate (Cadwalladr, 2019). These and similar circumstances demonstrate that AI could well be a big threat to the future of democracy.

5. Methods

Within the scope of the study, interviews were conducted with 6 person interview group consisting of business people, academicians, and entrepreneurs who have extensive knowledge about artificial intelligence and were asked questions about the following issue:

- Effect of AI on Economic Prosperity
- The Impact of AI on Future of Employment
- Universal Basic Income, and Activities to Reduce the Impact of AI on the Workforce
- Social Credit Score (SCS) And Future Perspective
- Singularity and Inequality
- The Future of "Ethics, Fairness, privacy, reliability, security and transparency" Concepts
- AI and Human Spirituality /Religious Beliefs
- The Effect of AI on Human Interaction
- Overdependence on AI and Deskilling
- Democracy in the Future with Artificial Intelligence

6. Finding

Based on the semi-structured in depth interviews, the compilation results are given in this section.
As shown in Table 1, there is a general consensus among participants that artificial intelligence is likely to have a positive impact on economic prosperity provided that Industry 4.0 is adopted by the corresponding countries.

Table 1: The Effect of AI on Economic Prosperity

PARTICIPANTS	THE EFFECT OF AI ON ECONOMIC PROSPERITY
M.S	-Positive effect
M.A	-Positive effect (With the Industry 4.0)
M.E.C	-Positive and negative effect (Positive just for countries, which AI and Robotic Technologies are, entered the production process. Negative for other countries or regions)
T.A	-Positive effect (With the Industry 4.0 and min. in 2030s)
U.K	-Positive effect (Not overvaluation and min. in 2045s)
A.H.K	-Positive effect (With the Industry 4.0)

Despite Schwab's (2007) negative expectation on productivity and economic growth, the findings of the this research coincide with the positive expectations of Accenture, PwC and McKinsey organizations (Funk, 2020).
On the other hand, as can be seen from Table 2, no participant expects mass unemployment. However, 4 out of 6 respondents emphasize that AI can gradually lead to unemployment. Besides, there is a general acceptance (5 out of 6) that there will be severe unemployment in operational jobs.

Table 2 : The Impact of AI on Future of Employment

PARTICIPANTS	THE IMPACT OF AI ON FUTURE OF EMPLOYMENT			
M.S	Mass unemployment is not expected.	Not cause unemployment	New jobs will replace the jobs that disappeared.	Serious unemployment might occur in operational jobs.
M.A	Mass unemployment is not expected.	Not cause unemployment	New jobs will replace the jobs that disappeared, and AI will be a complementary tool to the human workforce.	Serious unemployment might occur in operational jobs.
M.E.C	Mass unemployment is not expected.	Cause unemployment	Transform people into purposeless beings	Serious unemployment might occur in operational jobs.
T.A	Mass unemployment is not expected.	Cause unemployment	New jobs will replace the jobs that disappeared.	Serious unemployment might occur in non-technology producing countries and will cause a disaster.
U.K	Mass unemployment is not expected.	Cause unemployment	New jobs will replace the jobs that disappeared.	Serious unemployment might occur in operational jobs.
A.H.K	Mass unemployment is not expected.	Cause unemployment	Jobs with a lot of human interaction will remain to belong people	Serious unemployment might occur in operational jobs.

However, 4 out of 6 participants think that new jobs will emerge to replace lost jobs. This result conforms to the points Schwab (2018), Berger and Frey (2015) emphasized previously.
The following statement of M.A on this subject is thought-provoking:

- If your occupation is just replying for a question which is "how?", then, it will be done by a robot and AI. You should fear. But if your occupation can be described by answering for a question which is "why?", don't fear. (M.A.)

On the other hand, there are those who are very pessimistic about this issue. We understand from the following statement that my M.E.C represents this cluster:

- ...I think that AI is our last masterpiece. We cannot produce anything greater or more sophisticated after that, because AI can and will replace completely humans at some point and we will jump in another step of evolution, on the other side of evolution. We will create a more intelligent creature than us. It's very dangerous. …Also another problem AI will continuously replace human power and at the end of the day humans will be redundant, and our skills will perish. Humans will turn to aimless beings. …Redundancy is decease, an infection for humanity because humans will have no purpose. (M.E.C)

We should also emphasize that U.K brings an opposing point of view to the statement of M.E.C with the following expression:

- How we define unemployment is also important. It is also important what the added value resulting from this unemployment is. For example; Artificial Intelligence increases unemployment and productivity. Perhaps this situation enables that unemployed workforce to equip itself with other activities, skills, and faculties. Then why would it be negatively affected by this? (U.K)

When we look at activities to reduce the impact of AI on the workforce, participants generally think that Universal Basic Income (UBI) is necessary and should be implemented by the states.

Table 3: Universal Basic Income, and Activities to Reduce the Impact of AI on the Workforce

PARTICIPANTS	ACTIVITIES TO REDUCE THE IMPACT OF AI ON THE WORKFORCE	
M.S	Taxation should be on companies that do not employ people.	States should revise education systems.
M.A	UBI should be applied.	States should revise education systems.
M.E.C	UBI should be applied.	Revising education systems are a vain effort.
T.A	UBI should be applied.	States should revise education systems.
U.K	UBI should be applied.	AI and related factors should be standardized
A.H.K	UBI should be applied.	States should revise education systems.

On the other hand, participants also agreed that, as McCarthy (2014) points out, it is necessary to revise education systems to reduce the devastating effects of AI

Since the Social Credit Score is against important values such as privacy and freedom, the participants, like some scholars, consider this practice to be absolutely wrong (Singer & Brooking, 2018; Crane et al., 2019; Dignum, 2019).

Table 4: Social Credit Score and Future Perspective

PARTICIPANTS	SOCIAL CREDIT SCORE (SCS) AND FUTURE PERSPECTIVE		
M.S	SCS is a practice against freedom.	SCS creates competition everywhere, even in neighborhoods.	SCS will be a necessary feature in the future.
M.A	SCS is a practice against freedom.	An extremely wrong application.	SCS and similar practices are not very realistic.
M.E.C	SCS is a practice against privacy.	An extremely wrong application.	
T.A	SCS is a practice against privacy.	An extremely wrong application.	SCS and similar practices are not very realistic.
U.K	SCS is a practice against privacy.	An extremely wrong application.	SCS and similar practices are not very realistic.
A.H.K	SCS is a practice against privacy.	An extremely wrong application.	People are experiencing a similar situation that is currently rated by private companies in all areas of life around the world.

On the other hand, A.H.K stated that we experience a similar SCS today as well:

- China does this as a state policy, but in fact, we live this by being graded by private companies in every aspect of our lives. I put the Chinese state aside, there are huge data in big companies. I, personally guess that these kinds of things are happening all over the world, and I don't think they're right. (A.H.K)

Overall, the participants think that inequality between people is about to increase significantly, which is in line with the expectations of Stone et al (2016) and Microsoft (2018),

Table 5: Singularity and Inequality

PARTICIPANTS	SINGULARITY AND INEQUALITY			
M.S	Income Inequality will not rise in the long period if humanity will be prepared to developments.	There will be inequality for those who are not ready.	Biological Divide and Digital Divide will arise.	
M.A	Inequality will extremely rise.	There will be inequality for those who are not ready.	Biological Divide and Digital Divide will arise	The concept of redundant human will emerge
M.E.C	Inequality will extremely rise.	There will be inequality between those who can access technology and those who cannot.	Biological Divide and Digital Divide will arise.	The concept of redundant human will emerge
T.A	Inequality will extremely rise.	There will be inequality for those who are not ready.	Biological Divide and Digital Divide will arise	The concept of redundant human will emerge
U.K	At first, Inequality will rise.		AI-supported tools will become cheaper and more economical in terms of cost gradually after a point.	
A.H.K	Inequality will rise.	There will be inequality for those who are not ready.		

Additionally, the inequality expected to occur in terms of the Biological and Digital Divide may vary according to the people, companies, and countries that are and are not prepared for the future with Artificial Intelligence. Additionally, half of the participants argue that the concept of Redundant Human will emerge.

In this regard, M.A's statement is explanatory:

- If you don't have AI technology in the future you will be useless. You will live like in Stone Age. You will do nothing. Whatever you do will be worthless. You will try to produce something; it will be very expensive, very slow and in limited number in quantity. You will not be able to sell it. So you will stop. Whatever you try to do, you will meet the same reality as a very wild shock. (M.A)

In contrast, U.K has a more optimistic perspective, which differs from other participants on this issue:

- In every innovation, there is a small user segment that this innovation addresses first, and after a certain period, it becomes more economical, cheaper, and more common in terms of cost and becomes massive.(U.K)

Not much consensus has been reached on other concepts, while half of the participants were built a consensus about ethics. Participants generally stated that it is not correct to speak precisely and make predictions in today's world where even experts on these subjects are unsure.

Table 6: The Future of 'Ethics, Fairness, privacy, reliability, security and transparency' Concepts

PARTICIPANTS	ETHICS, FAIRNESS, PRIVACY, RELIABILITY, SECURITY AND TRANSPARENCY		
M.S	AI will be more ethics.	AI is expected to be more fair in its decisions because emotions or self-ambition will not influence its decision.	Life will be safer and more transparent with AI.
M.A	Ethics of AI will be shaped by the ethics of the people who made it.	AI will be invisible; we will not be sure if it is doing something Fairless.	Life will be safer and more transparent with AI.
M.E.C	Ethics of AI will be shaped by the ethics of the people who made it	AI is expected to be more fair in its decisions because emotions or self-ambition will not influence its decision.	
T.A	No certain predictions can be made.	Since technological developments are made for a commercial purpose, concepts such as 'ethics, confidentiality, transparency, justice' are never a priority for these commercial companies. The important thing is the commercial success and the success of the product.	No certain predictions can be made.
U.K	Regulations should be made to protect AI against humans and human against AI about ethics.	Regulations should be made to protect AI against humans and human against AI about fairness.	Life will not be safer and more transparent with AI (Unless regulations are made to protect AI against humans and humans against AI.)
A.H.K	Ethics of AI will be shaped by the ethics of the people who made it	No certain predictions can be made.	No certain predictions can be made.

A.H.K voices the common ethics perspective lucidly:

- The way you raise a child determines the future prejudices and ethical stance that child will have. Therefore, the reaction of the model you will draw changes according to 'the data set' you provide. …The whole issue can be shaped from here. In fact, there is nothing the machine does wrong or learns for itself. He makes inferences from our social knowledge. The dirtier our knowledge, the more dirty the machine will be. The more our understanding of ethics is crooked, the more crooked artificial intelligence will be. (A.H.K)

Besides, T.A emphasizes that companies or profit-making organizations ignore such matters:

- Technology is developing very quickly and very wildly. While doing this, this business is done for a commercial purpose. Therefore, the concepts such as ethics, machine bias, privacy, transparency, and justice are not very priority issues. The important point here is the commercial future and the success of the product.(T.A)

Unfortunately, the participants could not reach a consensus on this topic. Each participant has their own views. While M.S thinks that humanity is very close to immortality, M.A emphasizes that artificial intelligence will be good for religions and that virtual clergy will emerge, while T.A stated that different results can be observed depending on the prevalence of religious beliefs of societies. Other participants emphasized that religion and AI are not closely related.

Table 7: AI and Human Spirituality /Religious Beliefs

PARTICIPANTS	AI AND HUMAN SPIRITUALITY /RELIGIOUS BELIEFS
M.S	Religion and its teachings will have to adapt to the new circumstances which AI will bring.
M.A	AI will minimize the risks of wrong interpretations of religious texts. This will indeed prove very beneficial for mitigating the effects of future religious clashes.
M.E.C	AI and religion are not closely related.
T.A	In societies that have strong beliefs and cannot easily adapt to technology, it will be difficult and time-consuming for artificial intelligence to change religion or reform, whereas in societies, on the contrary, the effects of artificial intelligence in this area will be faster and more effective.
U.K	AI and religion are not closely related.
A.H.K	AI and religion are not closely related.

However, considering the following statements of A.H.K and U.K., it can be said that they are close to a common view:

- If you put God in the gaps in the world, you will lose that belief one day when a physical explanation comes. It doesn't affect me because I don't put my faith in those gaps.(A.H.K)
- Let's say in the future, a technology superior to artificial intelligence came out. Then how will we determine the answer to this question? If you are now making something a part of religion, it is expected that there are no higher dimensions or mechanisms. Because religion is such a thing. (U.K)

Half of the respondents agree that human interaction is declining. Two of them did not emphasize that day-to-day loneliness emerges as a serious problem. Some participants argue that the interaction does not decrease, but only shifts to the digital environment. Two of the participants anticipate that in the future, humans will have relationships with robots.

Table 8: The Effect of AI on Human Interaction

PARTICIPANTS	THE EFFECT OF AI ON HUMAN INTERACTION			
M.S	There is declining human interaction (in some ways because most of the critique comes from old behaviour).		In the future people will also have relationships with robots.	There is more interaction among people today because of the technology such as calling, social media and chat apps.
M.A	There is declining human interaction	People are living in artificial world and communication is digital.		Loneliness is getting more problematic day by day.
M.E.C	People will may not think that they need to face to face interaction.	People are living in artificial world and communication is	In the future people will also have	

		digital.	relationships with robots.	
T.A	People will be inclined to maintain their nature without the need for buildings and physical environments.			
U.K	AI's greatest impact will be on "communication styles", "communication and relationship management" and "Human Interaction".	People are living in artificial world and communication is digital.		
A.H.K	There is declining human interaction			Loneliness is getting more problematic day by day.

In addition, T.A pointed out that if we increase the developments in this area even more, we can be completely isolated from the physical environments:

- If we make virtual communication more realistic, and we can make ourselves feel in that environment, it will be possible to continue our life and communication in a way that we will never need those buildings and environments. (T.A)

All participants share the concerns as stated by Anderson, Rainie, and Luchsinger (2018) and agree that Artificial Intelligence leads to excessive addiction.

Table 9: Overdependence on AI and Deskilling

PARTICIPANTS	**OVERDEPENDENCE ON AI AND DESKILLING**	
M.S	There is overdependence.	There is a benefit inside this relationship.
M.A	There is overdependence.	
M.E.C	There is overdependence.	Human skills will surely perish and deskilling will rise because of AI, because of the machines.
T.A	There is overdependence.	There is a benefit inside this relationship.
U.K	There is overdependence.	
A.H.K	There is overdependence.	There is a benefit inside this relationship.

Nonetheless, 50% of participants stated that this addiction would not be a problem as long as it remained in simple and routine processes. Furthermore, there is a benefit in this relationship, such as having more time to be more productive and efficient. However, two other participants expressed concern that if AI becomes an integral part of people's businesses and daily lives, it could pose a serious risk.

Some participants argue that this period of duty in routine processes can make our lives easier and make us more efficient.

T.A expresses this addiction clearly:

- In fact, as human beings, we have a structure that likes to escape towards ease. Wherever there are things that make our job easier, we love to use them and make them a part of ourselves. Therefore, if it will really give artificial intelligence a number of important advantages in terms of the things we do day-to-day, it is very likely that we will leave the responsibilities and duties to them and focus on only certain things. (TA)

All but two of the participants emphasize that AI does not pose a threat to democracy, but rather will create a more democratic environment.

Table 10: Democracy in the Future with Artificial Intelligence

PARTICIPANTS	DEMOCRACY IN THE FUTURE WITH ARTIFICIAL INTELLIGENCE	
M.S	AI will not be a threat to Democracy in the future.	
M.A	AI will not be a threat to Democracy in the future.	
M.E.C	AI will not be a threat to Democracy in the future.	
T.A	Policy makers can use technological advantages such as AI to their advantage.	
U.K	AI will not be a threat to Democracy in the future (by itself).	The probable effects of AI on democracy will not occur in near future.
A.H.K	AI will be a threat to Democracy	The probable effects of AI on democracy will not occur in near future.

On the other hand, A.H.K argues that AI will pose a threat to democracies due to the risk of manipulating people's decisions. On the other hand, governance by AI is not expected to occur in the near future.
M.S's thought about why artificial intelligence will contribute to democracy is noteworthy.

- The traditional system says we need to go to election every five years. I don't want to give my opinion every 5 years, I want to do that every minute. If AI is a part of our cities, part of our countries, part of our life it will collect data every minute, every second and it will help those who execute. ...It will be a direct democracy.(M.S)

7. Conclusion

According to the results, there is a main or somewhat general consensus on the disruptive effect and nature of AI on economic prosperity, mass unemployment, overdependence/deskilling effect, and inequality between people. No consensus is reached for other dimensions including ethics and religion. The results have important implications both in scholarly and managerial contexts. Having compiled the interview results, the dimensions upon which a consensus is reached among the experts are as follows.
There is a general consensus regarding three of the dimensions in question – namely; the potential of the AI to bring about economic prosperity provided that the countries have transitioned themselves to Industry 4.0, the likelihood that AI will cause overdependence and deskilling effect, the expectation that AI will not cause mass unemployment in the short term.
The dimensions upon which participants haven't reached a consensus, yet state a general attitude are as follows; universal Basic Income (UBI) is seen as a necessity of a future world dominated by AI (5 out of 6 participants), social Credit Score (SCS) is seen as an unacceptable practice by majority of participants (5 out of 6) in terms of privacy. AI is likely to cause unemployment especially for operational jobs (4 out of 6 participants). AI is regarded as unlikely to have a major threat to democracy (4 out of 6 participants), majority of the participants believe that inequality between people will only get worse. 4 of them believe this will take place between those who are prepared for AI and others.
No consensus was reached for ethics and religion dimensions. The findings have important contribution to the extant literature on AI. According to the results, its foreseen that AI is likely to bring more poverty, rather than prosperity to underdeveloped countries. It will also lead to inequality between people and deskilling effect. The results also have important managerial, sociological, and economical implications by highlighting the areas which deserves the most attention regarding AI and socioeconomic structures.

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