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A DISCUSSION ABOUT THE EFFECTS OF ARTIFICIAL INTELLIGENCE ON THE SOCIAL LIFE

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Abstract

Recent developments in the framework of digital transformation have accelerated the works of Artificial Intelligence (AI) based technologies which are supposed to affect all areas of life in the near future. In this respect, the main objective of this study is to investigate the implications of this technology for employment, psychology, law and religions, and to discover how AI will transform our lives. Firstly, the study discusses whether or not digital technologies may cause unemployment and dejobbing. Secondly, the study focuses on the legal issues related to the technology of AI, and its legal status. Then, the relationship between human and AI is examined in terms of its emotional/psychological aspects. Lastly, we try to identify the approaches of the celestial religions to the development of AI. It is suggested in the study that digitalization is in a rapid progress and the penetration of AI systems into our individual, social and economic lives is unavoidable. Thus, instead of being afraid of AI and approaching it with suspicion, it is plausible and essential to look for policies and ways to adapt to this technology and cope with its side effects.

Keywords: Artificial intelligence, digital transformation, personhood for AI, employment , religion, psychology.

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1. Introduction

Nowadays, digital technologies transform all the practices and habits of human beings radically from business transactions to daily life activities. Social media, mobile services, cloud technologies, internet of things, cybersecurity, robotic and automated machinery, big data and data analytics etc. are the key elements of digitalization. As part of the transformation caused by digital technology, the opportunity to reach and to process data in mass quantities and from various sources swiftly emerged. Machines are developing their ability to learn without being overtly programmed. The computers of advanced capacity now can be used from a single centre with the technology of cloud computing, and the components of smart systems can interact mutually and function together through the internet of things to boost the process of the digital revolution. Apple SIRI, Microsoft Cortana and IBM Watson applications; self-driving cars and Google algorithms etc. are all based on AI technologies, even though AI is usually associated with robots. In other words, we encounter with this technology in many parts of our daily life in various ways, and it will increasingly become more visible and gain more importance in our lives in the future. Therefore, AI which is supposed to be the key determinant of not only business and production processes but also social life from a broader perspective. In this respect, the main purpose of the present paper is to discuss the psychological/emotional, legal and religious aspects of this phenomenon and its impacts on employment in the age of digitalization.

2. Literature Review and Theoretical Framework

2.1. Employment Dimension

In the framework of the digital revolution, the technologies like Artificial Intelligence (AI), machine learning, cloud computing and the internet of things will create a new social and economic order. This in return will change business processes, the essence of professions, organizational structure in the workplace and affect most significantly the fate of jobs. Since the beginning of this century, entrepreneurs with a higher need for achievement and managers with a higher need for power (Alpkan et al., 2002) share the same goal of operational efficiency and plan to invest a lot for transforming their way of doing business. This common understanding of transformation leads decision makers to scan intensively the marketplace developments in order to get aware of all these technological developments and opportunities, and then to try to focus on improving their quality, flexibility and cost efficiency strategies (Alpkan et al., 2003). Nowadays, especially AI based technologies which offer improvements in all these aspects of operational performance have already been widely adopted in the fields like health services, social services, education, finance, transportation- shipping, public security, environment and infrastructure. As for future, it is thought that AI will be developed with the capacity of collecting and analysing data, evaluating the outcomes, deciding on action and all necessary abilities to execute that action. Pursuant to this foresight, it can be said that almost all jobs carried out by human resources (HR) -including decision making- will be much more efficiently done by artificially talented systems or robots and accordingly work life will be reshaped with its all dimensions. In other words, while the digital revolution is transforming the social and economic life, it is expected that AI systems will not constitute a supplementary contribution but will play a primary role in the areas of employment.

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In January 2016, in the report of World Economic Forum, titled "The Future of Jobs: Employment, Skills and Workforce Strategy for the Fourth Industrial Revolution" it is estimated that 5.1 million jobs may disappear by the year of 2020 as a result of technological developments such as AI, machine learning etc. It is also stated in the report that AI will be far way better than humans in terms of working ability, and 50% of the existing occupations will be eradicated in the near future /the next 45 years (World Economic Forum, 2016). It is possible to say that in parallel to the development of AI based machines and programmes, some occupations are more vulnerable compared to others. It is thought that AI will affect firstly and swiftly, employees who perform jobs requiring minimum education, like driving, waitressing, and clerical works. For example, it is estimated that one in three trucks would drive without a driver despite the fact that being driver is a common occupation in our present-day (Maney, 2016). In time, as a result of the development and the spread of self-driving cars, being driver will become an old-fashioned occupation. Thus, lots of drivers would have to look for new jobs. In Tokyo Hotel, staff of which mostly consists of robots, services like cleaning the lobby, registering the clients and entertaining the customers are either carried out or assisted by the robots (Williams, 2017). China began to "employ" robot cops called AnBot for patrolling in the streets in 2017. AnBot is able to follow criminals or suspects thanks to facial recognition software. In Dubai, robots with similar qualities are designed to monitor shopping malls, tourist attractions along with collecting data and sharing it with the authorities. The government of Dubai also announced that they are planning to robotize 25% of their police force until 2030 (Page, 2017).

As the AI based machines develop, it will transform not only physically-performed jobs but also the jobs which require intellect and those information-based ones. In this respect, it is predicted that the calculation and inspection activities of companies will be performed by AI programmes. According to some foresights, through the advancements in the AI systems, the professions which require high-level education, training and knowledge accumulation like brain surgeries will be operated by advanced robots in the near future. Bestselling author Kevin Maney (2016) claims: "It won't take long being able to contact an AI doctor via your smartphone, talking to it about your symptoms, using your camera to show it anything it wants to see and getting a triage diagnosis that tells you to either take a couple of pain killer or get to a specialist" (para 21). Babylon, a London-centred digital health initiative, which can be seen as a starting point for this claim, was presented to serve the users in 2016. Babylon is designed as a doctor equipped with AI working on diagnose before sickness occurs through the help of daily habits, cardiac rhythm, diet and data or information supplied by the users concerning their other diseases (Lewis, 2016).

Considering the fact that AI technology transforms professional life every day, to develop measures against the risks that emerge as a result of this development is obviously crucial. There are numerous opportunities the digital technology makes possible, such as increasing the economic capacity, saving of time and minimizing the mistakes throughout the processes of production which. However, because of its side-effects like destroying the vast majority of jobs or professions along with decreasing the wages, there is a need for some counteracts. Accordingly, the idea of establishing a guaranteed basic income system is discussed against the problem of unemployment which might be caused by digital transformation. It is known that pilot schemes are put into practice in the form of "Universal Basic Income" in the countries like Finland, France and Netherlands to sustain citizens a regular and unconditional income by governments

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or public organizations (Williams, 2017), something much beyond the present usage of temporary "unemployment payments".

Even though the rapid race of the automation process has been decreasing the need for human effort, it may still bring some opportunities beyond the destructive consequences in terms of employment. As it was witnessed in the past, technological progresses have usually had the potential of creating new forms of the existing jobs or ensuring the continuity of some jobs by changing their nature instead of totally eliminating them. In the report of "*Automation and Anxiety"* published by the Economist, it is stated that the production of clothes became easier and the need for man power diminished through mechanization. Thus, textile products got cheapened, and in return the demand for these products increased. Consequently, new job opportunities were created for weavers even if the way they perform their professions altered. In summary, as it is indicated in the report "technology gradually changed the nature of the weaver's job, and the skills required to do it, rather than replacing it altogether (The Economist, 2016). In addition to this, the spread of AI based technologies and other digital systems in any field will push down the prices which in return will make a room for other expenditures. As a result, the demand for the products in other sectors may increase, which may lead to new areas of employment.

Furthermore, this digital revolution will bring out new jobs which did not exist before. Data mining engineering, digital marketing expertise, social media broadcasting, 3D designing, etc., are the occupations relatively new which have been created by the digital technological advancements. For example, as being the primary elements of the digital age, internet of things, smart and connected factories, smart homes, and smart phones which have developed with the Fourth Industrial Revolution have increased the need for cyber security experts in parallel to possible cyber threats and attacks. It can be also said that more importance will be attributed to qualities unique to human, such as persuasion, empathy, social interaction, questioning, and creativity along with the newly emerging jobs. In fact, the mentioned qualities may be more distinctive in the future (Beck & Libert, 2017). It is essential to point out that the need for human creativity and humor in the fields like advertising, authorship, and new product development will maintain, and perhaps people who will perform those jobs will be one step ahead, at least for a while.

2.2. Legal Dimension

AI and AI-based machines will affect our legal system and societal codifications which design our common life. The legal system which considers the "things" capable of AI as objects will fall short. As recognizing AI-based machines/robots as person legally is a huge step and it is a contentious issue even today. The answers to questions like whether or not machines with AI would be counted as a subject, if they can, how their responsibilities will be determined, if not who will held responsible for their actions (producers, programmers, seller); in case of attribution of a legal status and responsibility to these machines how they would be treated are still contested. In discussions concerning punishability; as a result of theoretical impossibility of punishing machines with AI or without AI, the chance to satisfy the victims dies out (Docherty, 2012). Therefore, principals of penal law related to function of retribution (rehabilitation and deterrence) become non-functional about machines (Docherty, 2014).

Although at the present time in the fields of robotics and AI, the effect of law is valid solely on certification and quality standards, it will not be limited to that in the future. A legal status or personhood

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seems necessary for machines to hold responsible in cases in which their quality of standard cannot be stipulated completely. The decisions upon legal status of AI-based machines will define their rights and responsibilities. The theories concerning the issue can be analysed as follows.

The argument that there will not be need for a legal status for machinery with AI is based upon the idea that robots will have limited rights and responsibilities depending on their mission, therefore, certain insurance and responsibility systems will be sufficient to conduct everything (Pérennou, 2014). According to another thesis, in future, AI-based machines may be considered as special means working according to some set of rules and having the ability to act like representatives of the actual users. For example, they will act like an intermediary or agency during the formation of agreements. In addition, acts of machinery will be accountable backwards (Pérennou, 2014). In fact, increasing autonomy levels of machines as a result of AI, make them even more unpredictable. There are views that actions of the AI-based machines can be regarded as "non-human subject" (Pérennou, 2014). Therefore, a new status for machines, indeed, will enter into legal system. Accordingly, in October 2017, Saudi Arabia gave for the first time in the world history a citizenship status to a robot named Sophia. The next step maybe the provision of voting, marriage and inheritance rights and tax paying duties.

There are some personhood models for machines with AI. The first one is "legal entity model" which is thought to be very successful in determining legal status of companies. It is the view defending congregating of rights, authorities along with material and economic responsibilities thus sets a good example for machines (Leroux & Labruto, 2012). Pursuant to this model, a set of responsibilities can be formed in a way including different parties such as user, seller, producer etc. In a similar way, in the report prepared and published in 2017 by Mady Delvaux, a rapporteur of European Council Committee of Legal Affairs, it is stated that "an electronic personhood" can be developed for machinery. Apart from this there is a suggestion to give machinery status of "artificial human" after ontological and moral assessments (Leroux & Labruto, 2012). Moreover, there is another idea proposing machines as artificial representative/agents of humans. Finally, as machines are human property it should gain a legal status of a slave like in Roman Law, some others suggest.

Due to the ever expanding AI technology a great area of discussions emerge and obviously it will expand even more. For example as a highly contested matter, in recent years, self-driving cars created an important dilemma for the matter of law. Although it is thought that autonomous cars will perform according to principle of minimum casualty, there are concerns about how it will work out in practical terms. The car itself is not only deciding about how to drive but also how to minimize casualty in times of accidents. It is not certain that in the moment of accident whose life will be primarily saved, the passenger's, the pedestrians' or of the passengers' in another car. Indeed discussions concerning whether or not the autonomous car will have legal capacity is connected with the decision of legal status of the machine. As a conclusion; AI and discussions considering its development will lead humanity to take new and major decisions in the field of law. No wonder it cannot be said that these major machine made critical decisions will be free of major legal and ethical discussions and confusions.

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2.3. Psychological and Emotional Dimension

One of the most important phases in the development of AI systems would be the creation of emotionally intelligent AI. Even though it is thought that we are far away from AI based robotics that can understand people totally, read their emotions properly and react humanly, scientists have been conducting considerable amount of studies devoted to improve the machines' emotional intelligence. There have been notable progresses to adapt the engine movements of humans to robots. In addition to this, if it becomes possible to gain personality traits to robots, AI based robotics' role can change from being auxiliary objects of social life to become active subjects.

To improve AI based systems in terms of emotional intelligence, it is necessary that they can perceive any emotions in the external world, express those emotions, and also there is a need of a virtual or physical embodiment of them for their emotional interaction with people. Such an improvement of AI may become possible through the machines' capability to learn. Private technology companies such as Google, Facebook, IBM have taken a step that can lead to learning of the machines. In this case, "Chatbots" can be an example of the first phase of the AI improved "emotionally". The application of AI called "AlpGo" which is improved by Google has defeated Lee Sedol who is one of the most important Go players (Lewis, 2016). However, there was an incident that a chatbot has gone out control through the machine learning and the suppliers had to withdraw it in order to update. While the twitter bot called "Tay" improved by Microsoft was supposed to be a young girl simulation which could chat in English, it became a racist and sexist swearer and a Hitler supporter by learning too fast just in a day (The Guardian, 2016). Whereas the machines are able to imitate and adopt to some extent human cognition, emotions and attitudes, it is much more difficult to build their emotional structure a human like maturity.

The establishment of an emotional and even a romantic relationship between people and the emotionally sophisticated AI is probably the most significant issue to pay attention. It is predicted that the AI being able to build an emotional interaction will change peoples' perceptions of love, affection, compassion etc. and start a new era in terms of social relations. The android robot "Pepper" produced by Softbank Robotics in Tokyo, is equipped with a technology which enables it to dance, make jokes, chat or take a walk. It can understand whom he is talking to thanks to its voice recognition software used in its production and distinguish the person's gender and even more surprisingly his or her mood. Pepper, which has been used for work presently, was actually designed to be an emotional companion more than fulfilling the tasks in workplace. Because Pepper is able to understand emotions and react to them to some extent, and it can imitate the emotions special to human such as empathy and love, the concern that it is being abused for different purposes has emerged (Hürriyet, 2015).

It is highly possible that people may establish a bond with even a non-living object that can act and react like humans, and express themselves in an emotional way. Dr. Julia Carpenter- a leading expert on human-robot social interaction-on inevitability or even necessity of the establishment of an emotional interaction between robots and humans, states: "Perhaps fifty years from now people will be comfortable with a robot does some domestic tasks in home, and they don't treat that robot with strong attachment but more like an industrial robot… Perhaps another form of robot will help with caregiving for children or elderly family members, and then we've decided that a human-human user- AI model of attachment and interaction is fine, or even deemed healthy, useful, and normal. It would be desirable for the user to be

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emotionally attached to a robot when it seems like it would be helpful and not damaging to human" (Carpenter, 2016). Similarly, Tarhan (2016) states that we are in a digital age now and we are about to meet a new world which is going to be more digitalized and robotized. In this sense, she emphasizes that robot-human love will be an inevitable phenomenon in the future. Tarhan (2016) claims that the feelings inherent in human beings such as love, compassion and sincerity have already been lost and the trust in human relations has been completely destroyed. Therefore, people's need of commitment will be satisfied by the robots in the future at the expense of traditional institutions such as family, marriage, neighbourhood, etc. (Tarhan, 2016).

AI based robots which can be programmed to be an artificial remedy for people's loneliness and to satisfy their needs of being loved and being desired may redefine the emotional relations. AI based systems or robots have an important advantage to be preferred as friends when compared to "real" human beings; this is their being specifically programmed to be "real" friends. In human-to-human interactions, fears of aloofness, rejection, betrayal, or insincerity constitute real social problems. Hence, people possibly will question their relations with other people, and this may lead to a new era in which human-robot relationships to be considered more genuine and sincere than human-to-human ones. In this context, people will begin to equalize AI based robots with themselves, instead of treating them as just ordinary technological tools. In other words, they will see them as a subject but not as an object. However, in spite of the thesis that people would live happier and more peaceful with the robots, people's thought of not being real of their emotions and they are just programmed to fulfil their purposes to satisfy people may create disappointment. After all, as of AI based systems and robotics have been improving with the digital revolution, it is possible to imagine a world in which the mechanical one will become more human-like while human beings will become mechanized. Wearable technologies, augmented humanity and other newer advancements that have not yet totally penetrated into our life may contribute to this understanding. Accordingly, mechanized humanity may lose self-awareness while humanized machinery becomes more aware of their selves.

2.4. Religious Dimension

One of the most important fields AI will affect and cause new discussions will be religion/ ethics. Religion is an important phenomenon in affecting various fields of one's personal and communal life. Therefore, producing a machinery entrusted with free will is a highly contradictive topic in religious/ ethical aspects. Pursuant to this, theological point of views of three Abrahamic religions and case of AI will be mentioned and also the possible effects of this development will be assessed.

AI or developed robotics indeed does not seem like unfamiliar concepts in Jewish History or culture. "Humanoid" Golem myth, which is made with soil and animated by various Kabbalistic scripts can be seen in many texts. One of the most popular of the mentioned myth and stories is the Golem which produced by Rabbi Loew in 16th century Prague. According to the story Golem which was created to defend Jewish community from the attacks toward them, got out control of its creator, went mad and its life got terminated by Loew. Besides, the phrase "Then God blessed the seventh day and sanctified it, because in it He rested from all His work which God had created and made" from Old Testament is said to mean "which God created to make" and in classical Jewish exegesis it is emphasized that what should be understood from this phrase is "Which God created for man to make and improve upon" (Rappaport, 2006). In Judaism, the man

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is entrusted with the intellect to produce and develop himself thus he shall implement it unless it leads him to sin. Because it is understood that development of technology and its advancement is in the human nature. The main explanation is new technology will not be ethical if its harm will be more than its benefits.

Christianity may be the religion AI and machines of AI are mostly discussed. The Bible teaches that technology imposes order on the created order as commanded in Genesis. This is a good and right endeavour; but as with all good things, technology can be abused and used for sinful purposes (Volkers, 2017). Therefore, AI as a sin changes according to one's motivation of using and producing it (Hoskins, 2016). According to another idea, the most supreme miracle of God is human itself, thus any innovation man has reached is connected to God. Briefly, the verdict of Bible and creation of AI are not contradictory (Bjork, 2008). In Pontifical Academy for Sciences in Vatican, which is an important spiritual centre for Christianity, a conference called "Power and Limits of AI" was held in 2016 to bring out discussions about the topic with the participation of representatives from giant firms like Google and Facebook (Catholic News Agency, 2016). At this point Stanislas Dehaene, member of Pontifical Academy for Sciences and professor of cognitive neuro-science in College de France posed the question "What is consciousness, and could machines have it?" In this conference, the quality of AI in changing society entirely was emphasized.

According to Islamic belief, science is the discovery done by human about of the rules of Allah, thus all sciences point Allah (Aydın, 2002). Although to our knowledge there are no academic studies specifically related to AI yet, there are verses reflecting the view of Islam on technology and its production. According to Islamic belief, religion does not contradict with the science and even shares the same view about the truth. There are a lot of verses of Qur'an that prioritise human engagement with the sciences. "Say, "Are those who know equal to those who do not know?"" (Qur'an, Zumar, 39/9) and "My Lord, increase me in knowledge" (Qur'an, Taha, 20/114) may be good examples. Also, there are many hadiths of Prophet Mohammad promoting engagement with the science. Moreover, like in other corners of the world, there are projects on AI in Islamic countries; for instance, recently, Ministry of AI is founded in United Arab Emirates (BBC, 2017).

Apart from all these, another development took place about human's formation of religion with AI. Former Google engineer Anthony Lewandowski, developer of unmanned motorcycle and services like Google Street View, founded a group named "Way of Future" to develop a God based on AI. Group, in their website, stated that they aim to produce a God based on AI and that God is in favour of the humanity (Solon, 2017). When ethical discussions on religion are analysed, it can be seen that for the time being AI does not cause a major discussion or denial but obviously it will lead to various objections and discussion later on. Moreover, beyond the formation of new religions or sects, virtual prophets, holy books and robotic caliphates may emerge within the older religions.

3. Conclusion and Discussion

In conclusion, it is clear that we have been experiencing a rapid digital transformation which directly penetrates to every aspect of our lives. Conventional employment and HR management tools or techniques need to be adapted accordingly. Effectiveness of HR management in personnel selection, performance evaluation, and retention of satisfied and qualified ones used to be related positively to the financial performance of the companies (e.g. Erdil et al., 2004). Actually, market penetration of highly qualified

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learning machinery -independent from any human needs for encouragement, affiliation, or achievement- disrupted the whole system of relations. On one hand, in the long run, developments in AI seem to replace some conventionally talented experts and even eliminate some conventionally important jobs in order to improve cost efficiency ratio of remaining employees. However, on the other, the same technology has also the potential of aiding present workers to be more efficient in their daily tasks, and even creating its own new sectors and professions to offer new kinds of jobs and positions.

Despite of its possibility disruptive results and threatening side-effects, trying to resist the change is in vain. Instead, trying to manage it by coping with associated possible risks, developing necessary measures, and exploiting possible opportunities would be more advisable. In this concern, talent management for multi-tasked flexible human resources, management of humanoid resources/capital and digital leadership for human- machine interaction seem to be hot topics of future labour relations. In this concern, there are many legal issues that should be addressed related to the status of the AI based technologies as parts of future workforce. They are increasingly being more autonomous, which may necessitate granting of a "personhood" status or even citizenship for them. Therefore, a universal legal framework defining the rights and responsibilities –including tax and criminal liabilities- of AI will be indispensable in the near future. As also for the policy implications related to the employment dimension of AI, the system of guaranteed basic income should be established by governments against to the risk of long-term unemployment and dejobbing. Sources of such funds may be the extra tax payments of the owners of digitally transformed corporations or even the robotic citizens themselves. Moreover, future human generations should be equipped with the abilities which will ensure them to adapt to this digital revolution, and to be educated to learn new skills much better and speedy than their artificial competitors and survive all other artificial challenges continuously in their career.

Regarding to the actual reactions of opinion leaders and/or religious authorities, it can be said that the approach of present religions is positive for the moment; and there is a general inclination to internalize the benefits related to increasing efficiency, comfort and speed AI brings to our daily life. It is possible to assume accordingly that humanoids are going to be a natural part of our social life with less objection and resistance; so new generations will inevitably develop intimate relationships with them as pets, co-workers, friends, or even consultants or preachers. However, disruptive changes in the societal traditions, especially related to new working habits and human-machine interactions, and radical developments in augmented humanity, especially related to human eternity and new religions, will produce original religious debates and societal conflicts. Consequently, accepting the fact that the digital technologies together with their advantages and disadvantages will be one of the main determinants of our future life, we must try to exploit their benefits just for the sake of universal human development while foreseeing and diminishing the possibility of harm related to the misuse and abuse of AI in the long run.

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