ETHICAL DILEMMAS OF USING ARTIFICIAL INTELLIGENCE FOR LEADERSHIP IMPROVEMENT

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Keywords: ethical dilemmas, personal development, leadership.

Abstract:

Background: Artificial intelligence (AI) is not only a new way to approach technology, to revolutionize the industry, but also a way to change the relational system and especially to improve the leadership of organizations.

Data Sources: A literature search was conducted through Google Scholar, Scopus, and Web of Science (2014-2024) using keyword combinations including: AI, leadership plus ethical dilemma, and in the WOS program the search was performed only in WEB of Science The official documents of decision-making structures at European or global level were also consulted.

Results: The ethical analysis of the problems raised by the use of AI in the field of development of an organization is a useful approach for any organization, whether it is one in the field of business, industry, medico-social or education.

Ethical dilemmas are related, on the one hand, to the introduction of AI in decision-making (which can lead to the perpetuation of prejudices depending on the data on which they have been trained), to elements related to the respect of the confidentiality of the data included in the analysis, but, on the other hand, to the replacement of human decision-making by that taken with the help of AI (the morality of the decisions taken, responsibility for the decisions taken) or by the integration of the principles of non-maleficence and beneficence in the decision-making activity, respectively by the ability versus inability to detect the correctness versus the incorrectness of some decisions.

Conclusions: The research provides information on the ethical approach to the use of artificial intelligence in AI, with a focus on understanding the need to use AI responsibly and assumed and the impact of both positive and negative use of AI, being able to be a tool in understanding the potential of using AI in current practice, in understanding the priorities induced by the use of AI: responsibility, efficiency, success in the context of protecting team members and society as a whole, developing governance regulations based on ethics, empathy, cooperation and interdisciplinarity.

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1. INTRODUCTION:

The moral values of individuals are seen today as a component part of a value system always analyzed at the individual and population level, ethics becoming an integral part not only of the academic or human training process but also of the professional training process, ethics becoming much more applicative than strictly philosophical.

Humanity is facing in this period, of the 4th industrial revolution, with the intertwining of ethical dilemmas, with the interconnection of those related to the environment, social, political with those related to the introduction of technology or the application in medicine of new tools such as artificial intelligence (AI).

Regardless of the background we come from, the profession we have, there is a category of ethical problems that we face and that can impact the development of any profession in general. The use of AI in the field of leadership represents a challenge for professionals in any field, with an impact on the development of society and the need to develop tools for evaluating and monitoring the effects of AI. (Rogozea L, 2023 [23])

However, the introduction of software that can help us make the best decisions should be developed in parallel with the development of our own decision-making capabilities, especially since not all the properties of the mind to make decisions are assimilated and can be reproduced by AI. The clearest example can be that of the last pandemic, in which decisions were often made based on insufficient information, with the desire to implement guidelines (standards), but, for a long time, without critical analysis, of scientific data.

On the other hand, it is becoming increasingly important to understand that ethics and ethical rights must refer equally to humans, to other creatures – natural or artificial, which can be subject to ethical rules such as: the right to be used peacefully or respect.

Artificial intelligence will not replace human intelligence, but it can be an important tool in the hands of humans and it must be managed with intelligence.

2. Background

Artificial intelligence is a concept launched by Alan Turing in 1950, with an experience in computers, which made him able to crack the ENIGMA code during World War II, the author of the Turing test through which he tried to answer the question "*can machines talk*" in the work *Computing Machinery and Intelligence,* and 6 months later *John McCarthy* (1927 – 2011) introduced the term *"artificial intelligence"* at a conference held at *Dartmouth College. (*Russell SJ. & Norvig P., 2021 [27])

The development of artificial intelligence is linked to personalities such as: Charles Babbage (1791–1871) and Augusta Ada King, Countess of Lovelace (née Byron) (Ada Lovelace) (1815–1852). Donald Hobbs developed an algorithm for learning neural networks "Hobbesian learning" (1949), and a year later, Isaac Asimov published *Three Laws of Robotics*, and in 1959, McCarthy and Minsky founded the artificial intelligence laboratory at the Massachusetts Institute of Technology (MIT) in Cambridge. (Grzybowski A et al, 2024 [6]))

The role of AI was best described by Klaus Martin Schwab who stated that artificial intelligence (AI) is the *"fourth industrial revolution*" after the *"steam car revolution", the "electric revolution"* and *the "digital revolution",* which *"It will fundamentally change the way we live, work and relate to each other. In its magnitude and complexity, the transformation will be unlike anything humanity has experienced before" (*Cath C. 2018 [3]; Schwab K. 2016 [28])

There are other data definitions of AI like the one developed by Malik P et al: *"*its (AI's) ability to simulate intelligent human behavior, instantaneous calculations, problem-solving, and evaluation of new data based on previously evaluated data" (Malik P et al., 2019 [10]), "the study and development of computer systems that can copy intelligent human behavior" in *the* Oxford Dictionary, or "the ability of a digital computer or computer-controlled robot to perform tasks commonly associated with intelligent beings" in the Encyclopedia Britannica (Copeland B.J. [4])

Artificial intelligence has practically become part of our lives, from education to health, from industry to agriculture, transport or commerce, but especially in everything that means administration and management. (Astărăstoae V et al. 2024 [1], Pelin Y. 2007 [19], Rogozea L. 2009 [22])

AI is not only not a new concept; as John McCarthy and PJ Hayes point out "The idea of an intelligent machine is old, but serious work on the problem of artificial intelligence or even a serious understanding of the problem awaits the computer with stored program." They consider that "Whatever a person can do, a computer should be able to do for him". (McCarthy J, Hayes P. J. – 1969 [11])

The mirage of artificial intelligence and robots is not new, it has been found since ancient mythology, the best known being the myth of Pygmalion and Galatea. Similar concerns appear in Leonardo da Vinci, or in writings such as those of Arthur C. Clarke, Frank Baum, Isaac Asimov or George Lucas. Some of the writings (novels) or films also present (McKevitt, P. 1997 [12], Rogozea L. 2009 [22], Rogozea L et al 2009b, [26])

But the main ethical issues and the impact on society will be found presented in Jeremy Burford Peckham's book: "The ethical implications of 4IR", which states that: "4IR technologies, together with the power of Big Tech behind their implementation, raise ethical issues that go beyond the future of employment; they strike at the heart of what it means to be human." (Peckham, J.B. 2021 [18])

Artificial intelligence has become a component part of both the activity of the different compartments of a structure and the way in which leadership is carried out from an ethical point of view. Leaders, regardless of the field in which they operate, whether it is engineering, education or medical, need to develop strategies,

and the integration of AI can be an opportunity not only in business development and operationalization of activities, but also in the integration of technologies or the stimulation of innovation.

The development of ethical leadership is the basis for improving the educational process, and ethical and moral values can change under the influence of AI (Kandasamy U.C. 2024 [8], Moore P.V. 2019 [14])

3. Ethical dilemmas in using AI

3.1. AI concerns

The development of new technologies, including AI, puts us in a position to reassess the way we position ourselves towards these technologies and especially on the way we reflect the ethical aspects generated by these technologies. Any change that led to the emergence of an industrial revolution was initially perceived only from a technical point of view, and in later stages ethical issues were also addressed. The last industrial revolution raised a series of problems such as those related to freedom, responsibility and privacy, the ability to react with other people, moral freedom, the modification of the value system, the way in which non-discriminatory access is ensured for any person, regardless of the country or socio-economic background from which he or she comes.

Social networks and AI can be useful to us, to support us in our endeavors, but at the same time the algorithms that underpin them can be used to replace the real world with the virtual one and ensure the isolation and manipulation of people, if they are not used in compliance with ethical rules. (Astărăstoae V et al. 2024 [1], Peckham, J.B. 2021 [18], Rogozea L. 2009 [22])

Klaus Schwab, founder of the World Economic Forum believes that: "The fourth industrial revolution is creating a world in which virtual and physical production systems cooperate with each other in a flexible way globally", but at the same time "I am a great enthusiast and an early adopter of technology, but sometimes I wonder if the inexorable integration of technology into our lives could diminish some of our human capacities par excellence, such as compassion and cooperation. Our relationship with our smartphones is an example of this. Constant connection can deprive us of one of life's most important assets: time to pause, reflect, and engage in meaningful conversation." (Peckham, J.B. 2021 [18])

Concerns related to the analysis of ethical dilemmas in the case of leadership and the use of artificial intelligence were analyzed with the help of the WOS program, which shows that although different aspects of leadership, such as communication, are frequently addressed, resulting in 16,000 results, in the case of addressing ethical dilemmas in the use of AI it resulted in 170 results, and for a search using keywords "ethical dilemmas" AND "artificial intelligence" AND leadership resulted in 5 identifications.

An analysis of the countries where these topics were addressed shows that there are a number of 63 countries with scientific production (Fig.1), and among the countries with at least 5 published articles are the USA, China and Germany (Fig 2)

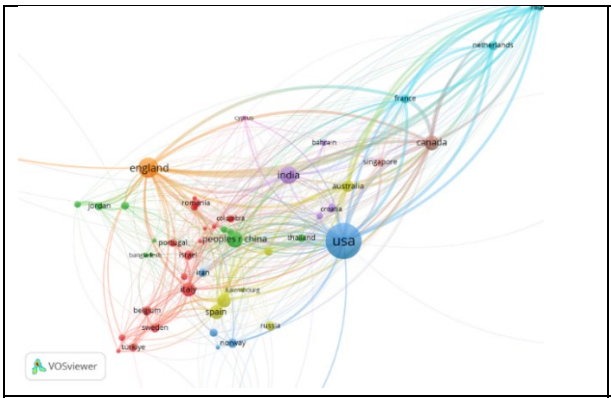

Figure 1 – Distribution of countries that have scientific production on "ethical dilemmas", "artificial intelligence", leadership

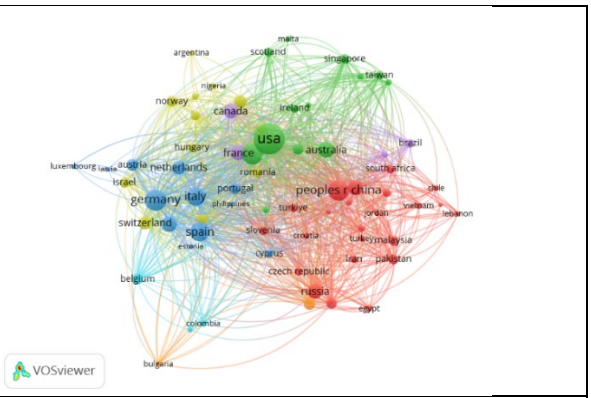

Figure 2 – Distribution of countries where there are at least 5 articles published on "ethical dilemmas", "artificial intelligence", leadership

As for the authors, the distribution of the articles shows that the approach to the subject is still in its infancy and that the specialized literature is in formation, so that it can represent a basis for making adequate feedback. (Fig. 3, Fig. 4)

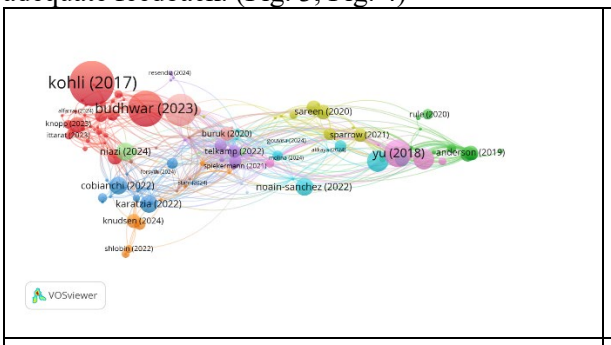

Figure 3 – Distribution of authors concerned with "ethical dilemmas", "artificial intelligence", leadership

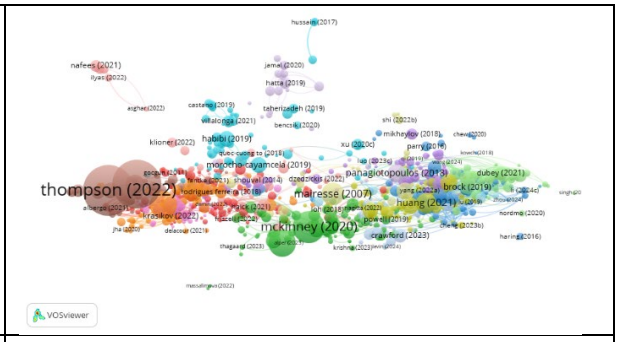

Figure 4 – Distribution of authors who have at least 3 citations for published articles on "ethical dilemmas", "artificial intelligence", leadership

3.2. Ethical challenges

The population is often more attached to the idea of using AI, considering that it is wrong, or at least less wrong than humans, and reducing the size of tools that incorporate AI increases their portability and use. (Steinhubl SR, et al 2015 [29])

Still viewed with skepticism and even with a certain rejection, the use of AI in current activity raises a number of ethical issues, which are essential for ensuring an organizational culture of respect for values, fairness, assumption of responsibilities.

Skepticism of the use of AI in general in managerial practice refers to the following possible causes:

- Validation of AI managerial skills
- Accuracy of AI performance in management, taking into account the reduced ability to adapt, based

only on studies and databases, without the ability to adapt quickly, depending on the real-time reaction to the decisions made

- People's fear of being replaced by AI, which can be an impediment in concrete communication, so they can alter the level of knowledge
- AI is seen as an external factor that intervenes in a collective, as a tool and less as a member of that structure
- Income inequality leading to different use of AI systems, respectively the inability to update them
- GDPR measures and cybersecurity.

The implementation of AI in any field, from engineering, transport, or agriculture, to health or education, suggests the existence of untapped potentials. Leaders in all fields have an obligation to be accountable for how AI is used in their field of competence and to address ethical dilemmas by ensuring that clear principles and standards for the use of AI are developed.

The implementation of AI cannot be done without their responsible and ethical incorporation including in areas such as business, justice or education.

Decision-making based on the information received from AI, based on the suggestions provided by them, must be based on responsibility, on establishing the ethical framework congruent with the general values of society.

Ethical decisions in leadership, whether we are talking about the political, economic or social one, have major implications for the population, the ethical dilemmas being related not only to the use of AI in actual activity but also in decision-making processes, which can even be driven by artificial intelligence. (Bhatta N. 2021 [2], Flathmann, C. et al. 2021 [5])

3.3. Leadership and ethics

The use of AI in management, including by delegating responsibilities to these systems, can change the functionality of organizations. The complexity of ethical challenges are sometimes difficult to assess and often addressed as consequences in the general context of globalization, sustainable development and less as a need to deepen the ethical aspects at the management level of each institution that uses AI, being necessary, as N. Bhatta stated: "to deepen our understanding of the transformation of leadership work and the emerging ethical challenges for leaders of contemporary organizations, caused by the increased use of advanced digital technologies" (Bhatta N. 2021 [2])

The emergence of AI applications in leadership is naturally followed by studies that give us an overview of their use, including from an ethical point of view. (Qwaider SR. et al. 2024 [21]).

The main problem remains the establishment of the technical and ethical limits of the use of AI in the development and use of management applications that also include AI and that must be able to analyze both the benefits and the risks due to programming, testing or operating errors.

The analysis of the factors that should be taken into account by the development of AI-based systems is very complex from an ethical point of view. (Olimid AP et al 2018 [16], Purcaru D et al. 2014 [20], Rogozea L et al 2009 a [24], Rogozea L et al 2010 [25], Taj, Y. 2023 [30]).

The development of ethical AI systems that can be used in management must take into account:

(1) Data quality
   - ensures the ability to solve a problem
   - adaptation by computer scientists of the data received from practitioners, so that the data used are pertinent

- understanding the limitations of the data collected and the fact that it is not always adapted to the structures in which it applies

(2) Algorithmic biases:
- are flaws in the algorithm
- can lead to inequities
- include human-induced and/or data-induced bias due to the implementation of one's own moral perceptions and training data that are insufficient or unimportant.

(3) Algorithm opacity
- As we are talking about important financial interests, the development of algorithms tries to keep the secret
- Sometimes the opacity is apparent, being actually related to the inability of those who use these systems to understand the structure and content of the systems.

(4) Compliance with informed consent and data protection rules

(5) Ensuring cybersecurity
- The collected data may be used illegally, or may be subject to a re-identification process

As Johnson states in 2020, „AI systems are only as good as the data provided to them" (Johnson SL. 2020 [7])

A management based on assumed moral and ethical values is a management based on:

- responsibility, with the clear, voluntary and permanent assumption of the role of leader
- transparency, ensuring effective, open, argument-based communication
- assuming the decisions taken, both those that lead to progress and, especially, those that lead to failure
- promoting valuable people, with their detection and encouraging each team member to become a role model for others

The use of AI is often difficult, as the decision-makers in a system need clear user guides, universally valid ethical norms and especially the active incorporation of the new in the development of their own control systems, through a mechanism of continuous learning, periodic analysis of ethical dilemmas and especially of increasing flexibility and openness to everything new.

The use of AI is often studied from the perspective of the individual good (increasing the time that can be allocated to activities other than those at work, the well-being of a greater number of people) but also of the collective good (the success of an organization), but it often neglects the negative psychological impact related to the pressure that arises related to the dynamics of professions or the need to approach new areas.

The use of AI can be done both in repetitive actions and in qualitative evaluation actions, providing both supports to replace repetitive, routine actions and a source of new ideas to improve the way resources are allocated. (Taj Y. 2023 [30])

The main ethical dilemmas are presented in Figure 5:

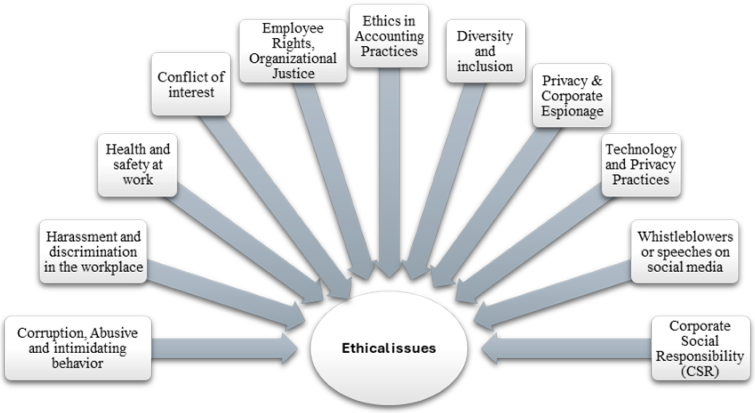

Fig. 5 – Ethical issues in leadership

3.4. Leadership, ethics, artificial intelligence

The ethical approach in leadership is not only an obligation but the very essence of qualitative management, moral integrity, the model based on personal example, empathy, the ability to make decisions correlated with respect for team members are crucial, when we talk about ethical leadership, a concept that is increasingly common lately.

The ethical aspects implemented in the management of organizations are: integrity, transparency, accountability, the ability to actively listen and to transparently and impartially implement various decisions, including those made within the implementation of AI. In a balanced system, AI is a catalyst for change based on ethical standards.

According to Uddin, the ethical challenges are related to: 1) algorithmic bias and discrimination, 2) data privacy and security, 3) accountability and transparency, 4) the ethical implications of autonomous systems. (Uddin, A. 2023 [31])

The ethical challenge	Effect	Intervention
Algorithmic bias and discrimination	Carries information on discrimination or prejudice in terms of data collection Occurrence of incorrect, unfair results Affecting the community	Identifying bias in the AI system Incorporating impact mitigation strategies
Confidentiality	Affecting the right to one's own image	Data protection measures Collection requires compliance with GDPR regulations
Data security	Collecting a large amount of data	Encryption techniques
Responsibility	Critical decision-making	Measures on critical analysis of decisions
Transparency	Transparent use of AI	Building clear boundaries between transparency and privacy

Table 1 - Ethical dilemmas, effects and interventions of using AI in leadership

The need to use AI in all areas of organizational culture and leadership leads to complex situations,

difficult organizational and decision-making contexts, the need to make changes at the leadership level, but also at the employee level, including employee satisfaction. (Metwally D et al 2019 [13], Nelu CE. 2024 [15], Taj Y. 2023, [30])

The AI system seems like a "black box" for society, it can only be predicted to a small extent, and the transparency and visibility part is reduced not only for the general public, but also for leaders. That is why concerns about the regulation of AI have arisen both at EU level and at the level of other states, an example of this being the Council of Europe's New Convention on AI, approved at the beginning of September 2024. As Li G et al. "There is an urgent need to develop legal frameworks, and civil society organizations are concerned about how these changes will affect users' fundamental rights and the overall framework for the use and development of artificial intelligence." (Li G. et al 2024 [9])

4. CONCLUSIONS

The pro-active use of AI in leadership will significantly alter not only the way future leaders prepare, but also leadership techniques, changing the decision-making process by transferring minor, repetitive, routine decisions to AI, but keeping the strategic and innovative decision in the human sphere. The major disadvantages of AI involvement are related to the perpetuation or amplification of biases, the lack of transparency and empathy of decisions, the potential for misuse of personal data and without respect for privacy. Dependence on technology is a leitmotif of the current era, which can lead to a reduction in the capacity for critical thinking.

The use of AI in current leadership is essential in the sustainable development of human society, in capitalizing on all existing information, but AI is a valuable ally as long as it remains an ally based on ethical principles.

AI is not a panacea, an ideal solution for any problem that arises, but a real support if we accept the fact that it can make mistakes, that it lacks moral subjectivity, that it can lack ethical load. AI can be a valuable expert, but beyond the activity of an expert, you need a critical, emotional intelligence that only a human can have and that can make the difference between a manager and a true leader.

In conclusion, the research provides information on the ethical approach to the use of artificial intelligence in AI, with a focus on understanding the need to use AI responsibly and assumed and the impact of both positive and negative use of AI, being able to be a tool in understanding the potential of using AI in current practice, in understanding the priorities induced by the use of AI: responsibility, efficiency, success in the context of protecting team members and society as a whole, developing governance regulations based on ethics, empathy, cooperation and interdisciplinarity.

9. REFERENCES

[1] Astărăstoae, V., Rogozea, L.M., Leaşu, F., Ioan, B.G. (2024) Ethical Dilemmas of Using Artificial Intelligence in Medicine. Am.J.Ther., Jul-Aug 01; 31(4): e388-e397. doi: 10.1097/ MJT.0000000000001693. Epub 2024 Apr 25. PMID: 38662923.

[2] Bhatta, N. (2021). Emerging Ethical Challenges of Leadership in the Digital Era: A Multi-Vocal Literature Review. Electronic Journal of Business Ethics and Organization Studies, 26(1), 30-46.

available at http://ejbo.jyu.fi/pdf/ejbo_vol 26,_no 1,_pages_30-46.pdf

[3] Cath C. (2018) Governing artificial intelligence: ethical, legal and technical opportunities and challenges. Philos Trans A Math Phys Eng Sci. 376(2133): 20180080. https://royalsocietypublishing.org/doi/10.1098/rsta.2018.0080

[4] Copeland, B.J., Encyclopaedia Britannica. consulted September, 2023, http://www.britannica.com/technology/artificial-intelligence

[5] Flathmann, C., Schelble, B. G., Zhang, R., & McNeese, N. J. (2021, July). Modeling and guiding the creation of ethical human-AI teams. In Proceedings of the 2021 AAAI/ACM Conference on AI, Ethics, and Society, pp. 469-479, https://doi.org/10.1145/3461702.3462573

[6] Grzybowski, A., Pawlikowska–Łagód K., Clark Lambert W. (2024). „A History of Artificial Intelligence", Clinics in Dermatology, 42: 221-229: ISSN 0738-081X, https://doi.org/10.1016/j.clindermatol.2023.12.016., https://www.sciencedirect.com/science/article/pii/S0738081X23002687

[7] Johnson, S.L.J. (2020) AI, machine learning, and ethics in health care. J Leg Med. 2020; 39:427–41. https://doi.org/10.1080/01947648.2019.1690604

[8] Kandasamy, U. C. (2024). Ethical Leadership in the Age of AI Challenges, Opportunities and Framework for Ethical Leadership. arXiv preprint arXiv:2410.18095, https://doi.org/10.48550/arXiv.2410.18095

[9] Li, G., Li, L., Xie, L., & Lopez, O. S. (2024). The effects of ethical leadership on creativity: A conservation of resources perspective. *Current Psychology*, *43*(6), 1-11. https://doi.org/10.1007/s12144-023-04703-0

[10] Malik, P., Pathania, M., & Rathaur, V. K. (2019). Overview of artificial intelligence in medicine. Journal of family medicine and primary care, 8(7), 2328-2331. doi: 10.4103/jfmpc.jfmpc_440_19. PMID: 31463251; PMCID: PMC6691444.

[11] McCarthy. J., Hayes. P.J. (1969) - Some philosophical problems from the standpoint of artificial intelligence, Machine Intelligence, 4, 463, available at; https://www-formal.stanford.edu/jmc/mcchay69.pdf

[12] McKevitt, P. (1997). Daniel Crevier, AI: The Tumultuous History of the Search for Artificial Intelligence. London and New York: Basic Books, 1993. ISBN 0-465-02997. The British Journal for the History of Science, 30(1), 101-121.

[13] Metwally, D., Ruiz-Palomino, P., Metwally, M., & Gartzia, L. (2019). How ethical leadership shapes employees' readiness to change: The mediating role of an organizational culture of effectiveness. *Frontiers in psychology*, *10*, 2493 ISSN=1664-1078, | https://doi.org/10.3389/fpsyg.2019.02493

[14] Moore, P. V. (2019). Jerry Kaplan Artificial Intelligence: What Everyone Needs to Know. Organization Studies, 40(3), 466-470. https://doi.org/10.1177/0170840618792173

[15] Nelu, C.E. (2024) Artificial Intelligence: Society's New Black Box?. Development. 1-14, https://doi.org/10.1057/s41301-024-00417-3

[16] Olimid, A.P., Rogozea, L., Olimid, D.A. (2018), Ethical approach to the genetic, biometric and health data protection and processing in the new EU General Data Protection Regulation, Romanian Journal of Morphology and Embryology, 2018: 59(2): 631-636; WOS: 000444860300030, PMID: 30173275, ISSN: 1220-0522

[17] Oxford Dictionary, artificial intelligence, consulted August 2023 https://www.oxfordlearnersdictionaries.com/definition/english/artificial-intelligence

[18] Peckham, J.B. (2021), "The ethical implications of 4IR", Journal of Ethics in Entrepreneurship and Technology, vol. 1 no. 1, pp. 30-42., https://doi.org/10.1108/JEET-04-2021-0016

[19] Pelîn Y. (2007) - Artificial Intelligence as a Supplier of Virtual Reality in Performance Areas as Auditoriums & the Application Sample from Turkey, Proceedings of the 6th WSEAS Int. Conf. on Artificial Intelligence, Knowledge Engineering and Data Bases, Corfu Island, Greece, February 16-19: 58-63

[20] Purcaru, D., Preda, A., Popa, D., Moga, M.A., Rogozea, L. (2014). Informed Consent: How Much Awareness Is There?, PLOS ONE, 2014:16:9/10: e110139, DOI: 10.1371/journal.pone.0110139;

WOS:000343210800061 PMID:25329168 ISSN: 1932-6203

[21] Qwaider, S.R., Abu-Saqer, M.M., Albatish, I., Alsaqqa, A.H., Abunasser, B.S. & Abu-Naser, S.S. (2024). Harnessing Artificial Intelligence for Effective Leadership: Opportunities and Challenges. International Journal of Academic Information Systems Research (IJAISR) 8 (8):6-11.

[22] Rogozea L. (2009).Towards ethical aspects on artificial intelligence Edited by: Trilling L; Perkins D; Dionysios D; Perlovsky L; Davey K; Landgrebe D; Marino MA; Russell DL; Collicott SH; Ceccarelli M; Lund JW, Proceedings of the 8th WSEAS International Confe[1,]rence on Artificial Intelligence, Knowledge Engineering and Data Bases Book Series: Artificial Intelligence Series-WSEAS); 507-+; 2009; WOS:000265147200082 Conference 8th WSEAS International Conference on Artificial Intelligence, Knowledge Engineering and Data Bases Conference Date: FEB 21-23, 2009 Conference Location: Cambridge, England, Conference Sponsors: WSEAS ISBN: 978-960-474-051-2

[23] Rogozea, L. (2023). „Etică și AI în medicină?|[Ethics and AI in medicine]". Jurnal Medical Brasovean, 1: 3-3, DOI: https://doi.org/10.31926/jmb.2023.1.1

[24] Rogozea, L., Cristea, L., Baritz, M., Burtea, V. (2009a)Telemedicine and ethical dilemmas, Edited by: Trilling L et al., Proceedings of the 8th WSEAS International Conference on Artificial Intelligence, Knowledge Engineering and Data Bases Book Series: Artificial Intelligence Series-WSEAS); 41-+; 2009; WOS:000265147200003 Conference 8th WSEAS International Conference on Artificial Intelligence, Knowledge Engineering and Data Bases Conference Date: FEB 21-23, 2009 Conference Location: Cambridge, ENGLAND Conference Sponsors: WSEAS ISBN: 978-960-474-051-2

[25] Rogozea, L., Leasu, F., Cristea, L., Sechel, G. (2010) Bioethics, technical and scientific progress in medicine - an educational point of view, 2010; Edited by: Kallel A et al., Advanced Educational Technologies (EDUTE 10) Book Series: Recent Advances in Computer Engineering); 140-144; WOS:000295145700026 Conference 6th WSEAS/IASME International Conference on Educational Technologies (EDUTE 10) Conference Date: MAY 03-06, 2010 Conference Location: Kantaoui, TUNISIA Conference Sponsors: Univ Sfax, Fac Sci Sfax ISSN: 1790-5109 ISBN: 978-960-474-186-1

[26] Rogozea, L., Leasu, F., Repanovici, A., Baritz, M. (2009b) Ethics, robotics and medicine development, 2009, Edited by: Zadeh LA; Kacprzyk J; Mastorakis N; Kuri Morales A; Borne P; Kazovsky L, ISPRA '09: Proceedings of the 9th WSEAS International Conference on Signal Processing, Robotics And Automation Book Series: Mathematics and Computers in Science and Engineering); 264-+; 2010; WOS:000276878300043 Conference 9th WSEAS International Conference on Signal Processing, Robotics and Automation (ISPRA'10) Conference Date: FEB 20-22, 2009 Conference Location: Univ Cambridge, Cambridge, England, Conference Sponsors: WSEAS Conference Host: Univ Cambridge ISSN: 1792-4308 ISBN: 978-960-474-157-1

[27] Russell, S. J., & Norvig, P. (2021). Artificial Intelligence: A Modern Approach (4th ed.). Pearson. https://doi.org/10.1109/MSP.2017.2765202

[28] Schwab K. (2016). The Fourth Industrial Revolution: what it means and how to respond. World Economic Forum. http://www.weforum.org/agenda/2016/01/the-fourth-industrial-revolution-what-it-means-and-how-to-respond/

[29] Steinhubl SR, Muse ED, Topol EJ. (2015) The emerging field of mobile health. Sci Trans Med., 2015:7: 283rv3. doi: 10.1126/scitranslmed.aaa3487

[30] Taj, Y. (2023). Ethical Dilemmas in Leadership: Navigating Difficult Situations with Integrity. International Journal For Multidisciplinary Research, 5(4), 4222.

[31] Uddin, A. (2023). The Era of AI: Upholding Ethical Leadership. Open Journal of Leadership, 12, 400-417. https://doi.org/10.4236/ojl.2023.124019