

The Era of AI: Upholding Ethical Leadership

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Abstract

This article investigates the significance of ethical leadership within organizations that use Artificial Intelligence (AI) technology. This study analyzes the ethical dilemmas that arise in artificial intelligence (AI)-driven scenarios, including prejudice and privacy concerns. It also outlines the strategies used by ethical leaders to establish ethical standards, cultivate responsible AI cultures, and promote transparency. The paper analyzes how ethical leadership influences employee wellbeing and decision-making in artificial intelligence (AI) environments. In addition, this paper provides recommendations for future research, focusing on the importance of ethical leadership in shaping the ethical behaviors of enterprises powered by artificial intelligence.

Keywords

Business Ethics, Ethical Leadership, Artificial Intelligence, Employee Well-Being

1. Introduction

1.1. Background & Context

In the swiftly advancing technological landscape of today, the integration of artificial intelligence (AI) into various domains has ushered in transformational changes with profound ethical implications (Floridi et al., 2018). According to Jobin et al. (2019), the idea of “ethical leadership in the age of artificial intelligence” has become a key subject of study. According to Mittelstadt et al. (2016), ethical leadership comprises of a set of concepts and practices that assist decision-makers in AI-related sectors in navigating the complex ethical quandaries that arise from AI technologies. These conundrums include a wide range of topics, including algorithmic prejudice, data privacy, and the social repercussions of automation and AI-driven decision-making. They also include making sure that AI systems are implemented responsibly and fairly. According to Whittlestone et

al. (2019), ethical leadership plays a crucial role in influencing the positive impact of artificial intelligence (AI) on society and mitigating potential negative consequences. This underscores the importance of leaders engaging in moral introspection, evaluating the societal implications of their decisions, and cultivating a climate of ethical consciousness and accountability in the development and implementation of AI.

1.2. Research Objective

The purpose of the research is to study ethical leadership within organizations in the context of artificial intelligence (AI). This study aims to analyze the core tenets of ethical leadership and explore their relevance within a global landscape increasingly influenced by artificial intelligence. Furthermore, the research will focus on the ethical dilemmas posed by artificial intelligence (AI), encompassing concerns such as algorithmic prejudice, privacy infringement, responsibility, and the effects on employee welfare.

In addition, the research will investigate the specific responsibilities of ethical leaders in AI-driven organizations, such as establishing standards, fostering ethical cultures, and making ethical decisions in AI-related scenarios. This study will further investigate the impact of ethical leadership on decision-making processes within the realm of artificial intelligence (AI).

The primary focus will be on the practical implications, accompanied by suggestions for enterprises to effectively integrate ethical leadership principles inside AI-powered settings. In conclusion, this study aims to ascertain prospective directions for future research, with the objective of enhancing our comprehension of the role of ethical leadership in the era of artificial intelligence.

1.3. Significance of the Study

In today's quickly changing technological landscape, the study of ethical leadership in the era of artificial intelligence (AI) is extremely important. The increasing integration of AI into diverse domains such as business, governance, and healthcare underscore the crucial importance of ethical leadership. According to [Davenport and Harris \(2017\)](#), ethical leaders play a crucial role in guiding both organizations and society in effectively utilizing the capabilities of artificial intelligence (AI) for the betterment of society. These leaders also have the responsibility of addressing and minimizing the ethical dilemmas and potential risks associated with AI. According to [Floridi and Cowlis \(2019\)](#), these individuals assume the responsibility of establishing a moral framework to guide the development and utilization of AI systems, with a primary focus on principles such as justice, transparency, accountability, and the promotion of human well-being. Through the analysis of the ethical aspects of leadership within the framework of artificial intelligence (AI), scholars and professionals have the potential to make valuable contributions towards the responsible and enduring incorporation of AI technologies into our everyday existence. This, in turn, will play a pivotal role

in shaping a future where ethical considerations are given utmost priority in the progression of technology.

The concepts of responsible leadership and the revolutionary potential of artificial intelligence interact intricately to generate ethical leadership in the AI era (Floridi, 2013). Theoretically, this idea emphasizes how important it is for leaders to handle the moral dilemmas presented by automation and AI-driven decision-making (Mittelstadt et al., 2016). In this context, ethical leadership should embrace the values of openness, justice, and accountability in artificial intelligence (AI) systems, drawing upon the principles derived from ethics and technology (O'Neill, 2016). This encompasses the mitigation of bias and discrimination within algorithms, the safeguarding of data privacy and security, and the adherence to principles of human dignity and social responsibility. Considering technological advancements, it is imperative for leaders to uphold a moral framework that is congruent with the overarching objectives and values of society, all the while acknowledging and harnessing the potential of artificial intelligence (AI) in terms of fostering creativity and enhancing efficiency. The significance of ethical leadership in guiding the development and deployment of artificial intelligence (AI) for the betterment of society is emphasized by this theoretical paradigm.

In the era of artificial intelligence, ethical leadership is an urgent matter with far-reaching practical implications. As the integration of artificial intelligence into all sectors of society, including businesses and everyday activities, continues to progress, decision-makers are confronted with intricate ethical dilemmas pertaining to the utilization of AI. The implementation of ethical leadership in practical contexts necessitates a steadfast dedication to the principles of transparency, fairness, and accountability when engaging in decision-making processes driven by artificial intelligence. It is imperative for leaders to proactively involve a range of stakeholders, such as ethicists and AI experts, to prioritize ethical issues during the development and implementation of AI technology (Bryson & Winfield, 2017). In addition, it is imperative to cultivate a culture that emphasizes the importance of ongoing learning and flexibility, given the rapid evolution of AI capabilities (Brynjolfsson & McAfee, 2014). Leaders may effectively utilize the advantages of transformational technology, specifically artificial intelligence (AI), by adopting a principled approach and implementing ethical standards. This ensures that social values are upheld while harnessing the potential benefits of AI. The present analysis of ethical leadership in the era of AI is based on scholarly contributions from Floridi (2019) and other researchers, who have provided significant insights into the ethical aspects of AI and leadership within the context of the digital age.

1.4. Challenges and Opportunities of Ethical Leadership in the Age of AI

In the era of artificial intelligence (AI), the possibilities and challenges of ethical

leadership are immense. Ethical leadership involves the act of providing guidance to businesses and teams by adhering to a robust moral framework. This entails the development, deployment, and management of AI technologies in a manner that is consistent with ethical principles and social values (Treviño, den Nieuwenboer, & Kish-Gephart, 2014). Brown, Treviño, & Harrison (2005) state that this involves addressing concerns about bias, accountability, transparency, and privacy in AI systems. However, AI algorithms' complexity and ability to perpetuate prejudices (Davenport & Kirby, 2016) and the quick rate of AI growth make it hard for leaders to stay informed and make ethical decisions. Furthermore, it is imperative to establish universally recognized ethical norms in the field of artificial intelligence (AI), and decision-makers must effectively develop the dynamic landscape of emerging regulatory and legal frameworks. In this era of rapid technical advancement, striking a balance between utilizing AI's advantages and maintaining moral leadership presents a difficult issue.

1.5. Methodology

The study on ethical leadership in the era of artificial intelligence (AI) commences with an extensive review of existing literature. This review delves into the fundamental concepts and principles of ethical leadership, the incorporation of AI and automation in organizational settings, the complex interplay between ethical leadership and AI, and a meticulous analysis of prior research pertaining to ethical leadership in contexts driven by AI. After that, the ethical issues facing organizations adopting AI are addressed, including algorithmic bias and discrimination, privacy and data security, accountability and transparency, and autonomous system deployment.

The subsequent analysis explores the obligations that ethical leaders bear in environments driven by artificial intelligence (AI). These responsibilities encompass the development of ethical guidelines and policies that direct the implementation of AI, the fostering of a corporate culture that places importance on the ethical utilization of AI, the guarantee of fairness and equity within AI systems, and the intricate ethical decision-making processes necessary in situations involving AI applications. This research concentrates on the welfare of employees in organizations that utilize artificial intelligence (AI), with a specific focus on investigating the psychological consequences of AI and automation on the workforce. Additionally, the study evaluates initiatives aimed at reskilling and upskilling employees to adapt to the AI era and assesses the role of ethical leadership in addressing employee concerns. Furthermore, the study emphasizes the importance of adopting a human-centered approach to integrating AI and explores various methods for measuring the impact of ethical leadership training on employee well-being and overall organizational success. The utilization of a systematic methodology facilitates a thorough examination of the complex and diverse responsibilities associated with ethical leadership in effectively navigating the convoluted ethical terrain of artificial intelligence technology.

2. Literature Review

2.1. Ethical Leadership: Concepts and Principles

Ethical leadership can be defined as a steadfast commitment to maintaining moral integrity. According to [Brown and Treviño \(2006\)](#), effective leadership involves the regular display of attributes such as honesty, transparency, and a strong commitment to ethical norms and ideals. The commitment to maintaining moral integrity is not only an admirable attribute, but also a vital strategic imperative. Leaders that demonstrate integrity by consistently aligning their actions with their words not only cultivate trust among their team members but also serve as a powerful role model, thereby inspiring ethical behavior ([Treviño et al., 2000](#)). In the field of ethics, leaders who exhibit empathy exhibit improved ability in navigating complex decisions that have substantial ethical implications ([Eisenbeiss et al., 2008](#)). Empathy functions as the medium through which leaders establish a connection with the intrinsic human elements involved in their decision-making procedures.

The ethical value of meaningful employment is examined in literature in political philosophy and corporate ethics ([Michaelson et al., 2014](#)). The concept of meaningful work can be regarded as having ethical significance for three main reasons, as outlined by [Michaelson et al. \(2014\)](#). The first way is that it can be seen as useful on its own. Second, it can be seen as an important part of a bigger good. Finally, it can be seen as an instrumental good that helps people get other valuable things.

Accountability is a crucial component of ethical leadership, since it entails leaders willingly accepting responsibility for their actions and decisions, thereby cultivating a culture of accountability across the organization ([Brown et al., 2005](#)). Transparency plays a significant role in the domain of leadership ethics since ethical leaders prioritize the open communication of their decisions and the rationale behind them. According to [Treviño et al. \(2003\)](#), engaging in this behavior facilitates the establishment of an organizational culture that is characterized by trustworthiness and transparency. The notion of ethical decision-making plays a pivotal role in providing leaders with a fundamental framework, encouraging them to adopt principled approaches that prioritize ethical principles over short-term gains and adeptly navigate the complex ethical dilemmas that are inherent in modern leadership ([Treviño et al., 2000](#)).

Research conducted by [Brown and Treviño \(2006\)](#) has demonstrated that ethical leaders have the capacity to instill trust and foster commitment among their followers, resulting in a range of favorable consequences. These include improved organizational performance, heightened employee morale, and increased job satisfaction. According to [Brown et al. \(2005\)](#), they have a crucial function in fostering ethical cultures within firms, wherein employees are incentivized to disclose instances of unethical conduct and seek assistance when confronted with ethical dilemmas.

2.2. Artificial Intelligence and Automation in Organizations

The use of Artificial Intelligence (AI) and automation technologies has resulted in a fundamental transformation in the operational and business practices of modern enterprises. This includes several subfields like as machine learning, natural language processing, computer vision, and others (Russell & Norvig, 2020). Current artificial intelligences comprise artificial narrow intelligence, or AIs that can only perform actions within restricted domains, such as classifying images of cats (Boden, 2016). The ability of AI to perform routine jobs that are frequently tedious and uninteresting for humans, such gathering meeting information (Pulse + IT, 2020) or evaluating fruit quality (Roberts, 2020), is one of the technology's promoted benefits.

According to Zuboff (1988), AI enhances human workers by providing them with integrated, useful data, often cross-functionally, to develop new ideas. The modern organizational landscape has been significantly influenced by automation and artificial intelligence (AI). Gadhoun (2022) asserts that artificial intelligence is a burgeoning phenomenon that is rapidly influencing the contemporary finance industry. According to Brynjolfsson and McAfee (2017), companies may improve productivity, simplify procedures, and make data-driven choices by utilizing automation tools and AI-driven technology. Organizations can leverage artificial intelligence (AI) to effectively utilize predictive analytics and machine learning techniques. This enables them to enhance resource allocation and gain deeper insights into client preferences (Davenport & Harris, 2007).

Furthermore, the implementation of automation technologies has the capacity to effectively manage repetitive operations, hence mitigating the occurrence of human errors and enabling employees to allocate their efforts towards more strategic and innovative dimensions of their respective responsibilities. Nevertheless, the advent of artificial intelligence (AI) and automation has undeniably yielded substantial advantages. However, it has also given rise to concerns regarding the displacement of jobs and the ethical implications associated with algorithmic decision-making (Bessen, 2018). Organizations are required to effectively handle these opportunities and difficulties to effectively harness the complete potential of artificial intelligence (AI) and automation within their operational frameworks.

2.3. The Intersection of Ethical Leadership and AI

The intersection of ethical leadership and artificial intelligence presents a crucial juncture in which leaders must navigate the ethical implications of AI technologies. According to Brown, Treviño, and Harrison (2005), ethical leadership involves the act of leading organizations in a manner that upholds integrity, transparency, and a steadfast dedication to ethical principles, especially when confronted with intricate decision-making processes powered by artificial intelligence (AI). Leaders bear the responsibility of guaranteeing the equitable, impartial, and transparent development and implementation of AI systems, thereby

tackling concerns pertaining to algorithmic bias and data privacy. According to [Brown and Treviño \(2006\)](#), leaders are anticipated to exhibit these characteristics while navigating the complex obstacles posed by artificial intelligence (AI). The presence of ethical leaders is crucial for ensuring that AI technology aligns with the principles of justice, accountability, and openness ([Eisenbeiss et al., 2008](#)). The purpose of this alignment is to ensure that artificial intelligence operates as a catalyst for positive change, while also complying to ethical standards and principles ([Brown & Treviño, 2006](#)).

2.4. Prior Research on Ethical Leadership in AI-Driven Organizations

Prior research on ethical leadership in AI-driven organizations has cast light on the critical role of leaders in navigating the complex ethical landscape of AI. According to [Brown, Treviño, and Harrison \(2005\)](#), researchers have investigated how ethical leadership approaches including establishing a culture of ethical decision-making, increasing openness, and setting a strong moral atmosphere might help lessen the ethical issues that AI technology present. Moreover, research has looked at how ethical leadership affects worker attitudes and actions in the context of AI, highlighting the significance of leaders serving as moral role models ([Mayer et al., 2009](#)). These insights contribute to a greater comprehension of how ethical leadership can aid organizations in harnessing the benefits of AI while upholding ethical principles. Advocacy organizations, lawmakers, and regulators, who are considered external stakeholders, have a significant impact on the engagement with leaders to guarantee that the advancement and execution of artificial intelligence (AI) technologies align with ethical principles and societal values ([Taddeo & Floridi, 2018](#)). This entails promoting ethical behavior in the field of artificial intelligence (AI) and actively engaging in discussions concerning the moral implications of AI technology in the context of larger societal issues.

3. Ethical Challenges in AI-Driven Organizations

3.1. Algorithmic Bias and Discrimination

Algorithmic bias and discrimination present serious ethical leadership issues for businesses using artificial intelligence. Due to the data used to train machine learning models and the inherent design of algorithms, it is possible for biases to emerge, which could lead to unjust and biased outcomes that disproportionately affect marginalized communities ([Barocas, Hardt, & Narayanan, 2019](#)). In the context of enterprises implementing artificial intelligence, ethical leaders play a crucial role in ensuring the primacy of openness, accountability, and fairness across all phases of the technology's development. To effectively tackle these difficulties, it is imperative to form teams that demonstrate a range of diversity and inclusivity. According to [Diakopoulos \(2016\)](#), the adoption of this technique may reduce the likelihood of prejudices persisting and facilitate the provision of

a broader perspective. [Buolamwini and Gebru \(2018\)](#) argue that it is imperative to perform thorough testing to detect and address any inherent biases in artificial intelligence (AI) systems. To ensure that artificial intelligence (AI) technologies produce fair outcomes for all segments of society and do not exacerbate existing inequalities, the implementation process should require the incorporation of strategies to mitigate bias.

3.2. Privacy and Data Security

Privacy and data security are essential components of ethical leadership in the era of artificial intelligence. Ethical leaders bear the obligation of ensuring the protection of individuals' personal information and the preservation of their right to privacy while using AI-driven technologies. To ensure the security of user information, it is imperative for ethical leaders within AI-driven enterprises to prioritize the implementation of robust data protection measures, encryption techniques, and access controls ([Floridi et al., 2018](#)). In addition to complying with legal obligations such as the General Data Protection Regulation (GDPR) and the Health Insurance Portability and Accountability Act (HIPAA), ethical leadership involves fostering a corporate culture that emphasizes responsible data management and advocates for transparency in data collection and utilization processes ([Mittelstadt et al., 2016](#)). In addition, the General Data Protection Regulation (GDPR) and other regulatory frameworks have a significant impact on the development of AI ethics and data privacy, contributing to the intricacies of ethical leadership.

3.3. Accountability and Transparency

It is essential for ethical leaders to implement measures that ensure organizational accountability for outcomes resulting from AI algorithmic decision-making processes. The ethical leadership sector faces significant challenges inside organizations that operate using artificial intelligence (AI), with a specific focus on concerns related to accountability and transparency as two crucial aspects ([Floridi & Cowls, 2019](#)). The issue of accountability holds significant significance within the realm of AI systems, as they bear the burden of making critical decisions, often in the absence of direct human intervention. Transparency plays a crucial role inside firms that employ artificial intelligence, since it fosters trust and accountability ([Diakopoulos, 2016](#)). According to [Jobin et al. \(2019\)](#), it is imperative for ethical leaders to establish mechanisms that hold the organization accountable for the consequences arising from the judgments made by AI algorithms. This necessitates the construction of clear and unequivocal limits of responsibility for the design, implementation, and maintenance of artificial intelligence (AI), along with the creation of methods to address errors or biases in AI-generated outcomes. Decision-makers also must deal with the problem of who is legally and morally responsible when artificial intelligence (AI) systems go wrong or hurt people. To address these challenges, it is crucial for ethical

leaders to prioritize the development of comprehensive regulations, ethical standards, and frameworks that promote responsibility throughout the whole lifecycle of artificial intelligence (AI).

3.4. Ethical Implications of Autonomous Systems

The ethical implications of autonomous systems are of significant concern within the realm of ethical leadership in the age of artificial intelligence. Ethical leaders are confronted with the ethical dilemmas associated with the implementation of autonomous AI-driven technologies, as these systems carry the capability to make decisions and execute actions with limited human interaction. One ethical issue that arises from autonomous systems is the question of accountability and responsibility (Diakopoulos, 2016). Effective ethical leadership is necessary due to the serious ethical quandaries posed by the possibility of prejudice and discrimination in autonomous algorithms and the entrusting of AI with life-critical decisions (Bryson, 2018). The morality of delegation to autonomous agents and the ethical design of AI algorithms have been studied by researchers (Jobin et al., 2019; Awad et al., 2018). These investigations make ethical leadership crucial for firms to navigate AI autonomy's ethical complexity.

4. The Responsibilities of Ethical Leaders

4.1. Setting Ethical Standards and Policies

In the contemporary age of artificial intelligence, the establishment of ethical norms and regulations assumes utmost significance in the realm of ethical leadership. To make sure that AI technologies are in line with societal values and ideals, policymakers must navigate the ethical challenges that these technologies provide. Treviño and Nelson (2021) assert that ethical leaders have a significant impact on the establishment of an ethical framework within a company. Ferrell and Fraedrich (2019) emphasize the importance of ethical leadership in shaping the ethical structure of an organization by actively addressing ethical dilemmas and fostering a culture that encourages ethical behavior among all members of the organization.

The establishment of detailed rules for the development, deployment, and decision-making of artificial intelligence (AI) serves the dual purpose of mitigating possible harm and promoting trust and accountability. Addressing challenges like as bias, openness, privacy, and justice necessitates the adoption of a proactive strategy. To set robust ethical standards for AI-driven decision-making, ethical leaders must draw from the rich literature on AI ethics and incorporate principles from prominent frameworks like the *IEEE Global Initiative on Ethics of Autonomous and Intelligent Systems* (IEEE SA, 2019), and the EU's *Ethics Guidelines for Trustworthy AI* (European Commission, 2019).

4.2. Fostering a Culture of Ethical AI Use

The establishment of a culture that promotes the ethical use of Artificial Intelli-

gence (AI) is a crucial responsibility that ethical leaders in today's technologically advanced society must prioritize. Ethical leaders play a pivotal role in cultivating a culture that promotes the ethical utilization of artificial intelligence (AI) inside organizational contexts. This commitment is bolstered by the necessity of aligning AI practices with organizational values (Larson et al., 2016). The study (MacCarthy, 2019) posits that the practice of ethical leadership within the realm of artificial intelligence requires a focused endeavor to address concerns pertaining to bias, confidentiality, and safeguarding. Moreover, as explicated by Barocas and Selbst (2016), it is crucial for ethical leaders to actively engage with a diverse set of stakeholders to understand the implications of artificial intelligence (AI) on different societies and ensure that AI technologies promote equitable and unbiased results for all individuals. Furthermore, the cultivation of such a cultural environment serves to augment stakeholder confidence, as it shows the organization's commitment to the ethical adoption of technology, hence potentially resulting in increased brand loyalty and favorable public perception (Kaplan & Haenlein, 2020).

4.3. Ensuring Fairness and Equity in AI Systems

The role of ethical leaders in ensuring impartiality and equality inside artificial intelligence (AI) systems is of great importance, considering the increasing impact of these systems on basic aspects of society. Diakopoulos (2016) emphasizes the need of ethical considerations in the advancement of AI algorithms as a strategy to address concerns regarding impartiality and equality within the domain of emerging technologies. Ethical leaders must establish comprehensive guidelines and principles for the development and deployment of artificial intelligence, with an emphasis on transparency and accountability. This requires adherence to Fairness, Accountability, and Transparency in Machine Learning (FAT/ML) frameworks (Diakopoulos et al., 2018). Continuous monitoring and auditing of artificial intelligence (AI) systems, with the use of tools such as adversarial testing and fairness metrics, are imperative for ethical leaders to uphold enduring principles of justice and equity (Barocas et al., 2019). Through the adoption of these tactics and concepts, ethical leaders have the potential to establish a path for the development of AI systems that bring advantages to all parties involved, while simultaneously reducing the occurrence of unexpected effects and discriminatory results.

4.4. Ethical Decision-Making in AI-Related Scenarios

In the context of artificial intelligence, leaders with ethical responsibilities are faced with a complex dilemma when tasked with making ethical judgments. This means that essential values like fairness, transparency, accountability, and the overall well-being of all relevant parties must be given priority when making decisions (Floridi et al., 2018). To effectively deal difficult ethical challenges in the field of artificial intelligence, it is vital to support employees in voicing ethical

concerns and to provide them with the required resources and training (Jobin et al., 2019). To effectively navigate this complex terrain, they should begin by incorporating ethical principles into their decision-making processes. One approach to promoting responsible AI development is by the adoption of established frameworks, such as the *IEEE Global Initiative on Ethics of Autonomous and Intelligent Systems* (IEEE SA, 2019), which offer principles for ensuring ethical practices in the field. Furthermore, it is imperative for moral leaders to cultivate an atmosphere of ongoing engagement and knowledge acquisition within their organizations, encouraging personnel to inquire about ethical dilemmas and participate in training programs focused on the ethical implications of artificial intelligence (Floridi et al., 2018).

5. Employee Well-Being in AI-Driven Organizations

5.1. Effects of AI and Automation on Employees' Psychological Well-Being

The increasing prevalence of artificial intelligence (AI) and automation in modern workplaces has led to significant changes in work, potentially impacting employees' mental well-being in both positive and negative manners. Artificial intelligence (AI) has the potential to reduce repetitious work, which can reduce the risk of burnout and ultimately increase overall job satisfaction (Brynjolfsson & McAfee, 2014). However, concerns were raised about the possible negative effects. Employees may experience feelings like anxiety and job insecurity as artificial intelligence (AI) systems take on tasks that were previously completed by individuals. To address these psychological effects, employers must take a proactive stance by promoting a flexible and adaptable work culture, providing re-training opportunities, and highlighting the collaboration between humans and AI rather than AI's substitution (Davenport & Harris, 2007). As technology provides on-demand access to work but increases distraction from other responsibilities, its negative effects can require people to re-interpret and adapt their perceptions of meaningful work (Symon & Whiting, 2019).

5.2. Reskilling and Upskilling Initiatives

The *World Economic Forum* (2020) asserts that to support employee welfare and preserve competitiveness, AI-driven businesses must undertake reskilling and upskilling initiatives. According to Nussbaum (2011), the core human potential is in the ability to engage in work as a human being. The continuous advancement of artificial intelligence has a significant influence on the reconfiguration of job roles and the requisites for specific competencies. Therefore, it is crucial to apply proactive measures that facilitate the acquisition of necessary skills by personnel. Organizations have the potential to augment the adaptability of their workforce in response to technological advancements and foster job satisfaction and prospects for career growth through the provision of ongoing learning opportunities and customized training initiatives. The reskilling and

upskilling initiatives encompass not only the imperative to remain abreast of technology changes but also the cultivation of a lifelong learning culture inside the firm. Giving employees the chance to do meaningful work promotes beneficial outcomes for them (Allan et al., 2019), and it is morally significant as a foundation for human flourishing (Bailey et al., 2019; Lysova et al., 2019).

5.3. Managing Employee Concerns with Ethical Leadership

In the context of adopting AI, ethical leadership is essential in alleviating employee concerns (Daugherty & Wilson, 2018). As the integration of artificial intelligence (AI) technologies becomes more prevalent within enterprises, employees frequently express concerns around job security, privacy, and ethical issues associated with decision-making powered by AI (Brynjolfsson & McAfee, 2014). Through the deliberate prioritization of ethical issues and the recognition of employee feedback, ethical leaders have the capacity to establish a workplace environment that is supportive and reassuring. This, in turn, serves to alleviate the fear and uncertainty that often accompany the implementation of artificial intelligence (AI) technologies. According to Mayer, Kuenzi, and Greenbaum (2010), ethical leadership is of crucial significance in addressing and alleviating employee concerns.

5.4. Promoting a Human-Centered Approach

The prioritization of a human-centered approach is of paramount significance in guaranteeing the well-being of employees in firms that utilize artificial intelligence. By placing emphasis on the needs, values, and experiences of employees, these firms can cultivate a work environment that not only enhances productivity, but also promotes mental and emotional well-being. The strategy described entails the development of artificial intelligence (AI) tools and workflows that serve to augment employees' capabilities and supplement their existing skill sets, rather than displacing them (Daugherty & Wilson, 2018). Furthermore, it is imperative to adopt transparent and ethically sound policies in the use of AI technologies, wherein employees are afforded the opportunity to contribute their perspectives on the integration of such technologies into their respective work processes (D'Antonoli, 2020). Furthermore, the provision of ongoing learning opportunities and efforts aimed at enhancing skills allows employees to effectively respond to the dynamic nature of artificial intelligence, hence mitigating concerns regarding potential job displacement (Brynjolfsson & McAfee, 2014).

5.5. Measuring the Impact of Ethical Leadership Training

With the development of artificial intelligence (AI), it is important to look at the effects of ethical leadership training to make sure that businesses create an environment that encourages ethical behavior and careful decision-making. According to Brown, Treviño, and Harrison (2005), as artificial intelligence becomes more and more integrated into various spheres of business and society, leaders

will need to develop the skills and knowledge required to successfully navigate complex ethical dilemmas. This may encompass the assessment of alterations in the corporate atmosphere, employee sentiments, and the frequency of ethical dilemmas encountered in decision-making processes related to artificial intelligence. Furthermore, keeping an eye on how well-defined ethical principles and leadership actions align can provide insightful information about how effective these initiatives are. Blackman (2020) asserts that prioritizing ethical leadership in artificial intelligence-driven businesses involves more than just adhering to legal requirements; it also entails fostering trust and guaranteeing sustained success.

6. Discussion and Conclusion

6.1. Key Findings

In the era of artificial intelligence, the significance of ethical leadership has become vital in guaranteeing the responsible advancement and implementation of AI technology. It is imperative for leaders to give precedence to ethical issues, hence fostering openness, accountability, and fairness in the utilization of artificial intelligence (AI) technologies. Their responsibility involves the establishment of comprehensive governance frameworks, the mitigation of algorithmic bias, and the advocacy for data privacy and security. Leaders that uphold ethics foster a culture of continuous learning, adaptability, and ethical awareness in their organizations, ensuring that employees are fully aware of the ethical implications of artificial intelligence. Moreover, they adopt the notion of human-AI collaboration, perceiving AI as a mechanism to enhance human capacities rather than supplant them.

Ethical leadership encompasses various dimensions, including social responsibility, regulatory compliance, and the long-term ramifications of artificial intelligence (AI). It underscores the imperative for international cooperation to establish shared ethical norms pertaining to the development and utilization of AI. The primary objective of ethical leadership in the era of artificial intelligence (AI) is to effectively utilize the capabilities of AI technology while simultaneously protecting and upholding social values and the overall welfare of humanity.

6.2. Practical Implications

Creating complete AI ethics committees or advisory boards within enterprises is one practical application of ethical leadership in the era of artificial intelligence. It is recommended that these committees consist of interdisciplinary teams possessing specialized knowledge in the fields of ethics, technology, law, and social sciences. The primary responsibility of these individuals is to evaluate and provide guidance for artificial intelligence (AI) initiatives, with the objective of including ethical issues across the entire process, spanning from initial design to final implementation.

The establishment of such committees enables firms to take proactive meas-

ures in addressing ethical challenges, minimizing potential biases, and making well-informed decisions pertaining to AI technology. The implementation of this pragmatic methodology not only serves to prevent ethical breaches but also strengthens the levels of transparency and accountability inside artificial intelligence operations. Moreover, it fosters a culture that emphasizes ethical consciousness and accountable AI advancement within the institution, so harmonizing with the overarching societal objectives of AI technology contributing to the betterment of humanity while mitigating adverse consequences.

6.3. Future Research Directions

The future research directions in the era of artificial intelligence have the potential to bring about revolutionary transformations in numerous crucial sectors. The utilization of artificial intelligence (AI) in diagnosis and treatment decisions within the healthcare ethical domain has become increasingly imperative. Furthermore, the integration of artificial intelligence (AI) in the healthcare sector raises important ethical concerns. These concerns mostly revolve around safeguarding data privacy, obtaining informed consent, and guaranteeing the responsible implementation of AI technologies in healthcare environments. It is crucial to prioritize patient well-being and autonomy in the utilization of AI in healthcare settings (Vayena et al., 2018). In the field of Environmental Sustainability, Artificial Intelligence (AI) will have a significant impact through enhancing resource utilization, monitoring ecological systems, and devising inventive approaches to address climate change mitigation. The exploration of these research avenues is of paramount importance to fully leverage the capabilities of artificial intelligence, while simultaneously addressing ethical considerations and ensuring the preservation of our planet's future.

There are several fascinating but difficult constraints on the study of ethical leadership in the AI era, which will shape the course of further research. The moral questions pertaining to the use of AI in leadership get progressively intricate as the technology advances, thus requiring continuous analysis of the intricate dynamics between machine-based decision-making and human values (Johnson, 2006). Furthermore, the limited availability of empirical evidence pertaining to leadership behaviors powered by artificial intelligence poses a significant obstacle to the advancement of complete ethical frameworks and norms. In addition, the presence of cultural and contextual differences in ethical norms and leadership dynamics across various businesses and locales introduces an extra level of intricacy (Trevino & Brown, 2004). The cultivation of ethical leadership in the AI era necessitates the imperative collaboration among experts in ethics, psychology, and AI. As research advances, the interdisciplinary cooperation between these fields becomes increasingly vital to develop effective tactics.

Conflicts of Interest

The author declares no conflicts of interest regarding the publication of this paper.

References

- Allan, B. A., Batz-Barbarich, C., Sterling, H. M., & Tay, L. (2019). Outcomes of Meaningful Work: A Meta-Analysis. *Journal of Management Studies*, *56*, 500-528. <https://doi.org/10.1111/joms.12406>
- Awad, E., Dsouza, S., Kim, R. et al. (2018). The Moral Machine Experiment. *Nature*, *563*, 59-64. <https://doi.org/10.1038/s41586-018-0637-6>
- Bailey, C., Yeoman, R., Madden, A., Thompson, M., & Kerridge, G. (2019). A Review of the Empirical Literature on Meaningful Work: Progress and Research Agenda. *Human Resource Development Review*, *18*, 83-113. <https://doi.org/10.1177/1534484318804653>
- Barocas, S., & Selbst, A. D. (2016). Big Data's Disparate Impact. *California Law Review*, *104*, 671-732. <https://doi.org/10.2139/ssrn.2477899>
- Barocas, S., Hardt, M., & Narayanan, A. (2019). *Fairness and Machine Learning*. MIT Press. <http://fairmlbook.org/>
- Bessen, J. E. (2018). *AI and Jobs: The Role of Demand*. NBER Working Paper No. 24235. <https://doi.org/10.3386/w24235>
- Blackman, R. (2020, October 15). A Practical Guide to Building Ethical AI. *Harvard Business Review*. <https://hbr.org/2020/10/a-practical-guide-to-building-ethical-ai>
- Boden, M. A. (2016). *AI*. Oxford University Press.
- Brown, M. E., & Treviño, L. K. (2006). Ethical Leadership: A Review and Future Directions. *The Leadership Quarterly*, *17*, 595-616. <https://doi.org/10.1016/j.leaqua.2006.10.004>
- Brown, M. E., Treviño, L. K., & Harrison, D. A. (2005). Ethical Leadership: A Social Learning Perspective for Construct Development and Testing. *Organizational Behavior and Human Decision Processes*, *97*, 117-134. <https://doi.org/10.1016/j.obhdp.2005.03.002>
- Brynjolfsson, E., & McAfee, A. (2014). *The Second Machine Age: Work, Progress, and Prosperity in a Time of Brilliant Technologies*. W.W. Norton & Company.
- Brynjolfsson, E., & McAfee, A. (2017). The Business of Artificial Intelligence. *Harvard Business Review*.
- Bryson, J. J. (2018). Patience Is Not a Virtue: The Design of Intelligent Systems and Systems of Ethics. *Ethics and Information Technology*, *20*, 15-26. <https://doi.org/10.1007/s10676-018-9448-6>
- Bryson, J. J., & Winfield, A. F. (2017). Standardizing Ethical Design for Artificial Intelligence and Autonomous Systems. *Computer*, *50*, 116-119. <https://doi.org/10.1109/MC.2017.154>
- Buolamwini, J., & Gebru, T. (2018). Gender Shades: Intersectional Accuracy Disparities in Commercial Gender Classification. *Proceedings of Machine Learning Research*, *81*, 77-91. <https://proceedings.mlr.press/v81/buolamwini18a/buolamwini18a.pdf>
- D'Antonoli, T. A. (2020). Ethical Considerations for Artificial Intelligence: An Overview of the Current Radiology Landscape. *Diagnostic and Interventional Radiology*, *26*, 504-511. <https://doi.org/10.5152/dir.2020.19279>
- Daugherty, P. R., & Wilson, H. J. (2018). Human + Machine: Reimagining Work in the Age of AI. *Harvard Business Review*.
- Davenport, T. H., & Harris, J. (2007). *Competing on Analytics: The New Science of Winning*. Harvard Business Review Press.
- Davenport, T. H., & Harris, J. (2017). *Competing on Analytics: Updated, with a New Introduction: The New Science of Winning*. Harvard Business Review Press.

- Davenport, T. H., & Kirby, J. (2016). *Only Humans Need Apply: Winners and Losers in the Age of Smart Machines*. HarperBusiness.
- Diakopoulos, N. (2016). *Accountability in Algorithmic Decision Making*. Data & Society Research Institute.
https://datasociety.net/pubs/ia/DataAndSociety_Algorithmic_Accountability_2016.pdf
<https://doi.org/10.1145/2844110>
- Diakopoulos, N., Friedler, S. A., Arenas, M., Barocas, S., Hay, M., Howe, B., & Venkata Subramanian, S. (2018). Principles for Accountable Algorithms and a Social Impact Statement for Algorithms. In *ACM Conference on Fairness, Accountability, and Transparency (FAT*)*.
- Eisenbeiss, S. A., Knippenberg, D. V., & Boerner, S. (2008). Transformational Leadership and Team Innovation: Integrating Team Climate Principles. *Journal of Applied Psychology, 104*, 277-300. <https://doi.org/10.1037/a0012716>
- European Commission (2019). *Ethics Guidelines for Trustworthy AI*. European Commission.
- Ferrell, O. C., & Fraedrich, J. (2019). *Business Ethics: Ethical Decision Making and Cases*. Cengage Learning.
- Floridi, L. (2013). *The Ethics of Information*. Oxford University Press.
<https://doi.org/10.1093/acprof:oso/9780199641321.001.0001>
- Floridi, L. (2019). *The Logic of Information: A Theory of Philosophy as Conceptual Design*. Oxford University Press. <https://doi.org/10.1093/oso/9780198833635.001.0001>
- Floridi, L., & Cows, J. (2019). A Unified Framework of Five Principles for AI in Society. *Harvard Data Science Review, 1*, 2-15. <https://doi.org/10.1162/99608f92.8cd550d1>
- Floridi, L., Cows, J., Beltrametti, M., Chatila, R., Chazerand, P., Dignum, V., & Luetge, C. (2018). AI4People—An Ethical Framework for a Good AI Society: Opportunities, Risks, Principles, and Recommendations. *Minds and Machines, 28*, 689-707.
<https://doi.org/10.1007/s11023-018-9482-5>
- Gadhhoum, Y. (2022). Artificial Intelligence Trends and Ethics: Issues and Alternatives for Investors. *Intelligent Control and Automation, 13*, 1-15.
<https://doi.org/10.4236/ica.2022.131001>
- IEEE Global Initiative on Ethics of Autonomous and Intelligent Systems (2019). *Ethically Aligned Design: A Vision for Prioritizing Human Well-Being with Autonomous and Intelligent Systems*.
- Jobin, A., Ienca, M., Vayena, E., & Elger, B. S. (2019). The Global Landscape of AI Ethics Guidelines. *Nature Machine Intelligence, 1*, 389-399.
<https://doi.org/10.1038/s42256-019-0088-2>
- Johnson, D. G. (2006). Computer Systems: Moral Entities but Not Moral Agents. *Ethics and Information Technology, 8*, 195-204. <https://doi.org/10.1007/s10676-006-9111-5>
- Kaplan, A., & Haenlein, M. (2020). Rulers of the World, Unite! The Challenges and Opportunities of Artificial Intelligence. *Business Horizons, 63*, 37-50.
<https://doi.org/10.1016/j.bushor.2019.09.003>
- Larson, J., Mattu, S., Kirchner, L., & Angwin, J. (2016, May 23). *How We Analyzed the COMPAS Recidivism Algorithm*. ProPublica.
<https://www.propublica.org/article/how-we-analyzed-the-compas-recidivism-algorithm>
- Lysova, E. I., Allan, B. A., Dik, B. J., Duffy, R. D., & Steger, M. F. (2019). Fostering Meaningful Work in Organizations: A Multi-Level Review and Integration. *Journal of Vocational Behavior, 110*, 374-389. <https://doi.org/10.1016/j.jvb.2018.07.004>

- MacCarthy, M. (2019, December 6). *Fairness in Algorithmic Decision-Making*. Brookings. <https://www.brookings.edu/articles/fairness-in-algorithmic-decision-making/>
- Mayer, D. M., Kuenzi, M., & Greenbaum, R. L. (2010). Examining the Link between Ethical Leadership and Employee Misconduct: The Mediating Role of Ethical Climate. *Journal of Business Ethics, 95*, 7-16. <https://doi.org/10.1007/s10551-011-0794-0>
- Mayer, D. M., Kuenzi, M., Greenbaum, R., Bardes, M., & Salvador, R. (2009). How Low Does Ethical Leadership Flow? Test of a Trickle-Down Model. *Organizational Behavior and Human Decision Processes, 108*, 1-13. <https://doi.org/10.1016/j.obhdp.2008.04.002>
- Michaelson, C., Pratt, M. G., Grant, A. M., & Dunn, C. P. (2014). Meaningful Work: Connecting Business Ethics and Organization Studies. *Journal of Business Ethics, 121*, 77-90. <https://doi.org/10.1007/s10551-013-1675-5>
- Mittelstadt, B. D., Allo, P., Taddeo, M., Wachter, S., & Floridi, L. (2016). The Ethics of Algorithms: Mapping the Debate. *Big Data & Society, 3*. <https://doi.org/10.1177/2053951716679679>
- Nussbaum, M. C. (2011). *Creating Capabilities: The Human Development Approach*. Harvard University Press. <https://doi.org/10.4159/harvard.9780674061200>
- O'Neill, C. (2016). *Weapons of Math Destruction: How Big Data Increases Inequality and Threatens Democracy*. Crown.
- Pulse + IT (2020). *The San Using AI to Automate Multidisciplinary Team Meetings*. <https://www.pulseit.news/australian-digital-health/the-san-using-ai-to-automate-multi-disciplinary-team-meetings/>
- Roberts, P. (2020). *Working Smarter with Data*. Australian Manufacturing Forum. <https://www.aumanufacturing.com.au/working-smarter-with-data-ai-gives-agriculture-the-competitive-edg>
- Russell, S. J., & Norvig, P. (2020). *Artificial Intelligence: A Modern Approach* (4th ed.). Pearson.
- Symon, G., & Whiting, R. (2019). The Sociomaterial Negotiation of Social Entrepreneurs' Meaningful Work. *Journal of Management Studies, 56*, 655-684. <https://doi.org/10.1111/joms.12421>
- Taddeo, M., & Floridi, L. (2018). How AI Can Be a Force for Good. *Science, 361*, 751-752. <https://doi.org/10.1126/science.aat5991>
- Trevino, L. K., & Brown, M. (2004). Managing to Be Ethical: Debunking Five Business Ethics Myths. *IEEE Engineering Management Review, 32*, 39-52. <https://doi.org/10.1109/EMR.2004.25135>
- Treviño, L. K., & Nelson, K. A. (2021). *Managing Business Ethics: Straight Talk about How to Do It Right*. John Wiley & Sons.
- Treviño, L. K., den Nieuwenboer, N. A., & Kish-Gephart, J. J. (2014). (Un)Ethical Behavior in Organizations. *Annual Review of Psychology, 65*, 635-660. <https://doi.org/10.1146/annurev-psych-113011-143745>
- Treviño, L. K., Hartman, L. P., & Brown, M. (2000). Moral Person and Moral Manager: How Executives Develop a Reputation for Ethical Leadership. *California Management Review, 42*, 128-142. <https://doi.org/10.2307/41166057>
- Treviño, L. K., Weaver, G. R., & Reynolds, S. J. (2003). Behavioral Ethics in Organizations: A Review. *Journal of Management, 29*, 951-990. <https://doi.org/10.1177/0149206306294258>
- Vayena, E., Blasimme, A., & Cohen, I. G. (2018). Machine Learning in Medicine: Addressing Ethical Challenges. *PLOS Medicine, 15*, e1002689. <https://doi.org/10.1371/journal.pmed.1002689>

Whittlestone, J., Nystrup, R., Alexandrova, A., Dihal, K., & Cave, S. (2019). Ethical and Societal Implications of Algorithms, Data, and Artificial Intelligence: A Roadmap for Research. *IEEE Security & Privacy*, 17, 64-74.

World Economic Forum (2020). *The Future of Jobs Report 2020*.

<https://www.weforum.org/reports/the-future-of-jobs-report-2020>

Zuboff, S. (1988). *In the Age of the Smart Machine: The Future of Work and Power*. Basic Books.