See discussions, stats, and author profiles for this publication at: https://www.researchgate.net/publication/381145966

Influence of artificial intelligence on transformational leadership

Conference Paper · January 2024

citations 0		READS 686
2 authors, including:		
and an and	Anisha Estherita Vels University	
	6 PUBLICATIONS 3 CITATIONS	
	SEE PROFILE	

RESEARCH ARTICLE | JUNE 03 2024

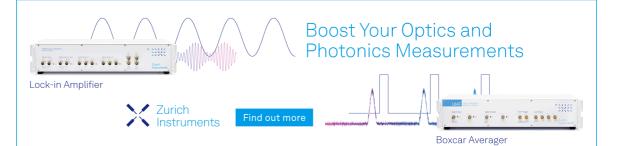
Influence of artificial intelligence on transformational leadership **FREE**

Anisha Estherita; Vasantha Shanmugam 💌

(Check for updates

AIP Conf. Proc. 3112, 020013 (2024) https://doi.org/10.1063/5.0211330







Influence of Artificial Intelligence on Transformational Leadership

Anisha Estherita^{a)} and Vasantha Shanmugam^{b)}

Vels Institute of Science, Technology and Advanced Studies, (VISTAS), Chennai, Tamil Nadu, India

^{a)}anishaestherita6@gmail.com,

Corresponding Author: ^b) vasantha.sms@velsuniv.ac.in

Abstract. Artificial Intelligence (AI) recently plays a major role in the working world. AI in few years will be inevitable in all the businesses and services. AI also plays a virtuous role in supporting Human Resource Management. Most people fear that AI will cause them unemployment, but truly, AI has the capacity to build more jobs in the near future as AI will not remove workers from their jobs, but it will reduce monotony and frees up employees to perform more complex tasks. Transformational leadership are always ready for a positive and innovative change in the organization. By leveraging Artificial Intelligence technologies, leaders can become more transformational, foster a culture of innovation, and drive successful organizational transformations. This article aims at analyzing how artificial intelligence plays a role in enhancing transformational leadership. The results of the study concluded that AI technologies can help leaders to become more transformational thereby empowering their employees and become a reason for successful organizational changes. This article also helps in gaining new insights into how AI can play a role in enhancing transformational leadership in an organization.

Keywords— Artificial Intelligence, Automation, Innovation, Technology, Transformational Leadership.

INTRODUCTION

Artificial Intelligence (AI) is the recent advancement in technology that plays a crucial role in businesses and support various tasks in organizations. AI is a newly developed technology that requires human intelligence for its proper execution. AI is developing systems that will perform tasks with the aid of human assistance AI has the potential to drive transformations in business and leadership as well. AI technology is transforming the ways in which a business operates but it has a significant effect on leadership. AI mainly supports transformational leadership in an organization. Transformational leadership is the style of leadership that inspires, builds trust, and motivates innovation and change in the organization.

As transformational leadership majorly relies on communication, collaboration, and innovation, and AI has the potential to enhance innovation capability, the communication and collaboration framework within an organization and hence AI plays a significant role in supporting Transformational leadership. AI will give even more importance to transformational leadership and so, if leaders integrate AI into their organization, they will be able to engage their employees better and promote good learning and development among their team. The other way round, when AI needs to be implemented successfully, it needs the support of transformational leadership. When transformational leaders support AI and implement them in their operations, they can optimize productivity

AI can support transformational leaders in making much more informed decisions which eventually leads to creation of a positive as well as a productive work environment. AI helps leaders to reduce complexity in their tasks and thereby spend more time in critical and important. AI also facilitates collaboration and communication between leaders and their team members thereby facilitating personalized communication which creates more meaningful relationships between leaders and his team members. AI also helps in promoting employee empowerment by fostering innovation. They allow automation of routine tasks and allow employees to focus on more creativity and innovation which benefits the employees and the organization as a whole. Various researches have also found out that AI plays a moderating role between Transformational leadership and innovation. AI and transformational leadership when worked together in conjunction, it can improve the quality and the quantity of ideas generated by their team members. AI helps transformational leaders meet the unique ideas of the teams and helps individuals focus on their strengths which will lead them to higher levels of innovation and creativity. AI

International Conference on Contemporary Challenges in Science, Engineering, and its Applications AIP Conf. Proc. 3112, 020013-1–020013-5; https://doi.org/10.1063/5.0211330 Published under an exclusive license by AIP Publishing. 978-0-7354-4965-7/\$30.00

when integrated with transformational leadership, it facilitates a collaborative innovative environment by promoting knowledge sharing and idea evaluation.

This article aims exploring how artificial intelligence plays a role in assisting transformational leadership and further intends to extend the insights on this upcoming research topic. The next section provides with the objective of the study and the following section presents the methodology of the study. Then, the study on existing literatures are presented and at last the literature reviews are discussed and the study has been concluded with the findings from the secondary data analysis.

OBJECTIVES OF THE STUDY

- To conduct an intensive literature review on the impact of Artificial Intelligence on Transformational Leadership.
- > To analyze the role played by artificial intelligence in supporting transformational leadership and explore the relationship between these two.

RESEARCH METHODOLOGY

The study is descriptive in nature. It is wholly dependent on secondary data collected from previously published research articles and blogs. Conclusion for the study was extracted from the data collected through secondary literature review. The results from this study will contribute to the discussions in-progress on the role of Artificial Intelligence in supporting transformational leadership.

LITERATURE REVIEW

Transformational Leadership

Bernard M. Bass (1985) is said as the father of transformational leadership and identified four elements of transformational leadership namely intellectual stimulation, idealized influence, inspirational motivation, and individualized consideration. Bono, Ilies (2006), states that when transformational leaders display more of charisma are effective in creating more positive work environment and thereby leading to better performance and satisfaction. When leaders display transformational leadership, it is said to affect the employee's organizational commitment and further tends to psychologically empowers them, . Transformational leadership is essential for leaders for them to effectively respond to dynamic organizational situations and achieve optimum results, and Judge & Piccolo (2004) also argues that transformational leadership must be adopted by leaders if they want to improve organizational results. Bernard Bass (1985) puts forward his thought that is the organizations need to survive in the longer run, then its leaders must adopt a transformational style of leadership as it helps organizations to adapt to the dynamic business environment by enhancing creativity and innovation among the employees.

Artificial Intelligence

AI tools such as chatbots and predictive analysis helps in enhancing employee support in organizations. Mary Lacity et.al. (2018), insists that AI tools help in making data driven decision making and making employee experiences more personalized that improves the role of HR as a strategic partner in the organization. AI can positively impact the HR functions by eliminating repetitive and monotonous tasks and improving employee engagement which is very vital for the employee productivity, Kannan and Msila (2021) argue that through increased job satisfaction and increased opportunities for collaboration, AI tends to have a positive impact on the employee engagement. AI also helps leaders in personalizing and customizing training programs according to the varying needs of employees as said by Quaquebeke et al. (2019). AI is a major support to employee learning by making their learning experiences more personalized and engaging for the employees, and provide personalized suggestions and feedback for the employees thereby creating a positive and supportive work environment,. AI is so much personalized to employees as they help employees in identifying their strengths, weaknesses and also receive targeted support and feedback about their performance,

Artificial Intelligence and Transformational Leadership

According to Kutsyuruba et al., (2019)] AI technologies provide leaders with real-time data and decision support that will enhance transformational leadership, by providing alternative courses of action that even the leaders have not considered. As stated by Sull et al. (2019), predictive analytics helps leaders to forecast future trends and also identify potential areas for further growth and innovation. Akhar et al. (2020) examines the benefits of using AI in empowering the employees and enhancing innovation capabilities. The authors argue that automation of routine and monotonous tasks allows leaders to focus on more critical areas and benefit the organization on the whole. Parry et al (2020) explores on how AI can assist leaders in identifying data patterns which makes it possible for them to gain better insights into the organizational processes and employee performance.

Schlosser & Storniolo (2018) discuss the ethical implications of using AI in leadership. The researcher proposed that the leaders must be mindful of these concerns so that AI should be used in responsible and an ethical way. AI positively impacts transformational leadership by enhancing decision-making, increasing creativity, and strengthening communication as pointed by Raza & Imran (2020) in their study. In exploring the role of transformational leadership in AI enabled organizations, Khan & Rahman (2019) found that transformational leadership is necessary for building trust for adopting AI in the organization and motivate employees to celebrate new technology and find various ways to utilize it in an effective way.

According to Kumar & Gursoy (2021), transformational leadership is said to foster a positive attitude towards enabling AI in an organization which leads to higher levels of usage and acceptance. AI can also be used to develop personalized leadership programs that helps the leaders to identify the strengths and weaknesses of leaders with which the leaders can enhance their strengths and promote innovation within an organization,. A meta-analysis by Duan et al., (2019) stated that AI can enhance decision making by leaders by enabling them to make informed data driven decisions based on data analysis and predictive analytics. A literature analysis by Vaiman & Karia (2018) found that AI has the capacity to transform leadership practices, enabling leaders to become more responsive, creative, and adaptable to changes which helps organizations to remain competitive in this rapidly changing business environment.

According to Hackbarth et al., (2019) helps in automating repetitive and monotonous tasks which provides them the time to focus on critical and important tasks, for which transformational leaders should be capable of understanding the technology and use it effectively as well as maintaining ethical and social responsibility. In exploring the implications of AI for leadership, Myers (2020) suggests that leaders should work collaboratively with AI and create a workplace culture that values and supports innovation, creativity and informed decision making. Huang (2019) argues that transformational leadership require a growth mindset that supports continuous learning and improvement as well as empowering employees to adopt the culture of AI.

AI and transformational leadership when used collaboratively plays a major role in gaining a competitive advantage for the organizations,. AI supports innovation. As proposed by Yao et al., (2020), AI and transformational leadership can work collaboratively to improve the quality and quantity of new ideas generated by teams and combining transformational leadership and AI will help create powerful and a dynamic approach to innovation,. Reeves, Szlezak & Swartz (2019) argue that AI does not replace humans in decision making but they are act as an augment to human decision-making.

DISCUSSIONS

From the intensive literature analysis conducted, the researcher found that AI in combination with transformational leadership promotes innovation and creativity in an organization. It was also found that AI will help in creating powerful and a dynamic approach to innovation. AI and leadership majorly play a vital role in fostering innovation in an organization by enabling the team members to make innovative ideas and work further on it. These findings were in consistent with Akhar et al. (2020) and Fong & Boon (2019).

The study also found out that AI promotes automation of routine and monotonous tasks and gives time for leaders to focus on more critical and vital areas and benefit the team as well as organization as well as AI supports leaders in decision making by enabling them to make informed data driven decisions and predictive analysis. The study coincided with the studies made my Duan et al. (2019), Hackbarth et al., (2019) and Akhar et al. (2020).

The author found about the ethical implications of using AI in leadership. While combining AI and leadership, AI should be used in an ethical and responsible manner so that there will not be any ethical concerns arising out of implementing AI in leadership. This can be made possible only of the leaders and the employees understand the technology and use it effectively by maintaining a social and ethical responsibility. These findings

are in agreement with Schlosser & Storniolo (2018) and Kanwar & McLeod (2019). The researcher also found that using AI in transformational leadership and thereby implementing AI in the whole organization, it enables organization to gain a competitive advantage for the organisations.

CONCLUSION

In conclusion, the collaboration of AI with transformational leadership supports various organizational tasks such as decision making, promoting innovation and creativity, earning better insights into the organizational processes, and gaining competitive advantage for the organization. The adoption of AI has not only been advantageous but also has brought new challenges to leaders. Transformational leaders who are proactive and utilize AI in a good and ethical way can take organizations to greater heights. Overall, the success of AI adoption and transformational leadership is dependent on the leader's ability promote a culture of innovation in the organization that embraces change and providing a clear sense of direction for the organization.

REFERENCES

[1] Russell, S. J., & Norvig, P. (2010). Artificial Intelligence: A Modern Approach. Upper Saddle River, N.J: Prentice Hall.

[2] Peifer, Yannick, Tim Jeske, and Sven Hille. "Artificial Intelligence and its Impact on Leaders and Leadership." Procedia Computer Science 200 (2022): 1024-1030.

[3] Bass BM (1990) From transactional to transformational leadership: learning to share the vision. Org Dyn 18(3):19–31

[4] Rahim, M. A., & Ullah, M. B. (2020). Artificial Intelligence in Leadership: Implications for the Future of Work. Digital Transformation for a Sustainable Society in the 21st Century, 1-20.

[6] Ilmanova, A., & Raz, A. (2019). Artificial Intelligence and Human Resource Development: A Transformational Leadership Perspective. In Proceedings of the 14th International Conference on Intellectual Capital, Knowledge Management & Organizational Learning (pp. 267-274). Academic Conferences International Limited.

[7] Brock, Jürgen Kai-Uwe, and Florian Von Wangenheim. "Demystifying AI: What digital transformation leaders can teach you about realistic artificial intelligence." California Management Review 61.4 (2019): 110-134.

[8] Erwin, S., Rahmat, S. T. Y., Angga, N. D., & Semerdanta, P. (2019). Transformational leadership style and work life balance: The effect on employee satisfaction through employee engagement. Russian Journal of Agricultural and Socio-Economic Sciences, 91(7), 310-318.

[9] Kutsyuruba, B., Brudney, J. L., Wright, C. V., & Ebrahim, N. (2019). Artificial intelligence and leadership: Implications for transformational leadership. Public Performance & Management Review, 42(3), 612-635.

[10] Bayrak, A., Uysal, S. D., & Turke, F. (2020). Artificial intelligence and transformational leadership: Enablers and barriers. Journal of Business Research, 116, 41-50.

[11] Parry, K.W., Wei, Q., Lee, S.M., Wang, Y., & Huang, Y. (2020). Leadership in the age of artificial intelligence: A review and agenda for future research. Leadership Quarterly, 31(1), 101-128. https://doi.org/10.1016/j.leaqua.2019.101317

[12] Akhtar, S., Bhatti, Z.A., Hussain, S., & Ahmad, S. (2020). Transformational leadership and creativity: The moderating role of artificial intelligence. Journal of Business Research, 117, 623-630. https://doi.org/10.1016/j.jbusres.2020.07.047

[13] Yao, W., Chen, J., Liu, G., & Tai, J. (2020). Artificial intelligence and transformational leadership: A novel approach to promote innovation. Journal of Business Research, 113, 437-445.

[14] Malik, Nishtha, et al. "Impact of artificial intelligence on employees working in industry 4.0 led organizations." International Journal of Manpower 43.2 (2021): 334-354.

[15] Cheng, C., Yang, Z., Wu, J., & Liu, Z. (2020). Exploring the linkages among artificial intelligence, transformational leadership and collaborative innovation in the perspective of knowledge integration. Technological Forecasting and Social Change, 160, 120224.

[16] Bass, B. M. (1985). Leadership and performance beyond expectations. New York, NY: Free Press.

[17] Bono, J. E., & Ilies, R. (2006). Charisma, positive emotions, and mood contagion. The Leadership Quarterly, 17(4), 317-334

24

June 2024 15:35:4:

[18] Avolio, B.J., Zhu, W., Koh, W., & Bhatia, P. (2004). Transformational leadership and organizational commitment: Mediating role of psychological empowerment and moderating role of structural distance. Journal of Organizational Behavior, 25(8), 951-968.

[19] Waldman, D.A., Bass, B.M., & Yammarino, F.J. (1990). Adding to contingency theory: An examination of the relationship between leader style and follower reaction. Journal of Applied Psychology, 75(6), 729-737.

[20] Judge, T. A., & Piccolo, R. F. (2004). Transformational and Transactional Leadership: A Meta-Analytic Test of Their Relative Validity. Journal of Applied Psychology, 89(5), 755–768.

[21] Waliullah, S., & Sahito, N. (2021). The Role of Artificial Intelligence in Human Resource Management. International Journal of Advanced Research in Computer Science and Software Engineering, 11(4), 113-118.

[22] Lacity, M., Willcocks, L. P., & Kern, T. (2018). Transforming HR through artificial intelligence. MIT Sloan Management Review, 59(1), 1-12.

[23] Bititci, U. S., Martinez, V., Albores, P., Parung, J., & Ates, A. (2020). The Impact of Artificial Intelligence on HRM: Can AI Make Our Workplaces More Human?. International Journal of Operations & Production Management, 40(1), 1-21.

[24] Kannan, A., & Msila, V. S. (2021). The Effect of Artificial Intelligence on Employee Engagement: A Systematic Literature Review. Journal of Business Research, 140, 404-421.

[25] J. A. (2019). The Role of Artificial Intelligence in Employee Training and Development: A Review of the Literature. European Journal of Work and Organizational Psychology, 28(1), 1-17.

[26] Patel, R. S., Webster, J., & Rahim, M. A. (2021). How Artificial Intelligence can Support Employees' Learning and Development. In Proceedings of the 14th International Conference on Intellectual Capital, Knowledge Management and Organizational Learning (pp. 254-259). Academic Conferences International Limited.

[27] Carlsson, R., Hjort, J., & Anyuru, M. (2021). AI-Powered Personal Development for Employees: A Review of the Literature. In Proceedings of the 54th Hawaii International Conference on System Sciences (pp. 2385-2394). DOI: 10.24251/HICSS.2021.296

[28] Sull, D. N., Turconi, S., & Sull, C. A. (2019). Transformational leaders in the age of AI: A view from the top. MIT Sloan Management Review, 60(2), 51-57.

[29] Parry, K. W., Sinha, R., & Shah, T. (2020). Defining Artificial Intelligence Leadership: Theoretical Development and Empirical Validation. Academy of Management Proceedings, 2020(1), 10909.

[30] Schlosser, F., & Storniolo, S. (2018). Artificial intelligence and its implications for HR strategy and practice. Human Resource Management Review, 28(4), 437-448.

[31] Raza, A. A., & Imran, A. (2020). The impact of artificial intelligence on employee commitment: A study of Pakistani banking sector. Journal of Business Research, 119, 375-386.

[32] Khan, M. A., & Rahman, M. R. (2019). The impact of artificial intelligence on employee engagement: Evidence from the banking sector of a developing country. Journal of Strategic Marketing, 27(3), 229-244.

[33] Kumar, N., & Gursoy, D. (2021). Artificial intelligence adoption in hotels: A review of the literature and future directions. International Journal of Hospitality Management, 94, 102869.

[34] Wu, Y. J., Li, E. Y., Chen, H. G., & Lee, Y. D. (2020). Enhancing employee performance and retention through artificial intelligence-driven gamification. Journal of Business Research, 113, 133-143.

[35] Duan, Y., Edwards, J. S., Dwivedi, Y. K., & Luo, X. (2019). Artificial intelligence for decision making in the era of Big Data–evolutions and challenges. International Journal of Information Management, 48, 63-71.

[36] Vaiman, V., & Karia, N. (2018). Artificial intelligence (AI) and globalization: Opportunities and challenges for research and practice. Journal of World Business, 53(4), 465-476.

[37] Hackbarth, G., Groth, J. C., & Ellery, D. (2019). Leading with artificial intelligence: Impact on leadership, talent, and culture. In Advances in Global Leadership (pp. 101-112). Emerald Publishing Limited.

[38] Kanwar, A., & McLeod, L. D. (2019). Artificial Intelligence and Customer Engagement. In Artificial Intelligence and Digital Marketing (pp. 5-26). Palgrave Macmillan, Cham.

[39] "Myers, K. M. (2020). Artificial Intelligence and Leadership: The Future Is Here, Now What?. Leadership in Action, 40(2), 9-13..

[40] Huang, J., Deng, T., Liu, B. F., & Hsu, M. H. (2019). AI, blockchain, and digital leadership. Journal of Business Research, 98, 365-378.

[41] Fong, E., & Boon, G. (2019). How AI and transformational leadership can jointly enhance innovation in SMEs: An empirical study. Journal of Business Research, 102, 365-373.

[42] Reeves, Martin, et al. "Your AI Strategy Needs a Human Touch." Harvard Business Review, vol. 97, no. 3, May-June 2019, pp. 124-133.