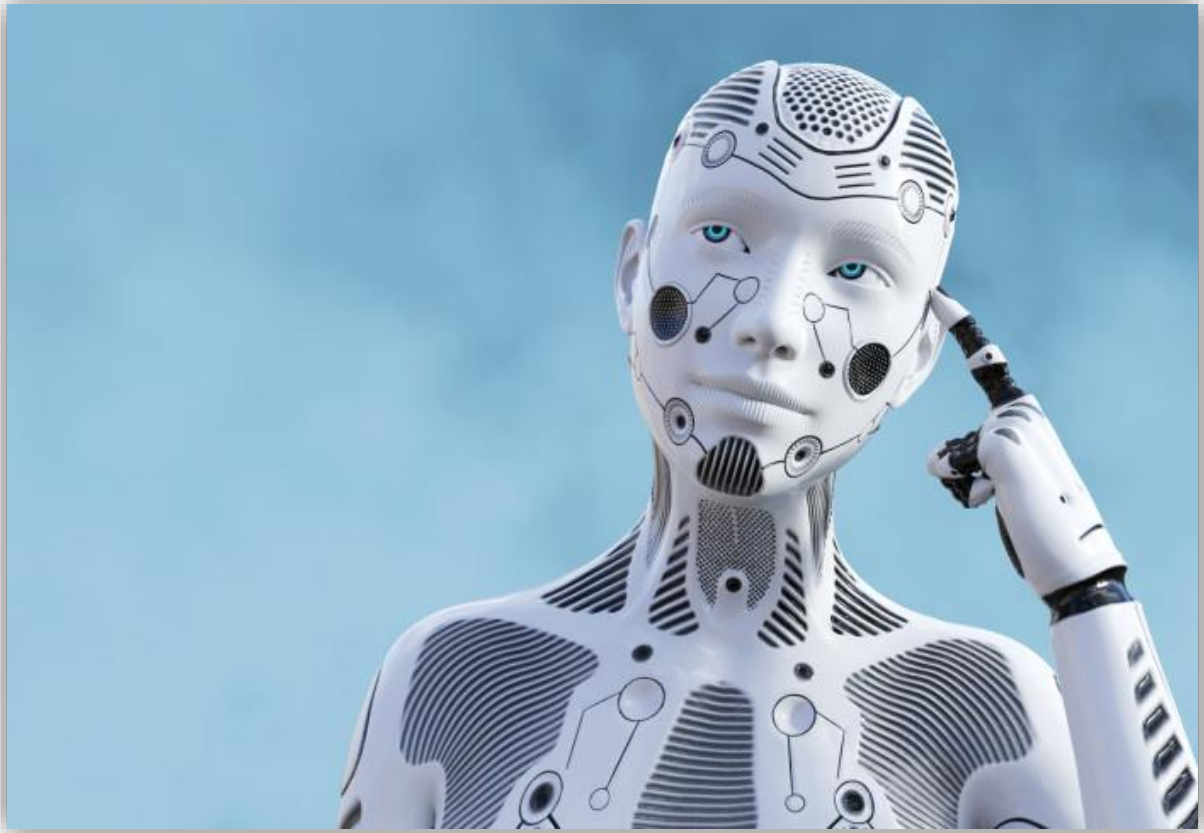




The Impact of Artificial Intelligence (AI) Deployment on Understanding Employee Behavior and Potential

A CASE STUDY OF SABIC

Final Project MGM697 | February 29, 2024

Abstract:

Saudi Basic Industries Corporation (SABIC), a global leader in the petrochemical industry, is committed to driving sustainable growth and economic diversification in alignment with Vision 2030. This research explores the impact of AI deployment on understanding employee behavior and potential at SABIC. Through a combination of surveys and interviews, the study investigates attitudes towards AI, changes in work dynamics, and the effectiveness of AI-driven insights in enhancing employee management practices. The findings highlight the potential of AI to optimize workforce efficiency, improve organizational decision-making, and drive sustainable growth at SABIC.

Introduction:

Established in 1976, SABIC has evolved into a global leader in the petrochemical industry, playing a pivotal role in advancing Saudi Arabia's economic landscape and contributing to global industrial development (SABIC, n.d.). Aligned with Vision 2030, SABIC is committed to driving sustainable growth and economic diversification in Saudi Arabia. In pursuit of these goals, the company recognizes the importance of modernizing employee management practices to optimize workforce efficiency and foster organizational excellence. The deployment of artificial intelligence (AI) presents a transformative opportunity for organizations like SABIC to revolutionize employee management practices. By harnessing AI technologies such as machine learning, natural language processing, and predictive analytics, organizations can unlock new avenues for growth, efficiency, and competitive advantage. This research aims to explore the impact of AI deployment on understanding employee behavior and potential at SABIC, shedding light on its implications for organizational effectiveness and strategic decision-making.

Research Problem:

SABIC currently employs conventional methods for understanding employee behavior and potential.

However, these conventional approaches fall short in enhancing employee effectiveness, well-being, and overall organizational performance. They often result in inefficiencies, as considerable time is spent deciphering employee potential and weaknesses to formulate tailored development plans for pivotal roles within the company. One of the critical challenges associated with the adoption of AI in employee management practices at SABIC is cybersecurity. As AI systems rely heavily on data, including sensitive employee information, the risk of data breaches and cyberattacks becomes a significant concern.

Unauthorized access to employee data could not only compromise individual privacy but also undermine organizational trust and reputation. Moreover, the potential for AI algorithms to perpetuate biases or make incorrect decisions based on flawed data poses additional cybersecurity risks. In light of SABIC's commitment to achieving its goals in alignment with Vision 2030, there is a critical need to streamline and modernize employee management practices while addressing cybersecurity challenges. By transitioning from conventional methods to innovative approaches, SABIC can optimize its workforce, foster employee engagement, and accelerate progress towards its strategic objectives. This transition holds significant promise for saving time and energy, crucial resources in the pursuit of organizational excellence. Existing research in the field often overlooks the cybersecurity implications of AI deployment in employee management practices. While AI has demonstrated its transformative potential in various domains, including cybersecurity, its application within the context of large organizations like SABIC remains relatively unexplored from a cybersecurity perspective. This study aims to address this gap by investigating the effectiveness of AI deployment in enhancing organizational decision-making and workforce optimization while considering cybersecurity challenges.

Objectives:

The objectives of this research are:

- To explore the impact of AI deployment on understanding employee behavior and potential at SABIC.
- To identify opportunities for optimizing workforce efficiency, improving organizational decision-making, and driving sustainable growth at SABIC.
- To examine the challenges associated with AI deployment, particularly in terms of data security and privacy.

Methodology:

A mixed-methods approach was adopted for this research, combining quantitative surveys and qualitative interviews to gather comprehensive insights into the impact of AI deployment at SABIC.

Survey:

A survey was conducted among SABIC employees in the administrative building to gather quantitative data on their perceptions and experiences related to AI deployment and its impact on understanding employee behavior and potential. The survey questionnaire was designed to capture a range of variables, including attitudes towards AI, perceived changes in work dynamics, and the effectiveness of AI-driven insights in enhancing employee management practices. A total of 91 employees participated in the survey, providing valuable insights into their views on AI deployment at SABIC.

Interviews:

In-depth interviews were conducted with key stakeholders at SABIC, including employees, managers, and HR professionals, to gain deeper insights into their experiences and perspectives regarding AI deployment. The interviews were semi-structured, allowing for open-ended exploration of themes such as challenges faced, benefits realized, and recommendations for future improvements. A total of 8 interviews were conducted, each lasting approximately 7 minutes. The qualitative data obtained from the interviews complemented the quantitative findings from the survey, providing rich contextual understanding and enabling triangulation of data.

Results:

The survey findings revealed a generally positive attitude towards AI deployment among SABIC employees, with a majority expressing optimism about its potential to enhance organizational effectiveness. However, concerns were raised regarding data security and privacy implications, highlighting the need for robust safeguards and protocols. The interviews provided further insights into the challenges and opportunities associated with AI deployment at SABIC. Key themes that emerged included the need for ongoing training and upskilling, the importance of transparent communication, and the potential for AI to drive innovation and efficiency across various business functions.

Discussion:

The findings of this research underscore the transformative potential of AI deployment in understanding employee behavior and potential at SABIC. By leveraging AI technologies, organizations can optimize workforce efficiency, improve decision-making processes, and foster a culture of innovation and excellence. However, the successful implementation of AI requires careful consideration of data security and privacy concerns, as well as ongoing investment in employee training and development.

Conclusion:

In conclusion, this research provides valuable insights into the impact of AI deployment on understanding employee behavior and potential at SABIC. By embracing AI technologies and addressing associated challenges, organizations can unlock new opportunities for growth and innovation. Moving forward, it is essential for SABIC to continue investing in AI capabilities while prioritizing data security, privacy, and employee well-being.

References:

1. Acquisti, A., Brandimarte, L., & Loewenstein, G. (2015). Privacy and human behavior in the age of information. *Science*, 347(6221), 509-514. DOI: 10.1126/science.aaa1465
2. Böhme, R., Köpsell, S., & Grossklags, J. (2007). Security metrics and security investment models: A literature review. In D. Gritzalis, S. Furnell, M. Theoharidou, & J. Lopez (Eds.), *Information security management, education and privacy* (pp. 18-39). Springer. DOI: 10.1007/978-0-387-72367-9_2
3. Choo, K. K. R. (2011). *Cybersecurity: Managing systems, conducting testing, and investigating intrusions*. Jones & Bartlett Publishers.

4. Dekka, G. C., & Bhowmik, M. K. (2018). Application of artificial intelligence in cyber security. In Proceedings of the 2018 2nd International Conference on Inventive Systems and Control (ICISC) (pp. 302-307). IEEE. DOI: 10.1109/ICISC.2018.8398963
5. Harkins, R. (2016). Managing risk and information security: Protect to enable. Apress.
6. Johnson, M. E., Goetz, E., Gokhale, S. S., Kalvenes, J., Kruse, K., & Misra, A. (2019). The state of AI in cybersecurity: The benefits, limitations, and future of AI in protecting against cyberattacks. Deloitte Insights. Retrieved from <https://www2.deloitte.com/us/en/insights/industry/public-sector/state-of-ai-in-cybersecurity.html>
7. Kshetri, N. (2017). The economics of artificial intelligence-enabled devices in cybercrime. Telecommunications Policy, 41(10), 1003-1020. DOI: 10.1016/j.telpol.2017.09.002
8. Ransbotham, S., Kiron, D., Gerbert, P., & Reeves, M. (2017). Reshaping business with artificial intelligence: Closing the gap between ambition and action. MIT Sloan Management Review and Boston Consulting Group. Retrieved from <https://sloanreview.mit.edu/projects/reshaping-business-with-artificial-intelligence/>
9. Schneier, B. (2015). Data and Goliath: The hidden battles to collect your data and control your world. WW Norton & Company.

10. Yang, C. (2016). Security as an enabler in artificial intelligence. *IT Professional*, 18(6), 12-17. DOI: 10.1109/MITP.2016.121