Amazon's Evolution: AI in Recruitment and the Quest for Fair Hiring | Unit 7

Avinash Bunga

Master of Science in Information Systems and Business Analytics

PARK UNIVERSITY

CIS611HOS1P2024 Introduction to Business Analytics

Professor: Timur Rakhimov

February 25, 2024

Amazon's Evolution: AI in Recruitment and the Quest for Fair Hiring

Introduction to the Intersection of AI and Ethics in the Workplace

Recent years have seen artificial intelligence (AI) step into various sectors, recruitment being a notable one. The spotlight turned to Amazon's hiring practices when its AI-driven approach encountered ethical hurdles. This scenario brings to the forefront the challenges companies face when blending AI with human resources. Delving into Amazon's journey, we unpack the implications of using past data in shaping future decisions. This narrative aims to dissect the fine line between efficiency and fairness in AI applications, encouraging a dialogue on maintaining integrity while embracing innovation in recruitment strategies (Knight, 2023; Lavanchy, 2018; Vidgen et al., 2020).

Analysis of Amazon's Historical Data Use in Hiring

In refining its hiring process, Amazon utilized historical data with the intent to automate and enhance talent acquisition. However, this approach inadvertently mirrored past hiring biases, particularly against female candidates for technical roles, highlighting a significant issue in the reliance on male-dominated data sets. This situation underlines the necessity of critically examining and diversifying historical data used in AI algorithms to prevent the continuation of existing biases and ensure a fair recruitment process (Lavanchy, 2018; Vidgen, Hindle, & Randolph, 2020). The misuse of historical data emphasizes the need for a balanced approach, considering both efficiency and equity in the hiring process.

Pitfalls of Using Historical Data for Business Efficiencies

Leveraging historical data to enhance business efficiencies can inadvertently perpetuate existing biases, as demonstrated by Amazon's hiring algorithm (Lavanchy, 2018). Such reliance may neglect evolving market trends and diverse perspectives, potentially resulting in decisions that favor outdated conditions. Moreover, historical data might fail to encompass the factors affecting business success today, risking the adoption of strategies

unsuitable for contemporary challenges (Vidgen et al., 2020). The example of Amazon reflects a broader cautionary tale about the risks associated with the uncritical use of historical data in business decision-making.

Appropriate Use of Historical Data

Historical data should be used judiciously, particularly in areas susceptible to bias, like hiring or customer profiling. It is essential to employ historical data when its patterns over time provide relevant insights not tainted by societal biases. For example, forecasting trends where past performance might predict future results should be approached with caution. However, historical data should not be isolated for decisions requiring diversity, equity, and inclusivity to avoid perpetuating past injustices (Lavanchy, 2018). Data should be continuously reviewed and updated to align with contemporary values and norms, reflecting an ethical approach to data usage in business analytics (Knight, 2023; Vidgen et al., 2020).

Example: Interpreting Historic Sales Data: Lessons for the Electric Vehicle Industry

- **Impact of High Interest Rates on EV Sales:** The recent slowdown in electric vehicle (EV) sales, despite previous records, can be attributed to several factors. High interest rates have increased monthly consumer payments, making EVs less affordable despite their environmental benefits. This financial pressure has caused some automakers to scale back their ambitions and production plans for electric vehicles (Carey & White, 2024; White, 2023).
- **Challenges in Electric Vehicle Market Demand and Inventory Management:** Inventory accumulation is another significant issue. While EV sales have grown, the pace has slowed compared to expectations. Dealers are finding a higher stock of EVs, indicating that demand is not keeping up with supply. This situation is partly due to automakers overestimating current demand levels for EVs and building more vehicles than needed. Traditional consumer hesitations about purchasing EVs, such as the high

price compared to similar gas-powered models and concerns about charging infrastructure, remain significant barriers (Grieve, 2023).

- **Impact of Tax Credit Changes on EV Consumer Choices**: Additionally, changes in federal tax credits and other incentives have made the landscape for EV purchases more confusing for consumers. Some vehicles have lost eligibility for incentives, impacting consumer decisions. However, despite these challenges, some models continue to see growth, indicating that specific features or brand loyalty can still drive sales (JOHN, 2024).

Detecting, Assessing, and Mitigating Bias in AI Hiring Processes

Addressing bias in AI-driven hiring necessitates a detailed strategy due to the inherent complexities and the risk of discrimination within algorithmic decision-making. One effective measure is to eliminate explicit bias indicators such as gender from the recruitment algorithms. Yet, this step alone might not be sufficient, as algorithms could infer gender from other related data points (Chen, 2023; Raghavan & Barocas, 2019).

- **What Goes Wrong If We Remove Gender?** While removing gender from the hiring process can reduce overt gender-based bias, it does not eliminate the underlying issue if the historical data contains implicit biases. Algorithms can deduce gender from correlated variables, such as participation in certain collegiate activities or gaps in employment history typically associated with maternity leave. Hence, while it is a step towards fairness, it is not a catch-all solution (Chen, 2023).
- **Is Removing Gender the Correct Approach?** It is a part of a broader strategy rather than a complete solution. Effective mitigation also involves continuously monitoring and updating the data and algorithms to ensure they reflect current societal values and legal standards. In addition to removing direct identifiers like gender, organizations should employ techniques like blind recruitment, diverse training datasets, and regular

audits for bias. This approach should be complemented by transparency and accountability measures to ensure stakeholders understand how decisions are made (Raghavan & Barocas, 2019).

In essence, while removing gender from datasets can reduce some biases, it is essential to implement additional measures to ensure a genuinely fair and unbiased hiring process. This involves a multi-layered strategy, including data review, algorithm testing, and adherence to anti-discrimination laws, ensuring that AI hiring tools serve to enhance, not hinder, workplace diversity and equality.

Conclusion

In conclusion, exploring Amazon's use of historical data in its hiring algorithm presents a critical learning opportunity for businesses integrating AI into their operational processes. While AI and data analytics offer significant advantages for efficiency and decision-making, the Amazon case illustrates the potential ethical pitfalls, particularly the risk of perpetuating historical biases (Lavanchy, 2018; Vidgen et al., 2020). As businesses move forward, it is imperative to approach the use of historical data with caution, ensuring it does not reinforce outdated or unjust norms.

The issues the electric vehicle sector is facing, including changing incentives and consumer hesitations, further emphasize the complexity of adapting to new market conditions while considering ethical impacts (Carey & White, 2024; Grieve, 2023). This scenario parallels the careful balance required in AI-driven hiring practices, where fairness and inclusivity must guide the application of technology.

Companies need to actively work on recognizing, understanding, and reducing unfairness in their hiring methods. This includes steps like not using details such as gender directly in their decision-making and regularly checking their systems to ensure they're fair (Chen, 2023; Raghavan & Barocas, 2019). By sticking to these ethical practices, companies

can make their AI-driven hiring more just and contribute to building work environments that are fair and welcoming to everyone.

Ultimately, the intersection of AI, ethics, and business requires ongoing attention, dialogue, and action. By learning from past experiences and embracing a multidimensional approach to ethics in technology, companies can navigate the evolving landscape with integrity and foresight.

References:

Chen, Z. (2023, September 13). *Ethics and discrimination in artificial intelligence-enabled recruitment practices*. Nature. https://www.nature.com/articles/s41599-023-02079-x#Sec39

Carey, N., & White, J. (2024, January 30). *Industry pain abounds as electric car demand hits slowdown*. Reuters. https://www.reuters.com/business/autos-transportation/industry-pain-abounds-electric-car-demand-hits-slowdown-2024-01-30/

Grieve, P. (2023, November 1). *EV Sales Are in a Slump — Why Aren't More Car Buyers Going Electric?* Money. https://money.com/why-americans-not-buying-electric-cars/

JOHN, A. S. (2024, January 10). *For consumers shopping for an EV, new rules mean fewer models qualify for a tax credit*. Apnews. https://apnews.com/article/united-states-electric-vehicles-tax-credits-86e4168c1895a346720e0238f685d91d

Knight, M. (2023, June 20). *What Is Data Governance? Definition, Types, Uses*. Dataversity. https://www.dataversity.net/what-is-data-governance/

Lavanchy, M. (2018, November 1). *Amazon's sexist hiring algorithm could still be better than a human*. Theconversation. https://theconversation.com/amazons-sexist-hiring-algorithm-could-still-be-better-than-a-human-105270

Raghavan, M., & Barocas, S. (2019, December 6). *Challenges for mitigating bias in algorithmic hiring*. Brookings. https://www.brookings.edu/articles/challenges-for-mitigating-bias-in-algorithmic-hiring/

Vidgen, R., Hindle, G., & Randolph, I. (2020). *Exploring the ethical implications of business analytics with a business ethics canvas.* European Journal of Operational Research, 281(3), 491–501. https://doi.org/10.1016/j.ejor.2019.04.036

White, J. (2023, December 11). *In 2023, bold EV strategies took a punch from reality*. Reuters. https://www.reuters.com/business/autos-transportation/2023-bold-ev-strategies-took-punch-reality-2023-12-11/#:~:text=Consumer%20demand%20for%20EVs%20is,reach%20for%20middle%2Dincome%20consumers.