Help or harm? The impact of HR Analytics on employer attractiveness

Rachel Anne Schneider

Identification of subject

My research analyses the implementation of Human Resource Analytics (HRA) in people-related decision-making processes in companies and how and under what conditions they impact the perception of the employer attractiveness of (potential) employees. I focus specifically on the use of algorithms in the hiring and selection process and use the lens of organizational justice to explore and understand the gap between the often-praised unbiasedness of HRA tools and the expressed unfairness perception of applicants towards it.

Personal motivation and rationale

While implementation of HRA tools was initially slow in companies, this has seen a recent rise, including within major businesses such as Google and Hewlett-Packard (Mohammed, 2019). These tools are frequently introduced in reference to their unbiasedness and evidence-based output that can reduce human bias in HR decision-making. However, researchers frequently point out the potential perils of HRA, highlighting the risks for employees. As a future employee who is looking to join the recruitment sector, I am especially interested in the impact HRA tools can have on applicants' perceptions of employer attractiveness and whether the implementation of algorithms helps or harms companies in attracting talent. My research therefore aims to understand this issue of whether implementation of HRA tools inadvertently has a negative impact on companies' attractiveness to applicants.

Research question

My central question is to what extent the implementation of algorithms in hiring helps or harms employer attractiveness and what implications companies can draw from the results. I hypothesise that employees tend to view HRA practices as unfair and that companies would benefit from understanding their targeted talent to decide whether and how algorithms should be used in the hiring process.

Literature review

The idea of HRA was first described in 2004 by Lawler et al. (2004), who argue that it is not enough to merely collect metrics in people-related matters but that it needs a systematic and analytical approach to turn these metrics into valuable and strategically significant functions. In the era of Big Data, the analytical examination of data points and metrics in HRA is commonly processed by learning algorithms

(Giermindl et al., 2022). Although research in HRA has initially been underdeveloped, there has been a recent rise in literature focussing on the benefits and downsides of it (Edwards et al., 2022; Marler & Boudreau, 2017).

While in their work Giermindl et al. (2022) identified various risks HRA holds for employees, little attention has been paid to the fairness perception of applicants towards the use of it in the recruitment and selection process. Further, it has not been analysed how those perceptions influence candidates' attitude and perception of the employer's attractiveness. This is partly due to a methodological flaw. While several reviews of the current literature on HRA have been conducted (Marler & Boudreau, 2017; McCartney & Fu, 2022; Giermindl et al., 2022), the authors often define the search criterion that the term HRA or a synonym must be mentioned. This, however, leads to the exclusion of studies conducted by researchers who are not linking their research on algorithms and their impact on applicants to HRA. Yet, with the introduction of machine learning and artificial intelligence (AI), there has been an increasing interest in the fairness perception of algorithmic decision-making and its connection to organisational attractiveness in recent years, leading to several studies examining how its usage impacts applicant's perception in the hiring process.

Contrary to Sharma and Sharma's (2017) conclusion of a framework showing how HRA could positively affect employees' fairness perception in performance appraisal, recent studies show that algorithms in the hiring process are perceived as less fair and consequently the organisation as less attractive (see, for example, Koch-Bayram et al., 2023 and Acikgoz et al., 2020), supporting the hypothesis. In the literature, AI usage is often linked to fairness perceptions and its mediating effect between algorithms as an intervention and organisational attractiveness as an output by using Gilliland's (1993) framework of organisational justice to analyse the overall perceived fairness of an outcome or procedure in the recruitment stage (see, for example, Acikgoz et al., 2020). Several researchers have also looked at moderating factors that could influence this relationship. Newman et al. (2020), for example, discover that high transparency on the process in interaction with algorithms in the interviewing phase produce significantly lower levels of fairness perception, while Lavanchy et al. (2023) find a positive effect for the interaction of AI and information in the screening stage. Koch-Bayram et al. (2023) furthermore examine that past discrimination experience positively influences the perception of fairness and organisational attractiveness in an algorithmic setting. These examined moderators show that moderators can potentially mitigate unfavourable perceptions towards companies using algorithms but could also impair them.

These findings lead to the preliminary conclusion that the use of HRA tools in recruitment should be carefully considered regarding the stage it is used in, the targeted applicants and its presentation. As a holistic overview of the impact of algorithms on employer attractiveness remains absent, my research therefore aims at filling this gap by synthesising peer-reviewed literature on applicants' reaction towards

algorithmic decision-making in the hiring process and detecting moderating factors that can influence and alter candidates' perception. By doing so, it will contribute to the ongoing debate on to what extent HRA can be helpful or harming in relation to (potential) employees, as well as shedding light on how the HR sector might improve the way learning algorithms are used in the future.

Word count: 903

References

Acikgoz, Y., Davison, K. H., Compagnone, M., and Laske, M., 2020. Justice perceptions of artificial intelligence in selection. *International Journal of Selection and Assessment*, 28(4), pp. 399-416.

Berthon, P., Ewing, M. and Hah, L.L., 2005. Captivating company: dimensions of attractiveness in employer branding. *International journal of advertising*, 24(2), pp. 151-172.

Edwards, M. R., Charlwood, A., Guenole, N., and Marler, J., 2022. HR analytics: An emerging field finding its place in the world alongside simmering ethical challenges. *Human Resource Management Journal* (published online ahead of print 10 February).

Giermindl, L. M., Strich, F., Christ, O., Leicht-Deobald, U., and Redzepi, A., 2022. The dark sides of people analytics: reviewing the perils for organisations and employees. *European Journal of Information Systems*, 31(3), pp. 410-435.

Gilliland, S.W., 1993. The perceived fairness of selection systems: An organizational justice perspective. *Academy of management review*, 18(4), pp. 694-734.

Greenberg, J., 1987. A taxonomy of organizational justice theories. *Academy of Management review*, 12(1), pp.9-22.

Koch-Bayram, I. F., Kaibel, C., Biemann, T., and Triana, M. D. C., 2023. </Click to begin your digital interview>: Applicants' experiences with discrimination explain their reactions to algorithms in personnel selection. *International Journal of Selection and Assessment,* 31(2), pp. 252-266.

Lavanchy, M., Reichert, P., Narayanan, J., and Savani, K., 2023. Applicants' Fairness Perceptions of Algorithm-Driven Hiring Procedures. *Journal of Business Ethics*, pp. 1-26.

Lawler III, E.E., Levenson, A. and Boudreau, J.W., 2004. HR metrics and analytics–uses and impacts. *Human Resource Planning Journal*, *27*(4), pp. 27-35.

Marler, J. H., and Boudreau, J. W., 2017. An evidence-based review of HR Analytics. *The International Journal of Human Resource Management,* 28(1), pp. 3-26.

McCartney, S., and Fu, N., 2022. Bridging the gap: why, how and when HR analytics can impact organizational performance. *Management Decision*, 60(13), pp. 25-47.

Mohammed, D.A.Q., 2019. HR analytics: A modern tool in HR for predictive decision making. *Journal of Management*, 6(3), pp. 51-63.

Newman, D.T., Fast, N.J. and Harmon, D.J., 2020. When eliminating bias isn't fair: Algorithmic reductionism and procedural justice in human resource decisions. *Organizational Behavior and Human Decision Processes*, 160, pp. 149-167.

Sharma, A., and Sharma, T., 2017. HR analytics and performance appraisal system: A conceptual framework for employee performance improvement. *Management Research Review*, 40(6), pp. 684-697.

Keywords

Human Resource Analytics (HRA): The systematic analysis of internal and external data points, leveraging on information technology, to inform evidence-based decision-making in people-related matters.

Organisational justice: A concept describing employees' perception and judgement of the organisation's conduct, and their resulting reaction (Greenberg, 1987).

Learning algorithm: A collection of technologies using vast datasets and statistical techniques to iteratively improve its performance, carrying out cognitive task resembling human-like abilities.

Employer attractiveness: In literature often defined as the perceived benefit a potential employee recognises in working for a certain company (Berthon et al., 2005).