Data Science Project

Link to GitHub

How does returning to work after a period of absence (such as leave or remote work) correlate with employee attrition in the organization, and what are the key factors that influence this relationship?

Executive Summary

Introduction

Attrition is a serious challenge for organisations with significant impacts on a variety of areas such as cost to business, productivity and continuity. Research indicates that the work environment and organisational factors are the more significant variables at predicting attrition than psychological or demographic variables (Farrell & Stamm, 1988). Retention strategies such as training, promotions and financial incentives have been employed to mitigate attrition (Srivastava & Tiwari, 2020). Advanced data analytics has introduced machine learning as a powerful predictive tool for attrition and its’ contributing factors, enabling more targeted interventions (George et al., 2020).

In the post-pandemic era, the correlation between an employees preferred working location (remote, hybrid or office based) and job satisfaction has become a key factor in employee retention. Mandated return to office can lead to significant talent loss (Hackston, 2022). In addition, personality traits (especially the Extroversion-Introversion dimension) influence employee engagement and retention in different work environments (Hackston, 2022).

This project aims to explore the correlation between return-to-work scenarios, such as returning from leave or transitioning from remote work, and employee attrition. Available data in relation to return to office scenarios is limited due to the emergence of the issue being so recent, therefore the correlation will be investigated using the IBM HR Analytics Employee Attrition & Performance dataset and the application of machine learning techniques to predict attrition to identify key influencing factors.

Data Source & Preparation

References

Farrell, D. and Stamm, C.L. (1988) ‘Meta-analysis of the correlates of employee absence’, *Human Relations*, 41(3), pp. 211–227. doi:10.1177/001872678804100302.

George, S., Lakshmi, K.A. and Thomas, K.T. (2022) ‘Predicting employee attrition using machine learning algorithms’, *2022 4th International Conference on Advances in Computing, Communication Control and Networking (ICAC3N)* [Preprint]. doi:10.1109/icac3n56670.2022.10074131.

Hackston, J. (2022) ‘Using personality type to engage and retain remote, hybrid and office-based workers’, *Strategic HR Review*, 21(6), pp. 191–194. doi:10.1108/shr-08-2022-0050.

Srivastava, D.K. and Tiwari, P.K. (2020) ‘An analysis report to reduce the employee attrition within organizations’, *Journal of Discrete Mathematical Sciences and Cryptography*, 23(2), pp. 337–348. doi:10.1080/09720529.2020.1721874.

<https://fortune.com/europe/2023/08/01/research-damaging-results-mandated-return-to-office-worse-than-we-thought-rto-remote-work-careers-leadership-gleb-tsipursky/>