PREDICTING EMPLOYEE ATTRITION IN REMOTE WORK ENVIRONMENTS: A LOGISTIC REGRESSION STUDY OF UK TECH FIRMS

Background and Objectives:

The shift to remote and hybrid work models following the COVID-19 pandemic has redefined workforce dynamics in the UK, particularly in the technology sector. While remote work offers flexibility, it also raises concerns around employee isolation, engagement, and turnover. Understanding the quantitative predictors of attrition in this context is essential for strategic HR decision-making.

Objectives:

- To identify significant predictors of voluntary employee attrition in UK-based remote/hybrid technology firms.
- To evaluate the relative influence of job satisfaction, work-life balance, career development, and engagement metrics.
- To develop a logistic regression model that can predict likelihood of attrition based on employee-level data.

Research Questions:

1. Which work-related factors most significantly predict voluntary attrition among remote workers?
2. Does perceived work-life balance play a statistically significant role in attrition likelihood?
3. Can logistic regression provide a reliable predictive model for HR practitioners?

Hypotheses:

- **H1:** Lower job satisfaction is associated with higher probability of voluntary attrition.
- **H2:** Poor work-life balance significantly increases attrition risk.
- **H3:** Employees reporting low engagement scores are more likely to leave their jobs.
- **H4:** Logistic regression can classify attrition risk with accuracy above 75%.

Methodology:

- **Research Design:** Quantitative, cross-sectional
- **Sample Size:** 300 employees from 5 mid-sized tech firms in London, Manchester, and Edinburgh
- **Sampling Method:** Stratified sampling by job role and tenure
- **Instrument:**
    - Structured online survey capturing demographics, job satisfaction, engagement score, work-life balance (measured via validated Likert scales), and turnover intent
    - HR records indicating actual attrition over the last 12 months
- **Dependent Variable:** Attrition status (0 = retained, 1 = left voluntarily)
- **Independent Variables:** Job satisfaction, work-life balance, engagement, salary band, role clarity, remote workload perception
- **Software Used:**
    - **SPSS** for logistic regression, classification accuracy, Hosmer-Lemeshow test
    - **Excel** for data cleaning and preprocessing
    - **JASP** for additional descriptive analysis

Results and Interpretations (Simulated):

- **Model Accuracy:** Logistic regression model achieved **78.6% overall classification accuracy**.
    - Sensitivity (correctly predicting leavers): 80.2%
    - Specificity (correctly predicting stayers): 77.1%
- **Significant Predictors:**
    - **Work-life balance (p = 0.004)** and **job satisfaction (p = 0.002)** were the strongest predictors.
    - Engagement score also significant (p = 0.03), though with lower predictive strength.
    - Salary band and location were not statistically significant in the model.

- **Odds Ratio Interpretation:** Employees reporting low work-life balance were **2.4 times more likely** to leave than those reporting high balance.

Conclusion and Managerial Implications:

The findings highlight the importance of non-monetary factors—particularly work-life balance and job satisfaction—in retaining talent within remote work settings. HR leaders in the UK tech industry should prioritize flexible working structures, employee wellness programs, and engagement initiatives tailored to distributed teams.

Future Research Scope:

- Use longitudinal data to improve model generalizability over time
- Extend the study to other industries such as finance or healthcare
- Compare voluntary and involuntary attrition using multinomial regression
- Integrate organizational culture and leadership support as mediating variables

Academic and Corporate Relevance:

- **Academic:** Relevant for postgraduate dissertations in HRM, Organizational Psychology, and Data-Driven Management.
- **Corporate:** Offers actionable insights for HR analytics teams and consultancy firms working with remote/hybrid workforce strategies.