

# Data-Driven Employee Retention: Leveraging Survival & Uplift Modeling for Strategic HR Insights

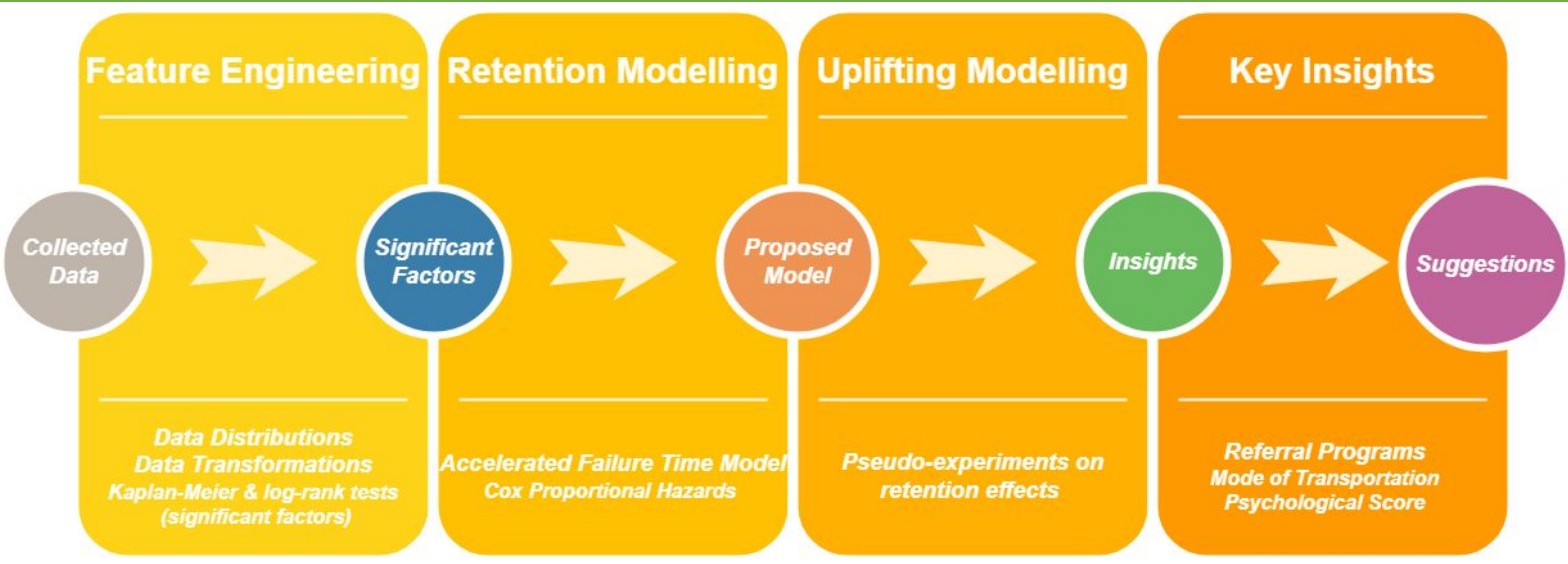
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## Background

As the demand for tackling the problem of employees leaving company as it costs company resources and disrupted workflows productivity, many companies are turning to sophisticated analytical methods to uncover underlying reasons behind employee turnover and to develop predictive models that anticipate future departures.

## Data

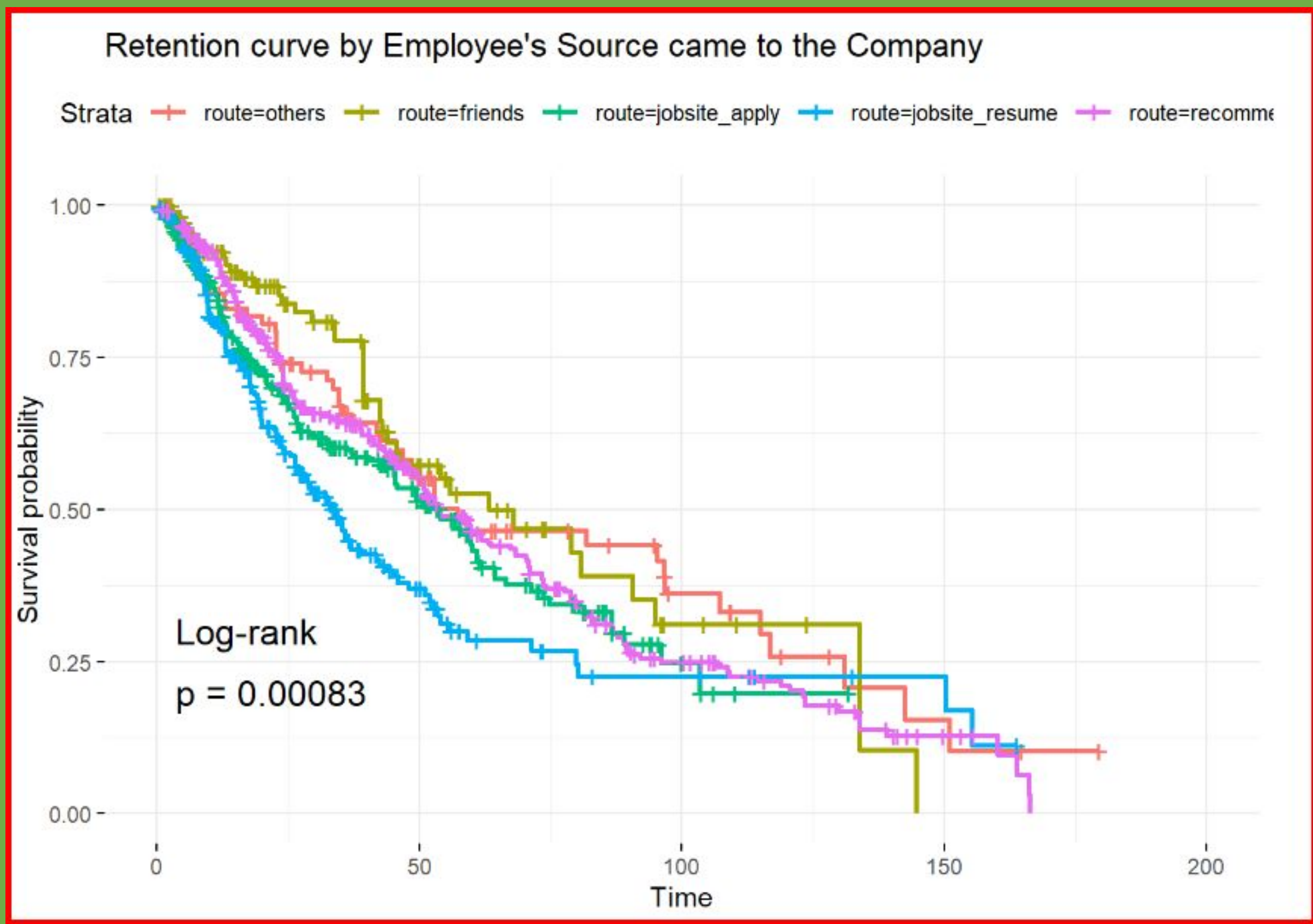
Real world dataset provided by Edward Babushkin, which allows for deep dive into employee turnover factors, covering three main aspects of an employee.



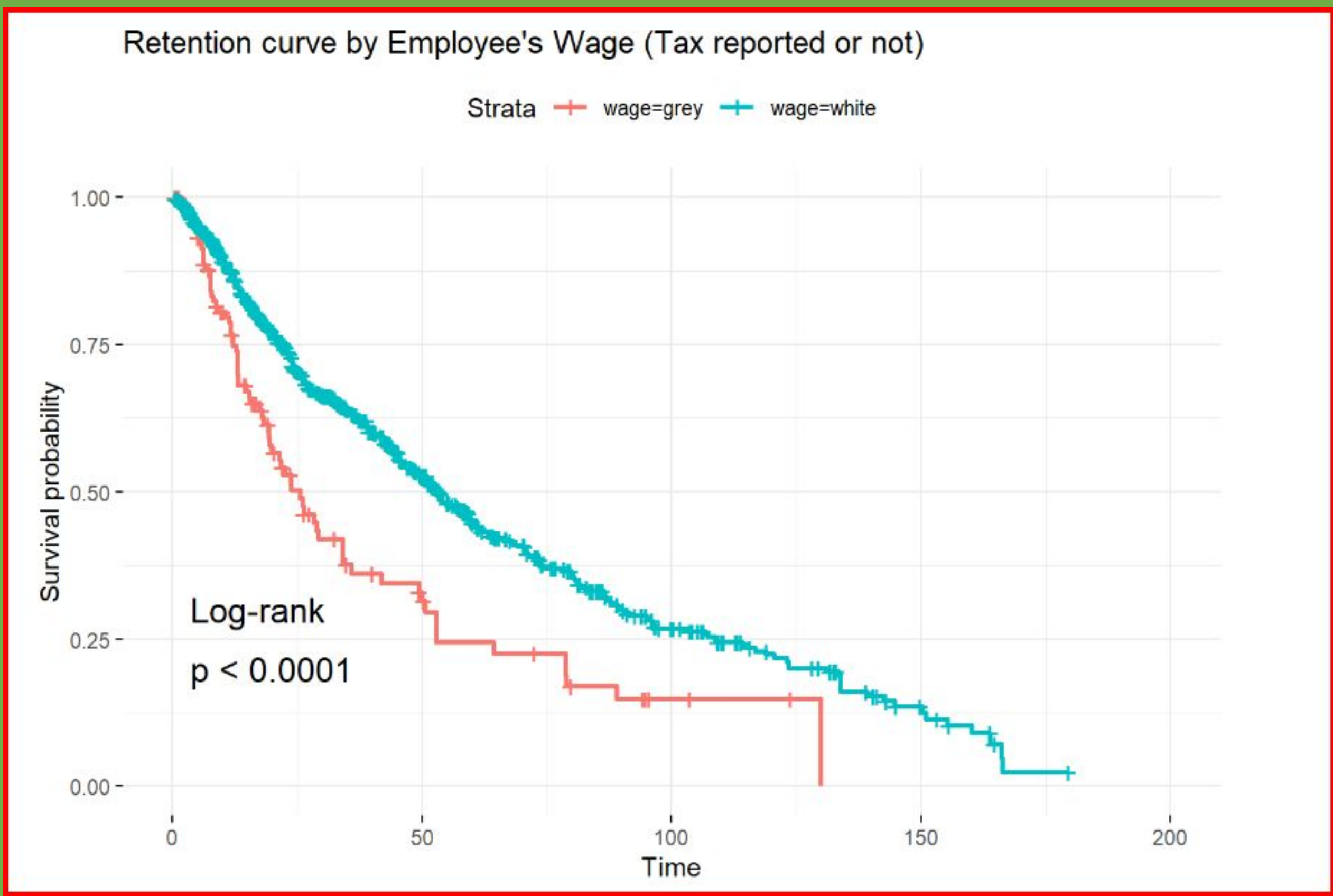
## Highlights

- Expand referral programs, especially for **Technical & Engineering, HR, and Admin** roles where they less likely to quit.
- Ensure employees receive **tax-authorized** (white) wages to offer better job and benefits, including promoting retention.
- Support Bus & Transportation Subsidize Programs, especially in **HR** who are more stable while being offering communications.
- Promote mental health programs (counselling, workshop) given the **positive effects** of **self-control** and **less anxiety** to turnover rate to enhance employee well-being.

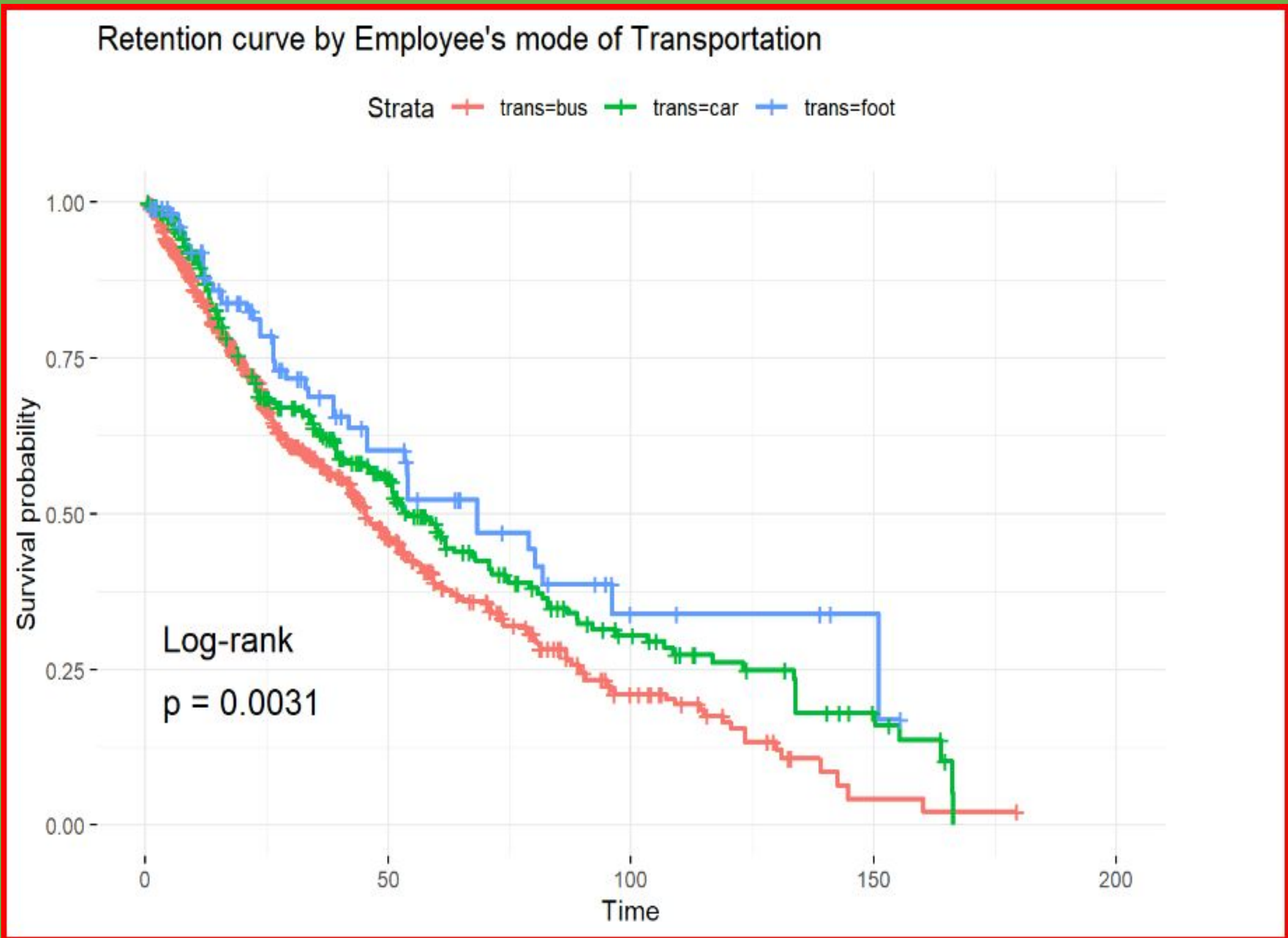
## Analysis of the employee's factors that most significantly impact retention



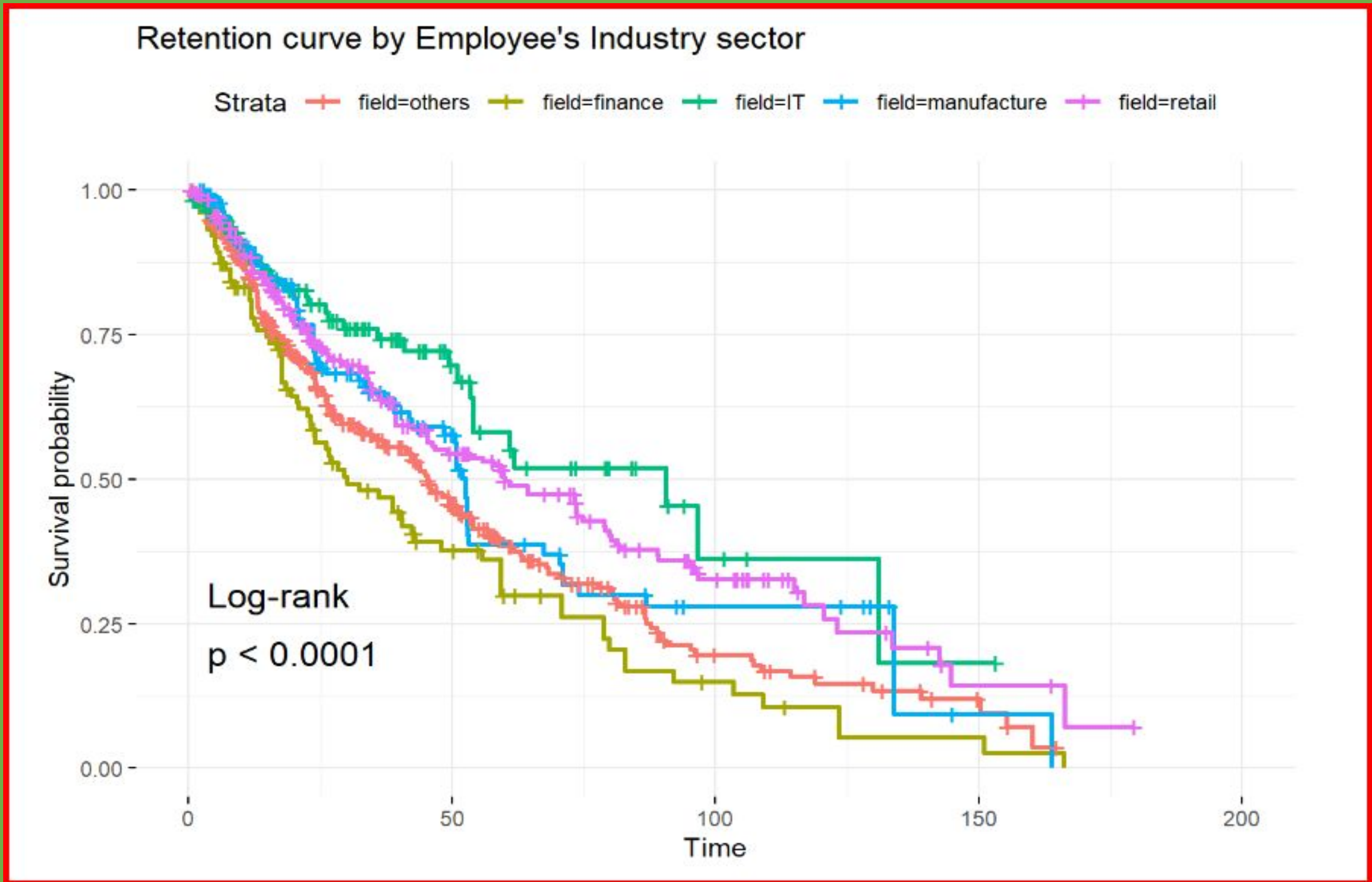
Sources came to Companies



Legal Wage Structure



Mode of Transportation



Industry Sectors

IT employees stay 2.2x longer than those in Finance, while HR & Administration roles show lower turnover. Technical roles commuting by car or bus have better retention. Employees hired via job sites have a higher quitting risk, while referrals boost retention, especially in HR and Technical roles. Tax-compliant wages reduce quitting risk by 37.5%, and car or bus commuters tend to stay longer than walkers.