IJNRD.ORG ISSN : 2456-4184
INTERNATIONAL JOURNAL OF NOVEL RESEARCH AND DEVELOPMENT (IJNRD) | IJNRD.ORG
An International Open Access, Peer-reviewed, Refereed Journal

# CRACKING THE CODE OF PREDICTING TURNOVER

**Yatik S Mehta**

**MBA, PES University**

**ABSTRACT:**

Turnovers have become a well-known problem for organisations in the times of increasing globalization. Turnovers occur when an individual leaves the company due to some factors like low performance ratings, age, gender or when they feel, they are not valued in the company. In this research, we have collected data from employees of an established IT firm in Bangalore, India to analyse and predict what may be the reasons of turnover in companies. The factors in consideration are age, performance ratings, gender, and the city they are from.

**Keywords:** Turnover, performance rating, gender, predictions.

**INTRODUCTION:**

Companies in general spend a lot of money, time, and efforts in retaining its employees. They spend on training, development, and pay them incentives and reward them for retainment of the employees. These are the main reasons as to why managers must reduce such costs by minimizing turnovers. Turnover can be defined as the switching of individuals from one company to another in the labour market (J.L, 1977). It can be portrayed as the ratio of individuals leaving the company over a period of time by the average number of employees present during that interval. Employees tend to leave either due to personal reasons like health, taking care of family etc while some leave if they fell burden or out of place within the organisation due to lack of involvement or low satisfaction. Employees also tend to switch jobs when a competitive firm provides higher salaries and incentives and also with globalization growing at a pace, they might get a better job in another state or country as well. Hence it is very important for the administrators to analyse and predict when an employee might leave so as to offer them better hikes or bonus and try to retain their best performing employees and control their human resources for the betterment of their organisations growth and reduce costs (Meaghan Stovel, 2002).

In this study, a primary dataset of 1653 employees collected from an IT firm in Bangalore is taken into consideration to analyse and predict if gender, age, number of years worked in the company, their Performance Appraisals and also, the city from where they belong, have any effect on their decision to continue working for the company or leave the company thus causing turnover.

**LITERATURE REVIEW:**

Turnover can occasionally be a good thing, but typically it is an expensive event for both, the organisation, and the individual. From the company's perspective it is an expense as the spent a lot of money to train and develop the employee who left and as for the individual, he will spend his money and time to search for a new company to join. There is a misconception that only the weak performers with less performance ratings or minimal job satisfaction. According to a recent study around 35% of the employees who leave are from the top performers of the organisation (Farris, October 1969). There are many factors as to why turnover rates require extra consideration, there is a major need for periodically auditing the company's HR to check the alignment among the individuals' activities and the requirement for them in the company (Devanna, 1981). Loss of staff is a serious problem for businesses, affecting both productivity and their economic health. For early detection of possible retention difficulties and the development of successful retention plans for top people, turnover prediction is essential. This lowers the financial strain on the company (Lee, 1984).

Turnovers may occur due to job-satisfaction or their performance ratings. These are among the most prominent as to why an individual would leave the organisation. There are plenty of studies that prove how negative ratings in performance has a psychological impact on an individual that may also lead to dissatisfaction leading to voluntarily leaving the company or find for a new job somewhere else. Satisfaction and performance ratings have a high impact and their correlation to turnover are significantly high ( Tett, R. P., & Meyer, J, 1993). Though managers cannot predict completely by a definite structure, the reasons for turnover, there are many factors that can help in determining it which is why managers need to create a wider understanding of the reasons, sources, effects, and strategies to reduce turnover (Kevin MM, 2004). To have a perfect organisation plan and strategy, it is important to have an accurate model to predict and forecast the human resources of the company including turnover. Even though there are many tests done, they are mainly focused on individual turnover more than organisational as a whole which does not prove if there is a connection among an employee's choice to leave and if the organisation is the primary reason for it (Roberts, 1978).There are certain studies that prove why an employee would leave a company due to economic reasons like inflation and less pay. The research was done using an economic model which gives reasons to analyse turnover based on economic conditions of the state, individual as well as the company. If the market is stable and in sync, it reduces turnover as companies can pay their employees with bonus or increased wages (Firth L, 2007).

Reasons like passing away of the employee or disability cannot be predicted or controlled by the management and thus cannot be considered as individual turnover. Other reasons like providing care to young or elderly people of the family can be considered as reasons for involuntary turnover. These circumstances should not be considered unintentional departures anymore because corporate rules and governmental regulations both give affected employees the option to return to their jobs (Simon Booth, 2007). Staff retention is higher in a stable work surroundings, hence unstable organizations have a lot of turnovers. Companies with significant employee turnover also have a high degree of ineffectiveness. Workers want for steady employers because they expect their careers to grow. Administration should stay away from using quantitative techniques to handle staffing since they might cause dissatisfaction and high staff turnover (Zuber A, 2001).

Empowered staff in businesses improves consistency by enabling supervisors to oversee more individuals and outsource decision-making to assistants. As mentors, supervisors guide their staff in problem-solving and responsibility-building. As a result, there is an improvement in happiness, equality, and productivity that meets or exceeds objectives. Staff devotion to the company increases when they are encouraged, which lowers the likelihood that they will leave. Job involvement evaluates workers' participation with their employment, whereas organizational attachment relates to individuals' feelings with regard to the company and their dedication. Employers may increase devotion and allegiance by giving workers fulfilling employment, giving them control, and paying fairly (Brooke PP, Russell DW, Price JL, 1988). If these factors are well taken care of, it would lead to building an environment where all employees are well treated and made to feel as the pillars of the company. Getting positive feedback, being motivated, and being paid as to how much they deserve would help in retention of the employee thus reducing turnover. If turnovers among the employees are known and predicted in advance, it can help a company to reduce costs overtime (Ongori, 2007). Organizations have to stay proactive in the fiercely competitive marketplace of today by anticipating employee turnover. By doing so, businesses may address any retention troubles before they become serious, preventing the high expenses of losing employees and guaranteeing a motivated and productive team (Matilde Lazzari, 2022).

**Impact of turnover:**

Companies incur costs as an outcome of labour turnover since it causes a loss of financial resources. The substitution procedure is expensive and comprises looking for another employee, choosing from a pool of applicants, orientation, and training until desired outcomes are reached. Furthermore, output might be impacted or sustained at the expense of overtime compensation. This can also have an impact on the profits made by the company and if turnover is not managed properly, it may lead to lesser payment of existing employees that can further lead to lesser sales and productivity as well. Therefore, a company must manage and treat their employee fairly so as to minimize chances of them leaving the firm (Dess GD, 2001).

**RESEARCH METHODOLOGY:**

For our data set collected, we have seven variables namely, BossGender which is the gender of the inline manager, individuals gender named as Gender, Age, Length of service, Appraisal ratings, CityCode for explaining which city they are from and LeaverStatus that explains if the individual has left the company or not.

Looking at our data set are going to predict LeaverStatus with the remaining variables using Logistic Regression which is Binary Logistics using SPSS software. However, we will consider our "CityCode" as a categorical variable with 'Last' as the Reference Category as it is important to do so before SPSS considers it as a numerical variable.

Once we run Binary logistics, the output we get are as follows:

**Omnibus Tests of Model Coefficients**

| | | Chi-square | df | Sig. |
|---|---|---|---|---|
| Step 1 | Step | 49.799 | 14 | .000 |
| | Block | 49.799 | 14 | .000 |
| | Model | 49.799 | 14 | .000 |

Figure 1.

**Model Summary**

| Step | -2 Log likelihood | Cox & Snell R Square | Nagelkerke R Square |
|---|---|---|---|
| 1 | 1204.203[a] | .030 | .056 |

a. Estimation terminated at iteration number 5 because parameter estimates changed by less than .001.

Figure 2.0

Figure 3.0

**Classification Table**[a]

| Observed | | | Predicted: Stayer or Leaver – Stayer | Predicted: Stayer or Leaver – Leaver | Percentage Correct |
|---|---|---|---|---|---|
| Step 1 | Stayer or Leaver | Stayer | 1441 | 0 | 100.0 |
| | | Leaver | 209 | 0 | .0 |
| | Overall Percentage | | | | 87.3 |

a. The cut value is .500

Figure 4.0

**FINDINGS:**

These tables provide us with a lot of information and the explanations for them are:

- Omnibus tests of model coefficients:

As we see in table 1.0, it shows us how accurate our model is to analyse turnover in a company. The chi-square is 49.799 which is sufficient for our study as significance level (p) is less than 0.001. Thus, our independent variables along with the city categories can well account for the variation in turnover (Leaver or Stayer Variable) in our dataset.

- Model Summary:

Table 2.0 provides us with 2 estimates of R-Square statistics. This explains the degree of variation in our dependent variable accounted by the variations in our predictor variable. The proportion of variance in the response variable using the suggested model is estimated using the Nagelkerke R, sometimes referred to as a pseudo-R-square. It shows that 5.6% of turnover may be accounted for by taking into consideration six factors in this data collection, if it behaves like an R-square statistic using linear multiple regression.

Even though 5.6% is a small portion, it must be considered with all possible reasons of employees leaving the company.

- Variables in the equation:

| | |
|---|---|
| City (1) | Ahmedabad |
| City (2) | Mumbai |
| City (3) | Chennai |
| City (4) | Chandigarh |
| City (5) | Noida |
| City (6) | Kolkata |
| City (7) | Pune |
| City (8) | Hyderabad |
| City (9) | Bangalore |
| Reference City | Vishakhapatnam |

Table 3.0 provides us with information about the unique patterns of predictions of turnover for our data collected. According to the table, Gender and appraisal ratings are the two main factors that has significant relations to individual turnover as their p-value is less than 0.05.

With these information's and by logistic regression, we can find the probability of employee who might leave the company using odds ratio.

While logistical regression calculates the likelihood of an event taking place, OLS simultaneous linear regression finds the line that fits best using ordinary least-squares methods and produces values that estimate a variation in the predictor variable for a single unit change in the controlled variable.

As our dependent variable is binary rather than continuous, we are thus trying to forecast its probability (p) is (1) "Leaver" or (0) "Stayer", rather than its exact numerical value.

As we assigned our city codes as a categorical variable, SPSS automatically creates 'dummy variables' and as we selected the last city category as our reference, we now have 9 dummies for each city with which to compare Vishakhapatnam.

Accordingly, if a person is based in Bangalore, they are roughly half as probable to end up being a leaver than if they are based in Vishakhapatnam (reference category), according to an odds ratio for the City (9) of.497. The odds ratio for every independent variable is Exp(B). Therefore, keep in mind that "1 is a leaver and 0 is a stayer". We have an Exp(B) = 0.544 for 'Gender' in Figure 4.0. Accordingly, if the gender is 1 (rather than 0), i.e., males rather than women, the likelihood of leaving/probability of staying is 0.544. As the ratio is below 1, we can conclude that women are more likely to leave than men. Which means that the likelihood of a woman leaving is 1.8382 times more than men. The Exp(B) of performance appraisals are 0.780. This means that lower performance ratings make an employee leave the company while positive and high ratings tend to retain an employee by 1.282 times.

Clearly, looking at our outcomes, cities do not have a major impact on turnover.

**CONCLUSION:**

A business may gain a lot from anticipating employee turnover by spotting possible retention concerns early, taking proactive steps to keep top personnel, and spending less time and money on recruitment and training. Additionally, it makes it possible to create retention plans that are specifically suited to the requirements of each employee, which boosts engagement, productivity, and profitability while also increasing job happiness

An organization must also realise as to why an employee might leave. As we see that an employee's hometown has no effect on their turnover, however reasons like negative performance appraisal has a huge impact on turnover. When an employee is given negative or low appraisal rating, it effects their mindset and will have a negative impact on their productivity which is why they might tend to leave. When they are given high ratings, it boosts their morale and increases productivity as they feel motivated.

Gender of the employee must also be considered as according to our test; women are two times more likely to quit than men. The reasons could be many, such as pregnancy, taking care of family and many more. Therefore, women who get low ratings for their performance, they are the most likely to leave the organisation.

It is the manager's job to examine their human resources to predict if an employee might leave or continue to work. This analysis will help in predicting and forecasting future turnovers that will help the organisation to save time and money.

## References

Tett, R. P., & Meyer, J. (1993). 3. Job satisfaction, organizational commitment, turnover intention, and turnover: Path analyses based on meta-analytical findings. *Personal Psychology*, 46 : 259-293.

Brooke PP, Russell DW, Price JL. (1988). *"Discuss validation of measure of job satisfaction, job involvement and organisational commitment.* J. Appl. Psychol.

Dess GD, S. J. (2001). *Voluntary turnover, social capital and performance.* 26(3) 446-56.

Devanna, M. F. (1981). Human Resource Management, A strategic perspective. *Organizational Dynamiics*, 9(3), 51-67.

Farris, G. F. (October 1969). *A Predictive Study Of Turnover.* Massachusetts: Massachusetts Institute Of Technology.

Firth L, D. J. (2007). *How can managers reduce employee intentions to quit?* J. manage. Psychol.

J.L, P. (1977). *The study of turnover, 1st edition.* Iowa : Iowa State University Press.

Kevin MM, J. L. (2004). *"Organizational change and employee turnover.* Personnel Review.

Lee, J. R. (1984). *A Predictive Study of Organizational Turnover Rates.* Academy of Mangaement.

Matilde Lazzari, J. M. (2022). *Predicting and explaining employee turnover intention.* International Journal of Data Science and Analytics.

Meaghan Stovel, N. B. (2002). *Voluntary turnover: knowledge management - friend or foe?* Intellect Cap.

Ongori, H. (2007). *A review of the literature on employee turnover.* Botswana: Affrican Journal of Business Management.

Roberts, K. H. (1978). *Developing an indterdisciplinary science of organizations.* San Francisco: Jossey-Bass.

Simon Booth, K. H. (2007). *"Labour turnover in the retail industy".* Retail distribution manag.

Zuber A. (2001). *"A career in food service cons: high turnove.* Nations News.