**Retention Analysis**

*Consultant Report:* ***BigCo.***

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4.3.2018

AA306

**Executive Summary**

*BigCo.*

**Problem**

BigCo. has a retention rate of 42% in their Human Resources, Research & Development, and Sales departments. We have been tasked to discover why this rate is so low, as well as identify what types of employees are most likely to leave versus stay, and determine which factors drive their decision.

**Aim**

This report aims to combine analytical processes with traditional business thought and decision making. We strive to supply business decision makers with valuable insight into the retention problems that exist within their company and suggest viable solutions.

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The following retention analysis report contains six elements. The first is the Goals, which provides an overview of how our company’s goals align with those of BigCo. in this project. The Objectives section breaks down specific tasks that are accomplished within the rest of the report. These sections are proceeded by the Review of Data, in which the raw data is categorized and described simply.

The Analysis section helps you to understand each of the profiles of employees that have chosen to stay and leave using the different types of data that was provided. This section is broken down by profile and contains further analysis about the critical distinguishing factors from each profile.

The Summary and Conclusion portion of the report discusses the most influential factors that drive the retention or departure of an employee for BigCo., as well as suggests possible business solutions to reduce the low retention rate based on the profile analysis.

1. **Project Goal**

To determine which profiles of employees are most likely to leave the company, and what factors can be used to predict their departure from BigCo. Additionally, we will provide relevant insight to BigCo. decision makers into how they may take reasoned action to better retain their employees.

1. **Project Objectives**

* Identify the types of data in the dataset and determine how each variable can be used to describe an employee.
* Collect multiple unique profiles of employees who have stayed with / left the company.
* Describe the employees that make up these contrasting segments based on demographic information, employee perception, and human resources data.
* Indicate which variables contribute highly to the departure / retention of an employee.
* Provide strategic options for business decision makers to retain employees based on findings.

1. **Review of Data**

The data provided can be broken down into three categories: Personal Factors, Employee Perceptions, and Human Resources Data. Personal Factors pertains to personal, descriptive information about the employee. Employee Perceptions are designed to reflect the opinion that the employee has on certain aspects of the company in a range from 1 – 4. The Human Resources data has been collected by BigCo. This data relates to easily recorded information about the position and value that this employee has within the company.

|  |  |
| --- | --- |
| category | Column |
| Personal factors | Age, Distance, Education, Gender, Marital Status, Number of Companies Worked For, Total Working Years |
| employee perception | Work Life Ratio, Relationship Satisfaction, Job Satisfaction, Job Involvement, Environment Satisfaction |
| human resource | Travel, Department, Hourly Rate, Job Level, Job Role, Monthly Income, Over Time, Performance, Stock Option, Years At Company |

As a whole, most of this data is quantitative, meaning it cannot be easily used in a calculation. However, most of the employee perception ratings can be used to calculate means within each segment. This dataset allows for us to determine the presence of certain dimensions (ex. Job Role and Marital Status), and levels of measurements (ex. Performance Rating and Satisfaction) to analyze what factors have the highest influence on retention.

1. **Summary of Analysis**

***Cluster 1: “Well-Paid R&D Performers”***

**Attrition:** No

**Description:** The “Well-Paid R&D Performers” are in the top third of the pay scale and are paid fairly in comparison to their job performance. This group is either married or divorced and are found mostly in the Research and Development department. They are satisfied with the balance between work and personal life, and are confident in their relationship with the company and the environment that they work in. They have worked for an average amount of companies in their past (2 or 3), but have been loyal to this company for several years.

**Analysis:** This segment has achieved a solid standing within the company. Their salary, in addition to the family they may have started (based on marital status and age) contributes to the likelihood that they will likely be retained by the company if their sentiments and performance stays consistent.

***Cluster 2: “Old and Happy Performers”***

**Attrition:** No

**Description:** This segment is made up of some of the oldest, longest-tenured employees within the company. They also maintain the most positive perception of the company, especially about their work environment. They are quite pleased with their pay in relation to their performance, and are satisfied with their job involvement and role. Despite being the oldest employees, they have not worked for many companies and have been an important part of the company for several years. These employees exist solely in the Human Resources and Research & Development departments of BigCo.

**Analysis:** These employees have established a strong relationship with the company. Additionally, their age and current salary increases the chances they will be retained.

***Cluster 5: “Overpaid Executives”***

**Attrition:** No

**Description:** The “Overpaid Executives” live nearby the office and are very qualified and educated for their position. As executives, they are paid the best in the company --- possibly too well in comparison to their performance rating. They have a positive perception of the company and are very satisfied with their role in the company in the Sales department. They are rare travelers. Furthermore, they have worked for this company the longest, while not working for many other companies.

**Analysis:** This segment is unlikely to leave. They have reached a top level position in the company and are enjoying the benefits of high stock options and salary.

***Cluster 3: “Young, Uneducated Overachievers”***

**Attrition:** Yes

**Description:** This segment is the youngest in the company, and the least qualified / educated as well. They do not live very near to the office. They are very new to the company and have had several jobs over the course of their short career. They work mostly in the Research and Development department. They have a moderate opinion on the company thus far. They also may feel that they are underpaid based on their performance, despite still having a very minimal role in the company in R&D. The “Young, Dumb Overachievers” travel frequently for the company.

**Analysis:** Employees in this segment have a high worth to the company, and the number of companies they have worked for in a short amount of time provides a warning sign that they are willing to leave if they feel unappreciated. It is important to decide if these employees are actually worth what they appear to be.

***Cluster 4: “Unhappy Overachievers”***

**Attrition:** Yes

**Description:** This segment is found solely in the HR and Research and Development departments. They have actually worked for this company a decent while, and have not worked for many other companies. They maintain a very low perception of the company in terms of relationship, environment, and their job. They are young and live far from the office. Additionally, they may feel that they were underpaid and underappreciated within the company at this point in their career, but have yet to reach a high job level.

**Analysis:** The problem with this segment is that they may feel underpaid and underappreciated, which affects their relationship and overall perception of the company. They will be difficult to appease without raising salary and rebuilding the relationship.

***Cluster 6: “Distant Sales Reps”***

**Attrition:** Yes

**Description:** This segment is made up entirely of employees in the Sales department. They have a fair perception of the company (except for the company environment), and are satisfied with their monthly salary. They do not live close to the office. They are higher up in the company ranks. This segment travels frequently and are likely single.

**Analysis:** This segment is neutral in most perception attributes, and are mostly distinguished by the department they work in and their marital status. In general, employees who live farther from work and are single have a greater likelihood of leaving the company.

1. **Means Analysis**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Values** | **1** | **2** | **5** | **3** | **4** | **6** | **Total** |
| Avg. of Attrition | 0.00 | 0.00 | 0.00 | 1.00 | 1.00 | 1.00 | 0.42 |
| Avg. Age | 37.60 | 38.10 | 37.19 | 32.81 | 34.15 | 34.93 | 36.10 |
| Avg. of Research & Develop. | 0.94 | 0.95 | 0.00 | 0.94 | 0.89 | 0.00 | 0.63 |
| Avg. of HR | 0.06 | 0.05 | 0.00 | 0.06 | 0.11 | 0.00 | 0.05 |
| Avg. of Sales | 0.00 | 0.00 | 1.00 | 0.00 | 0.00 | 1.00 | 0.33 |
| Avg. Job Level | 2.07 | 2.10 | 2.33 | 1.30 | 1.55 | 2.03 | 1.94 |
| Avg. Monthly Income ($) | 6661.96 | 6747.89 | 7249.33 | 3787.16 | 4427.65 | 6119.77 | 6010.57 |
| Avg. Performance Rating | 3.18 | 3.13 | 3.14 | 3.22 | 3.15 | 3.11 | 3.16 |
| Avg. Years At Company | 7.27 | 7.27 | 7.79 | 4.19 | 5.98 | 5.79 | 6.52 |
| Avg. Distance From Home | 8.71 | 9.11 | 8.99 | 10.45 | 10.70 | 10.81 | 9.66 |
| Avg. of Education | 2.88 | 2.95 | 2.96 | 2.82 | 2.91 | 2.86 | 2.90 |
| Avg. of Single | 0.00 | 0.61 | 0.28 | 0.42 | 0.51 | 0.56 | 0.37 |
| Avg. of Married | 0.65 | 0.26 | 0.50 | 0.40 | 0.36 | 0.33 | 0.43 |
| Avg. Number of Jobs | 2.80 | 2.64 | 2.48 | 3.07 | 2.75 | 3.06 | 2.79 |
| Avg. Environment Satis. | 2.70 | 2.89 | 2.73 | 2.60 | 2.30 | 2.44 | 2.64 |
| Avg. Job Involvement | 2.77 | 2.78 | 2.76 | 2.53 | 2.56 | 2.45 | 2.66 |
| Avg. Job Satisfaction | 2.70 | 2.83 | 2.81 | 2.48 | 2.35 | 2.49 | 2.64 |
| Avg. Relationship Satis. | 2.66 | 2.84 | 2.71 | 2.73 | 2.33 | 2.62 | 2.67 |
|  | **Stayed** | | | **Left** | | |  |

\*\*\*Refer to this in the Summary of Analysis

1. **Summary and Conclusion**

**General Trends:**

* Employees are easier to retain when they are higher up in job role and pay scale.
* Employees that leave tend to be younger and live farther from the office.
* The longer an employee stays at the company, the more loyal they are.
* Employees who leave tend to have a lower perception of the company.

**Summary:** The purpose behind clustering is to create multiple unique profiles to determine the causation of a certain variable. Each of these profiles is ideally unique from the others, but also very similar within. In this case, we examine multiple profiles that identify employees at BigCo. that have either been retained or have left the company for certain reasons. Our goal is to identify what these reasons are specific to each of these groups.

Employees leave for one or a combination of four reasons: they feel underpaid and underappreciated, they live far from the office, they are not satisfied with the company, and they are asked to travel often for work. These reasons in combination with low age, single marital status, and low years with the company increase the likelihood of departure from the company.

**Solutions:** While the clusters reflect that the employees have several issues that causes their low retention rates, there are few solutions. Money and relationship building are essential to retaining an employee. All of the employees in five of the six clusters commonly value their salary very high above all other factors.

Indicators of Retention

1. Performance Rating versus Salary
2. Satisfaction Levels
3. Distance from Home
4. Years at the Company / Number of Companies Worked For
5. Age and Marital Status

The clusters who were retained were paid very well in comparison to performance, while the clusters that left were not. The lower the salary, the more difficult it is to retain the employee. This applies to the “Young, Dumb Overachievers” and the “Unhappy Overachievers” especially, who feel they are underpaid in comparison to performance.

There are few problems that would not likely be fixed through a promotion. However, Cluster 6 could be better retained by rebuilding the relationship between the employee and company through increasing their role and involvement within the company, and improving the environment.

1. **Appendix**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Values** | **1** | **2** | **5** | **3** | **4** | **6** | **Grand Total** |
| Average of Attrition | 0.00 | 0.00 | 0.00 | 1.00 | 1.00 | 1.00 | 0.42 |
| Average of Age | 37.60 | 38.10 | 37.19 | 32.81 | 34.15 | 34.93 | 36.10 |
| Average of Travel Rarely | 0.72 | 0.73 | 0.72 | 0.66 | 0.67 | 0.66 | 0.70 |
| Average of Non Travel | 0.12 | 0.09 | 0.12 | 0.06 | 0.03 | 0.05 | 0.08 |
| Average of Travel Frequently | 0.17 | 0.18 | 0.16 | 0.28 | 0.30 | 0.30 | 0.22 |
| Average of Research & Develop. | 0.94 | 0.95 | 0.00 | 0.94 | 0.89 | 0.00 | 0.63 |
| Average of Human Resources | 0.06 | 0.05 | 0.00 | 0.06 | 0.11 | 0.00 | 0.05 |
| Average of Sales | 0.00 | 0.00 | 1.00 | 0.00 | 0.00 | 1.00 | 0.33 |
| Average of Hourly Rate | 67.19 | 64.54 | 65.88 | 65.36 | 68.32 | 64.33 | 65.87 |
| Average of Job Level | 2.07 | 2.10 | 2.33 | 1.30 | 1.55 | 2.03 | 1.94 |
| Average of Research Scientist | 0.25 | 0.30 | 0.00 | 0.42 | 0.22 | 0.00 | 0.20 |
| Average of Manager | 0.08 | 0.06 | 0.10 | 0.04 | 0.00 | 0.02 | 0.05 |
| Average of Lab. Tech. | 0.25 | 0.20 | 0.00 | 0.40 | 0.45 | 0.00 | 0.20 |
| Average of Hum. Res. | 0.05 | 0.04 | 0.00 | 0.06 | 0.11 | 0.00 | 0.04 |
| Average of Healthcare Rep. | 0.12 | 0.16 | 0.00 | 0.02 | 0.11 | 0.00 | 0.07 |
| Average of Res. Director | 0.09 | 0.09 | 0.00 | 0.01 | 0.02 | 0.00 | 0.04 |
| Average of Manu. Director | 0.16 | 0.15 | 0.00 | 0.05 | 0.09 | 0.00 | 0.08 |
| Average of Sales Exec. | 0.00 | 0.00 | 0.76 | 0.00 | 0.00 | 0.65 | 0.23 |
| Average of Sales Rep. | 0.00 | 0.00 | 0.14 | 0.00 | 0.00 | 0.33 | 0.08 |
| Average of Monthly Income | 6661.96 | 6747.89 | 7249.33 | 3787.16 | 4427.65 | 6119.77 | 6010.57 |
| Average of OT | 0.00 | 0.51 | 0.23 | 1.00 | 0.00 | 0.51 | 0.36 |
| Average of Percent Salary Hike | 15.44 | 15.09 | 15.14 | 15.57 | 14.81 | 14.95 | 15.19 |
| Average of Performance Rating | 3.18 | 3.13 | 3.14 | 3.22 | 3.15 | 3.11 | 3.16 |
| Average of Stock Option Level | 1.20 | 0.44 | 0.85 | 0.63 | 0.43 | 0.51 | 0.71 |
| Average of Years At Company | 7.27 | 7.27 | 7.79 | 4.19 | 5.98 | 5.79 | 6.52 |
| Average of Distance From Home | 8.71 | 9.11 | 8.99 | 10.45 | 10.70 | 10.81 | 9.66 |
| Average of Education | 2.88 | 2.95 | 2.96 | 2.82 | 2.91 | 2.86 | 2.90 |
| Average of Male | 0.62 | 0.58 | 0.58 | 0.66 | 0.65 | 0.58 | 0.61 |
| Average of Single | 0.00 | 0.61 | 0.28 | 0.42 | 0.51 | 0.56 | 0.37 |
| Average of Married | 0.65 | 0.26 | 0.50 | 0.40 | 0.36 | 0.33 | 0.43 |
| Average of Divorced | 0.35 | 0.14 | 0.22 | 0.18 | 0.13 | 0.11 | 0.20 |
| Average of Jobs in Career | 2.80 | 2.64 | 2.48 | 3.07 | 2.75 | 3.06 | 2.79 |
| Average of Total Working Years | 11.72 | 12.30 | 11.75 | 7.24 | 8.87 | 9.10 | 10.43 |
| Average of Environment Satis. | 2.70 | 2.89 | 2.73 | 2.60 | 2.30 | 2.44 | 2.64 |
| Average of Job Involvement | 2.77 | 2.78 | 2.76 | 2.53 | 2.56 | 2.45 | 2.66 |
| Average of Job Satisfaction | 2.70 | 2.83 | 2.81 | 2.48 | 2.35 | 2.49 | 2.64 |
| Average of Relationship Satis. | 2.66 | 2.84 | 2.71 | 2.73 | 2.33 | 2.62 | 2.67 |
| Average of Work Life Balance | 2.76 | 2.76 | 2.84 | 2.62 | 2.56 | 2.73 | 2.72 |
|  | **Stayed** | | | **Left** | | |  |