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| Filling out forms on a table |
| Analyzing Employee Attrition  b |
| |  |  |  | | --- | --- | --- | | Hussein Khaled |  | Power BI | |

**Project Overview:**

ABC Corporation is a multinational company facing challenges with employee attrition. The company is keen on understanding the factors contributing to attrition to develop strategies for retention and talent management. To address this issue, they have decided to implement a Power BI project to analyze their attrition data comprehensively.

**Data Sources:**

1. **Database:** Provided are 3 database tables:
   * 1. Employee\_survey: Responses from employees regarding their satisfaction, work-life balance, etc.
     2. Manager\_survey: Responses from managers regarding employee performance, etc.
     3. EmployeeInfo: Demographic information, job role, etc.
2. **IN/OUT Times:**

Provided are 2 sheets extracted from the Clock-In-Machine for year 2015, the sheets include in/out times for all employees.

**Methodology:**

1. **Data Collection:** Imported the data from various sources including the database and csv files.
2. **Data Preparation:** Reshaped data for analysis, such as pivoting, aggregating, and filtering.
3. **Data Model:** Built a dimensional model to integrate my data sources and facilitate the reporting phase.
4. **Visualization and Dashboarding:** Created an interactive dashboard using Power BI to communicate my insights effectively.

**Modeling:**

**Facts:**

* **FactAttendance**: This Fact records daily employee’s check in and check out time, their work duration, their overtime duration, whether they came in early or late, and whether they were absent or not.
* **YearlyFact**: This Fact record yearly employee’s avg work duration, avg overtime duration, how many days they came in early, late, or were absent, in addition to the scores they got on the yearly surveys conducted in the company.

**Dimensions:**

* Date Dimension
* Employee Dimension
* Survey Dimension

**Model Implementation:**

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Description automatically generated

**Key Findings and Recommendations:**

***Overview Page***

**The Human Resource Department has an Attrition that is significantly higher than the other two departments:**

* **Investigations on the cause of this abnormally high rate should be conducted to understand whether it is a personnel problem, a work line problem, or a company specific problem.**

**Most of the exited employees came from the Research and Development Department:**

* **This, however, is not a case of concern since most of the employees belong to the Research and Development Department. The department also exhibits the lowest Attrition Rate amongst all departments.**

***Employee Page***

**The 18-25 Employee Age group has an attrition rate that is nearly double of that of the next highest group (the 26-35 age group at 19%), similarly, single employees were much more likely to leave than married ones:**

* **Investigations should be made on whether the company doesn’t fulfill the ambitions of young employees, or if this behavior is typical for the age group.**

**Employees who took the least off were much more likely to leave than those who took the most days off, the relationship between days off and attrition rate is inversely proportional in general:**

* **This is the start of a line that will be further supported on later points: overworking employees is one of the biggest factors, if not the biggest, leading to their exit.**

***Company Page 1***

**Continuing from the last point, employees who worked more than 8 hours on average had their attrition rate (28-31%) skyrocket by 15% from those who worked below 8 hours (11-13%), a similar stat is that people who worked less than half an hour of overtime a day had a significantly lower attrition rate (12%) than those who worked more than that (25-31%):**

* **This further supports that overworking is the leading obstacle in front of low attrition rates. Company policies should be reviewed to decide whether it will be more worthwhile to restructure work assignments in the company or to take on the losses in attrition in favor of more production.**

**People who had to travel to do work had a much higher attrition rate (25%) than those who infrequently travelled (8%):**

* **Online meetings, Work from Home, and hiring locals could all be fixes to reduce travel rate amongst employees and by extension attrition rates.**

***Company Page 2***

**The Research Director job role had a much higher attrition rate (24%) than the next highest job role (Research Scientist at 18%):**

* **Since the Research and Development department has a normal attrition rate, this indicates that something is wrong with the job duties and expectations of these 2 roles, and especially the Research Director Role. Serious Investigations should be made to determine the cause of such abnormality.**

**Employees on the lowest pay grade (10-20k monthly) were more likely to leave (24%) than those in any other pay grade (14-17%):**

* **Investigations should be made to determine if the company pays these employees lower than the market average, or if this is the unavoidable result of limited promotions available in any company.**

***Survey Page***

**Work-Life Balance and Environment Satisfaction were the most deciding factors when it came to attrition rate, with the people choosing the lowest options in these two categories having 31% (+13% higher than the next option) and 25% (+10% higher than the next option) attrition rates respectively.**

* **This further supports the effect of overworking on employees attrition, no other survey category has its lowest option result in a higher attrition rate than these two.**

**The two survey categories scored by managers (Job Involvement and Performance Rating) were to little use in determining attrition. The variance between attrition rates for employees assigned the best and worst scores in either of these categories never exceeded 4% (Low Job Involvement 22%, and Very High Job Involvement 18%!), in addition to that, the Performance Rating category only had two values (Excellent 16%, Outstanding 18%)**

* **The process of surveying managers should be rethought and improved to better get insights from these managers.**