Employee Data Analysis

DESCRIPTION:

Flash Inc is a newly set-up semiconductor chip-designing company specializing in making high-end processors for Smart phones and tablets. As a newbie in the already thriving Silicon Valley, it has struggled to find a footing in a place where people, developers and clients alike, are already spoilt for choice.

While **Flash Inc** has the necessary skill–set that is required to be a fierce competitor, it has been noticed that there has been a significant drop in the productivity as attrition looms large. The CEO and the HR heads have observed that among most employees, the initial surge and excitement of being part of something new has started fading and there is general dissatisfaction among the masses as they look for greener pastures. Traditional HR policies and perks haven't proven effective due to vast array of offers that are available for the employees. Raises and other monetary advances offered in the hopes of changing the outcome have proven to have a very limited and short-term effect.

Flash's competitors have been poaching their employees and till now have seemed to develop an uncanny knack to find out the weak links among the resources.

Flash Inc, being a relatively new company employs legacy HR Management systems that simply maintain a record of who's working on what and how much do they earn. When they were a small force, this was acceptable but they have since then crossed the 10K employee headcount and now need to look for better options as their legacy systems are very clearly failing them in employee management.

HawkEye is a Workforce Analytics company that has been recruited by **Flash**. It specializes in People Analytics to build systems to help companies make better decisions by manipulating and utilizing data insight. With the help of **HawkEye**, **Flash** aims not only to systemize the whole records-maintaining process but also to collect and analyze tangible data trends and take the right approach with the right employee, leading to better results at lower overall costs.

OBJECTIVE:

Primary objective of this assignment is to design an end-to-end BI solution to gather, store and maintain a central data store for employee data.

Secondary objective of this assignment is to design a mechanism to drill down into the data store and analyze the trends to make decisions on key points which include Recruitment, Retention, Training & Development and Managing Costs.

BACKGROUND:

Flash Inc has adapted a legacy system to manage resourcing and facilitate talent development. Each employee that joins the organization goes through the below steps in his/her tenure:

1. Recruitment: This is the part where, an employee is recruited by the company to fulfill certain roles or responsibilities in a project.
2. Training & Development: After recruitment, the employee is trained and his/her skills are honed to suit

the needs of the organization. Opportunity for exploring other domains is provided by Flash as it has a versatile clientele requiring a wide array of skills.

3. <u>Utilization:</u> The employee is allocated to projects with matching technologies giving them a chance to contribute to Flash's growth and delivering the promised product within deadlines.

4. <u>Retention:</u> In this phase of the Employee's tenure, the Company has to take a call as to the retention of the employee. Employees may voice their dissatisfaction with the organization due to various reasons, while the company has to try hard to find ways to retain the employees.

5. <u>Managing costs:</u> If an employee is deemed important to the organization and has expressed concerns and hinted at leaving, the company then offers compensation to encourage them to stay back. The costs that arise out of these negotiations need to be analyzed for their worthiness and ROI.

6. <u>Voluntary/Involuntary Turnover:</u> Voluntary turnover is when the employee has moved onto greener pastures and all retention efforts have failed. The second type of turnover is Involuntary, which occurs when Flash makes the decision to discharge an employee and the employee unwillingly leaves his or her position.

While Flash Inc. has a working HR management system, the above steps are fairly rudimentary and rely on old-school methodologies and inaccurate, inconsistent, or hard-to-access data requiring too much manual manipulation.

FUNCTIONAL REQUIREMENT:

To design a HR management system that covers all the aspects and areas from Recruitment till Termination. Refer the ER Model shown in the appendix.

The solution should be divided functionally in modules based on the Stage in the Employee lifecycle mentioned above. The Module specific requirements are listed below.

1. **Recruitment**: Project related information should be utilized to identify and analyze open i.e. unfulfilled opportunities. Individuals with relevant technical skills and experience required for a particular role can be recruited. There should be an entry made in the Employees dimension post-recruitment. Logic should be implemented for marking the role, for which the individual is hired, as fulfilled.

2. **Training and Development:** Unallocated and willing employees can be trained in modules and technologies that are the need of the hour. This can again be checked in the project roles that are unfulfilled. This will enable Flash to train existing employees for certain roles and utilize them instead of looking outside the company for the same. Additionally, employees can be trained to upgrade their skills to fulfill future needs. A reporting option should be available to generate a list of projects in the pipeline, the technologies involved and the count of employees for those technologies currently working for Flash.

3. **Utilization:** Upon an unfulfilled role being created for a project, the system should check the Technology and required competencies and make available a list of employees most suitable for that role. Various parameters should be considered while taking this decision and to enable an informed decision, analysis and reports should take into account Proficiency of employee v/s criticality of project and Location of Project v/s employee's base location.

4. **Retention:** Flash will only retain employees that are worth retaining, and to enable its leaders to make that decision HawkEye's reports should comprehensively indicate the historical data pertaining to the associates' performances in various projects. Parameters that should be plotted to quantify performance are as below:
   i. *Punctuality/Ability to meet deadlines v/s Criticality of projects.*

ii. *Count of roles fulfilled v/s type of roles* i.e. development or leadership.
iii. *Number of Leaves across Projects.*
iv. *Overall performance v/s Projects with roles other than the associates' primary competency.*

Based on above points Flash's leadership can decide on the possible retention of an employee.

5. **Managing Costs:** Retention and Managing costs go hand in hand. Once Flash has decided to retain a particular employee, it has now to gain insight into how. The below KPIs must be considered to help the leadership achieve the same.
   a. **Employee Satisfaction Index:** Appraisal details need to be recorded and maintained (see ER Diag.) to understand the Employee's general mindset. Employee feedback should be rated on a scale of 1-5 on levels of satisfaction among various factors like Work culture, monetary compensation, work pressure and location. Based on these ratings, individual and aggregated alerts (visual alerts) need to be set-up on the reports. The cut-off is to be kept dynamic i.e. Leadership team should be able to use a Slider to set the cut-off at 2/5 or 3/5 as demanded by the market condition and on the employee performance, considered in point 4.
   b. **Personal Details:** Employee's general state of mind needs to be understood and Flash's leadership team has stressed that they want the ability to empathize with the employee to understand the cause of the resignation. This would include insight into the personal details of the employee like:
      i. *Marital Status v/s Monetary prowess i.e. % increments over the past.*
      ii. *Dissatisfaction Reason v/s Perks allotted to the employee.* Insight here can be utilized as Perks can be targeted to quell the specific dissatisfaction reason.
      iii. *No. of Dependants v/s Criticality of the projects worked in.* This will help Flash in understanding if Associate is resigning to be able to dedicate more time to family.
      iv. *No. of Medical Leaves v/s Current Medical insurance coverage of the employee.*

   Flash's leadership can utilize the above factors to gain deeper insight into not only a particular employee but the general mood of the organization which will further help them make larger decisions like while accepting a large project i.e. to check if the Organization is ready for it.

6. **Voluntary/Involuntary Turnover:** Turnover or termination should be recorded and termination date should be entered into the Employee table. The record in the Employee table should be marked inactive. Termination reason needs to be entered in the table and the manager should be prompted to enter, in the comments, all the efforts undertaken to retain the employee.

Value-add:

Prediction: The above 6 points are a must and as a value-add the system can include a value-add i.e. Prediction.

HawkEye should design a process that would analyze all the factors considered in the above points of Retention and Managing Costs and come up with a report, a simple list of associates who can be dissatisfied with the organization and may be looking for pastures anew. The parameters that go into this are:
- Technical reasons: Employee is allocated a project of different Technology than his/her preferred one.
- Geographical reasons: Employee is allocated to a location that is far from the base location.
- Work pressure: Employee has been working on a critical project for a long time and hasn't taken a leave since long. This stipulated time period limit should again be Selectable.
- Monotony: Associate has been working on same/similar projects for long. Time again should be a variable.
- Monetary: Increment trend of employee has been less than Average.

- <u>Similar resignations:</u> If all parameters of the Employee are similar to an associate who, in the past, had expressed concerns and then resigned i.e. Trend analysis.

In developing the OLAP system to fulfill the above 6 requirements as well as the value add, please note the below:
- Proper Dimensional modeling techniques should be utilized.
- Joins between tables should be created wherever necessary; the structure should not be flat.
- Reports should be visually attractive and at the same time not clunky; should be easy to maneuver.
- Employee dimension should be an SCD-2 at the very least to maintain history.
- Projects dimension should include both, pipeline and ongoing projects.

NON-FUNCTIONAL REQUIREMENT:

These requirements are very important characteristics of the system. For example, attributes such as Reliability, performance, security, usability, compatibility etc.

Scalability - (The system can be scalable from small to a large business etc.)

Availability – (if required by Time zones, schedules, and user location etc.),

Performance – what is expected from the new system in terms of following performance points? It could be all or few of the following. How the system will perform for users?

- Any response time for reports, queries, and updates?
- What is the total number of user sessions open for the entire application? Is there any requirement?
- What is the total number of concurrent sessions that can be opened by a single user?
- What is the total amount of idle time before the user session is forced to terminate?

Usability – How user friendly the system is required?

Security requirement - The system should take care of all required security of data and intellectual property of the organization etc.

Appendix