Role of Predictive Analytics in Employee Retention: Corporate Cases

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ABSTRACT

The paper aims to understand application of data analytics in HR decision making. It explains how different organization Implements people analytics to understand workforce composition, comprehending employee attributes and expectations from organizations. The paper further discusses various corporate cases to explain the role of predictive people analytics in controlling employee attrition along with the various tools techniques and data point considered for the analysis.

Keywords: HR Analytics; Predictive People Analytics; Employee Attrition; Workforce Analysis; Employee Retention.

INTRODUCTION

Many progressive organizations have started using Data Analytics (DA) or systematic capturing and analysis of data, to generate insights which help them to make their offerings i.e. product & services more efficient to create growth & profitability by improving processes of production and delivery to their customers. Marketing was first to jump into the data-analytics movement and reaped immense benefits in terms of servicing the customers. It was closely followed by retail, operation and finance using analytic for their advantages. HR was slow to realize that potential of DA as for most of the organizations the priority was gains in marketing through DA or savings and improvements in operations and finance. Lately some signs are seen in many corporate that DA has been applied in HR also.

The premise of using DA in HR was to improve the decision making in the realm of talent management. There has been an insistence to adapt to data driven decision in all facet of corporate working. The demand for scientific decision making was even more forceful in HR as the talent management had become very crucial for organizations to survive where on every drop of a hat competent employee walk across to the higher paying attractive competitors. Though most of the HRs had enough of data about their employees but using these data to scientifically analyze and create some decision which are supported by robust evidences was a far cry.

REVIEW OF LITERATURE

Bassi(2011) defines HR Analytics as an evidence –based approach for making better decisions on the people side of the business, it comprises of variety of tools and technologies ranging from preparing HR metrics to Predictive modelling. Marler and Boudreau (2017) added that HR analytics is an application of information technology that uses descriptive, visual, and statistical analyses of data related to HR processes, human capital, organizational performance, and external economic benchmarks to establish business impact and enable data-driven decision-making'. Harris et al. (2011) has laid the importance of having of having consistent, accurate, integrated, relevant and accessible employee data to track and study the employee skill sets and efficiency pattern. Likewise, Rasmussen and Ulrich (2015) emphasize that HR Analytics is more likely to reveal new insights when different perspectives and fields (e.g. customers, investors, technology, human capital, etc.) are combined. Hence, any limitation in regards to data and information restricts the potential of HR Analytics. Levenson (2011) states that if HR professionals want to use HR Analytics effectively they need specific analytical competencies. These include data preparation, research design, root cause analysis, quantitative data collection, data analyses, and multivariate models. Rasmussen – Ulrich, (2015) explains the importance of data and science along with the importance of activism and change management at all the levels of the organization then only HR Predictive analytics can give the results.

OBJECTIVE

The objective of this paper is to identify the various people predictive analytics initiatives adopted by the organization to control the attrition and designing the retention strategies.
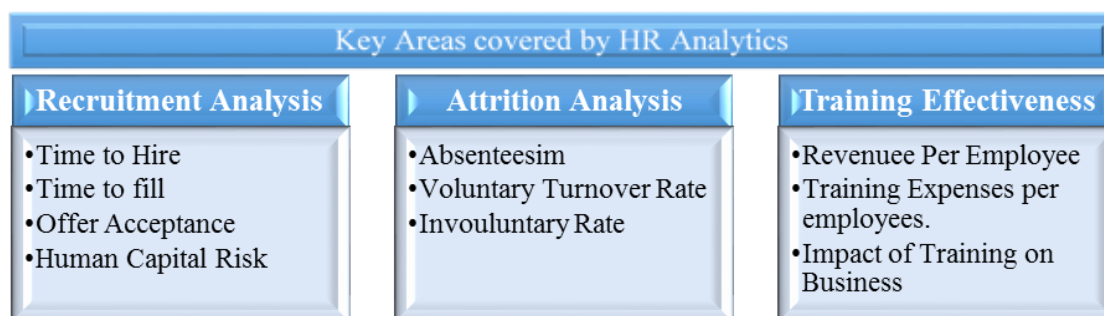
RESEARCH METHODOLOGY

It is an exploratory study and the data has been collected from the secondary sources. Case study method is used to illustrate the various examples how different organization is using HR analytics to study the people data and using this to maximize the business growth through their biggest resource which is Manpower.
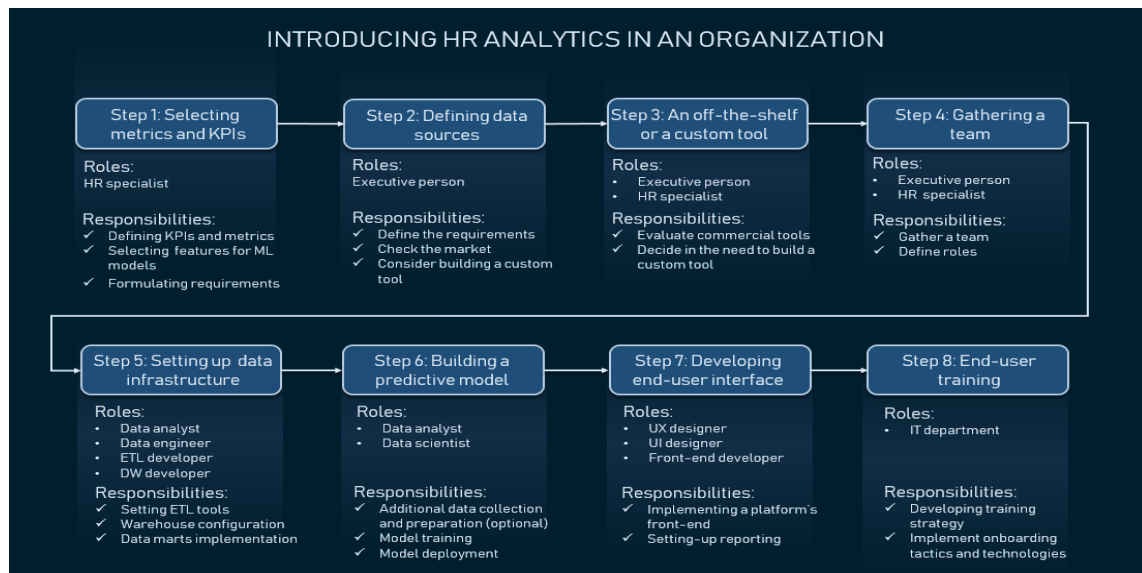
HR Analytics

Mick Collins (Global VP Workforce Analytics & Planning Solution Strategy & Chief Expert at SAP success factor, 2019) defines HR analytics as methodology adopted by the HR to develop insight on how investments in HR capital contributes in generating revenue, minimizing expenses, mitigating risks and executing strategic plans. HR analytics tries to find relationship in people data with the business data and then based on this relationship attempt to predict the talent metrics for the organization.

So the changes HR Analytics is bringing into the HR domain is to quantify the parameters to assess the effectiveness of various programs and initiatives like training, engagement activities, retention so that they can justify the investments required by these programs also it tries to understand various cause-&-effect relationship among various variable in a quantifiable terms like pay & satisfaction, training & productivity, leadership & retention etc.

Key Areas covered by HR Analytics		
Recruitment Analysis	**Attrition Analysis**	**Training Effectiveness**
• Time to Hire • Time to fill • Offer Acceptance • Human Capital Risk	• Absenteesim • Voluntary Turnover Rate • Invouluntary Rate	• Revenuee Per Employee • Training Expenses per employees. • Impact of Training on Business

How They Do It There are so many people and business factors which can be considered to put a base for HR matrices. But for the effective use of HR analytics the organization should be able to figure out the factors which can add value in the business. Strategic collaboration between HR leaders and other functional leaders can help to design effective HR Analytics Strategy. HR leaders together with other C-suites needs to define the Key Performance indicator (KPI) for the organization and based on these KPI the HR team can formulate the HR metrics contributing in the growth of business and organization as a whole. In general the HR teams needs to follow certain predetermined steps to implement the HR Analytics in an organization. The following steps briefly

Fig: A roadmap of HR analytics Strategy Implementation.

INTRODUCING HR ANALYTICS IN AN ORGANIZATION

Step 1: Selecting metrics and KPIs
Roles:
HR specialist

Responsibilities:
✓ Defining KPIs and metrics
✓ Selecting features for ML models
✓ Formulating requirements

Step 2: Defining data sources
Roles:
Executive person

Responsibilities:
✓ Define the requirements
✓ Check the market
✓ Consider building a custom tool

Step 3: An off-the-shelf or a custom tool
Roles:
• Executive person
• HR specialist

Responsibilities:
✓ Evaluate commercial tools
✓ Decide in the need to build a custom tool

Step 4: Gathering a team
Roles:
• Executive person
• HR specialist

Responsibilities:
✓ Gather a team
✓ Define roles

Step 5: Setting up data infrastructure
Roles:
• Data analyst
• Data engineer
• ETL developer
• DW developer

Responsibilities:
✓ Setting ETL tools
✓ Warehouse configuration
✓ Data marts implementation

Step 6: Building a predictive model
Roles:
• Data analyst
• Data scientist

Responsibilities:
✓ Additional data collection and preparation (optional)
✓ Model training
✓ Model deployment

Step 7: Developing end-user interface
Roles:
• UX designer
• UI designer
• Front-end developer

Responsibilities:
✓ Implementing a platform's front-end
✓ Setting-up reporting

Step 8: End-user training
Roles:
• IT department

Responsibilities:
✓ Developing training strategy
✓ Implement onboarding tactics and technologies

(Source: altextsoft.com, October 2019)

describes the model which can be adopted for implementing HR analytics in any organization. The organization can choose or modify the model as per there business requirement. They can develop their own in house models and tools for implementing the process or can avail the services of expertise partners available in the market. One of the Deloitte report clearly states that the role of HR /People Analytics has been shifted from specifying human resources need and solutions to providing insight to on all operations that has direct impact on business. So sooner or later almost all the organization have to rely on HR Analytics for business decision making

Transforming HR Decision Making with HR Analytics

HR always had employee data but it was only for reporting purpose. They haven't used it skillfully to resolve the business issues. But the transformation in HR roles from a department to strategic partner has changed the game; The HR now converts the laden data into information and the information into insight for resolving the different business matters. Advance in technology and application of analytical tools has made the process easy.

One of the popular HR analytics model given by Deloitte suggests that the there are four levels of HR Analytics based on the complexity of data analytics any organization uses to solve workforce related problems. The organization needs to identify at which level their HR department currently works at then they can adopt the guidelines to take their HR department to next maturity level. Below are the four different levels of HR Analytics maturity model:

Fig:Talent Analytics Maturity Model
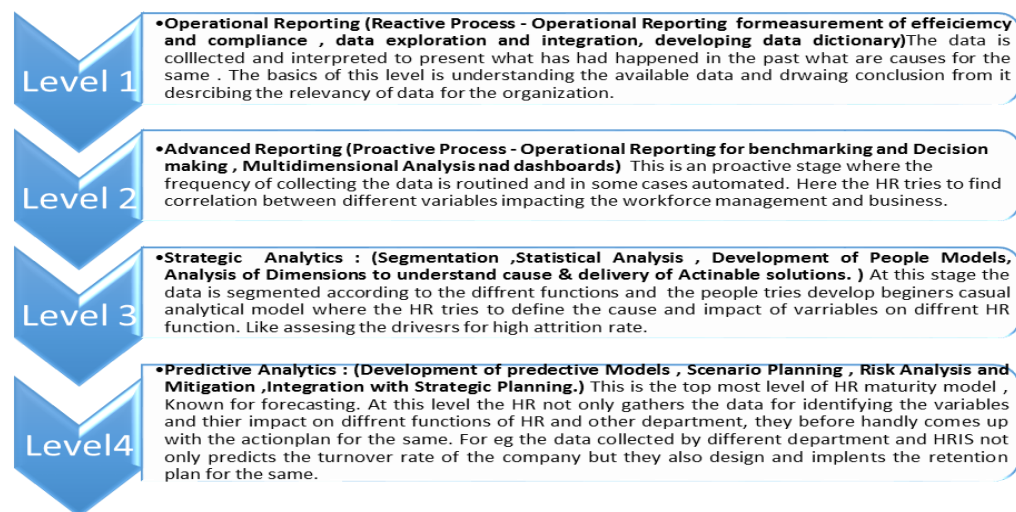
Source : Bersin by Deloitte Frameworks & Maturity Models, 2014

With booming economy and plethora of opportunities for employees in the market it is difficult for the employer to retain the employees. Here comes the role of HR analytics which not only helps in calculating the attrition rate for the organization rather it develops the models to retain the employees. HR Analytics facilitate the HR professionals to take decision based on the data not on guts, which improves the ROI. It helps the other functional leaders to create healthy working environment for the employees and efficiently utilize their potentials for the overall growth of organization.

V Retention & Predictive Analytics

Predictive analytics is the application of various statistical tools & techniques and models to forecast how a variable will influence a subject in future and based on the inferences the HR may design new course of action. Generally predictive analytics are used in HR for forecasting attrition rate, retention percentage, performance & productivity, cost of hiring etc. So it foretells the managers about the impact various people policies can have on different people issues. Predictive analytics is going to be the game changer in coming times.

Retention is one area where top management always has an eye on and every HR manager worth his salt has a task cut out to improve the retention percentage. A competent, experienced and knowledgeable employee leaving the organization is a drain on the capability of the organization not in terms of only human resource but also the knowledge this person takes along with him. Most of the time it's more of a zero sum game where loss of an organization is the gain of a direct competition so the real cost of attrition is many times than the calculable direct costs of finding a

replacement and work breaks. Retention requires that organization understand their personnel and identify the variables which are important for them to remain engaged with the organization and also knowing those characteristics of the employees which make them prone to jump in the ship of other organization.

In this case we are going to discuss the role of Predictive HR analytics in developing the different models adopted by different organization in controlling the attrition rate and developing the retention strategies.

1. Credit Suisse's "GROW YOUR OWN"

Credit Suisse one of the major players in investment banking has developed there in house People Analytics Effort program which aims to develop an understanding on human capital data for formulating new strategies for attracting, retaining and growing in house talent.

Objective: they wanted to Identify the variables responsible for Attrition and design the models and strategies to retain the employees and improving the ROI.

Data Point Considered & Tools Used: The team considered numerous variables to determine the possible causes of attrition such as Performance Analysis, Group size, Compensation, Manager Ability & Conduct, Tenure on specific job and in Organization

Small Global team comprised of data reporting and statistics experts has been formed. They had developed an In house Human capital Analytical tool for the analysis. They had also developed Own Taxonomy of people issues & works in order to standardize the data.

Findings: The analysis has helped the team to identify the tentative list of employees who are most likely to leave the organization in near future along with the key variables responsible for the attrition. They understand that source of hiring and initial two years plays a vital role in retaining employee for longer time period.

Interventions: Based on the findings of analysis the team has designed intervention like

- **Grow Your Own:** Two week in house search program to fill any vacant position in the organization through internal mobility only.
- **Internal Employment Search Program**: Enables the team to prepare the tentative list of employee who are ready for career change and advancement along with the list of employee who are ready for Job Swab, which helps the team to recruit the target in real time.

Result: The initiatives has helped the organization to retain the employees and fill their 65% of senior position through Internal Employment Search Program which was earlier 40%. Harvard Business Review (2014*)* states that Credit Suisse's has designed a proactive process wherein they offer new career opportunity to employee who are most likely to leave the organization first, which has helped them to reduce the attrition rate. They had used this model to observe changes in behavioral pattern of the employees and implemented the necessary changes in the organizational culture to address the same. This has helped the organization to develop a strong bond with their human asset.

2. Google's project "Oxygen"

Innovation is the core of Google's DNA and they were the pioneer in using prescriptive and predictive analytics in HR to study the employee behavior, performance management, talent management etc. Based on their experience the People Analytics team of Google has designed an 8 layer research program known as "Project Oxygen." This program was initiated to study the behavior and other qualities of Google managers that makes them different from their competitor and the ways to nurture them for future roles. And this research is backed by quantitative data which has helped Google to design compact plan for retaining their employees also.

Objective: HR analytics teams aims to forecast future Manpower Needs, Identify the Root cause of Weak diversity recruitment. Predict which candidates have highest probability of promotions and develop equal promotional opportunities for women engineers.

Data Point Considered & Tools Used: Data has been collected from different internal employee surveys and employee dashboards like Possible Attrition Rate, Encoded Exit Interviews, Surveys, Performance Review, Promotion &Pay Histories, Peer Reviews, and Time Spent in Collaborative Activities etc.

Different analytical models has been used for analysis like Retention Algorithm, Project Aristotle, and Predictive Modeling.

Findings: The analysis surprised the team the key reason for the attrition at Google was, Underutilization of employee potential and lack of interpersonal skills in managers.

Interventions: To cope with the situation google implemented various strategies like implementation of fun based learning and engagement activity for developing collaboration in team. One on one caching to mangers to add certain changes in their behavior to improve their relation with their employees.

Employees were motivated to work on new ideas and project by themselves by using the Google resource and they can share the same with management and if the idea has the potential employees gets the chance to lead the project and there is no pressure on the employee for the same. They have extended Maternity Leave for Female employee to retain the female employees.

Result: By use of predictive analytics Google has managed to reduce the new mother attrition rate to 50%.It has enabled the HR team to retain its capable and trained employees by reducing the overall attrition rate and saving huge recruitment cost.

3. Hewlett-Packard's (HP) "Flight Risk Score"

High turnover in any organization leads to high cost on recruitment, and in Hewlett-Packards (HP) too it was costly affair. The HR analytics team along with two data scientist developed Flight Risk program which based on different surveys allocates certain scores to employee and predicts which employee is most likely to leave the organization thus giving an upper hand to HR team to design the retention program as per the needs of those employees.

Objective: To predict the tentative numbers of employees who are most likely to leave the organization in near future.

Data Point Considered& Tools Used:

The data for the same is collected from the different surveys on Pay Hike, Promotions, (Role Elevation and Grade elevation), Job ratings and Job rotations.

They had use Predictive modeling technique to develop an in-house analytical tool which they named as "**Flight Risk Program**. "where in they had given HP's 300,000+ employees certain scores named **Flight Risk Scores** and the employee who's scores are on the higher side are considered to leave the organization in nearby future.

Findings: Flight Risk program helped the team to identify the drivers responsbile for the high attrition rate, and the results were groundbreaking. For example the higher pay, promotions and better performance ratings where negatively associated with fligh risk on one side But on the other side they potray a vey complex relationship for example the employee who had recevied a promotion but haven't revevied a substantial rise in pay are still likely to quit thier job.

Intervention: The flight risk scores acted as early warning system for the HP's team. The scores were shared with the top managers of concered functional area, and they were trained to intrepret and use it which helps the team to design the retention startegies together and In this way system puts a pressure on the managers to intervene before its too late.

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Results: Hp's Flight Risk program has helped them to decrease their attrition rate and reduce the costs on recruitment and training the new employees. As per *Siegel (2013)* flight risk scores has enabled the team to reduce turnover from 20 percente to 15 percente and save $300 million for the organization.

4. Xerox's "Evolve"

Xerox Corporation wanted to use the people analytics for cost saving purpose, so they started using data analysis results in hiring process in order to reduce their training cost which was around $5,000 per employee.

Objective:

- To Profile Potential Candidates for Job Stability

- Identify the key reasons for higher attrition rates

- Formulating strategies to retain employees.

Data Point Considered & Tools Used: The data has been collected from the Personality assessment tests of employees and are categorized into different formats based on employee previous experience, tenure in the organization, their work profiles and their performance ratings by peer groups.

They relied on automated process and used the Business Intelligence Software of Evolv Inc. for the analysis.

Findings: The findings of the analysis showed that new Joiners with prior call center experience performance were equivalent to the candidate having no work experience. Lateral hiring was costly affair and the hired employee's retention and performance was no better than fresher's.

Intervention: Based on the Analysis they have started hiring employees by using Model for the Ideal Call-Center employee personality test developed by Evolv Inc. Where in the result categorizes the employee in three categories

i. **Red** : Low Potential employee

ii. **Yellow**: Medium Potential Employee

iii. **Green**: High Potential employee.

Xerox Usually hire employee with green scores and sometimes gives opportunity to yellow employees who can be trained.

Result: Based on analysis they had develop Personality Trait Indicators of good employees and used this indicators/scores for hiring the candidate who had similar scores/indicators in their assessment. And this has helped them to reduce the attrition rate by twenty percentages which was a significant number for a call center having 48700 employees in a 6 month of a time.

5. Genpact's FLM Surveys & Performance Ratings

Genpact is one of the renowned name in business process outsourcing industry and was amongst the first few who had given importance to people analytics and utilized the data for formulating the strategies in retention of employee.

Objective: They wanted to use the People Predictive analytics to define the key attributes of efficient employees and develop a matrices to recruit employee having similar attributes and simultaneously control attrition.

Data Point Considered & Tools Used: They developed Own People Analytics Recruitment Technology for the analysis and FLM surveys and performance rating system were developed to collect the data.

For the analysis they considered the employee data from different sources like demographic details of employess, work performance data, performance ratings and data from First line Manager Survey (FLM surveys It has designed to collect the ratings of managers from subordinate).

Findings: Analysis has helped them to understand that the dissatisfaction among the employee is the key reason of unhappiness at work place which causes disengagement and ultimately results in higher attrition rate. The data has established a positive relationship between the FLM surveys and performance ratings which indicated the key factors responsible for employee retention and developing the sense of engagement among the employees.

Intervention: The analysis has helped them to segregate the engagement activities which have the maximum impact on employees and start investing more on it.

Result: They were able to predict the tentative list of employee who can leave the organization in coming six months and designed the focused engagement strategies accordingly to retain them. And its commitment towards employee engagement activity is one of the reasons for low attrition rate in the industry which has been appreciated by some renowned name in the market like Global Services Media, COPC (Customer Operations Productivity center) and Frost & Sullivan.

6. Nestlé's- "Minitab"

Nestlé's people analytics journey took a pace with arrival of Mr. Jordan Pettman (Global Head, People Analytics & Planning.) Higher attrition rate throughout the business was alarm for the organization to take strong steps in the right direction. To understand why people are leaving the organization and what are the reasons and how to cope with the situation? They relied on predictive analytics and used Minitab one of the leading providers of statistical providers to deal with the situation.

Objective: They wanted to use the predictive analytics techniques to identify the reasons for higher attrition rates, to study the workforce trends for understanding the business problems and most importantly formulate the engagement strategy to cope with the problems.

Data Point considered& Tools Used: Data collection has been done by SAP tools and data analysis has been done by MINITAB. Various variables like Payroll Information, talent records, Recruitment sheets, Succession Charts, Leader boards etc. has been considered for data collection and analysis.

They used predictive analytics to establish correlation between the turnover rates and employee attributes to identify the leaver profile.

Findings: Two distinct leaver profiles were identified (a) Head office Workers have comparatively higher attrition rate. (b) No of women employees was more than the male employees in spite of their performance, level and achievements.

Five key reasons for higher rate of turnover were Recruitment and Induction, Remuneration, Leadership, Leadership and Culture.

Interventions: They made a statistical model (Survival Analysis) which helped them in predicting the list of employees who can possibly leave the organization in a particular timeframe and what are the reasons for the same. It has helped the HR team to develop the retention plan as per the requirement and control the attrition rate. They take it one step further and utilized this Flight Risk to identify the list of employee who they really want to save and can be a contributor to the organization in the long term.

By using predictive analytics they were able to establish a statistically sound Gender Pay Equality system. They had also develop Global Set of HR dashboards to standardize the process.

RESULTS

Nestle by using Predictive analytics was able to bought in the areas of remuneration changes, leadership, recruitment and induction, leadership and culture which has helped them in developing engagement among employees and reduce the turnover rates.

7. Sysco's " Workforce Analysis"

Sysco one of the global leaders in foodservice industry nearly have 320 distribution facilities having 69000 associates serving approximately 650000 customers worldwide. Sysco was pioneer in conducting the **Human - capital investment analysis** and studying its impact on business performance.

Objective: The goal was to use HR analytics to ensure a high degree of loyalty, engagement and profitability among top talent and to replicate the cycle for the gamete as a whole.

Data Point Considered & Tools Used: The research allowed them to create a relationship between the following variables:

- ➢ Work Climate & employee satisfaction

- ➢ Productivity

- ➢ Retention

More research has allowed them to identify measure and track seven main facets of the work environment, including the effectiveness of frontline workers, sustainability and quality of life.

Sysco by using predictive analytics has developed the Group performance tracker. Where there are various satisfaction ratings for workers on the basis of which they are able to assess employee performance, the profitability levels in terms of the overall number of units delivered to the customer and retention.

Findings: Analyzing these key metrics, the organization noted that internal partners with greater job satisfaction reported higher sales, higher customer engagement and improved retention rates.

Interventions: Based on the analysis they had developed the platform for stakeholders to access the best practices and used the same metrics to identify the underperforming units in order to enhance their efficiency accordingly. They have fairly used HR analytics to support decision making also.

Result: By using HR analytics Sysco was able to save approximately $50 million dollars in recruitment and training of new associates simply by retaining its employees. In six years, the

retention rate for delivery associates has been increased by 65% to 85 %. This has helped the organization to offer better customer services and develop loyalty in customers and employees also.

8. Mindtree "Turnover Modeling"

Mindtree is a global technology consulting & service organization which uses Predictive Analytics tools to track and evaluate the data and performance –related details of the organization and uses this insights for forecasting the employee turnover and handling it.

Objective: They wanted to use the Predictive analytics to handle following three issues

- ➢ To forecast the employee turnover with respect to their performance and engagement.

- ➢ Managing the turnover of High profile candidate.

- ➢ Developing the tools to engage and retain high risk employees.

Data Point Considered & Tools Used

- ➢ **Turnover Modeling:** The in- housing predictive analytical tools is designed for forecasting the turnover of employees cadre wise &department wise.

- ➢ **ABC Risk Model:** The analysis of data using 'regression analysis' helps to determine the number of days / hours spent by employees on a job and the recurrence of a job and the same is matched with the career aspirations of employee. Based on the data analysis ABC models categorize the high performers into the three risk categories High, Medium & Low.

Findings: Predictive analytics has helped them to calculate the turnover rate for the next 90 days, and design the retention policies for them based on their risk categories high medium and low.

Interventions: Once the HR team has the tentative list of employees who are most likely to leave the organization in coming times and if those employees are high performers also than these employees get first priority for promotions and other engagement activities were implemented based on the employee career aspiration which helps the organization to retain the high profile candidate and in return they bring good business to organization.

Result : With exact figures in hand Mindtree now does vacancy based hiring i.e. hiring the exact number of candidates required in due course of time which has reduced the recruitment cost and they are able to engage employee better, specially design engagement policy for employees who are high performer helps them to retain the employees.

9. McKinsey "Machine Learning Algorithm"

Mckinsey is a global consulting firm and their Predictive analytics journey started when they were doing people analytics study for one of their client they were so happy with the results that they wanted to use it internally.

Objective: Developing & Applying Internal tool / approach for talent management and Designing intervention strategies to retain employees.

Data Point Considered & Tools Used: They developed in house Predictive – Retention Algorithm for the analysis.

For developing the algorithms Mckinsey has conducted various workshops and interviews to collect the data, they considered various factors like compensation, performance ratings, satisfaction surveys, employee engagement data, training details and mentoring programs of the employee.

Findings: Weak mentoring and coaching program were the key predictors for unwanted attritions.

Intervention: Based on their findings they focused on monitoring and updating their mentor and coaching program for the employees categorically for the young employees. The algorithms insights has helped them to identify the specific employee groups for individual predictions and designing interventions to retain the employees who are at high risk. Each employees gets the six month review periods specific engagement cycles were designed for those employees to retain them. And based on every review cycle they update predictive retention algorithms.

Results: Predictive analytics has not only helped the Mckinsey to reduce attrition rate. The flight risk in the organization fell by 20 to 40% when employees were satisfied with their mentoring and coaching programs.

10. Marico Kaya Ltd

Marico Kaya Ltd, which formally now known as Kaya Ltd, which owns and invests in skincare clinics, has effectively, incorporated HR and predictive analytics within the business with big advantages.

Objective: They wanted to use the employee data and workforce analytics to resolve various employee related issue but their main aim was to

➢ To study the impact of attrition & cost of attrition.

➢ Track & Predict the parameter responsible for the attrition in Organization.

Data Point Considered & Tools Used: Different variables considered for the study are Employee behavior at work, incentive earnings of individual employees and employee performance at different role allotted to them.

Regression analysis has been used to set correlation with different parameter responsible for the attrition.

Findings: The analysis has helped them to understand that no clear reward policy is the major reason for dissatisfaction among the employees and one of the key reasons for attrition in the organization.

Intervention: Designing fair reward systems which clearly defines the benchmarks or objectives of the employee recognition programs.

Result: The analysis has helped them in designing a fair reward system for appraising the employees. Indicators like employee productivity and customer satisfaction were considered for defining expected behaviors from employees at work place. This encourages employees to work towards parameters that are perceived to be fair based on data and ultimately controlling the attrition rate for the organization.

11. Nielsen's "Predictive Risk Model"

Nielsen People Analytics Journey started with Mr. Piyush Mathur Sr. Vice president for Nielsen's Global Analytics Organization (2016). He was responsible for starting People Analytics Function to unlock the potential of Nielsen's valuable assets: their employees.

Objective: They wanted to develop a Model to control the rising attrition in the organization. Analyze the factors responsible for attracting and retaining talent. And designing retention strategies which facilitates employee development.

Data Point Considered & Tools Applied: 20 preliminary variables like employee's age, gender, tenure and employees ratings etc. were considered for the analysis and to make the model more concrete the team included almost 120 more variables like duration of controls, employee travel time, holiday time, engagement in CSR activities etc.

The in house People Analytics team developed Predictive Risk Model for compiling and analyzing the data. The analysis helped them to predict the future attrition in the organization along with the drivers responsible for it.

Findings: The analysis has helped them to understand the key drivers responsible for the attrition, like they recognize that the first year is the most critical year for managing the turnover if the employee does not meet their first performance evaluation they are far more likely to leave. Gender and ethnicity play no role in tenure, which went against their initial theory. And employee lateral transfers in the organization are as workable as employee retention promotions.

Interventions: Based on the analysis the team developed various retention programs few of them are

➢ **Golden Year**: Categorically designed to track associates first year performance and assist them in their career development.

➢ **Ready to Rotate:** The HR team identifies and empower employees to take different roles in the organization.

➢ **Strategic Workforce Planning**: With this organization ensures that they retain employee who are skilled and are effective contributor to the organization growth and have potential for future jobs also.

Result: People Analytics has helped Nielsen to reduce the tragic voluntary turnover by almost half-which, in fact, saved millions of dollars for them. Lateral transfers raises the probability of an associates stay with organization by 48%. The number of women in leadership positions has risen from 34% to 50%.

12. **Walmart's "Analytics Engine"**

Walmart is retail giant which have almost 2.2 million employee worldwide and unwanted attrition cost millions to them. So they wanted to use the people analytics to control the attrition rate in organization.

Objective: They wanted to develop a model which can calculate Optimal Attrition rate. Along with an infrastructure for people analytics which can be used by all associates for business growth.

Data Point Considered & Tools Used: They collected and compiled qualitative and quantitative data from HR and Finance department along with customer insights to understand values and develop practical approach.

➢ **Quantitative Data** comprising of three elements data inventory (categorizes the dataset and are examined on multiple levels), exploratory analysis (Summarizing the analysis to develop insight) and statistical modeling(developing the statistical model to identify important issues and their impacts on employees and business)

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➢ **Qualitative Data** comprises of feedbacks from store employees, associates and customer experiences collected by various market research team.

Data collected from different sources are analysed by different software tools like SAS, Alteryx, Tableau and SPSS. They use Workday Dashboards for planning and presenting various data, it helps them to share live data with their associates and managers.

Findings: The analysis has helped them to identify the key attributes of their business leader who are associated with them for more than 10 years and based on that they designed leadership program for developing the new age associates for future roles.

Interventions: They developed Capability metrics which enables the team to evaluate the different strategies implemented are giving the same result as perceived. It helps them to keep a check on their reporting framework and do the changes as and when required.

Work Force Metrics tracks turnover, absenteeism and employee movement and at the same time it also helps the team to link the same with customer experiences and revenue generation allowing the team connect the HR data with wider market metrics. Based on the analysis it's easy for the team to design various strategies required for employee development and business development.

Result: The predictive analytics has helped them in talent management and developing leadership capabilities in employee and take the attritional level to optimal level where it cannot effect the organization growth.

13. Infosys's Advanced Analytics

Infosys an Indian Multinational business consulting organization has developed an in house Advanced People Analytics program which helps them in predicting attrition rate in organization and uses different algorithms to design retention strategies.

Objective: Team wants to develop an algorithm which can identify key factors responsible for attrition, and reorient the HR strategies to resolve important workplace concerns.

Data Point Considered & Tools used : For the analysis various data points were considered such as Job and performance patterns of employees, compensation offered to employees, employee skills, attributes of high performer, tenure of employee in organization, employee skills and experience, delays in promotion and career progression etc.

The team uses concepts of advanced analytics, AI and machine learning tools to predict the preliminary list of employees who could most possibly leave the organization.

Findings: The analysis has helped them to understand different drivers responsible for attrition and set relationship between them to formulate different strategies to retain employees. The key reason for attrition was compensation and lack of clear career progression opportunities.

Intervention: Based on the understandings they developed many interventions strategies like

➢ **Fast Track Career Paths:** Categorically tailored for the company's engineers who do not want to take on higher management positions, these workers are given different functional training programs so that career advancement can be made in various areas within the company.

➢ **Quarterly Promotion Cycles:** The performances of employees are assessed every quarter and on the basis of their performance and track records, they receive various monetary and non-monetary benefits. Based on the analysis employees who are suitable for higher positions are promoted to different roles at different levels, depending on their skills.

Result: At Infosys predictive analytics helps in talent management controlling recruitment and training cost. The predictive analytics has strengthened the internal mobility of employee which has decreased the turnover in the organization at various levels. It has helped the team to design various retention strategies like early career reward, bridge programs, Infosys innovation lab, be the Navigator programme etc. which caters employee aspiration needs and gives competitive advantage to organization.

14. Capegemini's "Common HR Dashboard"

Capegemini a French multinational technology service consulting organization. It employs almost 2, 70 000 associates in 50 countries. They wanted to use the HR insights in such a way which can retain their top brains, increase the productivity of employees and performance of the business.

Objective: They wanted to develop common HR dashboard which can cover all the key HR areas and build a software that can compute data from different systems and data sets in place.

Tools & Data Point Considered: They partnered with Qlik to develop an application which will focus on three specific areas like attrition, talent and learning & development and used Oracle HR System to collect the data.

The whole data has been categorized in to nine categories like talent management, attrition related attributes, career opportunities, recruitment statistics, unavoidable leaves, turnover and training & development etc.

Findings: The team has all the data but they were no common definitions for the HR metrics different partners treat the data in different ways. And hence common terminologies was developed to understand and analyse the data. The team along with Qlikview has designed new talent matrix comprising of key performance indicators linked with seven different analysis area.

The analysis has helped them to understand that variables responsible for the attrition at different business functions are entirely different. The analysis has helped the team to segregate the data as per their business functions and identify the level of attrition.

Interventions: They divided the attrition type into two category regretted attrition (loss of top performer) and non-regretted (loss of employee who are average performer or below average) attrition, and design the strategies to control regretted attrition and manage the non –regretted attrition.

Various retention strategies like Accelerated & Agile career Progression Plan and quarterly promotion cycle were introduced to cater the employee needs as per there aspiration.

Result: They have used the application for reducing the recruitment cost, increasing female employees in workforce at different levels by given them equal opportunities for career progression in the organization. Based on the metrics the team has developed various retention strategies to give various fast pace career opportunities to employee as per their aspirations.

15. Cisco's HR Advanced Analytics Group

Cisco is a leading networking and security solutions company, It operates in more than 22 countries and has around 71, 0000 employees worldwide. The team wanted to develop an model which can determine the attributes of high value employees in organization and how different management styles affects the satisfaction levels of these employees and how to use them for retaining and preparing the employee for future role.

Objective: Develop retention model which can predict the key indicators of attrition for highly skilled employees.

Data Point Considered & Tools Used: Cisco's HR team regularly conducts surveys of employee at various level to track employee satisfaction, engagement and productivity. **Annual Pulse Survey** for all the employees and gathers around 50 thousand responses and is more quantitative in nature and

another one is **Senior Technical Talent Survey** for the top performers and senior profiles, the data collected here is qualitative in nature.

They used **IBM SPSS Modeler software** for analysis**.** IBM partner Aviana has trained the team to use SPSS modeler for data mining and text analytics. The team along with Aviana's consultant has used cluster analysis and text sentiment analysis.

Findings: The model was predicting attrition in general employees relatively well but the same was not true for the engineering staff. They figured that retention incentives and bonus offered to the engineers were no longer effective for motivating and retaining their engineers.

Intervention: They redesigned their retention strategies. Better holiday packages, Challenging projects, flexible working hours are more effective way to boost employee motivation level and keeping them satisfied at workplace.

Result: The analysis has helped the organization to understand what employee really wants from their jobs and design the retention policy accordingly. It has helped the team to control attrition rate for technical and non-technical employees.

Data Point Considered & Tools Used For Analysis

S. No.	Companies	Data Points Considered	Tools Used
1	Credit Suisse	Performance Ratings Compensation Manager behavior Tenure and Roles Offered	In house Analytical Tool for data collection and Analysis.
2	Google	Possible Attrition Rate, Encoded Exit Interviews, Surveys, Performance Review, Promotion &Pay Histories, Peer Reviews, Times Spent in Collaborative Activities etc.	Retention Algorithm Project Aristotle Predictive Modeling
3	Hewlett-Packard's (HP)	Pay Hike, Promotions, (Role Elevation and Grade elevation), Job ratings and Job rotations.	Predictive Modeling technique Flight Risk Program Flight Risk Scores
4	Xerox Corporation	Work Experience, Personality types/traits, Performance, Tenure in a job and position	Business Intelligence Software of Evolv Inc.
5	Genpact	Basic Employee details Work performance Data Employee ratings Performance Ratings	Own people analytics recruiting technology FLM Survey's & Performance Ratings system

6	Nestle	Payroll Information, talent records, Recruitment sheets, Succession Charts, Leader boards etc.	Data Collection has been done by SAP tools. Data Analysis has been done by MINITAB.
7	Sysco	Work Climate & employee satisfaction Productivity Retention effectiveness of frontline workers, sustainability and quality of life	Use of predictive Analytics Group performance Tracker
8	Mindtree	Tenure of employee on Job and organization Expertise in Job Career aspiration of employees	In house predictive analytics tool "Turnover Modeling" ABC Risk Model
9	McKinsey	Compensation Performance ratings Satisfaction levels of employees\ Employee engagement data Training details Mentoring program	Developed Own Predictive - Retention Algorithm
10	Marico Kaya Ltd.	Employee behavior at work, incentive earnings of individual employees Employee performance at different role allotted to them.	Regression Analysis
11	Nielsen	20 Preliminary variables (employee's age, gender, tenure and employees ratings) 120 other variable (duration of controls, employee travel time, holiday time, engagement in CSR activities)	Predictive Risk Model
12	Walmart	Quantitative Data(including headcount, Employee tenure, Pay bands , employee demographic character) Qualitative Data (comprises of data collected through various survey)	SAS, Alteryx, Tableau and SPSS for data collection. Workday Dashboards (For planning and presentation of data)
13	Infosys	Job & performance Patterns Compensation Employee Skills Attributes of High Performers Career progression opportunities	Artificial Learnings & Machine Learning tools Advanced Analytics
14	Capgemini	Attrition related attributes, Career opportunities, Recruitment statistics, Unavoidable leaves, Training & development etc. Leavers and Non leavers profile	Qlik to develop an application for managing and analyzing the data. Oracle HR System for collecting the data
15.	Cisco	Data collection from Employee engagement , Job satisfaction surveys Annual Pulse Survey Senior Technical Survey	IBM SPSS Modeler software. .

DISCUSSION & CONCLUSION

The above discussed examples clearly showcase the results of using predictive people analytics are magnificent. There are set of Organizations like Credit Suisse, Google, Hewlett-Packard's (HP) Genpact, Sysco, Mindtree, McKinsey, Nielsen which has developed their in house tools for analysis and many of them started giving consultation for the same like Infosys and Nielsen. The other organization like Nestle, Walmart, Capegemini, and Xerox has relied on external partners for developing the tools and for the analysis.

In both the cases the data has been churned rigorously to set link between the different variables responsible for the attrition and it shows that common factors responsible for the attrition in the organizations were compensation, Lack of mentoring program, no clear career progression opportunities in the organization and work culture. In majority of cases transparent compensation policies, equal growth opportunities, Performance based promotions equal learning opportunities and offering work as per the potential of employee has done wonders in retaining the employee and saving huge amount of money for the organizations.

The Organization has used Predictive analytics to predict and control the attrition and on the same time to gain competitive advantage for the organization. HR analytics or People Analytics is used to resolve various workforce related issues like talent management, designing compensation policies, Learning & Development programs, career progression, diversity management etc.

The potential of predictive people analytics has been proven by the results shown in above business cases. But it can never replace Human intervention it can only predict patterns and trends which can be analyzed by different algorithms to predict different employee trends. Further it is in the hands of HR and business leaders to calculate the risk and act upon it.

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