HR Metrics and Decision Making using Tableau

S.Sai Abhinav Chandra, P. Malathi

Department of Computer Science and Engineering, Sathyabama Institute of Science and Technology, Chennai-600119, India
Department of Computer Science and Engineering, Sathyabama Institute of Science and Technology, Chennai-600119, India

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ABSTRACT— Management of human resources is crucial to the success of any firm. In order to ensure that the business has the right people in the proper roles to meet its goals, it involves a variety of actions, including recruiting, hiring, training, and developing personnel. HR specialists may successfully manage an organization's human resources to build a productive and innovative culture while also creating a good work environment.

In today's data-driven world, companies can benefit from using business intelligence and data visualization tools to help manage and analyze human resource data. One such tool is Tableau, which enables HR managers to create interactive dashboards and visualizations to track and monitor key HR metrics. These metrics can include employee turnover, engagement, and productivity, among others. By leveraging these data-driven insights, HR professionals can identify trends and patterns, assess performance, and make informed decisions to improve the efficiency and effectiveness of their HR processes.

Moreover, Tableau's user-friendly interface makes it easy for HR managers to share their findings with other stakeholders in the organization. By providing easy access to data and insights, HR managers can collaborate with other departments and facilitate more strategic decision-making. This can ultimately lead to better business outcomes and enhance the operations of the organization as a whole.

In conclusion, utilizing Tableau for human resource management can be a valuable tool for businesses looking to improve their HR practices and gain valuable insights. By leveraging the power of data, HR professionals can make informed decisions and create a more efficient and effective workforce, ultimately contributing to the success of the organization.

I. INTRODUCTION

1.1 The Crucial Role of Human Resource Management (HRM) in Driving Organizational Success

Human Resource Management (HRM) in organizations is an essential component by ensuring that employees are working efficiently to meet the strategic objectives of the organization. The primary focus of HRM is to manage people within the organization by creating policies and systems that promote productivity, engagement, and retention. The HR department is responsible for several critical activities, including recruiting, hiring, training, and developing employees, conducting performance appraisals, and designing reward programs to motivate and retain top performers.

In addition to these vital responsibilities, HRM is in charge of industrial relations, which entails balancing organisational policies with collective bargaining and governmental legislation. This contributes to the creation of a peaceful and productive work environment that is in line with the organization's aims. HRM arose from the early twentieth-century human relations movement, which emphasised the necessity of strategic personnel management in delivering commercial value.

1.2 The Evolution of HRM: Shifting Focus to Strategic Initiatives in the Modern Business Landscape

Business landscape has evolved due to globalisation, company consolidation, technological advancement, and additional research. Two of the

most important strategic initiatives in human resource management are:

- Talent management: A strategic approach that involves identifying, developing, and retaining top-performing employees who are essential for the success of any organization. This process involves recruiting high-quality talent, developing employees' skills and abilities, and designing reward programs that incentivize performance and retention.
- Diversity and inclusion: A strategic initiative that involves creating an inclusive work environment that values and respects the diversity of the workforce. This initiative aims to foster a culture of acceptance, belonging, and engagement that promotes productivity and innovation.

1.3 HRM in Organizations: Differences in Implementation Between Small and Large Companies and Professional Development Opportunities

HRM tasks in smaller businesses may be carried out by skilled specialists. In bigger organisations, however, the discipline is usually assigned to a whole functional group. These employees specialise in particular HR responsibilities, while functional leadership makes strategic business decisions. Institutions of higher education, professional organisations, and firms themselves have developed programmes of study that focus expressly on the obligations of the function in order to train professionals for the profession.

As indicated by various subject-specific publications, academic and practitioner organisations are also actively involved in promoting and expanding the discipline of HRM. HRM is a major study issue in management and industrial/organizational psychology, and numerous research publications on the subject can be found in a variety of academic journals.

II. LITERATURE SURVEY

In their 2019 study, Nocker and Sena [1] explored the potential benefits of talent analytics for HR practitioners, including improved decision-making. To evaluate the costs related to data governance and ethics, they also looked at case studies. According to the study, senior management may benefit from using talent analytics to successfully link HR goals with value creation. The authors also discovered three variables that moderated the relationship between talent analytics and performance (as determined by profitability, customer satisfaction, innovation, and efficiency):

technical analytics knowledge, data access, and comprehension of how to use analytics leads to an improvement in any organization's performance.

In their 2018 article, Sivathanu and Pillai [2] identified two key advantages of Smart HR 4.0. These were the ability to attract, develop, and retain new-age talent, and more efficient and faster HR operations, which could result in leaner HR departments.

Guenole et al (2017) [3] By measuring the return on investment in particular areas and the value of a particular pay plan, talent analytics can be used to guide strategy creation and give senior management with important data. In this regard, a fundamental advantage of talent analytics is that it does away with "gut sentiments," which may influence senior-level choices.

In a 2012 study, Aral et al. [4] applied agency theory to argue that talent analytics can enhance performance by enabling the monitoring of staff behavior and aligning the incentives of managers and employees. The researchers also highlighted the importance of combining talent analytics with information and communication technology (ICT) and performance-related pay to provide employees with the motivation and resources needed to support their work. By doing so, organizations can potentially increase productivity.

III. EXISTING WORK

For many businesses, managing human resources (HR) presents a basic difficulty since it is a difficult and complex undertaking. Acquiring and nurturing bright workers who can adjust to the organization's shifting strategy, technology, and products calls for a planned, long-term approach. It is a difficult undertaking to change the attitudes of a workforce of 1,000 individuals with an average age of 40 and 10 years of seniority, as opposed to technology, physical buildings, products, markets, or business processes that can be swiftly changed or rebuilt within three to five years.

It is not a viable option to just fire the staff and start again. Real change frequently takes years to implement, and even years of sluggish progress can be undone by one slip-up. In contrast, the short-term constraints of budgets and yearly plans compel quick responses. Executive compensation schemes seldom compensate managers for making investments in HRM policies and activities over a five-year period, and successful managers may not stay in their roles long enough to witness the results of their HRM efforts.

Also, a lot of businesses have trouble hiring general managers with expertise and the

capacity to oversee huge teams of employees. However, many companies struggle to find general managers with the experience and capacity to lead sizable teams of personnel. Senior executives must select and mix the six unique human relations, personnel administration, and industrial engineering ideas and disciplines despite their lack of expertise. They must also resolve conflicts between the interests of the organization's many divisions, industries, and facilities.

In conclusion, HRM is an essential task for every business that needs persistence, consistency, and long-term thinking. The implementation of true change, battling with short-term demands, and finding experienced general managers capable of managing huge numbers of employees are all important obstacles. Notwithstanding these difficulties, businesses must value HRM and make investments in it to secure their long-term success. By doing this, they can develop a competent and motivated team that will help the company achieve its strategic goals.

3.1 Integrating Data from Diverse Sources: A Comprehensive Approach:

To successfully implement a big data initiative, HR departments must acquire data from various departments within the company, including payroll and finance. This involves acquiring, sanitizing, unifying, and analyzing data. However, this task becomes more challenging for HR departments when they venture outside their companies into the world of unstructured data and predictive analytics. Professionals with the necessary skills to gather and prepare data for analysis are required for successful implementation.

In addition, HR must have a comprehensive understanding of the company's different functions and work collaboratively with other departments to achieve a successful big data initiative. HR must also develop and maintain a robust data governance strategy to ensure that data is accurate, reliable, and protected. By adopting these strategies, HR can leverage big data to drive business outcomes and improve overall organizational performance.

3.2 Overcoming Big Data Challenges in HR: The Need for Analytical Skills and Strategic Hiring

According to a survey, approximately one-third of HR managers consider themselves proficient in big data analysis, rating their skills as "good" or "excellent." The issue may stem from the lack of quantitative training that many HR managers receive during their education, especially those with

an MS in HR management, which does not provide the same level of quantitative rigor as an MBA program. Furthermore, most organizations prioritize hiring quantitative professionals for departments related to finance, forecasting, and revenue generation, with little attention paid to HR data analytics. This lack of focus is not limited to HR managers but also extends to the C-suite. To overcome this challenge, HR departments should concentrate on developing analytical skills to leverage big data for strategic decision-making. Additionally, companies may benefit from hiring professionals who possess the expertise to acquire, prepare, and analyze data from various departments and business functions, including payroll and finance.

3.3 IT Resource Constraints for Effective HR Data Analytics:

Analyzing large datasets with tools like Hadoop and other analytics programs can be resource-intensive for IT departments, posing a challenge for smaller companies. However, SMBs can benefit from public cloud resources to handle their data analysis. Moreover, for companies lacking the in-house expertise, infrastructure, and time required for data analysis, a SaaS solution can be a more effective option. By partnering with a company that has already conducted unstructured data analysis, smaller businesses can make data-driven decisions without investing significant amounts of time and money into IT infrastructure.

3.5 Taking the "Human" out of Human Resources:

Many HR managers worry that relying too much on data and analytics in hiring might lead to a reduction of human judgment and decision-making. However, data and analytics can actually help to eliminate bias and provide a more objective assessment of candidates. The key is to strike a balance between human judgment and the insights gained from data analysis. Ultimately, the goal of people analytics is not to replace human decision-making but to enhance it. By leveraging big data and predictive analytics, HR can make more informed decisions and ensure that the right people are hired for the right jobs, leading to better outcomes for both the organization and its employees.

IV. PROPOSED SYSTEM/METHODOLOGY

Tableau Dashboards can be a valuable tool for organizations looking to present complex data in a clear and concise way. By using Tableau's features, users can create dashboards that can

provide insights into important business metrics, and help decision-makers quickly and easily understand the data.

To create an effective dashboard, it is important to identify the most important data that needs to be displayed. While Tableau offers a variety of visualization tools, including charts, graphs, and maps, it is important to focus on the data that is most relevant to the end-users.

Once the data has been identified, users can begin creating their dashboard by dragging and dropping views onto the visualization area. These views can be customized using the Tableau Dashboard tab and the Layout tab. The Device Preview button can also be used to ensure that the dashboard looks good on different devices.

In addition to creating a well-designed dashboard, it is also important to ensure that the data is accurate and up-to-date. This can be achieved by connecting the dashboard to real-time data sources, such as databases or spreadsheets.

By using Tableau Dashboards, organizations can effectively communicate data insights to a variety of audiences, from executives to front-line employees. By providing a clear and concise view of important data, decision-makers can make informed decisions that can drive the organization forward.
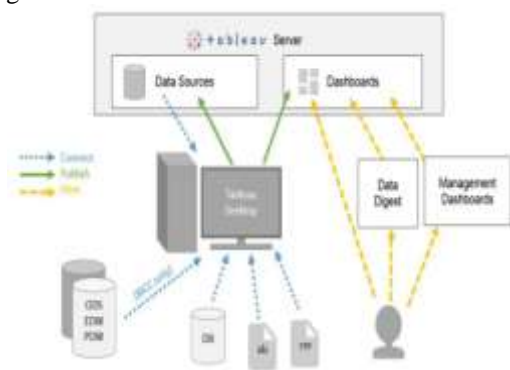
Architecture Diagram

Building a Tableau dashboard for Human Resources Management requires careful planning and attention to detail. After identifying the key metrics and KPIs, it is crucial to ensure that the data being used is accurate and up-to-date. This may require collaborating with other departments or teams to gather the necessary information.

Another important step is to ensure that the dashboard is accessible and user-friendly for a wide range of stakeholders. This may involve creating multiple versions of the dashboard tailored to different levels of the organization or creating a user guide to help individuals understand how to navigate the dashboard.

It is also important to consider the security and confidentiality of the data being used in the dashboard. HR managers must ensure that they are in compliance with data privacy regulations and that only authorized individuals have access to the data.

Furthermore, HR managers should seek feedback from users to continuously improve the dashboard's usability and effectiveness. This feedback can be obtained through surveys, focus groups, or one-on-one interviews.

In summary, building a Tableau dashboard for Human Resources Management involves identifying key metrics, selecting appropriate visualizations, designing for the user, adding interactivity, ensuring data accuracy and security, and seeking feedback for continuous improvement. By following these steps, HR managers can create a dashboard that provides valuable insights into the organization's HR function and helps to make more informed decisions.

V. RESULTS AND DISCUSSION

HRM Dashboard Page 1

The first Dashboard containing the complete employee details of a company spanning over ten years can provide valuable information about the organization's human resource management practices. By analyzing this dataset, we can determine the number of employees who have been hired and terminated during the period. This information can provide insights into the company's recruitment practices and its ability to retain employees.

Additionally, we can learn about the reasons for employee departures by examining the number of resignations. The data can be further analyzed to determine the reasons for resignations, such as low job satisfaction, insufficient compensation, or lack of growth opportunities. This information can be used to improve employee

engagement and retention, ultimately leading to a more stable workforce.

The dataset can also reveal the number of departments in the company and the number of employees in each department. This information can be used to assess the effectiveness of the company's organizational structure and to identify any areas that need improvement.

It can also help to determine the employee-to-department ratio and ensure that each department has adequate resources to operate efficiently.

Furthermore, the dataset can provide insights into individual employee performance scores. By analyzing this data, we can identify high-performing employees, which can help to inform promotion decisions and reward systems.

We can also identify areas where employees may require additional training and development to improve their performance.

Overall, a dataset containing employee details from a ten-year period can be an invaluable resource for human resource management. It can provide insights into the company's recruitment and retention practices, organizational structure, and employee performance. By using this data effectively, organizations can make informed decisions about their workforce and create a more engaged and productive workforce.

HRM Dashboard Page 2(Employee Details)

In addition to these insights, analyzing the employee ID data can help HR managers understand the tenure and experience of employees in the organization. This information can aid in identifying high-performing employees who have been with the company for an extended period and may be eligible for promotions or leadership roles.

Moreover, the gender data can be further analyzed to understand the representation of women in leadership roles, their tenure in the organization, and the turnover rate of women compared to men. This information can help HR managers develop strategies to promote gender equity and reduce gender-based disparities.

Finally, analyzing the number of men and women working in the organization can provide insights into the overall gender balance and identify areas where gender diversity may need to be improved. This information can help HR managers develop and implement diversity and inclusion initiatives to create a more inclusive and equitable workplace.

Overall, a dataset containing employee details can provide HR managers with valuable insights into their workforce, allowing them to make data-driven decisions that promote equity, diversity, and inclusion within the organization. With Tableau and other data visualization tools, these insights can be presented in a clear and concise manner, making it easier for HR managers to identify areas for improvement and take action to address them.

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