

# People Analytics

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**Abstract:** People analytics is the practice of using data to make better decisions about the workforce to improve decision-making. It is collecting and applying organizational, people, and talent data to improve critical business outcomes. It is at the center of human resources (HR) and is key to practicing evidence-based HR. People analytics is a combination of human resource management (HRM), finance, and data analytics. This means that organizations need varied skillsets in order to implement people analytics. People analytics empowers HR teams and business leaders to answer critical questions such as why are employees leaving and what drives high performance. HR professionals can use people analytics to understand why certain things happen. This paper explores how people analytics is used in HR decision-making.

**Keywords:** Human Resources, HR, Human Resource Management, HRM, People Analytics, Human Resources Analytics, Workforce Analytics, Talent Analytics

## I. INTRODUCTION

Many HR experts believe that human resources should operate like any other business function (sales, marketing, IT, etc.) and have operational metrics to track its effectiveness and the value created for the business. By analyzing internal data, research, and studies, combined with expert judgment, experience, values, and concerns, HR can make evidence-based decisions rather than relying on a “feeling.” Through people analytics, HR can turn data into action and align facts to organizational strategy and business goals. People analytics enables HR departments to gain data-driven insights to make decisions on different people processes and turn them into actions to drive the performance of an organization [1]. Figure 1 shows a typical HR team [2].



Figure 1: A typical HR team [2].

People analytics is sometimes called HR analytics, workforce analytics, or talent analytics. The terms “people analytics” and “HR analytics” are frequently used interchangeably.

However, there is a difference. HR analytics implies the data is exclusive to human resources, while people analytics goes beyond HR and includes finance, customer, marketing, and other data sources. People analytics is broader, more strategic, and more connected to business outcomes [3]. HR analytics and people analytics are strong tools for HRM to become more strategic.

## II. WHAT IS PEOPLE ANALYTICS?

People analytics refers to the study of what people do—the processes, functions, and systems at play in a company. It uses data analysis to make informed decisions about a company’s workforce. It combines data from HR systems, business operations, and employee feedback to uncover trends, predict outcomes, and improve everything from retention to productivity and hiring. It helps to keep an eye on how effectively you use human labor, which is an essential resource for every company. It helps you understand how effectively your current labor force is operating. Over the years, people analytics has evolved from reports of HR systems, headcount, vacation leave, and sick leave data to more advanced capabilities such as managing talent and workforce planning. Google was among the first organizations to use people analytics in decision-making. By selecting better candidates, analytics enabled the company to build a stronger and more suitable workforce and thus added to the long-term profitability of the company. Figure 2 shows different components of people analytics [4], while Figure 3 depicts people analytics with HR team [5].



Figure 2: Different components of people analytics [4].



Figure 3: People analytics with HR team [5].

You can divide people analytics into seven pillars: workforce planning analytics, talent sources analytics, talent acquisition/hiring analytics, onboarding and engagement analytics, employee lifetime value and performance management analytics, talent attrition and retention analytics, and employee wellness, health, and safety analytics.

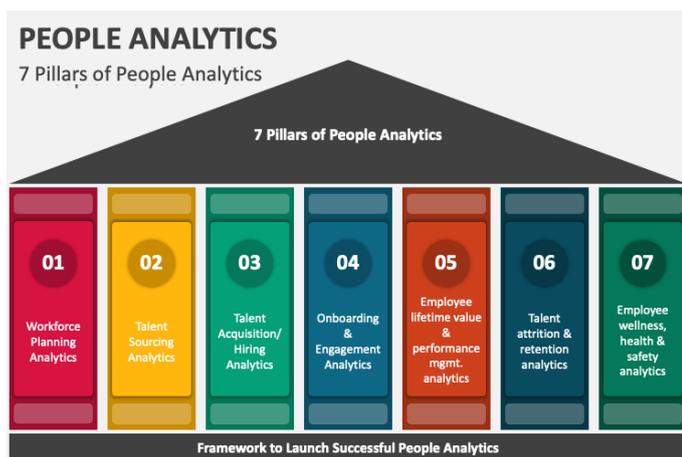


Figure 4: Seven pillars of people analytics [6].

### People Analytics Data Sources

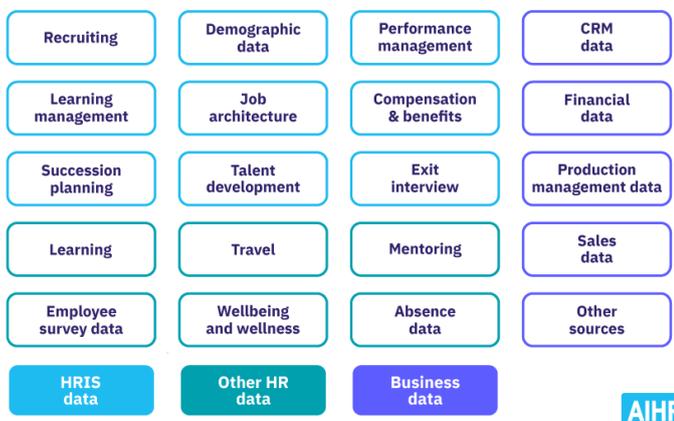


Figure 5: People analytic data sources [1].

These pillars are shown in Figure 4 [6]. The seven pillars of people analytics create a framework for thinking about and working with human behavior in the workforce. Examining the

analytics of each of these areas can help you make improved, more strategic decisions based on data.

People analytics typically relies on data collected from human resources. It often involves aggregating data from different sources or systems. It encompasses many potential types of data and taps into a varied assortment of data sources. Figure 5 illustrates people analytic data sources [1]. The seven pillars help sort data into seven categories to make it easier to work with the numbers and see connections between different kinds of information [7].

### The 4 Types of People Analytics



Figure 6: Four types of people analytics [1].

There are four types of people analytics, as shown in Figure 6 [1]. They are explained as follows [1]:

1. **Descriptive Analytics:** What happened? Descriptive analysis (also known as decision analytics) is a basic type of people analytics that analyzes the patterns in historical data sets to gain insight into what happened. It is the most common type of people analytics organizations rely on. It entails observations and initial insight into what is going on
2. **Diagnostic Analytics:** Why did it happen? Diagnostic analytics takes descriptive analytics a step further and offers an underlying explanation for the insights revealed in the trends, correlations, and anomalies of the data.
3. **Predictive Analytics:** What else might happen? Predictive analytics categorizes past and present data to determine insights and then uses an estimating model to predict what may happen in the future. Using this analytic method, you can look at what might happen if you implemented your next steps to choose the best path forward.
4. **Prescriptive Analytics:** What can you do? Prescriptive analytics is the final step that channels predictive analytics into decision options and actions to achieve success. It uses all of the analytic methods you have already used to come to an informed decision on the best way forward.

### III. APPLICATIONS OF PEOPLE ANALYTICS

People analytics goes beyond simple reporting to connect information across HR and business systems—recruiting, onboarding, learning, performance, and more—to create a complete view of the workforce. Organizations use people analytics in key HR functional areas such as compensation, recruitment and selection, retention, diversity, inclusion, equity and belonging, and performance management. Some use cases of people analytics are displayed in Figure 7 [8]. Common applications include the following [7,8].

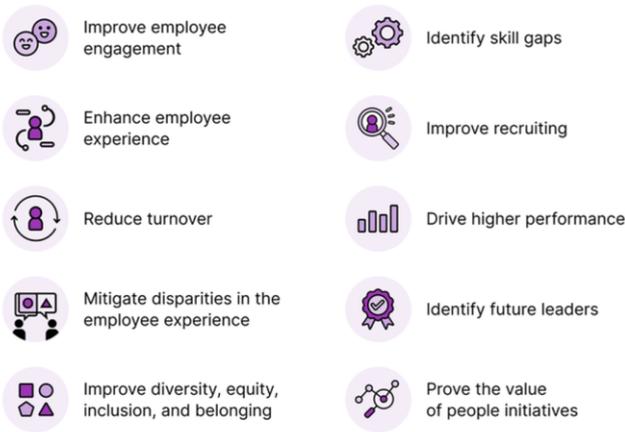


Figure 7 Some of the use cases of people analytics [8].

- **Workforce Planning:** Workforce planning helps you determine the people and skills your company needs to operate. Workforce planning data can help you understand when you will need to make new hires and what skills they need to meet your company's goals. Workforce planning people analytics can also help you employ the correct number of employees and make efficient decisions about labor costs.
- **Talent Hiring:** After you have located the perfect candidates, you will need to attract them to your company and make them a part of the team. The talent acquisition and hiring pillar of people analytics helps you make sense of your interview process. Using talent acquisition and hiring data, you can make connections and uncover the metrics that will best help you predict how successful a candidate will be after onboarding.
- **Onboarding:** Onboarding talent, introducing new employees to the role they will fill, and providing job-specific training provide data to help you determine the best ways to bring new employees into your organization. Learning and development data can also give you insight into which learning methods your employees are the most engaged with. Onboarding and engagement analytics help you understand which engagement campaigns inspire and encourage your employees so you can focus your efforts on programs with a more significant impact.
- **Performance Management:** Employees are hungry for development and the most important engagement factor for high performers is the performance management process itself. Employee performance is personal; the needs or goals of one employee are likely different from the next. Without data, performance management can quickly become subjective and prone to bias. Performance management data refers to the metrics you use to track your employees' output. Monitoring performance metrics allows you to understand how often your employees are meeting their goals and targets for their work. When you have performance management data, you can have more transparent and fair performance reviews with your employees.
- **Talent Retention:** Employee retention is a most common use case of people analytics. Analytics that speak to talent attrition and retention allow you insight into your employee's skills and engagement to make decisions about ongoing training or promotions. This type of data can also help you understand why

people decide to leave your company and what qualities potential employees are looking for in their future employers. Talent attrition and retention analytics help you discover where training gaps exist and who may benefit from additional instruction.

#### IV. BENEFITS

People analytics not only gives organizations a competitive advantage but has multiple benefits. It can give you the insight and context you need to make better workforce decisions. People are best managed by taking a data-driven approach. People analytics lets HR convert a (people) problem into a numeric rating and a dollar amount. Other benefits include the following [1]:

- **Cost Savings:** People analytics can help the organization allocate its budget more effectively by demonstrating the potential value of each dollar spent in different scenarios. Making better decisions means wasting less time on wrong turns and inefficient HR and people processes, while also reducing costly turnover.
- **Closing Skills Gaps:** Left unresolved, skills gaps can negatively impact employee engagement, morale, and turnover. People analytics allows organizations to understand workers' current skills and the future skills needed according to business demand, thus bridging the talent gap. Companies can turn to data to identify workforce skill gaps and growth needs.
- **Lower Turnover:** Another great benefit of people analytics is that it can reduce employee turnover. People analytics help you understand why people leave your company, giving you the insight you need to adjust company policies accordingly. With data, HR can work to reduce turnover rates by creating targeted strategies that address the root causes of why employees leave the organization. Your people analytics software can help you determine patterns and predictors of employee turnover so you can make adjustments.
- **Increasing Productivity:** People analytics help you match the right people with the right responsibilities to maximize output and performance.
- **Attracting Talent:** People analytics help you attract qualified applicants by understanding exactly what skills you need and highlighting the most attractive aspects of working for your company.

Figure 8 shows some of the benefits of people analytics [1].



Figure 8: Some of the benefits of people analytics [1].

## V. CHALLENGES

Even with clear benefits, organizations often face challenges when getting started with people analytics. Perhaps the most challenging people analytics processes hinge on one word: action. Other challenges include the following [9,10]:

- **Privacy:** As people analytics grows in popularity, so do privacy protection concerns. Companies must ensure they are meeting each region's legal privacy rules and regulations, which becomes a more complex task for global organizations. Information security is equally important, and only certain people should be able to access certain personal data.
- **Bias:** The name on a job application might influence the chances of getting hired. People who make selection of applicants often harbor a racist view, however unconscious it may be. This is in a time when organizations are increasingly and actively trying to promote diversity. The remarkable thing is that humans are bad decision-makers. Analytics helps us escape our biases and imperfect decision-making.
- **Data Silos:** Workforce information is typically scattered across multiple systems—recruiting, onboarding, learning, performance, payroll, and business operations. Without integration, leaders only see fragments of the picture, making it hard to connect employee growth to business outcomes.
- **Data Quality:** The value of people analytics depends on the quality of the data that is used. Incomplete, outdated, or inconsistent records can lead to misleading results, eroding trust in the process and discouraging managers from relying on insights to guide decisions. Being an administrative expert will ensure high data standards.
- **Skills Gaps:** Many HR professionals have strong expertise in people management but less experience with data analysis. Members of your HR staff may not be as knowledgeable about analytics as the employees in your IT department. Therefore, you may want to incorporate data analysis into your HR training program.
- **Communication:** It is important to communicate effectively with the business. This is key at the start of analytics, but also when you interpret results. The way you communicate the data influences its impact. You can present the data in a meeting, display it in a dashboard or send it in an email. Different ways of communication require different ways of ordering and visualizing the data.

## CONCLUSION

People analytics is the evidence-based practice of surfacing actionable insights from data to help people and organizations thrive. It aims to help businesses gain insight into their workforce to make data-based decisions. It has moved from a dispensable luxury to an indispensable necessity. It is helpful for spotting problem areas, such as low retention or pay disparity. Done properly, people analytics empowers human resource management teams to act with clarity. It may be difficult to implement people analytics for organizations but, once developed, it enables a valuable advantage that is hard to imitate or substitute [10].

Your people are your organization's biggest asset, so you try to be as strategic and intentional as possible when making decisions that affect them. Having the capability to do people

analytics offers tremendous value. People analytics is a growing field, with people analytics jobs on the rise over the past couple of years. A major milestone among the many key people analytics trends is the integration of AI and machine learning. More information on people analytics is available in the books in [11-17] and the following related journal:

- *Journal of Human Resource Management Perspectives*
- *International Journal of Research in Human Resource Management*
- *German Journal of Human Resource Management*
- *South Asian Journal of Human Resources Management*

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