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Unit-1 / Topic

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**Subtopic- INTRODUCTION TO HR ANALYTICS,
HISTORY, TRANSITION FROM HRM TO HCM,
IMPORTANCE AND SCOPE**

Unit-2/ Topic

Topics

**UNDERSTANDING HR ANALYTICS, DATA
EXAMINATION AND PURIFICATION,
UNDERSTANDING VARIOUS HR METRICS FROM
THE PERSPECTIVE OF HR ANALYTICS**





Reference Books

1. Rama Shankar yadav and Sunil Maheshwari, HR Analytics, Wiley 2021
2. Dipak kumar Bhattacharya, HR Analytics, Sage 2017
3. Nishant Uppal, Human Resource Analytics, Pearson, 2021





UNIT-1

SPECIALIZATION- BUSINESS ANALYTICS (COURSE CODE- BAY-4)

SUBJECT- HR ANALYTICS

TOPIC- 1

INTRODUCTION TO HR ANALYTICS

HR analytics is the process of collecting, analyzing, and interpreting data from human resources functions to make data-driven decisions that improve workforce performance and align with business goals. It uses statistical techniques and data visualization to gain insights into areas like recruitment, performance, employee engagement, and retention, ultimately helping organizations become more effective and strategic.

What it is

- **A data-driven approach:**

HR analytics is a systematic way of using data to answer key questions in human resources, moving beyond intuition to make evidence-based decisions.

- **An alternative name:**

It is also known as people analytics, talent analytics, or workforce analytics.

- **A key objective:**

The main goal is to transform raw employee and organizational data into actionable insights that enhance business performance and improve the employee experience.

How it works

- **Data collection and analysis:**

It involves gathering data from various sources related to HR processes and using analytical tools to find patterns and trends.

- **Key areas of analysis:**

It focuses on core HR functions like:

- Recruitment and selection
- Performance management and measurement
- Learning and development
- Compensation and benefits
- Employee engagement and retention

Tools and techniques:

It utilizes a range of tools, from basic spreadsheets to advanced techniques like linear regression, SQL, and machine learning to analyze and predict outcomes.

Why it's important

- **Informed decision-making:**

It helps HR professionals and leaders make smarter, more strategic decisions.

- **Improved business performance:**

Subject Name:



By analyzing metrics like time-to-hire or retention rates, it can directly impact and improve overall business performance.

- **Targeted strategies:**

It allows organizations to identify factors affecting engagement or turnover, enabling the creation of more effective strategies to address them.

- **Strategic partnership:**

It helps the HR department become a more strategic partner to the rest of the business by providing data-backed insights that support organizational objectives.

HR analytics is the process of collecting, analyzing, and reporting on HR data to improve business outcomes and make better decisions about your workforce. It helps you cover data related to your human resources, including the time to hire, time to productivity, retention, engagement, and more.

Some companies also use the terms people analytics and workforce analytics. These are similar concepts, but they're not the same.

As the name suggests, people analytics work with people data relating. That can mean employees, but it can also mean those outside the company, including customers and stakeholders.

Workforce analytics strictly use data related to your workforce. This includes internal collaborators such as employees and external ones like freelancers, consultants, and gig workers.

All three analytics types share one common goal, though: to help businesses make data-informed decisions about their workforce and business processes.

How to use HR analytics: Incorporating AI and meeting employee demands

While the way you use HR analytics, depends on your goals, strategy, and ultimately what your employees want, we've got a few steps to help you get started on the right path.

Remember: With proper human supervision, you can safely turn to AI-based HR analytics tools to speed up reporting and handle complex data, even when you don't have enough people on your HR team. You can use AI features to take some of the burden off your team's



shoulders so they can focus on what matters the most instead of manual analytics or operational processes.

1. Set your goals

These should be SMART (specific, measurable, achievable, relevant, and time-bound) so you can easily tailor them to your own needs and track progress. You don't need to spend hours continuously monitoring your results. AI can come in to track these, notify you of important changes, and even predict if you're headed in the right direction or not.

2. Collect accurate data

Never gather data just for the sake of having data. Choose data types that can help you reach your goals and make sure you're pulling these from all available sources for a more accurate representation of where you stand.

3. Choose what tools you're going to use for data analysis

Analysis is the core of the HR analytics process so you'll need a tool that can keep up with your needs even as you scale. Look for a tool that can easily be connected to your HRIS or other people management solutions you're using. AI features are always nice-to-haves to help you automate routine tasks, identify irregular patterns in employee behavior, proactively see if someone's at risk of leaving the company, and more.

4. Run your data analysis

Depending on your goals, you may use one or several types of analytics like:

- **Predictive analytics:** These most often rely on advanced machine learning algorithms that guide you in forecasting skill gaps, engagement rates, turnover risk, and more.
- **Prescriptive analytics:** Use these steps to understand your next action items and get AI to recommend the best strategies to help with your most pressing challenges.
- **Diagnostic analytics:** Ditch the manual work and let AI analytics look at your entire historical data to identify issues you might have missed and prevent similar hurdles in the future.



- Descriptive analytics: Get a concise summary of historical trends to better understand what's currently influencing (positively or negatively) your workforce.

You can also consider using a mix of data types. Combining people data (like demographics, skills, or performance metrics) and work data (like project timelines, productivity, and collaboration metrics). This lets you identify further problems or trends that you wouldn't be able to identify if you used only a single type.

For example, by mixing people and work data, you could track team performance patterns and also help your management see if higher productivity means your talent is at risk of overutilization or burnout.

5. Make data-driven decisions

The main reason you're using HR analytics tools is to improve your decision-making process. If you've covered the previous four steps, you should now have easily accessible and interpretable data that will allow you to ditch the guesswork.

Pull in your favorite AI assistant to help with reporting, too, so you can focus on the final decision, not how your report looks.

Concrete ways of using HR predictive and prescriptive analytics

To paint a clearer picture of when you might use two core types of HR analytics, we're covering a couple of popular predictive and prescriptive scenarios you might also bump into:

Examples of predictive analytics in HR

Predictive HR analytics combine statistical and historical data to predict future trends. Here are a few scenarios when you'll want to consider predictive analytics:

1. Predicting employee turnover. You can reduce bias and false assumptions by getting AI tools to act as an objective data analyst. As a result, you'll understand what drives employees to quit and how that will impact your organization. HR analytics allows you to see what factors influence these decisions and identify the missing parts in your HR strategy (e.g. succession planning, employee engagement efforts).



2. Predicting performance. This is another aspect you can't correctly predict single-handedly as subjectivity will likely play a huge part in the final decision. While AI is going to give you a clearer understanding of what motivates someone to perform better, you'll want to mix this strategy with human reach. The latter includes talking to employees to get a better picture of how they're feeling, what their goals are, and many more aspects you're likely not tracking yet.
3. Succession planning. Every company needs a succession plan, no matter how basic. And for that, you first have to decide which employees are most likely to make good leaders or move into new/higher positions. Predictive analytics can guide you with that so you can build better training and knowledge retention programs.
4. Predicting how likely a candidate is to succeed in a role. You can use predictive HR analytics at any stage of the employee lifecycle. The earlier, the better your chances are for hiring the right people in the first place.

TOPIC-2

HISTORY OF DIFFERENT HRM PERSPECTIVE

The history of Human Resource Management (HRM) perspectives shows a shift from administrative tasks to a strategic function, starting with early personnel management during the Industrial Revolution and evolving through various stages. Key perspectives include administrative HRM, focusing on record-keeping and compliance; behavioral HRM, which emerged in the 1950s to emphasize employee motivation and relations; and strategic HRM, which gained prominence in the 1980s and 1990s by aligning HR with overall business objectives. Modern perspectives also include international HRM and the current focus on digital transformation.

1. Early Personnel Administration

- **Origin:**

Developed during the Industrial Revolution as the need arose to manage large numbers of factory workers.

- **Focus:**

Transactional and clerical tasks like payroll, record-keeping, and ensuring compliance with laws.

- **Key Figure:**

Frederick Winslow Taylor, with his Scientific Management principles, advocated for standardized workflows and incentive-based pay.

2. Behavioral and Human Relations Era



- **Origin:** Arose in the 1930s to 1950s, influenced by the Human Relations movement and studies like the Hawthorne Studies.
 - **Focus:** Employee motivation, communication, and leadership development. It began to view employees as a crucial asset rather than just a factor of production.
 - **Key Figure:** Elton Mayo, often called the "father of human relations management".
3. Strategic Human Resource Management (SHRM)
- **Origin:**
Emerged in the 1980s and 1990s as a response to increasing globalization and business complexity.
 - **Focus:**
Aligning HR strategies with the overall business strategy to achieve organizational goals.
 - **Activities:**
Focuses on high-performance work systems, talent management, succession planning, and organizational culture.
4. Modern and Emerging Perspectives
- **International HRM:**
Developed with the rise of multinational corporations to manage a global workforce and adapt to different national labor laws and cultures.
 - **Digital HRM:**
Driven by technology, this perspective focuses on using HR technology to automate processes and gather data for strategic decision-making.
 - **Contingency Perspective:**
Views HRM as needing to adapt its approach based on the specific situation or "contingency," such as the organizational strategy or external environment. This is closely linked to SHRM.

Examples of prescriptive analytics in HR

If you're using prescriptive analytics, it means you want to go beyond predictive analytics. You're now looking at why certain trends or challenges happen and deciding how to approach them. Here are a few scenarios when you'll want to consider prescriptive analytics:

1. **Retention strategies.** Prescriptive analytics shows you what retention strategies are likely to work with your employees based on common past patterns. For instance, if an analytics platform identifies problems with employee stress levels, it might come in to recommend specific action plan ideas such as launching a wellness program or giving them access to free mental health workshops.



2. Recruitment strategies. You can reduce the costs and the burden that chaotic recruitment brings by simply having prescriptive analytics look at what strategies are likely to work. With a solution like this, you can improve your offer to acceptance rates by analyzing what tools or strategies you need to automate scheduling or reduce the number of needed interviews.
3. Diversity and inclusion initiatives. Although some companies were pushed to decrease the number of people on their DE&I teams recently, it still stands as a long-term play. Use prescriptive analytics to choose the best DE&I initiatives to improve retention, reduce bias, and create a healthier work environment.
4. Internal mobility tactics. Lateral and vertical movement helps you reduce costs and keep your top performers. Prescriptive analytics will tell you what the most effective tactics for internal mobility and mentoring are.

TOPIC-3

TRANSITION FROM HRM TO HCM AND GAINING SUSTAINABLE ADVANTAGE THROUGH HCM

Transitioning from Human Resource Management (HRM) to Human Capital Management (HCM) involves shifting from a tactical, administrative focus to a strategic, growth-oriented one, viewing employees as valuable assets to be developed rather than just resources to be managed. To gain a sustainable advantage through this transition, organizations must align workforce strategies with business goals, invest in employee development, optimize talent utilization, and leverage data analytics to drive continuous learning, innovation, and agility.

Transitioning from HRM to HCM

Feature	Human Resource Management (HRM)	Human Capital Management (HCM)
Primary Focus	Tactical and administrative functions like payroll, benefits, and compliance	Strategic and growth-oriented, focusing on developing employees' value
Employee View	Employees as resources to be managed	Employees as valuable assets or "human capital"



Key Activities	Day-to-day operations, record-keeping, and process management	Aligning workforce capabilities with long-term organizational goals, talent development, and analytics
Goal	Ensuring smooth, efficient HR operations	Creating sustainable competitive advantage through people

Gaining sustainable advantage through HCM

- **Strategic talent acquisition:** Align recruitment with the company's long-term objectives to ensure the right people with the right skills are hired.
- **Investment in development:** Focus on continuous learning, skills mapping, and personalized development programs to unlock employee potential and value.
- **Data-driven insights:** Use data analytics to measure the effectiveness of training, identify skill gaps, and make informed decisions about workforce planning.
- **Optimized talent utilization:** Create a flexible and agile workforce by matching employee skills and potential to current and future business opportunities.
- **Enhanced employee engagement and experience:** Foster a culture that values employee growth, satisfaction, and engagement, leading to higher productivity and retention.
- **Alignment with business strategy:** Integrate human capital planning directly into the core business strategy, ensuring that the workforce can adapt and grow with the company's needs.

HRM and HCM are related—sometimes overlapping—but ultimately distinct approaches to managing an organization's workforce. Although the specific responsibilities may vary from one company to another, HRM and HCM each follow a consistent core mindset.

HRM is tactical, focused on the day-to-day operations and processes that support employees. For example, HRM typically ensures that employees receive accurate, on-time paychecks and tax documents. HCM, by contrast, is strategic. It's focused on developing the value and potential of employees. A good example is workforce planning, where HCM is used to bring in the right talent in the right places to meet business objectives.

Far from being opposing approaches, HRM and HCM complement each other. HRM promotes operational efficiency; HCM drives business growth by aligning human capital with organizational goals. Companies that integrate both are better equipped to compete today and in the future.

Key Takeaways



- HRM and HCM represent different approaches to managing employees—and there are different types of software designed to support each.
- HRM views employees as a resource to be managed, with an administrative and transactional focus.
- HCM sees employees as assets worthy of investment and takes an analytical and strategic approach.
- HRM vs. HCM isn't an either/or choice. In many organizations, the two are interdependent, working together to promote a competitive advantage.

What Is Human Resource Management (HRM)?

HRM manages the day-to-day interactions between an organization and its employees. Policies, procedures, and processes form the framework for that management. A typical HRM role includes responsibility for hiring and onboarding new staff, processing payroll, administering benefits, and maintaining employee records. But typical is not universal: In one company, HRM may administer training programs, while in another, training and development is a separate function entirely.

Whatever the scope of the work, much of what HRM does is reactive. For example, HRM might hire someone to fill a job opening, or it might process a raise authorized by a manager. HR activities are often siloed—it's common, for instance, for performance reviews to occur independently of career development opportunities.

What Are the Goals of HRM?

Broadly speaking, HRM's core goal is to ensure that the company meets its responsibilities to employees, efficiently and without disruption. To achieve that, HRM must deliver on several smaller objectives:

- Recruit and retain employees
- Administer payroll and benefits accurately and on time
- Comply with labor laws, safety regulations, and company policies
- Maintain accurate employee records
- Foster a positive work environment
- Provide regular feedback and performance reviews
- Offer basic learning programs

Meeting these goals keeps HR operations running smoothly and reduces legal challenges—but they support the company's strategic objectives only indirectly.

Core Responsibilities of HRM

HRM's responsibilities fall into three main categories: ensuring compliance with labor laws, managing payroll and benefits, and fostering a positive and productive work environment.

**Compliance responsibilities include:**

- Staying up to date on employment law
- Documenting employment practices and policies
- Maintaining accurate employee records
- Overseeing audits and legal reporting
- Conducting safety training

Payroll and benefits responsibilities include:

- Accurate, timely payroll processing
- Employee benefits enrollment and administration
- Handling tax deductions and reporting
- Resolving payroll discrepancies

Workplace experience responsibilities include:

- Enforcing company policies fairly
- Tracking performance and addressing underperformance
- Resolving workplace conflicts
- Managing employee engagement programs

This list isn't exhaustive. HRM often takes on additional responsibilities that are shaped by the business. For example, if employees are members of a labor union, HRM ensures compliance with the collective bargaining agreement. In addition, some of these tasks are shared with others. For example, performance tracking may be done by a line manager and department head, then reviewed and formalized by an HRM representative. Even when other stakeholders are involved, HRM typically designs, drives, and oversees the process. In this way, HRM serves both as a support function and in a leadership role.

What Is Human Capital Management (HCM)?

HCM is a strategic approach to managing people. With a laser-sharp focus on business goals, it equips employees with the tools and support they need to make their greatest possible contribution. HCM treats employees as assets and assumes the company benefits by investing in their growth and development.

To do that, HCM begins by mastering foundational HRM functions, such as making sure employees get their paychecks on time. But HCM extends far beyond the basics. It takes a proactive, even anticipatory, approach. For example, rather than simply helping to fill current job open openings, HCM may forecast the talent the company will need in two years—and



build a plan to develop both current employees and prospective talent pipelines in preparation for that future demand.

To be effective in this role, HCM relies on an array of sophisticated tools and technology, such as workforce analytics, talent management platforms, learning and development systems, and predictive modeling tools.

What Are the Goals of HCM?

The overarching goal of HCM is to manage and develop the workforce in ways that propel business success. Within that context, its more specific goals include:

- Aligning employees and HR strategies with business objectives
- Attracting and retaining top talent
- Enhancing employee productivity
- Developing employee skills
- Leveraging workforce planning
- Improving employee engagement
- Fostering sufficient agility to adapt to market changes

To succeed, HCM must clear a high bar. Although it's primarily evaluated on how well it achieves strategic outcomes, it must also facilitate smooth execution of core HR tasks.

Core Responsibilities of HCM

Given its strategic role, it follows that HCM's responsibilities are also strategic. They include:

- Forecasting labor needs (including both head count and skills)
- Analyzing employee skills data to support a skills-based people strategy
- Developing long-term hiring strategies and employer branding
- Creating personalized learning plans for employees at all levels
- Building career paths and leadership pipelines
- Designing incentive programs to motivate employee development
- Leading initiatives to improve the overall employee experience
- Structuring competitive compensation packages
- Leveraging advanced technology for workforce analytics and tailored employee experiences

With HCM so closely tied to business strategy, its responsibilities tend to evolve as priorities shift.



How Are HCM and HRM Similar?

Given that HCM is a more expansive, strategic evolution of HRM, it's no surprise the two approaches have much in common. Both are:

- Responsible for the core HR functions employees rely on daily, including payroll, benefits administration, and recordkeeping.
- The first and last stop employees make during the arc of their tenure. The two work together to recruit, hire, onboard, conduct exit interviews, and process terminations.
- Vested in employee success. While their approaches differ, each provides training programs, monitors employee performance, addresses performance issues, and forges efforts to engage and retain talent.
- Responsible for maintaining a safe, fair, positive, and compliant environment.
- Relevant to organizations of all sizes. (It's often assumed that HCM is valuable only to large enterprises, but that isn't necessarily true. Because HCM is defined by how others perceive a company's views and the way it invests in its people, HCM's principles can be applied to businesses of any size.

How Are HRM and HCM Different?

While HRM and HCM often work in tandem, they're grounded in fundamentally different perspectives. These divergent philosophies are apparent not only in what each function does but in how they do it. Their goals, methods, mindset, and use of technology all reflect distinct perspectives on the role of people in an organization. Their differences are demonstrated in several areas:

Purpose of Work

The purpose of most HRM activities is to ensure that the company meets its obligations to employees, seamlessly and consistently. The primary purpose of most HRM policies is to comply with labor laws and to cultivate a safe, fair environment.

HCM shares that responsibility, but that work is a backdrop to a broader commitment: enabling each employee to contribute their full potential toward meeting the company's strategic goals.

For example, HRM verifies that all employees are correctly classified (full-time, part-time, contractor) in accordance with labor regulations; HCM may develop a leadership pipeline to prepare high-potential employees for future roles.

Approach to Work

Given HRM's purpose, the approach to work is, predictably, transactional and administrative. Policies play a central role. HCM, by contrast, is data-driven and employee-centric. Money



spent on HCM strategies is viewed not as overhead, but as an investment in the organization's future.

For example, while HRM works to keep the employee manual current, HCM is analyzing employee engagement data with an eye toward shaping company culture.

Focus of Work

HRM tends to operate at a granular level, focusing primarily on handling immediate needs, such as paycheck processing and managing employee records. The focus is on executing specific tasks accurately and efficiently to support the employee experience in the moment.

HCM takes a higher-level view. Its focus is on long-term workforce readiness: aligning people strategy with business goals, forecasting talent needs, and creating development plans to help employees grow into future roles. Rather than reacting to immediate demands, HCM anticipates what's ahead and builds toward it.

Technologies

HRM and HCM both rely heavily on technology, but they use it in different ways. For example, HRM harnesses technology in the form of human resource management systems (HRMS) to automate routine, manual tasks to improve speed and accuracy; HRMS systems are designed for exactly this purpose.

By contrast, HCM uses technology more for analysis, forecasting, and decision-making. It depends on systems embedded with advanced tools—such as artificial intelligence, machine learning, and predictive analytics—to support everything from workforce planning to personalizing employee experiences. And while HCM also uses automation, it applies it, for example, to generate work schedules that account for overtime rules, availability,

TOPIC-4

HR ANALYTICS AND CHANGING ROLE OF HR PROFESSIONALS

HR analytics uses data to inform strategic decisions, transforming the role of HR professionals from administrative tasks to that of data-driven strategists. This shift involves leveraging analytics to improve talent acquisition, retention, and performance, and to align HR initiatives with business goals, ultimately enhancing employee engagement and organizational success.

How HR analytics is changing the role of HR professionals



- **From administrative to strategic:** HR's traditional focus on paperwork, payroll, and compliance is shifting to a strategic function that uses data to improve business outcomes.
- **Data-driven decision-making:** HR professionals are moving from "gut feelings" to making data-backed decisions about the workforce, leading to more effective strategies.
- **Strategic alignment:** By analyzing workforce data, HR can develop and implement strategies that are directly tied to overall organizational objectives.
- **Focus on employee lifecycle:** Analytics are used to improve every stage of the employee lifecycle, from hiring and onboarding to performance management and retention.
- **Enhanced workforce planning:** HR can use analytics to predict future workforce needs, plan for succession, and proactively address skill gaps.
- **Improved employee experience:** HR professionals use analytics to understand what drives employee engagement and satisfaction, allowing them to create a more positive and productive work environment.

Key benefits of using HR analytics

- **Talent acquisition and retention:** Analytics help identify the characteristics of high performers to improve hiring decisions and can identify employees at risk of leaving, allowing for targeted retention efforts.
- **Performance and productivity:** HR can use data to understand performance drivers and implement targeted training or incentives to boost productivity.
- **Cost optimization:** Analyzing HR data can help identify areas where costs can be reduced without negatively impacting productivity.
- **Strategic insights:** HR professionals can provide data-driven insights to business leaders, making HR a more integral part of strategic planning.

TOPIC-5

IMPORTANCE AND SCOPE OF HR ANALYTICS, SIGNIFICANCE OF HR ANALYTICS

HR analytics is important because it provides data-driven insights to improve decision-making, leading to enhanced talent acquisition, better employee retention, and optimized performance management. Its scope is broad, covering the entire employee lifecycle from recruitment and training to compensation and workforce planning, and it helps align HR strategy with business goals. The significance of HR analytics lies in its ability to move HR from an operational function to a strategic partner that can uncover inefficiencies, reduce costs, and drive business success.

Importance and significance

- **Data-driven decision-making:** Transforms HR from being based on intuition to being evidence-based, leading to better outcomes for both employees and the organization.



- **Cost reduction:** Identifies inefficiencies in areas like recruitment, absenteeism, and training, allowing for strategic savings.
- **Strategic alignment:** Links HR metrics, such as turnover or productivity, directly to business objectives, positioning HR as a strategic partner.
- **Proactive problem-solving:** Allows organizations to anticipate and address issues like declining engagement or potential attrition before they become major problems.

Scope of HR analytics

- **Talent acquisition and recruitment:** Analyzes the effectiveness of different recruiting channels to improve hiring decisions and reduce talent shortages.
- **Employee retention:** Identifies factors that lead to turnover, allowing for targeted strategies to improve retention and engagement.
- **Performance management:** Provides data to identify top performers, set benchmarks, and develop training programs that improve overall productivity.
- **Workforce planning:** Helps organizations predict future workforce needs and strategically position employees to meet business objectives.
- **Learning and development:** Identifies skills gaps and evaluates the effectiveness of training programs to ensure the workforce has the necessary skills.
- **Compensation and benefits:** Analyzes data to help create competitive and equitable pay and benefits packages.
- **Employee experience:** Uncovers insights to improve the overall employee experience through actions like creating more flexible work policies or personalized development plans.

TOPIC 6

BENEFITS OF HR ANALYTICS

The benefits of HR analytics include moving from intuition-based to evidence-based decision-making, which improves recruitment, talent management, and performance. It also helps organizations achieve cost savings, forecast future workforce needs through strategic workforce planning, enhance employee experience and retention, and ensure compliance. By analyzing data, HR teams can also identify skills gaps and develop targeted training programs.

Strategic and decision-making benefits

- **Evidence-based decision-making:**
Replaces guesswork with data-driven insights for decisions regarding hiring, benefits, and training.
- **Strategic workforce planning:**
Forecasts future talent needs based on business growth and turnover trends, enabling proactive planning for hiring and development.
- **Improved business alignment:**

Subject Name:



Connects HR strategies directly to business outcomes by tracking metrics like productivity and training ROI in relation to company goals.

Talent and performance benefits

- **Improved recruitment:**

Identifies the most effective sourcing channels and helps predict candidate success, leading to better hiring decisions.

- **Better talent management:**

Pinpoints high performers, creates personalized development plans, and identifies potential leaders for succession planning.

- **Enhanced performance:**

Provides insights into employee performance metrics and feedback, which allows for more targeted coaching and motivates employees.

- **Increased retention:**

Identifies factors contributing to employee turnover, allowing for the development of targeted strategies to improve engagement and retention.

- **Skills gap analysis:**

Reveals where upskilling or reskilling programs are needed to ensure the workforce has the necessary skills for the future.

Operational and financial benefits

- **Cost savings:**

Identifies and reduces inefficiencies in HR processes, such as recruitment, training, and retention, leading to lower unnecessary expenses.

- **Enhanced employee experience:**

Leverages data to understand employee preferences and needs, which helps create a more engaging and personalized experience.

- **Compliance risk reduction:**

Helps organizations manage risks by tracking key metrics and ensuring compliance with labor laws.

- **Increased productivity:**

Helps identify factors that boost employee productivity and engagement, which positively impacts overall organizational performance.

TOPIC-7

LEVELS OF ANALYSIS AND CONDUCTING ANALYTICS

The main levels of analysis in data analytics are descriptive, diagnostic, predictive, and prescriptive, which represent a progression from understanding the past to actively shaping the future. Conducting analytics involves a framework of steps: define objectives, collect and preprocess data, perform analysis using one or more of these levels, interpret results, communicate findings, and iterate on the process.



Levels of analysis

- **Descriptive analytics:** Answers "what happened?" by summarizing past data through tools like dashboards and reports that track key performance indicators (KPIs).
- **Diagnostic analytics:** Delves deeper to answer "why did it happen?" by finding the root causes of past events through techniques like data mining and statistical analysis.
- **Predictive analytics:** Uses historical data, algorithms, and machine learning to forecast what is likely to happen in the future.
- **Prescriptive analytics:** Goes the furthest by recommending specific actions to take in order to achieve a desired outcome.

Conducting analytics framework

A general framework for conducting data analytics includes these steps:

1. **Define objectives:** Clearly state what you want to achieve with the analysis.
2. **Data collection:** Gather the necessary and relevant data from various sources.
3. **Data preprocessing:** Clean, format, and adjust the data to make it suitable for analysis.
4. **Exploratory data analysis:** Begin exploring and understanding the data's patterns and relationships.
5. **Select techniques:** Choose the appropriate analytical methods and frameworks, such as the descriptive, diagnostic, predictive, or prescriptive levels.
6. **Apply and interpret:** Apply the chosen techniques to the data and analyze the results.
7. **Communicate and visualize:** Present your findings in a clear and understandable way, often using visualizations.
8. **Evaluate and iterate:** Assess the effectiveness of the analysis and repeat the process as needed to refine insights and decisions.
9. **Implement and monitor:** Put the decisions into action and track their outcomes.

TOPIC-8

KEY INFLUENCERS OF HR ANALYTICS PROCESS

Key influencers of the HR analytics process include leadership support, organizational culture, data quality, and technology infrastructure. The skills and capabilities of the HR team, and the effective collaboration between departments like HR, IT, and executive management, also play a critical role in its success.

Key influencers and factors

- **Leadership and culture:** Strong leadership commitment is essential to champion the adoption and implementation of HR analytics. An organizational culture that values data-driven decision-making is critical for success.



- **Data quality and integration:** The process is heavily influenced by the quality, accuracy, and accessibility of data. Organizations need robust data governance to ensure clean and reliable data from various sources.
- **Technology infrastructure:** The right technology infrastructure and tools are necessary for collecting, analyzing, and visualizing data. This includes the use of analytics software, business intelligence platforms, and statistical analysis tools.
- **Skills and capabilities:** The HR team must have the necessary analytical skills to interpret data and translate it into actionable insights. This can require hiring new talent or providing training to existing staff.
- **Cross-functional collaboration:** The process requires effective collaboration between HR, IT, finance, and other departments to access and analyze data, and to implement the resulting strategies.
- **Ethical and privacy considerations:** Organizations must be mindful of ethical guidelines and data privacy regulations when collecting and using employee data.

HR analytics metrics you need to measure first

You might have picked the right type of HR analytics, but the HR metrics you track are perhaps even more important for ensuring you're not focusing on the wrong things. You don't have to track everything though. Here are four fundamental HR analytics metrics to start with:

- **Time to fill.** The time to fill (or to hire) is an excellent measure of how well your talent acquisition program works. The more time you need to fill a position, the more resources you waste, and the more ineffective your recruitment program is.
- **Employee turnover rates.** This metric assesses the success of your retention strategies and works wonders together with predictive HR analytics. It helps you analyze the correctness of your forecasts and adjust your processes accordingly.
- **Promotion and internal mobility rates.** Track the rates of vertical and lateral movements within the company. The higher the number, the better your succession planning and internal mobility strategies. When employees can be promoted to new positions, it shows you have a healthy talent pipeline with plenty of development opportunities.
- **Diversity and inclusion metrics.** You may have guessed it already, but these metrics show you the success of your DE&I initiatives. Alongside HR analytics, they can help



you create a more inclusive culture, where everyone feels welcome and has equal opportunities.

5 HR analytics examples to inspire your team

No matter what type of HR analytics you go for, you'll likely use HR analytics slightly differently. Let's go through a couple of HR analytics examples and see how other organizations are using them for your own needs.

1. eBay

One way global commerce company eBay uses HR analytics and insights is to make data-driven decisions that improve the employee experience. Scott Judd, Senior Director of People Analytics & Technology shares,

"Employees in many ways are the most important asset that any company has, and you need data to understand how you can help them stay with your company and help them improve. Analytics is a great way to drive those discussions with data and help make the future more exciting for employees and better for your clients."

By using HR analytics across the employee lifecycle, eBay can now find new ways to increase retention like promotions, compensation changes, and career development plans.

2. Providence

Providence uses Visier for HR analytics to improve its hiring process. In a tight labor market, their team was able to use insights to accurately forecast vacancies and proactively hire the right talent to ensure they have the right people in the right roles at the right time—ultimately saving the company \$3 million.

Mark Smith, Vice President of Workforce Strategy & Analytics, notes:

"The biggest outcome we've seen is how we now forecast vacancy. We used our data from Visier to understand what would happen in the next quarter for some of our key openings. It's allowed us to give leaders an opportunity to make better choices about whether or not they want to hire ahead."



By reuniting their people and business data, Providence gained powerful, digestible insights that business leaders use to make informed hiring decisions impacting the workforce and the bottom line.

3. Protective Life

Protective Life uses Visier to predict employee turnover to slow resignations, measure DE&I progress, and engage business leaders beyond HR. Matthew Hamilton, VP of People Analytics & HRIS, shares:

"Getting data out into the hands of leaders and democratizing data is really important. A lot of change happens at the frontline or mid-level manager level. So it's really important to get the relevant insights into their hands so they can use the data and ultimately pull those levers of change to improve the employee experience, diversity, talent, and acquisition."

By using HR analytics and putting people insights directly in the hands of leaders, they're able to arm key decision-makers with the insights they need to impact business performance

4. T. Rowe Price

HR analytics have the T. Rowe Price team a single, reliable data source and access to the Vee chat-based interface for easier data access and fewer inquiries directed to the analytics team. Vee's generative AI also helps them automate HR reporting tasks, like headcount and turnover, so they can focus on strategic processes instead of manual work.

On how they'll use Visier in the future, Shannon Rutledge, Director, HR Data & Analytics, observes:

"With Visier, we're hoping to see more effective data delivery linked to our strategies. One key area we're focusing on is measuring the impact of our TA function, which has historically been difficult to analyze. We're excited about the insights that Visier will provide."

5. Experian

Experian used Visier's HR analytics to reduce reporting workload by 70% and create a single, dependable source for their people data. Now with Visier, the team spends more time on retention risk planning, DE&I, and cutting costs. With Visier products like Essentials, Talent, Benchmarks, and Standardized Occupations, Experian management made data more accessible for both HR and finance.



Kevin Metherell, Head of People Analytics Insights and Innovations, remarks on the results:

“After the implementation of Visier we—almost overnight—managed to cut about two-thirds of our reporting capacity and capability into the self-service remit, which was massive in terms of the time saved for the team and the effort we were spending on it.”

TOPIC-8

BIG DATA ERA IN HR ANALYTICS

HR analytics is important because it enables organizations to make evidence-based, data-driven decisions that improve talent management, reduce costs, and boost overall business performance. It transforms HR from an administrative function into a strategic partner by providing insights into employee behavior, retention, and engagement, which allows for more effective workforce planning, improved recruitment, and targeted employee development.

Key importance of HR analytics

- **Strategic business alignment:**

By linking HR metrics to business outcomes, analytics helps align people strategy with the company's overall goals, such as revenue growth or customer satisfaction.

- **Improved decision-making:**

It moves HR decisions from being intuition-based to being evidence-based, leading to more informed actions on talent acquisition, retention, and performance management.

- **Enhanced talent acquisition:**

Analytics helps identify the most effective recruitment channels, predict candidate success, and shorten the hiring cycle.

- **Increased employee retention:**

By identifying employees at risk of leaving through data analysis, HR teams can take proactive measures like personalized development plans to improve retention.

- **Proactive problem-solving:**

It allows organizations to identify potential issues, such as declining engagement or high absenteeism, before they become major problems, enabling timely interventions.

- **Optimized workforce planning:**

Data analytics helps predict future talent needs, identify skills gaps, and inform decisions about hiring, upskilling, and resource allocation.

- **Cost reduction:**

By analyzing factors like turnover, training effectiveness, and recruitment, analytics can help reduce unnecessary spending and increase overall efficiency.

- **Personalized employee development:**

It provides insights into individual performance and growth potential, allowing for the creation of personalized development plans and more effective upskilling initiatives.



- **Better employee experience:**

It provides data to help improve the overall employee experience, leading to a more engaged and productive workforce.

How Does HR Analytics Drive Business Value?

HR Analytics can also be defined as the process of harnessing HR data to establish relationships between the HR strategies and business goals, and can improve organizational outcomes. With the insight, best practices in workforce management, administration, and good employee satisfaction, and enhanced productivity, HR Analytics is effective in providing necessary support to help with crucial decisions. Thus, the overwhelming majority of respondents, 89% of them, have evaluated the necessity to enhance, redesign, and upgrade the organizational leadership as a high-priority. It is able to point out the changes that have to be made in the Human resource processes hence reducing cost of the operations and optimizing the use of resources.

Furthermore, HR Analytics makes work on diversity and inclusion more effective by presenting a comprehensive picture of employees and their engagement in relation to various sensitive issues, thus ensuring the company's evolution towards a more diverse and equal organization. Finally, it means that with the help of HR Analytics, an organization is able to effectively counter current problems and remain focused on the goal of keeping talented people and using HR as a strategic tool to help grow the business.

Conclusion

One important tool that modern businesses have is HR analytics, which can and should be used to make things run more smoothly. People use it to make choices based on data, and it gives employees more power and helps businesses succeed. Using the values of HR analytics, businesses can better manage their workers, get more work done by them, and make sure they meet their strategic goals. Additionally, the future of business will require HR analytics to play a bigger part in the general strategic planning of the management framework. Because of this, it is impossible to overstate how important they are to the success of HR strategies. So, it's clear that HR Analytics is not only necessary for businesses to run efficiently in the



modern world and beat their competitors, but it's also essential for reaching the main goal of any business, which is to make employees happy while also making them more productive.

TOPIC-9

HR ANALYTICS- LINKAGE TO BUSINESS OUTCOMES

HR analytics links human resources data to business outcomes by showing how HR initiatives like talent acquisition, performance management, and engagement drive results such as revenue, cost savings, and risk mitigation. By analyzing data on employees, companies can make evidence-based decisions to improve recruitment, increase productivity, reduce turnover, plan the workforce, and ultimately achieve strategic business objectives.

Improving business performance

- **Talent acquisition and retention:** Analyzing recruitment data identifies the most effective sourcing channels, while retention data helps address high turnover and its associated costs.
- **Performance and productivity:** Insights from performance data, feedback, and engagement levels lead to better performance appraisals, motivation, and overall productivity.
- **Workforce planning:** Analytics enable organizations to forecast future needs, identify skill gaps, and plan for succession, ensuring the company has the right talent for future goals.
- **Cost savings:** By analyzing metrics like absenteeism, time-to-hire, and the impact of turnover, companies can reduce unnecessary expenses and improve overall efficiency.

Aligning HR with business strategy

- **Data-driven decision-making:** HR analytics moves decision-making from intuition to a data-backed approach, ensuring strategies directly support business objectives.
- **Demonstrating HR value:** Analytics allow HR to prove its value to the business by showing the impact of HR initiatives on key outcomes like revenue, costs, and risk.
- **Strategic planning:** By uncovering trends in workforce data, companies can develop proactive strategies for talent management, development, and risk mitigation.

Enhancing employee and workplace outcomes

- **Employee experience:** Analytics can identify factors that influence employee satisfaction and engagement, allowing for targeted interventions to improve morale and productivity.
- **Learning and development:** Analytics guide the creation of effective training and development programs, helping to upskill and reskill the workforce to meet business needs.
- **Workplace safety and misconduct:** Data analysis can improve workplace safety measures and help prevent misconduct by identifying trends and risk factors.



UNIT-2

UNDERSTANDING HR ANALYTICS

HR analytics is the process of collecting, analyzing, and interpreting employee data to make better business decisions, moving beyond guesswork to a data-driven approach. It uses data from sources like recruitment, performance, and engagement to uncover patterns and trends that inform HR strategies, improve workforce performance, and help align HR initiatives with overall business objectives.

Core purpose and function

- **Data-driven decision-making:** Replaces intuition with evidence to answer questions about the workforce, such as why turnover is high or how to improve employee engagement.
- **Strategic alignment:** Helps HR become a strategic partner by linking workforce data to business outcomes like revenue generation, cost reduction, and risk mitigation.
- **Process improvement:** Analyzes data on HR functions like hiring, performance management, and retention to identify opportunities for optimization and improvement.
- **Predictive insights:** Uses statistical methods to forecast future outcomes, such as which employees might leave the organization.

Key metrics and data sources

- **Metrics:** Common areas of analysis include employee engagement, retention rates, time-to-hire, time-to-productivity, and performance data.
- **Data sources:** Information is gathered from various systems, including HR software, payroll and attendance records, performance management tools, and employee surveys.

Related terms

- **HR analytics:** Primarily focuses on data within the HR function itself to improve HR processes.
- **People analytics:** A broader term that uses a wider net of data from various sources to understand employee behaviors and their connection to business goals.
- **Workforce analytics:** Specifically uses data related to a company's workforce, including both employees and external contractors.

CONDUCTING HR/ WORKFORCE ANALYTICS

HR Analytics, People Analytics, and Workforce Analytics: What is the Difference?

HR analytics, people analytics, and workforce analytics are often used interchangeably. But there are slight differences between each of these terms. It would help you to know the difference to assess the most relevant data to their function.

The difference between HR Analytics, People Analytics, and Workforce Analytics



HR analytics: HR analytics deals explicitly with the metrics of the HR function, such as time to hire, training expense per employee, and time until promotion. All these metrics are managed exclusively by HR for HR.

People analytics: Although often used as a synonym for HR analytics, “people analytics” technically applies to “people” in general. It can encompass any group of individuals, even outside the organization. For instance, the term “people analytics” may be applied to analytics about an organization’s customers and not necessarily only employees.

Workforce analytics: Workforce analytics is an all-encompassing term referring specifically to employees of an organization. It includes on-site employees, remote employees, gig workers, freelancers, consultants, and others working in various capacities in an organization. In the HR context, some workforce and HR analytics metrics may overlap, so the two terms are often used as synonyms. The goal of the two may also be the same. For instance, data on employee productivity and performance informs both HR and workforce analytics, and the goal is to improve retention rates and enhance the employee experience.

II. How Does HR Analytics Drive Business Value?

HR has access to valuable employee data. How can this data be used to enable change in the organization?

There is a great deal of discussion on replicating the consumer experience in the employee experience. Essentially, the data on consumer behavior and mindset can help develop strategies to maximize sales by capitalizing on those factors. Similarly, the data useful for the HR function can be used to improve employee performance, the employee experience, and in turn, maximize business outcomes.

Collins offers an example of how HR analytics can be used to enhance business value. “HR analytics could be used to measure investments in reskilling, which will deliver the right competencies to support a new revenue model, using data-driven insights to modify the training offering as sales results emerge.”

This is definitive granular data that can not only impact the bottom line, it can also transform **employee engagement** in an organization.

“As such,” Collins continues, “you might think about the ‘ROI’ of HR analytics being that of increasing the business value derived from using data for talent decisions.”

TOPIC-2

MODEL OF HR AND HOW TO CONDUCT HR ANALYTICS

An HR model is a framework that defines HR's role and strategy within a business, while conducting HR analytics involves collecting data, analyzing it to find patterns, and using those insights to make better decisions, often following a seven-step process: define objectives, gather data, build models, analyze, visualize, implement, and evaluate.

HR models



- A human resources management (HRM) model is a framework that positions HR within an organization and aligns its strategy with the business's goals.
- It helps define the purpose and functions of the HR department, creating a roadmap for how the department will support the business.
- These models serve as a guide for human resource management and, when combined with HR strategy, provide a blueprint for achieving the company's vision.

How to conduct HR analytics

To conduct HR analytics, follow these steps to gather insights and drive data-informed decisions:

1. **Define business questions and objectives:** Determine what problems you want to solve or what questions you want to answer. Examples include reducing turnover or improving recruitment.
2. **Identify and gather data sources:** Collect data from various internal and external sources, such as HRIS, performance reviews, employee surveys, and exit interviews. Ensure the data is reliable and relevant to your objectives.
3. **Build predictive models:** Develop statistical and machine learning models to forecast future outcomes and identify patterns, such as predicting which employees are at high risk of leaving.
4. **Organize and analyze the data:** Structure the collected data and use statistical analysis and data visualization tools to find patterns, trends, and correlations.
5. **Visualize and report insights:** Present your findings in an easy-to-understand format using dashboards, charts, and graphs for stakeholders and decision-makers.
6. **Implement and evaluate:** Act on the insights to implement new strategies or programs. Then, monitor the outcomes and iterate on your approach to continuously improve.
7. **Foster a data-driven culture:** Train the HR team and other employees to become more data-literate, encouraging them to use data for decision-making.

TOPIC-3

UNDERSTANDING HR DATA: IMPORTANCE OF DATA, TYPES AND SCALE OF DATA, METHODS OF CAPTURING DATA

Business success is the sum of many factors. One of the most important ones is your employees. But to truly leverage their power, you must have all the facts. Or in this case, the HR data. Also known as human resource data, this information will help you understand your workforce, market trends, and more. Here's everything you need to know about it.



What is HR data?

HR data, or human resource data, refers to information and metrics collected by the HR department of an organization. It encompasses data related to your employees, candidates, and other aspects of managing personnel.

HR data is an essential element of HR and people analytics. It helps you make informed decisions about recruitment, compensation, succession planning, and more. You can also use it to understand workforce trends like voluntary turnover or engagement.

Examples of HR data include:

- Basic personal information like names and addresses
- Leave and attendance
- Employment history
- Performance reviews
- Training and development

What is HR data management?

HR data management refers to the process of collecting, organizing, storing, and securing HR data. Its main goal is to make data accessible and ensure its accuracy and compliance with laws and regulations.

Data collection is the first step when working with data of any kind. At this stage, HR professionals will need to make sure they're using a wide variety of sources and that they're gathering all the necessary data for their goals.

Ensuring data accuracy is the next critical step in HR data management. Without it, you're at risk of using outdated or incorrect data that will yield less-than-ideal results. This process can involve data validation techniques like cross-referencing figures with other tools, fact-checking with individuals across the organization, identifying and removing duplicate information, and categorizing data appropriately.



Storing and securing data is essential for accuracy, accessibility, and compliance. Ideally, data should be stored in a secure and centralized location that is accessible by all relevant personnel. Don't forget about backups. You should always have procedures in place to recover data in case of a cyberattack.

Finally, HR data management needs policies and guidelines to ensure consistency and compliance when analyzing and transferring data.

Types of HR data

There are dozens of types of HR data out there. Which ones you collect and analyze will depend on the company's goals. Plus, it doesn't have to be the same type of data each time. You can select certain types during one quarter and other types for the next quarter, depending on your goals and strategic priorities. Let's look at some examples.

- Compensation data. This encompasses everything related to a person's salary, bonuses, overtime pay, and more. It can also include data related to benefits such as retirement plans or healthcare, though some prefer to collect that separately.
- Diversity and inclusion data. This is a critical type of HR data for any company that wants to boost its DE&I efforts. It can include data on demographics, gender, race, ethnicity, neurotype, and more.
- Turnover data. This includes reasons employees are leaving, how many left voluntarily during a certain period, how many were let go, and more. Analyzing this information will help you create better retention strategies so you can keep your top performers.
- Recruitment data. Here we include information about job applicants, hiring decisions, time to hire, and more. You'll need this data if you want to improve your talent acquisition process.
- Employee performance. Included here is data on how well people perform, factors that may have influenced their performance, and more.



What does HR data show?

HR data, especially when used along with HR analytics, can provide valuable insights into your workforce. It can reveal trends, patterns, and correlations that will help you make better business decisions.

Let's look at a quick example. A company experiences high voluntary turnover rates. They start looking at data related to this issue, such as:

- The number of people who left over a certain period
- The departments and/or teams they were part of
- Their seniority level
- Their past performance
- Engagement
- Absenteeism rates

The company can then use this data to:

- Identify and predict trends. Perhaps turnover rates are higher in one department or one team. Or perhaps it's the senior employees who are leaving more often than the juniors.
- Understand why employees are leaving. Perhaps they were unhappy with their team leader, or they were feeling burnt out. Maybe they feel they're not compensated fairly for their work or their seniority level. Whatever the reason is, looking at data will help you spot answers.
- Create targeted retention strategies. Once you see the trends and understand why people are leaving, you can create targeted retention strategies to improve the areas that were causing issues.

How to use HR data with business data and the benefits

Stick to a couple of standard yet innovative approaches when using business and HR data together:

Centralizing data integration



Unify HR and operational data sources (e.g. payroll, performance, sales) into a cohesive, AI-ready platform. This enables cross-functional insights to emerge seamlessly.

Example: Combine Salesforce sales data with employee engagement metrics to predict resignation risks among top performers.

Benchmarking and comparison

Compare your workforce metrics against confidentially sourced benchmarks from Visier customers using Visier Benchmarks. External benchmarks let you make use of government-sourced statistics for broader industry insights.

Example: Compare your company's average time-to-fill for job openings against industry-specific benchmarks to identify recruitment process inefficiencies.

Using predictive models

Opt for predictive analytics to analyze workforce trends and project scenarios, such as identifying turnover risks or workforce productivity levels. Learn more about how you can integrate AI into your workflow to make better predictions when it comes to resignation risks, highlight top performers, and automate routine tasks.

Example: Forecast workforce needs by analyzing trends in seasonal demand (e.g. retail sales) and aligning staffing levels accordingly to optimize costs and productivity.

Enriching your data

Enhance your analytics capabilities by leveraging preprocessed datasets from anonymized records. Such datasets improve model accuracy and scalability, allowing businesses to optimize strategies across diverse industries.

Example: Enhance employee sentiment analysis by merging internal survey results with Visier's anonymized datasets, providing a clearer understanding of how engagement impacts retention rates.

All this poses incredible benefits to business performance:



- Improving the way you make decisions. Advanced analytics provides leaders with actionable insights, ensuring decisions are based on accurate, real-time data.
- Boosting workforce productivity. Identify patterns that lead to higher performance, such as linking sales outcomes to training investments or retention strategies.
- Preparing your organizational strategy for the future. Investing in scalable platforms ensures readiness for AI-driven advancements. Organizations that position themselves to respond proactively to emerging trends and challenges can also win.
- Ensuring security and compliance. With centralized governance models, businesses ensure data security while leveraging powerful analytics without compromising compliance standards.

How do companies collect HR data?

There's no shortage of ways to collect data. Typically, you'll need a combination of manual and automated tools. The more sources you have, the bigger the need for automated tools and techniques.

The exact tools you'll use will depend on your systems. But if you have several data silos and store information in cloud storage, data connectors will be your best friends. They can extract data automatically and facilitate the integration and transfer of information between various systems and databases.

Before you can begin collecting data, you'll need to set your goals. This will help you refine your data pool, selecting only the information that will be most useful. Don't forget about data privacy and transparency.

Be open with your employees about data collection. To ensure security, limit the number of people who have access to the data. It may feel easier at first to give everyone access. But if people won't be working directly with that data, their access rights will become a security risk.

3 common HR data sources



HR data comes in many forms. The sources can be just as varied, though we usually work with three categories: HRIS data, business data, and other data. Let's take a closer look at each data source.

1. HRIS data

HRIS data sources contain the most common types of HR data. A few examples include:

- **Recruitment data.** This is often collected through Applicant Tracking Systems (ATS) and includes the number of job applicants, recruitment funnel and sources, and more. If you want to understand the talent acquisition process, these are the data sources you must look at.
- **Demographic information.** Age, gender, ethnicity, date of birth, and residence are some examples of demographic data. The information will usually be under HRIS employee records and is critical for various processes, especially DE&I goals.
- **Learning management.** Learning management systems (LMS) are an easy way to keep track of what courses or training each employee participated in. This data helps you track progress and is great to use in internal mobility and succession planning programs.
- **Compensation and benefits.** Information regarding compensation and benefits is also part of HRIS data sources. Here we include everything from salary to bonuses and other benefits.
- **Succession planning.** Another essential part of HRIS data, succession planning practices ensure retention and job satisfaction. Here, we can include information on leadership development, managerial bench strength, and people who are in line for succession.
- **Exit interviews.** Nobody likes it when people leave their company. But the exit interviews can be a valuable source of information. They can help you understand turnover, but also other key aspects like engagement and productivity.

2. Business data



Business data sources have the widest variety. They look beyond strict employee data, encompassing information related to clients, budgets, sales, and more. Let's look at a few examples.

- Customer relationship management (CRM) data. There's a lot of valuable data in CRM systems. Information on customer satisfaction, NPS score, or customer contact moments. This information will be useful in assessing employee performance and more.
- Sales data. Sales are an important metric of success for most businesses. You can look at data such as sales per store, per department, or even per person, depending on the specifics of your business.
- Financial data. This covers earnings, ROI for learning and development, cost per person, and other related expenses.

3. Other HR data

These sources include data you won't find in HRIS systems. The data is often harder to collect through classical or even automated means. Here are a few examples.

- Mentoring. Mentorship programs are essential in employee engagement, satisfaction, succession planning, and internal mobility. They also help reduce skill gaps and can create strong bonds between employees. Collect information on the mentees and mentors, their challenges, and their outcomes.
- Engagement data. You'll usually gather this information through surveys and things like the NPS score. It has a degree of subjectivity, which is why you won't usually find it in HRIS systems. Low engagement can often precede turnover, so keeping an eye on engagement metrics can help you anticipate problems in this area.
- Wellness data. Some organizations may have data on wellness initiatives. This can help you if you're working on improving the employees' work-life balance and preventing burnout.

HR data is essential for any company that wants to leverage the power of its employees and start making data-driven decisions. Along with people analytics or HR analytics, HR data can help you spot trends and patterns and make predictions about future events.



Want to see how easy it is to transform HR data into insights at your organization using AI? Take your HR data-driven decision-making to the next level with Visier's Workforce AI Edge, a set of AI-powered capabilities that enable you to enhance employee productivity, transform workforce management, and uncover actionable insights into how your people drive business success.

Learn how to ingest, manage, and use HR data

- People analytics platforms make it easy to ingest HR data. Learn three methods here.
- Learn how you can blend HR data with business data, such as sales or supply chain data, for a complete picture of the health of your business.
- Data visualization helps you present HR data in a format that HR leaders, people managers, and other users can understand, explore, and use to make decisions.

TOPIC-4

DATA EXAMINATION & PURIFICATION

Data examination and purification in HR analytics involve **identifying and correcting errors, inconsistencies, and missing information** in datasets to ensure they are accurate, consistent, and reliable for analysis. This process is crucial because the quality of the data directly impacts the insights and decisions derived from them, leading to better workforce management and improved business performance.

Key steps for data examination and purification

- **Data Examination:**
 - **Assess data quality:** Before purification, examine the data for issues like duplicates, inconsistencies, missing values, and outliers.
 - **Check for recurring identifiers:** Look for duplicate employee records that might arise from people holding multiple positions.
 - **Validate data labels:** Cross-reference data labels across merged datasets to ensure consistency.
- **Data Purification (Cleaning and Preprocessing):**
 - **Standardize formats:** Unify formats for dates, phone numbers, and labels across all datasets to ensure uniformity.
 - **Deduplicate records:** Implement methods to find and remove duplicate employee records.



- **Handle missing values:** Decide how to address missing data, such as filling it in using imputation or removing the entries, depending on the context.
- **Validate and correct data:** Identify and flag incorrect or outlier values that deviate significantly from expected norms.
- **Consolidate datasets:** Combine data from various sources into a single, consistent dataset.
- **Normalize data:** Convert data into consistent units or scales (e.g., standardizing salary ranges) to allow for meaningful comparisons.

Importance of purification

- **Increases accuracy:** Clean data leads to more accurate models and insights.
- **Improves model performance:** Reduces the risk of generating incorrect predictions or insights.
- **Enhances visualization:** Ensures that charts and plots accurately represent the data, leading to better decision-making.
- **Reduces bias and errors:** Helps mitigate biases that can come from erroneous data, making analysis more objective.
- **Ensures compliance:** Produces reliable reports that comply with relevant regulations.

Human Resources Analytics is on the rise worldwide. Let's take a deeper look at the first step of analytics, the data. Is your human resources data suitable for analytics?

Data cleaning and consolidation is a crucial step in the process of HR analytics. It helps to ensure that the data used for analysis is accurate, consistent, and complete. This is important because the quality of the data used for analysis directly impacts the accuracy and usefulness of the insights that are generated.

There are several ways to effectively clean and consolidate data for HR analytics. Some of the most common methods include:

1. **Data standardization:** This involves standardizing data formats, such as date and time formats, to ensure consistency across the data set. This also includes ensuring that data is entered in the same format, such as using a consistent format for phone numbers or email addresses. For example, when we examined the data specific to our customer, we found that employees of the contracted type were entered as both contracted and contractor by different units. To improve data quality, different entries are being standardized and included in the analysis.
2. **Data validation:** This involves checking the data for errors, such as missing values, duplicate records, and outliers. By validating the data, organizations can identify and correct errors that could lead to inaccurate or unreliable insights. For example, It has been observed that in execute statements fed from multiple data sources or multiple company data, the training types are written in a repetitive but different syntax. When differences arising from writing, language, spacing, or usage are identified and subjected to transformation, the standardization of this data is achieved by



singularizing and analyzing the actual same data. Here is another example, missing data often arises in data fed from multiple sources. For example, while employee type is one of the variables included in the analysis for one company, it was found that the entries for employee type were not made for the employees of another company fed to the same source. By starting from a different area where the missing employee data can be identified (such as the employee's payment type), information about the missing contracted or standard employees can be obtained. For example, if an employee's payment type is hourly, Peopleoma rule definition can ensure that this employee is recorded as a contracted employee.

3. **Data deduplication:** Identifying and removing duplicate records from the data set. This is important because duplicate records can skew the results of the analysis and lead to inaccurate insights.
4. **Data normalization:** Transforming the data into a consistent format that can be easily analyzed. This includes converting data from different units, such as converting salary data from hourly to annual or converting data from different measurement scales, such as converting data from categorical to numerical.
5. **Data consolidation:** Combining data from multiple sources into a single, consistent data set. This is important because data from multiple sources can often be inconsistent or incomplete, which can lead to inaccurate or unreliable insights. To give an example, demographic and organizational information of employees comes from the central system for employees, performance results come from the performance system, and salary and benefits data come from the payroll system. Peopleoma data integration module collects data from different platforms into a single data pool and enables analysis on the same screen. In this step, we bring all the data together and analyze it with automation without the need for manual matching and merging. Another example, in one of the data sources, it was observed that the hierarchy data that is positioned at the top within the hierarchy 1-2-3 hierarchy is in hierarchy 1, while in another data source, it was determined that the hierarchy group positions at the top hierarchically is hierarchy 3. To perform the analysis correctly, the required hierarchical ordering was arranged and written to the correct location through Peopleoma transformation feature, and it was made possible to analyze it in a standardized way.
6. **Data governance:** Creating and enforcing policies and procedures to ensure data quality and consistency. This includes creating data definitions, establishing data ownership, and creating data management plans. For example, it has been determined that exceptional employees have records in different companies simultaneously in inter-company assignments in multi-company structures, which causes duplication and corruption in the data. To prevent such situations, during the period in which the employee is assigned, they are considered exceptional in the previous job location and only counted in the active employee count of one of the two locations.

By using these methods of data cleaning and consolidation, organizations can ensure that the data used for analysis is accurate, consistent, and complete. This helps to improve the accuracy and usefulness of the insights generated from HR analytics efforts. Additionally, it helps to make the data more manageable and easier to work with.

It's worth noting that, data cleaning and consolidation is an ongoing process that requires regular monitoring, maintenance and updates to ensure the data remains accurate and up-to-date. Organizations should establish a process for regular data cleaning, validation, and consolidation to ensure that the data used for analysis is always accurate and up-to-date. All these data standardization and validation steps are meaningful if they are sustainable. To



ensure this sustainability, Peopleoma applies rules to the raw data in each update, standardizes it, and enables quick detection of entries that do not comply with the standard structure.

In conclusion, data cleaning and consolidation is an essential step in the process of HR analytics. By taking the time to thoroughly clean and consolidate data, organizations can ensure that the insights generated from their HR analytics efforts are as accurate and useful as possible. This will help organizations make data-driven decisions that can have a positive impact on their bottom line.

TOPIC-5 UNDERSTANDING VARIOUS HR METRICS FROM THE PERSPECTIVE OF HR ANALYTICS

From an HR analytics perspective, HR metrics are quantifiable measurements that measure the effectiveness of HR functions, while **HR analytics** is the process of using these metrics to gain insights, make strategic decisions, and predict future workforce needs. Common metrics are analyzed for productivity (e.g., output per employee), retention (e.g., retention rate, early turnover), and talent acquisition (e.g., time to hire, cost per hire) to inform data-driven strategies and demonstrate ROI.

Metric Category	Examples of Metrics	Analytical Insight
Talent Acquisition	<ul style="list-style-type: none">• Time to hire• Cost per hire• Source of hire	Measures recruiting efficiency and the candidate experience. Insights help optimize the hiring process and manage costs.
Employee Retention & Attrition	<ul style="list-style-type: none">• Retention rate• Early turnover rate• Voluntary vs. involuntary turnover	Identifies potential issues with employee satisfaction, onboarding, or management. High retention rates often indicate a healthy work environment.
Employee Performance	<ul style="list-style-type: none">• Goal achievement• Quality of work• Productivity (e.g., output per employee)	Assesses both the quantity and quality of work, helping identify reasons for low performance such as disengagement or process issues.
Employee Engagement & Satisfaction	<ul style="list-style-type: none">• Engagement score• Absenteeism rate	Absenteeism can predict higher turnover rates and points to underlying issues like low morale or dissatisfaction.



Talent Management

- Internal mobility rate
- Succession planning rate
- Time since last promotion

Provides insights for workforce planning by forecasting staffing needs and identifying talent gaps.

Key HR metrics and their analytical value

The role of analytics

- **Descriptive analytics:** Focuses on what happened. It uses metrics to describe the current state of the workforce. For example, calculating that the turnover rate increased by 50% from the previous year.
- **Diagnostic analytics:** Examines why something happened. It links metrics to discover the root causes, such as connecting high early turnover with a specific hiring process or team manager.
- **Predictive analytics:** Uses historical data to forecast future outcomes. For instance, it can predict which employees are at risk of leaving, allowing for proactive intervention.
- **Prescriptive analytics:** Recommends a course of action. It provides specific, data-backed solutions, such as suggesting which training programs to implement or which process changes will improve retention.

How to apply this from an analytics perspective

1. **Start with clean data:** Ensure all data, like case categories and closure times, is consistently recorded.
2. **Choose meaningful metrics:** Select a small set of metrics that align with business values and objectives, rather than tracking everything.
3. **Connect data to action:** Move beyond simply reporting numbers by using analytics to create actionable insights and visualizations for managers and HR teams.
4. **Communicate the "why":** When presenting metrics, explain the insights gained from analytics, not just the raw data, to demonstrate the value of HR initiatives.
5. **Align with strategy:** Use the insights from metrics and analytics to inform long-term HR strategies and support business goals.

What are HR Metrics?

HR metrics are specific measurements used to track and evaluate various aspects of the human resources function. HR metrics are typically used to assess the performance, efficiency, and effectiveness of HR processes and practices and to provide insights into workforce trends and patterns.

HR metrics include employee turnover rates, time-to-hire, training and development costs, absenteeism, skills gap and employee engagement levels.



By tracking and analyzing HR metrics, organizations can identify areas for improvement, make data-driven decisions, and ensure that HR initiatives, practices and drives are aligned with the business's overall goals.

Why Do We Need HR Metrics?

HR metrics are important for organizations to assess, measure and monitor specific aspects of their human resources function.

By measuring and tracking HR metrics, organizations can identify areas for improvement, make data-driven decisions, and ensure that their HR initiatives are aligned with their overall business goals.

Some key reasons why we need HR metrics are:

1.Measure performance: HR metrics provide a way to measure and assess the performance of specific HR processes and practices, such as recruitment, training, or employee engagement.

2.Identify areas for improvement: By tracking HR metrics, organizations can identify areas where they are underperforming and take action to improve their HR initiatives.

3.Ensure compliance: HR metrics can help organizations ensure that they are complying with relevant govt. and company laws, by-laws and regulations, such as those related to diversity and inclusion or equal pay.

4.Evaluate the effectiveness of HR initiatives: HR metrics provide a way to evaluate the effectiveness of HR initiatives and drives, such as training programs or performance management systems, and make data-driven decisions about whether to continue, modify, or discontinue them.

5.Benchmark against industry standards: HR metrics enable organizations to benchmark their performance against industry standards and best practices, providing insight into how they compare with their peers and competitors.

Top 8 HR Metrics used by Organizations in 2025

Here are 8 commonly used HR metrics that organizations use to measure the effectiveness of their HR practices:

1. Offer Acceptance Rate:

The offer acceptance rate tracks the percentage of job offers extended to candidates that are accepted. This metric helps organizations evaluate the attractiveness of their compensation packages, workplace culture, and recruitment strategies. A low offer acceptance rate could indicate issues such as uncompetitive salary offers or misaligned job expectations. Improving this rate ensures that top talent joins the organization, contributing to its overall success.

2. Employee Turnover Rate:

Employee turnover rate measures how many employees leave an organization over a given period, typically expressed as a percentage of the total workforce. A high turnover rate can



indicate problems with employee retention, job satisfaction, or other factors, while a low turnover rate may suggest a healthy and engaged workforce.

3. Time-to-Fill:

Time-to-fill is a metric that measures the length of time it takes to fill a vacant position, from the posting of the job opening to the offer of employment. This metric can help organizations evaluate their recruitment processes, identify improvement areas, and assess the impact of external factors such as the availability of qualified candidates.

4. Cost-per-Hire:

Cost-per-hire is a metric that measures the total cost of recruiting and hiring a new employee, including advertising, recruitment fees, and other expenses. This metric can help organizations to evaluate the efficiency and cost-effectiveness of their recruitment processes and identify areas where costs can be reduced.

5. Absenteeism Rate:

The absenteeism rate is a measure of the percentage of employees who are absent from work on a given day or over a given period of time. High rates of absenteeism can indicate problems with employee morale, engagement, or workplace culture and can hurt productivity and organizational performance.

6. Employee Engagement:

Employee engagement measures how committed and satisfied employees are with their work and the organization as a whole. This metric is typically measured through employee surveys or other feedback mechanisms and can provide valuable insights into areas where the organization can improve its HR practices and foster a more engaged and productive workforce.

7. Training Effectiveness Rate

Training effectiveness rate measures the impact of training programs on employee performance and productivity. This metric evaluates whether the learning objectives of a training program have been achieved and how well employees are able to apply new skills in their roles. It is typically measured through post-training assessments, employee feedback, and performance evaluations. A high training effectiveness rate indicates that the organization's training initiatives are well-aligned with business goals, improving workforce capabilities.

8. Internal Mobility Rate

Internal mobility rate measures the percentage of employees who move to new roles within the organization, whether through promotions, lateral moves, or cross-functional assignments. This metric reflects the organization's commitment to employee development and career progression. A high internal mobility rate often indicates a strong culture of growth and retention, as well as effective talent management practices that keep top performers engaged.



What's the Difference Between HR Metrics and HR Analytics?

HR metrics and HR analytics are both essential for effective HR management but are different in terms of their scope and focus, and application. Organizations have to use an integrated approach of HR metrics and analytics for effective workforce management using these parameters.

HR metrics are specific measurements that track, assess and evaluate various aspects of the human resources function. They provide insight into specific HR processes and practices, drives and initiatives such as time-to-hire, training costs, or employee turnover rates. HR metrics enable HR professionals to monitor the effectiveness and efficiency of HR initiatives and identify areas for improvement and implementation to drive the organization's success to greater heights.

In contrast, HR analytics is a broader and more complex practice that encompasses the collection, analysis, and interpretation of large sets of HR-related data. HR analytics is not limited to specific metrics but instead focuses on identifying patterns, trends and relationships between multiple data points and multiple metrics from across the myriad functions of the organization.

The purpose of HR analytics is to generate insights and knowledge that give relevant information for strategic data-driven decision-making in the HR function. HR analytics can help organizations identify workforce trends, extrapolate and forecast future workforce needs, and develop data-driven HR strategies and practices doing away with intuitional decisions altogether.

In summary, HR metrics are specific measurements that track and evaluate the performance of individual HR processes. At the same time, HR analytics is a more comprehensive and integrated practice that encompasses data collection, data analysis and data interpretation to provide insights and provide relevant experience information for strategic decision-making in the HR function.

While HR metrics and HR Analytics are essential for effective HR management, HR analytics has a broader focus. It aims to provide a more holistic bird's eye view of the organizational workforce.

How are HR Metrics and HR Analytics Interconnected?

HR metrics and HR analytics are closely intertwined and support each other in the field of Human Resources. Here's how they are related:

HR metrics serve as the foundation for HR analytics. Metrics are specific measurements that help HR professionals track and assess various aspects of their workforce, such as employee turnover, recruitment effectiveness, training outcomes, performance evaluations, and more. These metrics provide valuable data points and benchmarks to evaluate the current state of HR practices within an organization.

HR analytics takes this data a step further by analyzing and interpreting the metrics to uncover meaningful insights. By applying statistical methods and data visualization techniques, HR analytics professionals can identify trends, patterns, and correlations within the metrics. This deeper analysis allows HR teams to gain valuable insights into the factors influencing HR outcomes and make data-driven decisions.



In essence, HR metrics provide the raw data, while HR analytics transforms that data into actionable insights. By leveraging HR analytics, organizations can better understand the drivers of their HR metrics, identify areas for improvement, and make strategic decisions to optimize their human capital management practices.

What is the most important use of HR metrics and analytics in 2025?

- **Enable Data-Driven Decision-Making:** HR metrics and analytics provide insights to make informed decisions rather than relying on intuition.
- **Optimize Workforce Management:** They help identify trends in employee performance, engagement, and retention for better workforce planning.
- **Identify Patterns and Trends:** These tools reveal valuable correlations, such as reasons behind high turnover rates or employee disengagement.
- **Predict Future Workforce Needs:** Analytics enables forecasting for recruitment, training, and organizational growth.
- **Align HR Strategies with Business Goals:** Metrics and analytics ensure HR initiatives directly contribute to organizational success.
- **Facilitate Targeted Solutions:** Insights help implement focused interventions, such as training programs or cultural enhancements, to address specific challenges.
- **Improve Efficiency and Reduce Costs:** They streamline HR processes, leading to cost savings and better resource allocation.
- **Enhance Employee Experience:** By addressing issues proactively, they contribute to higher job satisfaction and engagement.

HR Metrics and HR Analytics Examples

HR metrics and analytics provide actionable insights to address diverse challenges across industries. Whether operational or strategic, they help organizations manage talent effectively, optimize processes, and bridge critical gaps. Below are practical examples showcasing how HR metrics and analytics are applied in real-world scenarios, demonstrating their value at various stages of the HR function.

HR Metrics Examples

1. Diversity Ratio (Tech Industry)

A software company monitors the ratio of employees from underrepresented groups. This metric evaluates the effectiveness of diversity and inclusion initiatives and highlights areas for improvement in recruitment and retention.

2. Training Completion Rate (Finance Sector)

A bank tracks the percentage of employees completing mandatory compliance training. This metric ensures readiness for audits and regulatory adherence while identifying gaps in employee participation.

3. Promotion Rate (Hospitality Industry)



A hotel chain evaluates the rate of internal promotions to measure career growth opportunities within the organization, reflecting on employee satisfaction and development programs.

4. Offer Decline Rate (Consulting Industry)

A consulting firm tracks the percentage of job offers declined by candidates. High decline rates might indicate compensation mismatches or negative perceptions of the workplace culture.

5. Overtime Hours (Logistics Sector)

A logistics company monitors the average overtime hours worked by drivers. High overtime can signal workforce shortages or inefficiencies in scheduling that need immediate attention.

HR Analytics Examples

1. Predictive Attrition Analysis (IT Industry)

An IT firm uses analytics to forecast employee turnover, identifying employees likely to leave based on trends like tenure, engagement scores, and performance data. This helps in designing retention strategies.

2. Workforce Planning Model (Construction Industry)

A construction company analyzes historical project data to forecast workforce needs for upcoming projects, optimizing labor allocation and reducing hiring delays.

3. Training Impact Analysis (Healthcare Sector)

A hospital analyzes the effect of upskilling programs on patient care quality and operational efficiency, linking training outcomes to improved performance metrics.

4. Recruitment Funnel Analysis (E-commerce Industry)

An online retailer evaluates the conversion rates at each stage of recruitment, identifying bottlenecks like low interview-to-offer ratios and addressing them to streamline hiring.

5. Compensation Benchmarking (Automotive Industry)

An automotive company analyzes employee compensation data against industry standards to ensure competitiveness, helping retain top talent and reduce poaching by competitors.

Conclusion

In conclusion, HR metrics and HR analytics are both valuable tools for managing and optimizing the human resources function of an organization.

HR metrics provide specific measurements to evaluate various aspects of the HR function, while HR analytics involves the collection, analysis, and interpretation of large sets of HR-



related data to provide insights and inform strategic, data-driven decision-making so that it can be based on hard-core data and not intuition.

By using a more integrated approach of both HR metrics and HR analytics, organizations can improve recruitment and retention, enhance employee performance and engagement, optimize workforce planning, align HR strategies with business goals, and increase efficiency and reduce costs, turnover rates and absenteeism to push up financial metrics like revenue, sales and profits for the organization.

HR metrics and HR analytics have to be used in tandem to gain an in-depth insight into the organizational workforce and identify opportunities for improvement and implementation. With the right data and analysis, organizations can effectively manage their human resources and drive overall business success to greater heights.

