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People analytics

Understand what people analytics is, why it's important and how it's used

Introduction

People analytics is about analysing data about people to solve business problems. You can find people data from HR systems, from other departments like IT, and from external sources such as salary surveys. You can use insights from people data to drive organisational change.

In this factsheet, we explain what people analytics is, why it's important and how it's used. We introduce key terms such as correlation, causation, predictive and prescriptive. We also discuss who is responsible for people analytics as well as the strategy and process for doing people analytics.

See the **full A-Z list of all CIPD factsheets**.

Explore our viewpoint on people analytics, along with actions for government and recommendations for employers.

What is people analytics?

People analytics is about analysing data about people to solve business problems. It's sometimes called HR analytics or workforce analytics. One academic paper defines it as 'a number of processes, enabled by technology, that use descriptive, visual and statistical methods to interpret people data and HR processes.'

Examples of people analytics in action

People analytics can be used to gain insights on:

- **Enhancing employee morale**: By measuring the drivers of employee engagement and adapt their practices accordingly to enhance employee morale.

- **Improving retention**: By identifying problem areas tailoring incentives to curb attrition for different employee groups.

For more examples see:

- Solving business problems with people analytics: case studies

- Valuing your Talent

- Human capital analytics and reporting: theory and evidence.

Why is people analytics important?

1. You can use it to measure your workforce, for internal and external stakeholders, in areas such as performance, wellbeing, and inclusion and diversity. See more on workforce planning.

2. It enables more effective evidence-based decisions on improving workforce wellbeing and organisational performance.

3. It can demonstrate the impact of HR policies and processes on workforce and organisational performance.

4. It can be used to estimate the financial and social return on investment of change initiatives.

5. All people professionals who meet the standards of our Profession Map should know about 'evidence-based practice' and be 'insights focused'. Our Profession Map also defines standards for people analytics as a specialist knowledge.

Doesn't that involve monitoring and surveillance?

Potentially. Technology makes it easy to seamlessly collect data about people. Websites visited, time spent on specific apps, comments made on the organisation's social networking site. Organisations can monitor their workforce within the bounds of law where they operate. Even if it's lawful, how an organisation collects and uses the monitoring data can be contentious. Particularly if employees feel that it's irrelevant, unnecessary or too intrusive. Don't be creepy.

If you do decide to introduce employee monitoring software:

1. Be transparent. Explain clearly what you're monitoring and why.

2. Consult with employees to ensure the measures are relevant and necessary. Measures can be about ensuring compliance as well as helping employees become better at their jobs.

3. Be mindful of cultural differences and monitor your system to make sure it does not discriminate against minority groups.

Find out more about how HR and finance professionals are using people data in our report People analytics: driving business performance with people data in association with Workday, as well as the summary reports People analytics: international perspectives.

What is descriptive, predictive and prescriptive analytics?

Descriptive, predictive and prescriptive analytics are often used to describe the maturity of an organisation's people analytics capability. Most organisations can do descriptive analytics and few can do prescriptive analytics. But this is changing as more apps offer analytics out of the box. Having a mature people analytics capability expands what you can analyse and automate. However, using more advanced analytics doesn't always mean that you're adding more value to your organisation. You can get valuable insights using descriptive analytics.

- **Level 1a – descriptive analytics**: Describes a particular point in time or a historical trend, employee turnover and 'lost time' rate due to absence.

- **Level 1b – descriptive analytics using multidimensional data**: Combines different types of data to investigate a specific idea. Like combining leadership capability data with engagement scores to measure leadership effectiveness.

- **Level 2 – predictive analytics**: Uses data to predict future trends. For example, looking at historical workforce data and external labour market trends to build a model that predicts the organisation's future workforce needs. The data needs to be relevant, high quality and robust for predictions to be reliable.

- **Level 3 – prescriptive analytics**: Uses the results of descriptive and predictive analytics to automatically recommend actions. For example, an online learning platform that recommends courses for a learner based on their interests, career goals and past courses.

What is quantitative and qualitative data, correlation and causation?

People analytics can help identify whether one or more things can reliably predict something else. To do this, we use quantitative and/or qualitative data to build a predictive model. If the model reliably predicts something, we say there is a correlation and describe the strength of the relationship as a number. But correlation does not imply causation.

Remember, organisations are not closed systems. You need to look beyond the analytics and consider other factors that can't easily be measured before drawing conclusions. When analysing race data, for example, consider where structural discrimination can hide. A lack of diversity in frontline staff might reflect a long-term lack of investment in public transport and residential segregation.

We define the terms below:

- **Quantitative data:** The number of employees and average age are examples of quantitative data. Quantitative data is quantifiable and objective. It can be described in numbers.

- **Qualitative data:** Performance appraisals and exit interview notes are examples of qualitative data. Qualitative data describes the qualities observed by someone and is subjective. It is useful for understanding the 'what', 'why' and 'how' of something. Qualitative data can be turned into quantitative data. For example, a performance appraisal can be summarised as a performance rating.

- **Correlation:** Correlation is when two or more things that happen around the same time might be associated with each other. This survey, for example, found a link between employee perceptions of corporate social responsibility (CSR) and their work engagement. But the survey cannot prove that positive perceptions of CSR result in high work engagement.

- **Causation:** Causation is when something happens, it causes something else to happen. For example, during school holidays more employees with school-aged children go on leave. To prove causation, you usually need to analyse data from different points in time.

Who is responsible for people analytics and managing people data?

It varies. Large organisations may have a centralised people analytics team that provide insights to stakeholders in the organisation. Some organisations prefer a decentralised approach where individual HR analysts within small centres of expertise provide insights within their specialist domain. Others prefer to outsource their analytics. In practice, organisations usually take a hybrid approach.

Although data is held in many places in an organisation, it should ideally be managed by a specific data owner. The data owner is responsible for ensuring that data is maintained and kept secure according to the organisation's data protection policy. Find out more in our data protection factsheet.

What are the aims of a people analytics strategy?

People analytics projects should align to both the business and the HR strategy. Solving a critical business issue is likely to create the most value for the business and spur demand for more insights from people data.

A people analytics strategy should have three aims:

1. Connect people data with business data to inform business leaders and help them make decisions.

2. Enable HR leaders to use insights from the analytics to design and implement appropriate HR activities.

3. Measure HR's effectiveness in delivering against its objectives. A sizeable minority of the people profession find this part challenging.

Our practitioner's guide explores the first steps to building a people analytics strategy, developing simple analytics capabilities. In our research report Human capital analytics and reporting: theory and evidence, we summarise key academic concepts that you can apply in your people analytics strategy.

What is a people analytics process?

The people analytics process should follow nine steps from planning through to evaluation. In practice, the process can be shorter. For example, if a recent data audit can be reused, or if analysis and reporting have been automated:

1. **Plan**: Develop the objectives for the analytics activity. Map the requirements of the stakeholder and design questions which will be answered by the analytics process.

2. **Define critical success factors**: Define the measures that will show if the project has been a success. These might include: on-time delivery, project impact and user feedback.

3. **Data audit**: Identify what data is currently available and grade its quality. This will show where gaps in data may be, which should be filled before progressing.

4. **Design the process**: Define roles and set objectives for team members. Define resource requirements and map stakeholders for the project.

5. **Design the data collection strategy**: Design the collection and processing stages of the analytics activity.

6. **Data collection**: Collect data from existing data sets (for example, absence records) or collect new data (for example, run an engagement survey).

7. **Analyse data**: Analyse the data in line with the stakeholders' requirements.

8. **Report data**: Report solutions to the problem clearly and recommend further areas of investigation if needed.

9. **Evaluate**: Review the process and evaluate impact. Update process as required.

Further reading

Books and reports

FERRAR, J. and GREEN, D. (2021) *Excellence in people analytics: how to use workforce data to create business value*. London: Kogan Page.

KHAN, N. and MILLNER, D. (2020) *Introduction to people analytics*. London: Kogan Page.

Visit the CIPD and Kogan Page Bookshop to see all our priced publications currently in print.

Journal articles

BASKA, M. (2018) Six ways analytics will future-proof HR. *People Management* (online) 6 June.

GARCIA-ARROYO, J. and OSCA, A. (2019) Big data contributions to human resource management: a systematic review. *International Journal of Human Resource Management* (online). 9 October. Reviewed in *In a Nutshell,* issue 93.

GREASLEY, K. and THOMAS, P. (2020) HR analytics: the onto-epistemology and politics of metricised HRM. *Human Resource Management Journal*, Vol 30, Issue 4, November. pp494-507. Reviewed in *In a Nutshell,* issue 103.

JEFFERY, R. (2019) Amazing insights you can learn from people analytics. *People Management* (online). 21 February.

KENNEDY, E. J. (2020) Can data drive racial equity?. 3 December. Reviewed in *In a Nutshell*, issue 103.

RASMUSSEN, T. and ULRICH, D. (2015) Learning from practice: how HR analytics avoids being a management fad. *Organizational Dynamics*. Vol 44, No 3, July-September. pp236-242.

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