

# Human resources — the big data late-adopter?

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**Ann Bevitt, Partner at Cooley (UK) LLP, examines the benefits of using big data in a human resources context, reviews the risks and suggests how these might be overcome**

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**B**ig data is big news: UK, EU and US regulators have all been busy recently issuing reports and guidance on how to harness the potential opportunities afforded by big data, whilst at the same time seeking to reduce the associated risks to privacy and data protection. And it is little wonder — big data is already very big business and it is set to continue its rapid expansion in all areas. According to the International Data Corporation's 2014 report, big data technology and services are expected to grow worldwide at a compound annual growth rate of 40%.

The use of big data in fields such as scientific and medical research, marketing and law enforcement is already well-established and widespread, and the opportunities it offers are clear. For example, the analysis of data from babies in a neonatal intensive care unit facilitated the identification of easily (and previously) overlooked early warning signs of infection. However, big data's role in other arenas, like HR and recruitment, is less pervasive. This article considers why this might be the case, as well as examining in detail the opportunities presented by, and risks associated with, a more widespread adoption of big data in the HR world, particularly in recruitment processes.

## HR as a big data late-adopter

Within many organisations, HR data are often very decentralized and held within many different systems. Simply locating and organising information from different business systems into a useable format for big data analysis can therefore be a significant challenge. For example, relevant data may be held in specific databases, in legacy systems and even in spreadsheets created by individual managers outside of an organisation's formal systems. In larger organisations, information could be contained in tens of silos (or structures) across the organisation. As a result, in contrast with other areas where data storage practices may be 'good to go' for big data purposes, assembling HR data in a format that is compatible with big data analytics can itself be a huge preliminary task.

At the micro-level, there may be the (sometimes unrecognised) perception amongst HR professionals that big data is not for them. At its heart, HR is all about personalities and personal relationships; what value can an algorithm really add to an experienced individual's own assessment of who will fit into their team?

In addition, HR professionals are, by virtue of the field in which they operate, very tuned into and wary of possible claims of discrimination. They will therefore be very alert to any potential discriminatory impact of big data analytics in the HR arena (see below).

For all of these reasons, there may be a natural reluctance amongst HR professionals to embrace the opportunities afforded by big data. However, those benefits may really be just too good to miss.

## The opportunities presented by big data in HR

At the end of 2014, the BBC reported that organisations are generally poor at recruiting the right staff: employers come to the conclusion that nearly 50% of new hires are unsatisfactory within 18 months of them starting work. Interestingly, the main reason for the failure to recruit the right people is thought to be cultural, and not related to employees' skillset. The idea of using big data to build a demographic profile to assist the recruitment process is on its face attractive, and there is anecdotal evidence of significant increases in revenues as a result. For example, one organisation reported a 30% increase in revenues in countries which had used big data to build a demographic profile for recruiting sales staff. On the flip side, another company experienced a 20% cut in attrition after only a six-month big data trial.

To try to capture these benefits and to ensure that applicants' personalities and values are a good fit with a company's culture, employers are increasingly relying on big data analytics to mine pools of job applicants with algorithms designed to predict both good performance and good fit within an organisation. However, doing so is not without risk.

## The risks associated with big data in HR

In February 2015, the US-based big data and privacy working group set up by President Obama to review how big data is changing the economy issued its interim progress report. One of the six key recommendations originally identified as deserving prompt action was the detection of practices and outcomes facilitated by big data that have a discriminatory impact, and the development of plans for investigating and resolving breaches of the law in this regard. The potential for discrimination is, unsurprisingly, particularly evident in the employment and HR field.

Recruitment is a very good example of an HR process that in principle lends itself, at least in the initial stages, to the use of algorithms and automated processes, but that can also result in adverse consequences for individuals. It is often assumed that algorithms and automated processes are neutral and unbiased, but this is not necessarily the case: big data sometimes has the effect of reinforcing existing stereotyping and prejudices.

For example, using big data to recruit may in practice involve looking for patterns in the online behaviour of previous hires who have performed well and been a good fit. However, even with larger organisations, the lessons to be learned from such an exercise are restricted by the limited set of successful prior hires available.

An additional complication may be that this data set may also reflect previous discriminatory decisions during the recruitment process, and reliance on it could therefore simply perpetuate past prejudices.

One trap that an unwary organisation may fall into is to confuse correlation and causation. With large swathes of data available, it is very easy to do that: to give a trite example, if 80% of an organisation's most successful sales staff are men, this does not mean that men are better at selling than women.

One of the major sources of data used in big data recruitment is social media.

However, the use of data gleaned from social media is also not risk-free: such data often provides information indicating protected status (such as race, sex, disability, sexual orientation, religion or belief and age) and could therefore give rise to an adverse inference that a negative decision not to hire was based on that status. In such a situation, to avoid a claim of discrimination, an organisation would be required to prove a negative, i.e. prove that it did not make its decision not to hire because of an applicant's protected status.

The risks identified above in relation to the use of big data in recruitment are not unique; similar concerns apply to the use of big data in other HR processes, such as the offering of promotions or provision of benefits. As with recruitment, if the use of big data in these areas results in less favourable treatment for employees in a protected category, then there is also the potential for a claim of discrimination.

Finally, UK companies using automated processes such as those associated with big data, to recruit, promote or reward should also bear in mind that individuals have the right, under section 12 of the Data Protection Act 1998, to prevent decisions being taken about them that are based solely on automated processing of their personal data. Although decisions may not usually be based solely on automated processing, where this is the case a disgruntled employee could cause a lot of trouble by exercising their right to object under section 12.

## What does this all mean for the prospective employee?

At the very least applicants should be aware that their social media activity may be scrutinised, and in some cases carefully-honed CVs and years of experience may count for little. Instead, organisations might rely on data analysis to identify the elusive 'perfect employee'.

Providing the data for such analysis will require more information from applicants. As a result, as well as the usual personality tests, applicants should be prepared for companies collecting information from them on

a wide range of issues, such as the length of their commute, their means of transportation, how long they have been at their current address, how many times they have moved home, their interests outside work, their work ethic, their emotional stability, and their attitude towards alcohol.

## The future for big data and HR

Finally, companies should also be looking ahead to what changes the draft Data Protection Regulation ('Regulation') may bring to the use of big data. Under the current draft of the Regulation, employers will need either a statutory basis or consent to carry out profiling, making it harder to make use of personal data in a big data context. There will be a notice requirement on companies to inform individuals about the existence of profiling, of measures based on profiling, and the envisaged effects of profiling on those individuals.

Further, profiling will be prohibited, regardless of whether consent has been obtained or not, if it results in discrimination against an individual on the basis of race, ethnic origin, political opinions, religion or beliefs, trade union membership, sexual orientation or gender identity, or it is automated and results in measures which will have a legal effect or significantly affect an individual. In addition, where the profiling is of an individual's reliability or behaviour, a privacy impact assessment will likely need to be carried out. As organisations may be subject to very significant fines (it is currently proposed that these will be up to 1 million euros or up to 2% of annual worldwide turnover) for failing to comply with profiling requirements, the use of big data in the HR arena should be very carefully scrutinised to ensure that all appropriate steps have been taken.

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