Toward evidence-based HR

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Abstract

Purpose – Sharing a practitioner perspective on the current value, challenges and future direction of HR analytics, from experience in a Fortune 500 company, to contribute to the development of the field in practice and academia. The paper aims to discuss this issue.

Design/methodology/approach – Perspective/position paper with practical findings.

Findings – HR analytics – i.e., applied management/OE science – clearly adds value when a number of pre-conditions are met. The value goes beyond talent outcomes, and applies to profits, cyber security, safety, and other outcomes.

Practical implications – HR/OE practitioners and academia should continue to work together, and consider both clear monetary value and change management when working toward evidence-based HR and evidence-based management.

Social implications – The approach increases the impact of for- and non-profit organizations, giving higher impact at lower cost, via more efficient and effective use of human capital and also removes biases present in approaches that are not evidence-based.

Originality/value – Few very large companies have shared their experiences building up HR analytics, and this paper does exactly that from a large company that has invested heavily in HR analytics and is considered a front-runner globally (Shell). This showcases to practitioners and researchers what HR analytics can be, provided proper investments are made, and practitioners and researchers work together – i.e., what the impact of HR analytics is and what the challenges and pitfalls are.

Keywords HR analytics, Organization development

Paper type Viewpoint

The value delivered by HR analytics has been growing exponentially in the last few years, raising key questions: how can companies and organizations benefit; What expectations should they have; and What do they need to put in place to deliver on the HR analytics promise?

HR analytics – applying existing and generating new scientific knowledge to develop practical solutions for Businesses and non-profit organizations – has been around for decades in predominantly the talent management aspects of the HR profession. For example, Kahneman (2011) offers a nice example how, early in his career, he applied scientific thinking in improving the predictability of army recruits. Joyce and Robert Hogan developed an extensive socio-analytic theory and practice in support of valid executive leadership and personality assessments. Many large organizations today run some form of people surveys to assess the workforce's thoughts, opinions, and attitudes based on social-cognitive frameworks, etc.

However, in the last five years, the potential of HR analytics to provide powerful insights for general managers and HR executives in making key people and organization

decisions has been greatly expanded from the traditional talent management domain to business effectiveness and efficiency improvements. The field is increasingly predicting hard business outcomes such as sales and safety, productivity and profits, investment risk taking and aversion, and managerial decision quality. With better predictive analytics on business outcomes comes more value from HR analytics.

Better insights from HR analytics are enabled by improved HR systems offering better (longitudinal) data, the improved ability to combine HR data with operational and financial performance data, and improved statistical analysis capability (the number of HR professionals with PhD's keeps growing, as does the cooperation between academia and companies). Since data volume and quality, including people data, are growing exponentially, we expect HR analytics to continue to increase its potential for value. A prerequisite for this growth is that HR analytics continues to adhere to the important data privacy rules and guidelines worldwide that come with using anonymized people and business data – not doing so would break the law and put HR analytics in serious jeopardy.

This field is not without risks and issues. The popular literature on HR analytics currently resembles more hype than substance, and consultancies and software suppliers have spotted the commercial opportunity, more often than not amplifying the noise rather than clarifying the purpose. It is at risk of becoming a fad (see Rasmussen and Ulrich, 2015, for a description of the main issues).

Moreover, ever-expanding volumes of data easily allow for data mining and empty empiricism, which could easily substitute analytics grounded in theory-driven empiricism. Furthermore, there is a risk of over-extending the scope of HR analytics: decent management Information (i.e. having the facts available) often already generates 80 percent of the value without sophisticated analytics because it allows fact-based diagnostics and decisions (e.g. Do we have an attrition problem? How many people retire next year? How many graduates did we hire year-to-date?). In addition, a strong management information practice is a prerequisite for sound HR analytics and not all companies and organizations have this currently in place, which again leads to erroneous conclusions and irrelevant outcomes.

That said, the field offers the promise to be a game changer in the long term for companies and organizations that have the stamina to invest in and are willing to act on the insights, leading to better business decisions. Proper application of HR analytics reduces spend on HR consultancy (because it clearly shows if there is a problem, what the solution is, and how big the expected effect is vs. the needed investment). HR analytics allows us to balance intuition, experience, and beliefs with hard facts and evidence, and grounding in the vast knowledge of organizational behavior. It helps focusing on what really matters and on what works and what does not work. It allows the people agenda to run effectively and efficiently. In other words, HR analytics provides better people and business decisions for less money – "more for less" (see Huselid, 1995) for an outline of the framework linking HR to organizational outcomes like productivity and profits).

Examples of improving business outcomes through analytics

In Shell, we started out looking at what drives individual and company performance, following a rich set of academic literature that looks at HR practices affecting company performance. In line with findings of Jiang *et al.* (2012), we found – through combining our vast people database and whilst respecting data privacy requirements – that the single biggest driver of individual performance is employee engagement. Higher engagement leads to better individual performance. (We were able to do longitudinal research, which allowed us to draw causal conclusions).

Next, we moved beyond traditional HR data and focused on outputs. The most important output within our industry is safety, and so we looked at the extent engagement would affect safety. Our analytics showed that an increase of 1 percent in employee engagement results on average in a drop of "recordable case frequency" (an industry safety statistic) of about 4 percent – both at work team and plant level (using seven years of global data). We also found a strong causal effect between engagement and sales in various parts of our commercial organization.

Next, we looked at what drives engagement. We found that team and organizational leadership are the main determinants of engagement. Better team leaders drive engagement, and moving poor team leaders to another team reduces engagement scores.

These combined insights offered a rich set of possible interventions, and we have and are actively pursuing these, including: annual feedback to line leaders on how well they engage their workforce; specific interventions on the "low scoring" team leaders; targeted communications about the business strategy and how a specific unit can contribute, and interventions to improve personal safety where needed. In establishing all of these interventions, we provided clear, actionable, and transparent feedback to leaders and their teams – the data-driven insights often spoke for themselves.

Following this global research, we targeted actionable insights that provided clear monetary value or reduction in risks. In any large company, there is a sea of opportunities for HR analytics, and one needs to make a selection where analytics can add demonstrable value beyond simple management information. Initially, we focused, among others, on improving top line growth, on reducing cyber risks, and – being a global company – on unleashing the value of diversity. A few examples:

(1) We found that for groups of sales managers, use of technology platforms drives up sales. This allowed us to target and educate those sales managers that did not properly use the available technology platforms to interact with customers – thus directly impacting the top line.

(2) We found that certain groups of employees are much more prone to cyber security risks (e.g. phishing, downloading viruses, etc.) than other groups. This allowed targeted on-the-job education programs that have high impact.

(3) Through using a new and integrated measure of diversity at team level, two of our colleagues (Bongenaar and Van Leeuwen, 2016) found that the ability of the team leader to create an inclusive culture was the differentiator between better and worse performing diverse teams.

These are by no means the only topics we looked at, and we are managing our portfolio of HR analytics projects dynamically and per the business need. We have (as most HR analytics departments do) more demand than supply, and so actively managing the project portfolio is important.

Managing the HR analytics portfolio

Availability of data sets will continue to expand the list of potential topics for HR analytics – how best to recruit people; how to establish a cost-conscious culture; which expats will be successful in a particular cultural environment; how to drive a culture of continuous improvement and innovation; how to avoid mistakes in lean manufacturing etcetera. It is not possible to pursue all of them at the same time (i.e. the organization cannot absorb more than a few interventions based on analytics derived insights successfully at the same time). In addition, not all HR analytics

projects will pay off – some projects will fall flat on inconclusive outcomes, lack of data, or fuzzy causality.

For that reason, we established a portfolio approach in selecting the projects to work on. We regularly do a review of potential projects in terms of potential business value (operational, financial), and in terms of the likelihood of deriving actionable insights from the predictive analytics we do. Business value is ultimately determined by the company and HR strategy; likelihood can be estimated by looking at the maturity of the scientific research in the respective field the company may have an interest in. A topic like recruitment (with a century of psychological research) has a higher likelihood of being grounded in research, than, say, the digitization of the workforce of the future.

It is very important that projects are grounded in some form of sound theory or else you risk basing your decisions on statistical flukes caused by data mining. Empty empiricism is to be avoided through using the solid scientific research available. In our experience, there is a vast amount of usable theory and meta-analyses from the academic world that is most useful and almost for free – all it does require is a trained mind for selecting the right theoretical framework (and great collaboration with academics who know the available research and theory is very helpful, e.g. via HR academia-practice workshops, journals, co-sponsoring HR PhD-students, etc.).

You also need to balance medium pay off but high-likelihood project ("bread and butter" projects) with high pay off-/low-probability projects ("moon-shots"). Bread and butter gives you the credibility to pursue a few moon-shots that can potentially be transformational but can also fall flat on the face.

Building HR analytics capability

In Shell, as in most organizations, the skills needed to translate academic insights into practical advice, to turn data to predictions, to gain insights from trends, and propose a sound set of interventions to advance the business strategy, is always in short supply.

For that reason, we started out with getting our capability in place. For proper HR analytics, one needs a very strong business focus to determine which questions are worth answering, a deep grounding in behavioral science, excellent data and statistical capability, the ability to generate actionable interventions that are easy to understand, and the skill to tell a compelling story why the findings matter to the business.

We recruited – internally and externally – a few people with very strong academic and statistics background (typically applied mathematics and psychology or econometrics PhDs with one leg in the academic world) and worked with the HR business partners to identify to right problems to work on. We deliberately kept the team small – this is an area where a few exceptional people can make all the difference. We also established a very strong separate central Management Information team to take away most of the operational day to day information requirements, and to be the data feeder for the analytics projects.

We were fortunate in that in Shell, we have a large database of personnel data as well as a strong annual people survey with high-response rates, and more importantly, the ability to connect people data with operational and financial data (anonymously, while respecting our strict data privacy rules, always displaying aggregate results) – quality data from multiple sources so that you can triangulate typically trumps just having "big data." In addition, we were also fortunate that in Shell, evidence and analytics are highly valued by both senior line and HR management.

We also kept the focus on the business priorities and on pursuing a more effective and efficient HR function. For us, the ultimate two questions we ask ourselves whenever we initiate an analytics project are:

(1) Would our senior line management see the value of the insight and proposed intervention in light of our business strategy?

(2) What would it take to suspend long-held beliefs in light of new data?

The first question is about business value and the degree to which we are successful in applying the science to the business situation. It requires "translating" the insight into something that works in practice, and that is simple enough to be understood, communicated, and actioned upon. It is, in essence, being relevant to the relentless pursuit of executing the business strategy. It is great to be science based, to use analytics, and to bring insights – but in addition, recommended actions have to be practical and compelling to a broad audience – people need to get the "so what?."

The second question is often a hard one. Insights from HR analytics challenge beliefs that we all have (individually or collectively) about how the world ought to work. Differences between what practitioners believe and what actually works are not new (Pfeffer and Sutton, 2006), and cognitive dissonance theory already predicted that when beliefs and evidence compete, beliefs often win (Festinger *et al.*, 1956). Therefore, one has to invest in the analytical skills as well as the consultative skills to make interventions stick through proper change management. In addition, it is wise to invest in re-educating the HR business partners in scientific thinking and statistical reasoning ("slow thinking") to advance the quality of people decisions (Kahneman, 2011).

Conclusion

HR analytics may be a hype now, but a game changer for the future of HR. It allows better people decisions and more effective and efficient HR. It makes use of the ever-expanding pools of data on people, operational and financial matters that can be combined. The degree to which insights from HR analytics can be monetized will determine whether HR analytics is there to stay.

HR analytics is a necessary step toward evidence-based HR. In a world where we have more access to a wider set of data, including data about people and their behaviors, HR analytics offers an opportunity to get better HR for less; link HR practices with business outcomes and value; challenge beliefs through data; educate practitioners on what works and what does not; improve decision making through use of sound predictions. In short, HR analytics has the potential to rebase beliefs and evidence within HR for the better. It is good that there is so much interest in the academic and practitioners' world toward HR analytics. The hype will blow over. But we will get to a more evidence-based HR practice – with hard work, stamina, and the right cross-fertilization between academic rigor and business relevance.

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