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Human Capital Analytics: Why Are We Not There?

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Abstract

While human capital analytics (HC analytics) recently has developed enormous interest, most organizations still find themselves struggling to move from operational reporting to analytics. In this viewpoint, the authors explore why that is the case and what can be done to change that. Referring to the "LAMP" model, the authors stress four elements as potential reasons why HC analytics are not sufficiently being "pushed" towards their audience, namely logic, analytics, measures, and process. Similarly, they identify five conditions why the wider use of HC analytics is not "pulled" in by the analytics user. These "push" and "pull" factors behind the lack of greater use of HC analytics represent fertile ground for future research and implications for practitioners on both ends.

Keywords

HC Analytics, LAMP Model, High Performance Work Systems, Employee Engagement, Organizational Performance, ROIP, Data Management

Article Classification

Viewpoint

Question from 'Dana Minbaeva' on January 9th 2017:

"Despite the enormous interest in human capital analytics (HCA), organizations have struggled to move from operational reporting to analytics. A recent study by Deloitte found that although 75% of surveyed companies

believed that using HCA is important for business performance, only 8% viewed their organizational capabilities in this area as "strong" (Bersin, Agarwal, Pelster & Schwartz, 2015). Several consultancy reports and numerous LinkedIn blogs concur: despite the vastness of available corporate data, organizations have been slow to develop their HCA capabilities. Those that have focused on such development have struggled to move from operational reporting for benchmarking and decision making to analytics in the form of statistical analysis, development of 'people models,' analysis of dimensions to understand cause and deliver of actionable solutions (Bersin et al., 2015). A study of 255 European business and analytics professionals confirms that despite progress with operational reporting and strategic workforce planning, most organizations have yet to fully develop their analytical competencies (Kassim and Nagy, 2015). Why do companies struggle to move to analytics?"

This has been a conundrum for decades – with the obvious importance of human capital, why don't organizations invest in and demand that leaders make their human capital decisions using fact-based analytics? The current version of this story has some new wrinkles, in that the explosion of social and cloud-based data means that something akin to the "internet of things" seems to be emerging when it comes to human capital. What we mean by that is that everyone recognizes that much more data are now and will be created about people at work. Workers are now connected through personal devices, making data on things like location, communication, and even physical activity and health potentially available for analysis. The increasing blending of automation and human work also means that more work will be observable through sensing devices (for more on this, see Cascio and Montealegre, 2016). Another new wrinkle is that for the first time we have a generation of leaders who have come of age recognizing that decisions about talent, employment and the organization matter. Marquee CEOs like Jack Welch, Jeff Bezos, and Howard Schultz routinely state that their HR leader is the most important member of their leadership team, and that the way their employees are treated is key to how they serve customers, and thus to the strategic success of their organization. In addition, the availability of data analysis seems to be increasing, as HC technology and information system products increasingly create integrated data warehouses containing all HR data plus providing products that produce standard analytics at the touch of a button. This leads pundits, consultants, and HR leaders to see a convergence between a potentially more receptive audience, richer data sources and more feasible analytics.

In addition, there is decades of research showing that such things as investments in high-performance work systems and employee engagement are related to organizational performance. It would appear that the theoretical and logical models to guide HC analytics are sufficiently developed and proven that the models for analytics would be well-understood and commonly implemented. Conceivably, HR leaders might confidently approach organizational decision makers with analytics that show unparalleled returns to investments in human

capital that do such things as increase the quality of new hires, enhance skills and capabilities, clarify and specify goals, enhance employee engagement, and connect appropriate rewards to employee performance. Indeed, we often see presentations at HR and I/O psychology professional conferences that depict just such returns. There are also companies whose HC analytics teams and activities are regularly featured in HR publications, conferences, and professional affinity groups.

Yet, we all encounter frequent stories from HR colleagues, often working in companies known for enlightened and informed HR practices, who report presenting their leaders with such evidence, only to be congratulated on making HR more "analytical," and then to see the results ignored. The results are often ignored in favor of leadership decisions based on copying HR practices of an admired CEO, or the opinion of the latest guru. While the examples from companies are compelling, they often emanate from the largest organizations, and in particular those that have enjoyed significant leadership in the HR field for many decades. These examples are admirable, important and inspiring, but they can belie the fact that the majority of organizations have few HC analytics investments and only moderate analytics effectiveness (Lawler & Boudreau, 2015). This is likely to be particularly true in smaller organizations, which employ vast majority of workers (Cascio & Boudreau, 2014a).

This is not a new dilemma. It has existed at least since the 1950's, as advocates of human resource accounting experienced the difficulty of "putting people on the balance sheet" (Brummet et al., 1968); in the 1980's, as the field of I/O psychology experienced the "futility of utility analysis" (Latham and Whyte. 1994); in the 1990's as researchers lamented the "black box" of mystery surrounding the reasons for the correlation between high-performance work systems and organizational financial performance (Becker & Huselid, 2006; Jiang, Takeuchi & Lepak, 2013; Paauwe; 2009; Purcell, Kinnie & Hutchinson, 2003); and more recently in the form of questions about why human capital analytics (HCA) are not more widespread and standardized.

We might approach this from the perspective of the necessary conditions for HCA to advance and affect organizations:

First, consider the "push" factors, or the conditions necessary for suitable HCA to be available. This was largely the domain of early research, suggesting that if the field could amass the data and analytics necessary to show the "return on investment" from investments in HR and human capital, leaders would be compelled to act on them (Cascio, 1981). In the early eras, it was often very difficult to pull together the data, or to understand the logical and empirical connection points between investments in HR programs and practices and the ultimate organizational outcomes.

We like to use a model that Pete Ramstad and John introduced in "Beyond HR " (2007) and that Wayne and John have used in "Investing in People" (2011) and tried to advance since then. It is called the "LAMP" model, and it includes these elements:

(1)   Logic (frameworks that articulate the connections between talent and strategic success, as well as the principles and conditions that predict individual and organizational behavior)

(2)   Analytics (tools and techniques to transform data into rigorous and relevant insights e.g., statistical analysis, research design, etc.)

(3)   Measures (the numbers and indices calculated from data system); and

(4)   Process (communication and knowledge transfer mechanisms through which the information becomes accepted and acted upon by key organization decision makers)

Each element suggests a potential reason why HC analytics are not sufficiently ready for their audience.

For example, regarding "Logic," the research on the nuances of high-performance-work-systems suggests that we have not yet solved the "black box" issues that explain why such systems work. Yes, we can say that there appears to be an association, and there is much theory and speculation about the reason. Still, there is still some uncertainty about how such systems vary across organizational units, even when the organization itself is committed to them. Recently, Bowen and Ostroff (2004) suggested that such systems work through the moderating effects of perceptions among employees. Leaders, faced with analytics that suggest an association between high-level HPWS and firm performance might well hesitate to act on the information without analytics that show that the logical intervening and moderating variables are in place. In other words, exactly how do HPWS drive performance? What are the mechanisms that explain the association? Wayne and John have written in "Investing in People" (2011) about the importance of understanding the "return on improved performance (ROIP)", that defines the relationship between higher performance in individual actions and collective interactions, and their effect on unit and organizational outcomes. Not all performance improvements contribute equally strongly to organizational performance, and understanding the variations in these payoff functions often requires very deep understanding about the elements of the work that people do and how it contributes. The logical depth to clarify these relationships is often lacking in the frameworks behind analytics. For example, we have noted that reducing employee separations can indeed reduce the costs of separating and then replacing employees, but the full effects of employee separations on the quality of the workforce might offset the costs. As Dalton, Todor and Krackhardt noted decades ago (Dalton et al., 1982), and Chris Berger and John showed in 1985, not all employee turnover is dysfunctional. Thus, leaders presented with analytics that seem to follow a logical model suggesting that reducing turnover is always beneficial may fail to capture

pivotal nuances in how employee turnover affects performance. Future researchers and practitioners might want to consider an idea from John's book, "Retooling HR" (2010) by borrowing the logical frameworks from well-established disciplines like finance, marketing, and engineering, and applying their metaphors to HC analytics. Asking strategically relevant questions and presenting them in a logical framework that shows the intervening linkages between HR investments and critical organizational outcomes is vital if leaders outside of HR are to act on subsequent findings.

Regarding "Analytics," the traditional framing of this problem was as a lack of sufficient sophistication or power in the analysis models. We have seen the emergence of multi-level analysis, intersectional methods, and sophisticated structural equation analysis to capture these nuances. Organizations are reaching out to disciplines known for their deep analytics. One bank aggressively recruited rocket scientists into its HC Analytics group, with the idea that sophisticated physics models of how many variables and environmental factors affect rockets might have parallels in the world of human capital. Google and other frequently-touted leaders in this area are also famous for reaching out to disciplines beyond traditional HR and I/O psychology for analytical models. Today, we see frequent laments by pundits that a significant barrier to more effective HC analytics is the lack of sophisticated analysis skills among HR professionals. Data analysis is the purview of data scientists and admittedly, they are in high demand globally. HR professionals are responsible for asking strategically relevant questions, framing them so the logical connections are clear, and for storytelling with data. That said, some HR and organizational leaders have had strong success with the simplest of analytics. A very common story is that an HR leader simply calculated the correlation (or contingency table) between reported employee engagement and unit-level results, with higher-engagement units being notably higher in their results. In the 1980's analysts at Sears formalized such analysis, and Ben Schneider and other scholars have formalized those findings in many settings. What's striking to us is that the effectiveness of the analytics in driving decisions is often not so much a function of the statistical or methodological sophistication, but rather presenting results in a visually striking way. Early versions of the APA Publication Manual noted that research is not complete until it is communicated to other interested parties. Turning analytical insights into concrete business actions begins with effective storytelling with data. To do that, a fundamental requirement is that HCA address key strategic issues that affect the ability of senior leaders to achieve their operating and strategic objectives. Otherwise they tend not to be interested. To be most persuasive, stories should include people, operating, and financial data, along with qualitative analysis. This is where HR leaders who have deep operating knowledge of their businesses can really shine, because nothing beats a within-firm story.

Regarding "Measures," this is probably where the greatest investments have been made in practice. Virtually every large organization has invested millions of dollars sometime during the last 15 years, to organize,

integrate and make more accessible its human capital data. Cloud-based data warehouses and blazing-fast computing speeds have made it possible to gather and access the data in ways that were hardly conceivable only a few years ago. To be sure, data management remains a significant obstacle to more widespread adoption of HR analytics. It includes issues such as disparate systems that cannot "talk" to each other, data integration, and ensuring error-free data. A common theme among consultants and practitioners is that more and better data are a key to more effective analytics. That said, it is also far too common that the massive data bases available are still built and structured to reflect early models of HC analytics. They often reflect data that are mostly about the current status of employment, compliance with regulations and laws, the costs of employees and HR programs, and the level of usage of those programs. At best these kinds of data represent operational or advanced reporting, and not strategic or predictive analytics that incorporate analyses segmented by employee population and that are tightly integrated with strategic planning. While these data can be informative, they can also lead to a focus on the operations of the HR function, rather than on the effects of human capital decisions and investments on organizational outcomes. Finally, we believe that there is a strong need to distinguish clearly the value propositions that measures describe. In the HC BRidge framework (Boudreau and Ramstad, 2007), Pete Ramstad and John suggested distinguishing "Efficiency" (the frugal use of resources to implement HR programs and practices), Effectiveness (the effect of those programs and practices on the actions and interactions of target recipients), and "Impact" (the effect of the actions and interactions on organizational outcomes). For example, when it comes to training, "Efficiency" measures would show things like the time and cost per trainee; "Effectiveness" would show whether those who participated in the training rated it highly and learned something new, and "Impact" would show whether the content or skills they learned produced changed behaviors and positive financial returns in areas that are pivotal to organization success. All three are valid and useful, but analytics can be confusing when measures in one category (e.g., efficiency) are presented or mistaken for another (e.g., impact).

Finally, there is "Process," the presentation and "selling" of results to decision makers. From the "push" side, this includes factors such as the timeliness of the analytics, but also the degree to which they are presented with awareness of the perceptions, needs, and capabilities of those who are supposed to use the analytics. Advances in real-time analysis and reporting, as well as the availability of powerful personal devices, suggests we may be entering an era where leaders can call up HC analytics in real-time as they face the decisions to which the analytics would contribute. Many have noted that artificial intelligence may augment this availability by sensing the information that a leader needs at the right time. For example, if you know that a manager has a valued staff member that the analytics have determined is in danger of leaving, then the system could "ping" the manager with analytics data relevant to retaining that valued contributor. We have also noted the importance of the "mental models" of leaders outside the HR profession (Boudreau, 2012), and the value of presenting the

"stories" behind HC analytics in ways that are easier for those leaders to engage with. The idea of "retooling" emerges again, as a way to engage the existing "mental models" of leaders with HC analytics. For example, most leaders have no real idea about how to interpret an employee turnover rate, because they know generally that lower turnover is not always beneficial and vice versa, but they don't know how to tell which situation they are facing. We've suggested (Cascio and Boudreau, 2014b) that such leaders already have strong mental models in the arena of operations management, where "inventory turnover" is well understood. The same analogies hold true for metaphors between employee and customer engagement, and between the talent portfolio and financial investment portfolios. Why not take advantage of those existing strong mental models, rather than expect leaders to learn "HR speak?"

It is interesting to note that the evolution of research and practice in HC analytics has often overbalanced, by chasing insights about one element of the LAMP framework, while another might be more vital. A paradox of the "utility analysis" era in the 1980's and 1990's was a fixation on the "Measures" of the elements of the utility analysis models (particularly the standard deviation of performance in monetary terms), when, in fact, the greatest value may have been in the "Logic" of the models themselves, to help clarify for leaders how such things as recruitment and selection work together. Many utility-analysis models actually closely resemble the logic of total-quality management or supply-chain management, which have proven to be powerful decision aids. Yet, the similarities are often buried under an avalanche of details about the measures and the analytics.

There are also a set of "pull" factors. These are factors that may be holding back HC analytics from the perspective of the audience. In essence, no matter how rigorously or completely the HC analytics are prepared and "pushed" out to their audiences, the advancement and effectiveness of HC Analytics still depends on the capability, opportunity, and motivation of analytics users. While it is tempting to define the audience for HC analytics as HR leaders, the effect of improved HR programs and practices on organizational performance must almost always proceed through the decisions, actions, and interactions of leaders and employees outside of HR. One might frame the necessary conditions for effective "pull" in terms of five conditions for analytics delivery and use:

1. Users must receive the analytics. This goes to the timeliness of the analytics in the context of other organizational decision processes, as noted above.

2. Users must attend to the analytics. This goes to creating analytics that users believe will be useful to them, and have the self-efficacy to use. Thus, it is important to distinguish between compliance, service quality, and decision support, as outcomes of HC analytics. Analytics to verify compliance with rules

serve a very different purpose than analytics to evaluate the quality of the HR services delivered to clients, which, in turn, is a very different value proposition from analytics designed to support decisions or to reduce mistakes. Users are often confused about these value propositions. We have also written about the dilemmas in using HC analytics to provide standards for external constituents such as Regulators, Boards, or investor constituencies (Cascio and Boudreau, 2014a). One must carefully distinguish analytics that describe common practices from those that claim to predict organizational performance.

3. <u>Users must believe the analytics</u>. Once decision makers receive and attend to the analytics, they must find them credible. Much research attention has been devoted to methods of making the analytics predictions more valid and correct, from a scientific standpoint, but relatively little research has examined whether users perceive correctness the same way. It is possible that users simply don't believe the results because the results may reflect different situations or their logic is too unfamiliar to users. In addition to the prediction itself, users may be sensitive to the error variance in the analytics. One danger in providing users with analytics that suggest very high payoffs is that they seem "too good to be true." Even if they believe the prediction, users may perceive that the results are so unreliable that they are not credible. As an alternative, break-even analysis can help leaders avoid being distracted by potentially large errors of estimation (See Cascio and Boudreau, 2011), but relatively little research has looked at the effectiveness of such approaches.

4. <u>Users must believe that the analytics suggest effects that are large and compelling enough to merit attention or action</u>. Users have limited resources and time, and strive to place their resources in areas with the greatest impact or value. It is important to focus analytics on things that are "pivotal," meaning that the analytics are likely to improve decisions or correct mistakes that have large consequences to the user and the organization. Related to this is the time horizon of the analytics. Many aspects of human capital, such as promoting a culture of inquiry, take years to evolve. It is not uncommon for investors and analysts to suggest that while they believe in the results of HC analytics, the time delay in the effects makes the results less relevant to their decisions.

5. <u>Users must see implications for their actions or decisions</u>. No matter how compelling the message, analytics do little to influence decisions and behaviors if users do not have the power, confidence, and understanding to act on them. Analytics that focus on improving the HR department are often not very relevant to leaders outside that department. Analytics that show broad effects of investments in high-performance work systems may seem irrelevant to leaders who have little authority to approve such

programs. It may be that analytics have not yet advanced because they are not adequately "tuned" to the specific decisions that leaders make, and presented in context. We noted above how artificial intelligence may allow analytics to be presented precisely as decision makers face the key decisions where those analytics are most relevant. In addition, it is possible that "retooling" analytics in the framework of accepted management models such as marketing, total-quality-management, supply-chain, and engineering may allow users to see HC analytics more like other analytics, and to use their existing behavior patterns to engage with HC analytics.

These five conditions, in our view, are necessary to the wider use of HR analytics in organizations both large and small. They also represent fertile ground for future research.

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