HR Analytics: Managing Human Capital to Execute Strategy

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HR Analytics

Is a methodology for understanding and evaluating the causal relationship between HR practices and organizational performance outcomes (such as customer satisfaction, sales or profit), and for providing legitimate and reliable foundations for human capital decisions for the purpose of influencing the business strategy and performance, by applying statistical techniques and experimental approaches based on metrics of efficiency, effectiveness and impact.

Introduction:

Have you ever noticed that there seems to be a great deal of confusion on the basic terminology involved in workforce analytics? What is a measure and how is it different from pure data? Is an indicator equivalent to a metric? And finally, how do these tie into analytics in the world of Human Capital Management (HCM)?

We have all heard these terms being used interchangeably. While the differences between them can seem negligible, you have to apply the terminology appropriately if you want to confidently engage in discussions related to any organizational activity.

A measure is no more than data that is collected with no specific reason or purpose. For example, the number of terminations in January 2011 is an example of a measure. How do we know if 100 terminations a month is good or bad? We don't – a single measure has very little value without context.

Suppose we track terminations monthly over a five-year period between 2006 and 2011. Now we have some perspective and can see, perhaps, that our terminations have been creeping up. We are looking to capture a specific quality to the data. Whenever we measure something with the goal of gauging some quantifiable component of a company's performance, whether it is revenues or terminations, we are talking about a metric.

Let's take this one step further. Now we are examining the five-year trend of terminations which gives us a basic understanding of the relationship between our monthly numbers. However, the fact that terminations have been trending up does not give us the complete picture of how well (or not well) the organization is doing with respect to attrition. Do we know, for example, if the increase is attributable to the growth in our employee count due to our recent expansion efforts? Or are members of our staff leaving because they are unhappy with management? Measuring terminations against a baseline such as the average number of employees or budgeted terminations gives us significantly more context. Termination rates and actual vs. budgeted terminations is both indicators. They are metrics that act as guides to help assess the performance of a certain aspect of organizational activities – in this case, attrition. Additionally, employee turnover can become a Key Performance Indicator if it reflects organizational goals and has been selected as a key metric to measure progress toward those goals.

And tying it all together – analytics.

Workforce analytics transforms all the above – measures, metrics and KPIs – into a relevant storyline. It is the process by which we identify what story is developing and then explain the plot by looking at trends, patterns, outliers, and possible relationships in the data, breaking it down and turning it into insight in order to make human capital decisions that impact business results.

In general HR analytics is considered as being useful for understanding and evaluating the impact of HR activities and for influencing the business strategy and performance. It can give insights in the way HR practices and policies impact organizational performance and is therefore a powerful tool for HR functions to add value to their organization (Lawler, Levenson & Boudreau, 2004). This influence is caused by its impact on the decisions and behaviors of those in the organization (Boudreau & Ramstad, 2006).

Furthermore analytics provide “legitimate and reliable foundations for human capital decisions” (Boudreau & Ramstad, 2006, p. 29). According to Harris, Craig and Light (2010) there are five different categories of human capital analytical applications. Those are: “identify and manage critical talent (e.g., high performers, high potentials, pivotal workers); manage critical workforce segments accordingly (e.g., underperforming units are identified and helped to improve); predict employee preferences and behaviors and tailor HR practices to attract and retain talent; forecast business requirements and staffing requirements (e.g., workforce skills needed in different business scenarios); and adapt rapidly and scale recruiting supply channels and targets [to make use of best talent sources available] to meet changing business conditions, objectives, and competitive threats" .

The Overlooked Audience for HR Analytics

Workforce analytics. Are they important? Absolutely. So why they are so rarely mentioned anywhere other than in H.R. publications and on H.R. themed-websites? Perhaps because, until recently, businesses were slow to understand that the target audience for workforce analytics goes beyond H.R. professionals, critical as they may be. Also referred to as H.R. analytics, H.R. analysis and H.R. metrics, workforce analytics provide an organization the information necessary to make decisions based on facts in order to address specific challenges, rectify areas of weakness or, in certain circumstances, completely alter the mission, direction or even purpose of the enterprise.

Organizations collect and access millions of data points about employees. In below mentioned Figure 1, we list just a small subset of the information available about people.

Category	Type of Data
Demographics	Age, gender, ethnic background, languages spoken,education, grade-point average (GPA)
Job History	Time in service, prior jobs, promotions, salary history, prior work experience, prior jobs, prior employers
Performance	Performance ratings, sales or services revenue sold, projects completed, awards received, promotions received, professional achievements
Skills and Capabilities	Certifications, training programs completed, test results (e.g., psychological, intelligence, occupational), self-assessments, external education received, leadership programs attended

Compensation	Compensation history, bonuses, rewards received, recognition received, investment preferences
Engagement	Engagement survey results
Social	Internal blog posts, documents submitted to wikis and internal systems, suggestions, comments made, ratings of and by others, and many other forms of internal social profiles often called social "footprints"

Source: Bersin & Associates, 2012

The knowledge and information once primarily derived from and used by the H.R. side of the house is now combined with data that resides in other company databases. This data is used by every department to drive positive change in every corner of the organization. The H.R. metrics relating to the human resources/human capital of an enterprise can, if purposed appropriately, maximize the effectiveness of not only those human resources but equipment, technology, office space, real estate and working capital as well.

The highest and best use of the data mined from workforce analytics is that which identifies specific measurements that impact the business strategy of the organization. Although most of those involve the human capital of the entity, the audience for those analytics is much broader than just the H.R. professionals under that roof.

There is a larger audience for the workforce analytics. One that includes the human resources executives, the other managers that have specific needs that H.R. metrics can address.

It include.

- Line managers/front-line supervisors who have a need (often urgent) to identify skill gaps and require plans for replacement of personnel. These managers require data that informs them if there is a training deficiency that impacts productivity and where that deficiency is. Is there a communication gap that needs to be addressed? H.R. analytics will help to spotlight such a situation.

- Sales executives must constantly review productivity of the sales staff in order to evaluate not only performance but to assess and reassess compensation and reward programs. Retention of key salespeople is desirable over replacement almost every time.
- Workforce analytics provide critical information to the financial side of the house, whether it be the CFO, CPAs or simply the in-house accounts receivable and payable folks. Constant cost analysis is necessary in order to make responsible and responsive decisions regarding vacancies, overtime, outsourcing, benefits, compensation, real estate and leasing, collections and so on.

Rather than focusing on any specific group as being an overlooked audience, workforce analytics should be viewed in the context of a general audience within the organization, one that consists of H.R., business/finance managers, executives and, last but not least, front-line supervisory personnel. Workforce analytics should be mined for information that is beneficial not only to the H.R. Director but to those who have a financial mindset and make data-driven decisions who require clear and concise presentations of trends and data.

The greatest value of workforce analytics lies in the evaluation of the metrics, the ability to understand what they mean and the ease with which the results can be transmitted in a meaningful way within the organization, both in terms of productivity and strategic planning.

Workforce analytics that provide significant data will enable us to harness the power of that information in ways that will contribute to the growth of the enterprise. Remember, information permits evaluation, evaluation leads to clarity and clarity generates effective communication. And there's always a willing audience for that.

In addition to storing all of this data about people, organizations also capture data describing many HR and L&D (learning and development) programs or interventions. We know what training programs we invest in, what types of coaching and development activities we fund, what types of incentive and rewards programs we develop, and much more. For each of these programs, there is a potential “people analysis” –which tells us who attended (and who did not), what they did, how well they adopted or complied with that particular program, and potentially what impact the intervention had on behavior, performance and business outcomes.?

Figure 2: Three Categories of Data Which HR Can Analyze

Category	Type of Data
People Data	Demographic, job experience, performance, skills and capabilities, compensation, engagement, social
Program Data	Attendance, adoption, completion, performance, results in a wide variety of training, performance development, and other internal programs, leading to valuable information about the adoption, efficiency, effectiveness, and impact of many HR programs
Performance Data	Performance ratings, goal attainment, HiPo6 / succession ranking status, 360-degree assessment ratings

The Power of Workforce Analytics

Automated systems, powerful HRIS solutions and other data collection methods give organizations access to copious amounts of workforce data. While this type of data-gathering technology is widely used to make the transactional processes of HR more efficient, it has been under-utilized in applying quantitative and monetary analysis to workforce initiatives.

Through careful selection of metrics and the study of human capital trends in relation to those metrics, leaders can analyze the impact of workforce initiatives on the organization's business strategy and proactively manage their talent. At the same time, HR partners can use that knowledge in the creation of strategic plans to align the workforce with business strategies.

Figure 3: Different Types of Tools

Tool Type	Description
Reporting Tools	Tools which take data from enterprise systems and create customizable reports (i.e., Crystal Reports); these tools create easy-to-use dashboards that let users build their own reports. They are excellent tools that are easy to set up and provide customizable operationalreporting to users
Statistics Tools	Tools that enable statistical analysis of data,

	such as means, medians and frequencies, as well as segmentation of data; these include Excel, SPSS and hundreds of others. They focus on analyzing data, not presenting it. They are scientific in nature, and are designed for use by analysts and statisticians.
Multidimensional Reporting Tools	Tools which use (multidimensional) technology to create “cubes” of data that can be analyzed by many dimensions (e.g., location, city, organization, time); these include Excel Pivot Tables, MicroStrategy, Cognos, Business Objects and many others.
Integrated HR-Specific Reporting Applications (sometimes handle all four Levels, depending on the system you own)	Integrated data warehouse and HR analysis systems which take data from existing HR systems, and create easy-to-use analyses; Oracle Business Intelligence, SAP Business and many other providers offer these integrated systems.

Choosing Which Metrics to Measure

Available technologies can surface hundreds of metrics. Optimum workforce analysis results from analyzing the “right” metrics — ones that affect the particular business objectives of an organization. In addition to being applicable, the metrics should have credibility. This can be measured by determining if they are:

Auditable — independently verifiableActionable — vital to the organizationAccessible — visible and available to those who need them

Key metrics to measure for impactful workforce analytics are those five or six metrics that directly impact the organization’s business as well as include a people component. For example, operational metrics such as productivity or efficiency have a workforce component while natural resource quality or machine reliability may not.

Linking Metrics to Workforce Issues

Once metrics are revealed, they can bring to light human capital issues such as:

- Increases in voluntary turnover
- Increases in absence rates

- Regret attrition — loss of high performers and critical roles
- Contingent workforce ramp-up
- Emergence of aging workforce risk
- Wasted investment in new hires because of high new hire attrition
- Lack of workforce cost control due to salary creep
- Less than optimal staffing due to over-use/abuse of overtime compensation
- Successor pool coverage in organization for SVPs, VPs, Senior Executives, etc.3
- Examine What Matters Most Using Workforce Analytics
- Development program penetration rate
- Safety training penetration rate
- Internal hire rate

The ability to drill down into those metrics can help reveal a "root cause" and can help lead to possible solutions. For example, is a rising turnover rate indicative of a company-wide issue? Or can that metric be drilled into to discover that higher turnover is occurring only in one particular division or geographic region? Armed with that information, analysts can then review whether this is an issue needing to be addressed organization-wide or specifically in that area, or whether the trend is the result of a particular event and is an expected change. The other, equally important, component of strategic workforce analytics is talent management. Because HR is responsible for building a workforce plan that will support the organization's long-term business goals, HR partners need to be able to view the organization's talent flow.

To effectively monitor and develop an organization's talent base, begin with a talent review to answer these questions:

- What is the internal supply of talent — both the current state and projected state?
- What is the demand for talent given the company's business strategy?

- What is the resulting gap?

This knowledge forms a recruiting strategy and provides a plan for what to do with the workforce over time.

Supporting Strategic Business Goals

Understanding the business goals of an organization is the first step to effective talent management. Working with operational and business planning leaders to determine those goals is key for HR to avoid practicing talent management in a vacuum. Examples of long-term business goals that require a significant workforce change in numbers or skill sets include:

- Entering into a new market
- Developing an additional product line
- Manufacturing a new product that is currently in the design stage
- Expanding the number of locations (a retail scenario)

By recognizing any gaps in the current talent pipeline, organizations can take proactive steps to fill the gaps and provide for future talent needs. Additionally, the ability to track movement of company talent throughout the organization enables HR to:

- Understand the career pathing of specific groups
- See the flow of potential leaders through the organization
- Recognize the gaps that require proactive workforce planning

What Matters Most Using Workforce Analytics

- Understand firm progress toward hiring goals (minority groups, special skill sets, or

regional goals), net of the erosion of that progress due to attrition

- Detect “blockers” in the company who may impede the upward potential of gifted future

leaders (or worse, drive them from the organization)

- Measure lateral and promotional movement in the firm by group or part of the organization

Benefits of Utilizing Workforce Analytics-Specific Technology

Technology has evolved to allow critical workforce analytics to be surfaced and analyzed quickly and effectively without the drain on HR resources related to manual data collection, which inherently produces data integrity flaws. By far, analysis has a higher value add than data collection. An analyst can spend all of his/her time doing the following tasks:

- Gathering data
- Ensuring accuracy of the data
- Calculating metrics
- Creating reporting on the metrics and distributing reports to decision makers

None of this adds value to the organization until a decision is favorably impacted through the use of this information. A worthwhile analytics solution does the heavy lifting of the four above items and facilitates the higher level of analysis regarding questions such as:

- What is going on in our firm?
- What action should we take?
- Did our action have any impact?
- Was it positive?

Additionally, a worthwhile analytics solution delivers data directly to leaders — releasing it from analyst-only clutches and decreasing dependence on IT, HRIS or outside consultants for needed data. Every executive has demands on his/her time related to the everyday operations of the business.

Making Analytics Easier

The real problem with HR analytics isn't the tools (there are almost too many to choose from), it’s the laborious process of collecting data, developing reports, and actually doing the analysis. And this is a journey, not a destination. Research shows that you need to create a dedicated team, and this team needs to include people with database, analysis, and business experience. And this team must have strong support from IT.

Research shows that one of the biggest levers we have in HR is leadership. While many businesses related problems (productivity, turnover, performance, etc.) are based on environmental factors, the biggest driver of success is management and leadership and HR can actually have some impact on .Here is the data which shows as :

Performance Metrics	**Core HR**	**Core HR & Analytic**	**Core HR ,Analytics and Internal Performance data**
Average time per data query	64 minutes	49 minutes	7 minutes
Time spent per week for gathering information	+7%	+3%	No change
Time to information	+8%	+6%	+4%
Time to decision	+9%	+7%	+5%

How human capital management can drive business returns

Companies across several sectors have identified human capital management (HCM) as a core driver of their business. And yet analysis of HCM practices is limited by the absence of standardized social data in this area and poor disclosure of human resources metrics from the very companies who have identified it as a key driver of their business. A number of quantitative studies have attempted to rise to the challenge of valuing intangible human capital by using employee engagement or a compilation of social indicators, and analyzing their links to companies ‘success or their share price’s performance. The work of the research-based consulting group Gallup is of particular interest due to the amount of information it has gathered as a basis of its research. It will be interesting to know the potential links of HCM to the financial performance of companies, and their linkage to business’ strategies and successes.

Case study examples have helped support the idea that in some circumstances, the social factor is a key differentiator.

Improving Scale, Reducing Cost

Performance Metrics	**Core HR**	**Core HR & Analytic**	**Core HR Analytics and Internal Performance Data**
Average number of employees regularly accessing business data	730	1300	2150
Average amount spent on data management software for the last one year	3,90,000	4,55,000	7,75,000
Cost per seat	534	350	360

The remaining challenges to the analysis of HCM are:

- A lack of data standardization and therefore a difficulty to compare like-for-like company performance.
- An absence of mandatory requirements for companies to disclose on social data and a lack of willingness from corporate to take the lead on this matter.
- Little development in social indicators compared to environmental reporting (except for health and safety data whose materiality has been well recognized by oil & gas, mining and certain industrial sectors).

- The difficulty to obtain statistical significance. Isolating HCM data from other aspects of the business might not be relevant as social and other factors are usually interconnected.
- Variability of materiality, relevant indicators and potential impact on business from a sector to another.

From the optimization of a cost to the management of an intangible asset

Each sector has its own human capital challenges. Low skill, people-intensive industries (e.g. retail, consumer services) will have high wage expenses and thus employee productivity should be a key (and easy) indicator of performance to monitor, as well as employee turnover which is often a more difficult data point to obtain from companies. The fact that companies are reluctant to share employee turnover indicators speaks volumes about the challenge that employee retention represents for certain businesses. Improved disclosure would certainly help financial analysts assess companies' performance, and the heavy costs associated with
recruiting and training employees. The 2011 Chartered Institute of Personnel and Development (CIPD)Resourcing and talent planning survey (for the UK)11 found that the median recruitment cost of filling a vacancy is £7,500 for senior managers/directors and £2,500 for other employees (adjusting for accuracy) and more than half (52%) of organisations surveyed believed that competition for talent was greater. 72% gave the lack of necessary specialist or technical skills as a reason for recruitment difficulties.

How companies work on retaining their employees is valuable information. Indicators such as employee turnover, attrition rates, employee longevity are all very valuable. However equally important is the analysis of employee motivation and well-being factors as well as the competitiveness of compensation packages, because these should impact positively on the employee retention metrics. Employee well-being programmes have gained popularity among companies with some positive impacts on business performance

On the other hand, companies relying on intellectual capital can similarly be disadvantaged by high employee turnover, with the risk of losing the key specialist skills needed for their business. Although remuneration is always mentioned as a differentiator, companies' management also believe and have discovered that other factors matter as people get more satisfaction from being involved in fulfilling projects and association with their employer's success. In those intellectual capital intensive sectors, the development and transmission of knowledge and know-how is key: hence a focus should be put on people development programmes, as well the internal promotion of talents for the long term.

A couple of case studies demonstrate efforts companies can make to involve staff in their business success, aligning management of human resources with strategy and growth plans.

Conclusion

A number of studies have explored and tried to link up human capital management(HCM) and business or share price performance. Although these works present some limitations, they draw some interesting conclusions. It would be worth monitoring the trends they have tried to demonstrate over the longer term. It is striking that some companies are putting employees at the centre of their management strategies. Some case studies have highlighted business situations where the impact of human capital management has an impact on a business' success (or represent a risk).

The difficulty of sourcing HCM data and quantifying the effects of human resources policies re-emphasise the challenge of accounting for intangible capital. However the risks associated with human capital mismanagement (employee mental health, stress at work, disengagement) and the reliance of many sectors on intellectual capital expert skills can only re-emphasize the importance of these factors for business success..

Learning

In October 1996, doctors predicted that Lance Armstrong would be dead from cancer in less than six months. In July 1999, he won the Tour de France. Over the next six years, he won every time for an unequalled seven victories. Prediction is a fine but dangerous art. If anyone really knew with certainty what was going to happen tomorrow, much less a year or more from now, that person's advice would be prohibitively expensive. We don't claim for a moment to know with certainty what will happen tomorrow around human capital management; however, we do know Something about organizational variables and how they interact in predictable ways most of the time. From this, we can risk projecting future events with a better-than-average degree of success. The goal is not to change the world overnight. It is just to decrease the variance and increase the certainty a bit at a time.

Reference List

1. Baron, A. (2011). Measuring human capital. Strategic HR Review, 10(2): 30-35. http://www.emeraldinsight.com/journals.htm?articleid=1907045&show=abstract
2. Boudreau, J. W., & Ramstad, P. M. (2006). Talentship and HR Measurement and Analysis: From ROI to Strategic Organizational Change. Human Resource Planning, 29(1): 25-33.
3. Boxall, P., & Purcell, J. (2011). Strategy and human resource management. New York, NY: Palgrave Macmillan.
4. Briner, R. B., Denyer, D., & Rousseau, D. M. (2009). Evidence-Based Management: Concept Cleanup Time? Academy of Management Perspectives, 23(4): 19-32. http://www.bbk.ac.uk/orgpsych/staff/academics/briner/brinerdenyerrousseauamp2009.pdf
5. Calantone, R. J., Cavusgil, S. T., & Zhao, Y. (2002). Learning orientation, firm innovation capability, and firm performance. Industrial Marketing Management, 31(6): 515–524.
   from http://www.sciencedirect.com/science/article/pii/S0019850101002036
6. Deephouse, D. L. (1999). To be Different, or to be the Same? It's a Question (and Theory) of Strategic Balance. Strategic Management Journal, 20: 147-166.
   http://apps.business.ualberta.ca/ddeephouse/Publications/Deephouse%201999%20smj%20strategic%20balance%20theory.pdf
7. Delery, J. E., & Doty, D. H. (1996). Modes of Theorizing in Strategic Human Resource Management:
8. Dingwerth, K., & Pattberg, P. (2007). World Politics and Organizational Fields: The Case of Transnational Environmental Rule-Making [Conference]. http://www.2007amsterdamconference.org/Downloads/AC2007_DingwerthPattberg.pdf
9. Fink, A. A. (2010). New Trends in Human Capital Research and Analytics. People and Strategy, 33(2): 14-21. http://search.proquest.com/docview/763410779/
10. Greenwood, R., & Hinnings, C. R. (1996). Understanding Radical Organizational Change: Bringing Together the Old and the New Institutionalism. The Academy of Management Review, 21(4): 1022-1054. http://www.jstor.org/stable/259163
11. Harris, J. G., Craig, E., & Light, D. A. (2010). The New Generation of Human Capital Analytics. Accenture - Research Report. http://www.accenture.co.uk/
12. Keith, T. Z. (2006). Multiple Regression and Beyond. Boston: Allyn & Bacon.
13. Lawler, E. E., Levenson, A., & Boudreau, J. (2004). HR Metrics and Analytics Uses and Impacts. CEO Publication - Working Paper. http://classic.marshall.usc.edu/assets/048/9984.pdf
14. Levenson, A., Boudreau, J., & Lawler, E. (2005). Survey on HR analytics and HR transformation. CEO Publication - Feedback Report. http://classic.marshall.usc.edu/assets/036/8635.pdf

15. Mayo, A. (2006). Measuring and reporting: The fundamental requirement for data. CIPD - Research Report. http://www.mayolearning.com/mayo-publications/
16. Miles, R. E., & Snow, C. C. (1984). Designing Strategic Human Resource Systems. Organizational Dynamics, 13(1): 36-52. http://www.sciencedirect.com/science/article/pii/0090261684900305
17. Mintzberg, H. (1979). The Structuring of Organizations. Englewood-Cliffs, N.J.: Prentice-Hall.
18. Paauwe, J. (2004). HRM and performance: Achieving long term viability. Oxford: Oxford University Press.
19. Pallant, J. (2007). SPSS Survival Manual: A Step by Step Guide to Data Analysis using SPSS for Windows. Berkshire, U.K.: McGraw-Hill Open University Press.

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