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'Hr Analytics' - An Effective Evidence Based HRM Tool

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Abstract: *The 21st century Human resource management is becoming more efficient with the best utilization of advancements in technology. Starts from finding right talent to retaining best talent, organizations are striving for much intelligent decisions. The decisions making in HR mostly rely on trust and relationships not like how in other functional areas of management. In our view, analytically, HR is much ignored field so far when compared to other functional areas though right people are required for every business operations for better results. But after the great recession period 2008, most of the organizations recognized the necessity of accurate evidence based people management practices. Fortunately, big data in HR gifted HR analytics to the evidence based HRM concept. To make accurate decisions in HR, data driven evidence based HRM should practice with analytics, decision making and problem solving. So, the concept of evidence based HRM with its effective HR analytics tool strengthening the accurate decision making power of HRM. This paper elevates importance of HR analytics, practices and applicability in different concerns. We also focused to collect periodic developments in HR analytics being an effective evidence based HRM tool.*

Keywords: *HR Analytics, Evidence based HRM*

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I. INTRODUCTION

Evidence based management became a discipline in current organizations' world. Business decisions are very crucial for adding value to total business. The current business decisions with a hope of promised results are demanding accurate information, meaningful insights and more than that information with proper evidence in an analytical way of representation.

HR has a vital role to play in the delivery of the strategy of the organization. By linking HR activity to business outcomes it is possible to understand how HR is contributing to the success of the organization. This process succeeds by adding value to business decisions — by informing how to make business decisions that intervene and create business success, not just by validating existing knowledge in practice. The thing is to get efficiency in HR decisions is what matters much. HR analytics holds the promise of both elevating the status of the HR profession and serving as a source of competitive advantage for organizations that put it to good use.

HR analytics is often preoccupied with ''doing things right'' with an ''inside-out'' HR perspective (e.g. do we use the right recruitment assessments? What is the ROI of our training programs? How efficient is our on boarding?), while it may create disproportionately more value when HR analytics applies an ''outside-in'' perspective and ''does the right things'' (How do we help transform the organization's culture so we can better deal with market consolidation and expected acquisitions the next 3—5 years? How can we grow critical technical talent faster, cheaper, better than the market to realize our growth strategy in a booming market and differentiate ourselves from the competition?). So, the role of HR analytics is broader in developing meaningful insights and those are evidence for accurate decisions in HRM.

II. EVIDENCE-BASED MANAGEMENT (EBM)

The roots of evidence based HR, best understand by knowing the meaning and evolution of evidence based management. One of the good explanations of EBM from Wikipedia sources given below:

Evidence-based management (EBMgt or EBM) is an emerging movement to explicitly use the current, best evidence in management and decision-making. Its roots are in empiricism and well developed in evidence-based medicine and evidence based policy. These are quality movements aimed at applying the scientific method to evaluating practice. Evidence-based management entails managerial decisions and organizational practices informed by the best available scientific evidence, where best evidence is understood in terms of norms from the natural sciences.

Evidence-based management is intended to contribute to organizational and management effectiveness. The adoption of evidence-based practices is likely to be organization-specific, where leaders take the initiative

to build an evidence-based culture. Practices an evidence-based organizational culture employs include systematic accumulation and analysis of data gathered on the organization and its functioning, problem-based reading and discussion of research summaries by managers and staff, and the making of organizational decisions informed by both best available research and organizational information. Organizations successfully pursuing evidence-based management typically go through cycles of experimentation and redesign of their practices to create an evidence-based culture consistent with their values and mission.

The evidence-based management movement argues that managers should base their decisions on data drawn from the organization and evidence about the actual functioning of its systems rather than using personal philosophies or untested personal models or assumptions about "how things work." One of the most effective methods for developing the evidence on which to base decisions is through operational experiments conducted within the organization. Ayres (2007) describes how Google uses operational experiments to test the effectiveness of the ad words used on its Web site. Rather than simply relying on intuition or "expert judgment" about which ad wording is more effective, it creates an experiment. It configures its site to alternate the presentation of competing ad text to visitors to its site and then tracks the number of click-troughs on the ad for a period of time. Given the large number of daily hits, Google can get objective data on the effectiveness of the various ads in a relatively short time and then adopt the ad wording demonstrated to be most effective. EBM combines conscientious, judicious use of best evidence with individual expertise; ethics; valid, reliable business and organizational facts; and consideration of impact on stakeholders.

III. EVIDENCE-BASED PEOPLE MANAGEMENT

"These days, business runs on evidence and evidence-based HR." - *Harry Ross – The HR Detective, KPMG sources.*

Evidence-based HR (EBHR) is a decision-making process combining critical thinking with use of the best available scientific evidence and business information. Evidence-based HR uses data, analysis and research to understand the connection between people management practices and business outcomes, such as profitability, customer satisfaction and quality.

EBHR is motivated by a basic fact: faulty practices and decision making abound in HR. Companies persist in using unstructured interviews to try to assess a job candidate's fit, even though there is little evidence that typical interviews can do that (Stevens, 2009). HR departments often pursue one-size-fits-all standardization in their policies, despite considerable evidence that programmes promoting flexibility benefit people and firms (Rousseau, 2005).

Toronto, November 28, 2011 — when it comes to managing people, many organizations make important HR decisions based on instincts, doing what they've always done or copying competitors' practices. Now, a handful of leading-edge global companies are breaking new ground by using evidence-based change to make critical talent management decisions, help their organizations achieve greater success and create a more engaging work environment.

In their new book, *Transformative HR: How Great Companies Use Evidence-Based Change for Sustainable Advantage*, (Jossey-Bass, September 26, 2011), talent management experts Ravin Jesuthasan of global professional services company Towers Watson and John Boudreau of the University of Southern California reveal how prominent global companies are redefining HR leadership by using a new approach to HR to optimize efficiency and strategic impact. By adopting five principles of evidence-based change, the authors believe organizations across the globe can make better people decisions that lead to a sustainable competitive advantage.

"Our thinking behind evidence-based change was inspired partly by the evidence-based medicine movement, which encourages doctors to determine which treatment, based on the evidence, is most effective," said co-author Jesuthasan. "It hardly seems like a radical notion but human nature is such that people, even doctors, do not always behave with scientific rationality and rely instead on instinct and what might have worked once before. By using evidence-based change, HR is better equipped to make decisions that are based on well-grounded evidence, rather than gut feel."

HRM decisions are transforming from supervision, people instinct based decisions to proper evidence based decisions for promised results. Traditionally, HR has been defined in terms of persuading others to apply a certain initiative or HR programme(Boudreau and Ziskin 2011). However, often, there has been no clear view on the return on investment of these initiatives or programmes, while they take a significant amount of time, money and energy from managers and employees. Evidence-based HR, on the other hand, is defined more by education than persuasion (Boudreau and Ziskin 2011), allowing practitioners to make informed decisions.

Plenty of researches contributing to the best practice of evidence based HR in different ways.

The idea of using research evidence to help make managerial decisions is not new, though 'evidence-based HR' as a concept is rather new (EBHR : Anguinis and Lengnick-Hall 2012; Rousseau and Barends 2011). Just like evidence-based medicine and evidence-based management, evidence-based HR practice applies a family of

approaches to support decision-making, typically building upon four sources of information: academic research findings, contextual circumstances, practitioner expertise and judgment, and the perspectives of stakeholders (Briner et al.2009; Relay et al.2009).

Here is a few correlating principles of evidence-based change.

The *Transformative HR* model is based on collaboration of research from Boudreau and Jesuthasan, who define the five principles of evidence-based change as:

Logic-driven Analytics: The notion that one set of management criteria does not fit all leaders, especially within a diverse organization, and that these nuances must be observed to lead you to more robust understanding of how your organization can function at its best.

Segmentation: The understanding that one employee group is different from another. The next generation of HR must acknowledge these differences, communicate them, and motivate actions that reflect them for the purpose of evaluation.

Risk Leverage: Next generation HR is not simply about reducing the risk of turnover or low performance. It is also about the practice of risk leverage. It's about knowing when – and when not – to take risks.

Integration and Synergy: A look at how the individual HR practices work together, but also how the HR processes in different units work together across the organization.

Optimization: Means investing more where it will make a big difference and having the courage to make smaller investments in less important areas and finding the right balance between standardizing and customizing.

"As HR has matured and gained stature within organizations, HR leaders have grown increasingly accustomed to rigorous human capital decision making based on metrics and analytics," said Boudreau. "However, next-generation HR means going further, to truly embed analytical discipline and sophisticated systems thinking to create the kind of understanding that drives better strategies and better workplace outcomes. We strongly believe that evidence-based change will take HR leaders to that level."

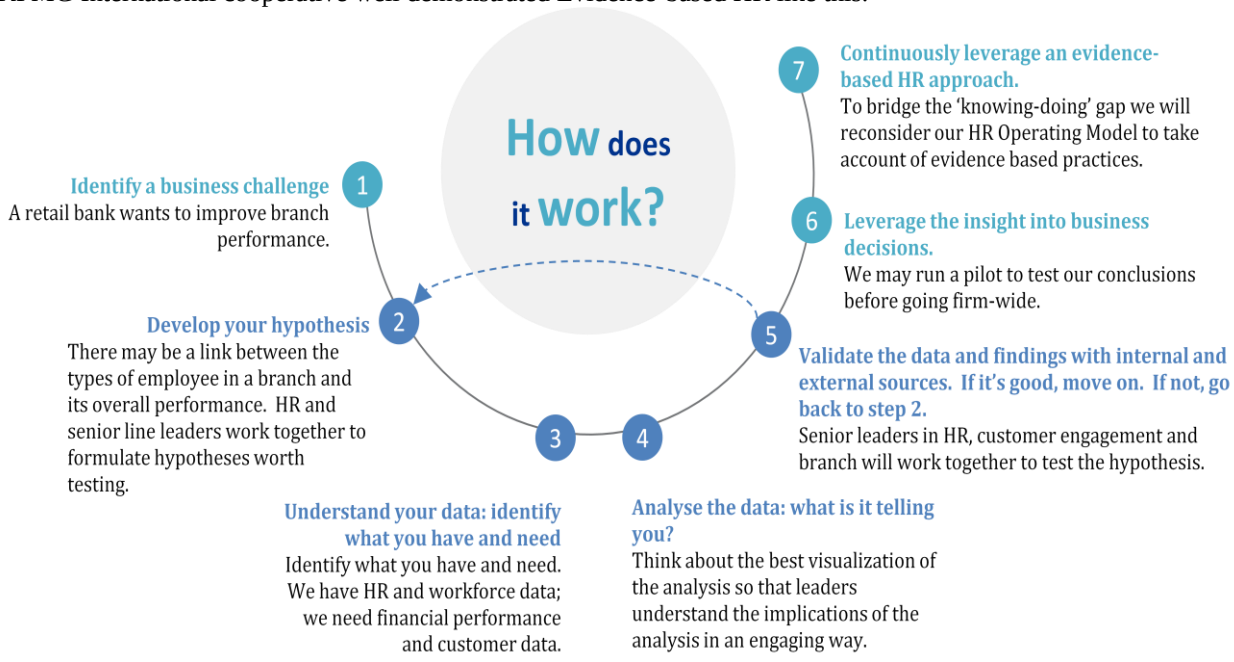
That is the welcoming and inevitable change in human capital decision making.

For HR to have an impact on the decisions made by managers outside the HR function, they need to educate managers about quality of their talent decisions.

Evidence-based HR is a family of practices, combining research evidence with contextual information and individual judgment of HR professionals. Although HR research is already well developed at the moment, with bodies of evidence related to the main HR domains, there are still quite some gaps. This makes that HR practitioners are in need of new evidence-based findings. Current challenge in the environment of organizations increases this need even more. Moreover, HR practitioners require an overall framework, a general approach or way of thinking to support all HR decisions. The definition of HR's evidence-based decision science, Talentship, can be seen as an important first step in this regard. All stakeholders can play a part in further building talentship.

Evidence-based management provides tools and a common language that helps both the analytics-people and people-people make better use of data in decision making.

KPMG International cooperative well demonstrated Evidence-based HR like this.



According to Richard Payne, from HR Matters blog on *January 3, 2012 at 8:50 pm,* the main benefits of evidence based human resource practice are:
1. Organization can see more informed and effective decision making;
2.An enhanced ability to align human resource practice with the strategic goals of the organization;
3.HR policy and practice can be based upon what works, rather than what is thought to work;
4.An improved credibility for the discipline of human resource practice and for practitioners;
5.A more analytical approach based on existing information, data, analytics and statistics already likely to be held within the organization or sector;
6.There will be more consistent decision making and interventions; and effective management of risk.
These principles are guiding the organizations to justify why should they transform their HR towards analytics?

IV. HOW HR ANALYTICS CAN BE EFFECTIVE EVIDENCE BASED HR TOOL?

HR Analytics can be defined as "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" (Lawler, Levenson & Boudreau, 2004; Boudreau & Ramstad, 2006).

Human resources (HR) or human capital analytics is primarily a communications device. It brings together data from disparate sources, such as surveys, records, and operations, to paint a cohesive, actionable picture of current conditions and likely futures. This is an evidence-based approach to making better decisions. This popular term is simply the gathering of primarily objective facts and secondarily related subjective data. Analytics is divided into three levels:
1. **Descriptive**. Traditional HR metrics are largely efficiency metrics (turnover rate, time to fill, cost of hire, number hired and trained, etc.). The primary focus here is on cost reduction and process improvement. Descriptive HR analytics reveal and describe *relationships* and *current and historical data patterns*. This is the foundation of your analytics effort. It includes, for example, dashboards and scorecards; workforce segmentation; data mining for basic patterns; and periodic reports.
2. **Predictive**. Predictive analysis covers a variety of techniques (statistics, modeling, data mining) that use current and historical facts to make predictions about the future. It's about probabilities and potential impact. It involves, for example, models used for increasing the probability of selecting the right people to hire, train, and promote.
3. **Prescriptive**. Prescriptive analytics goes beyond predictions and outlines decision options and workforce optimization. It is used to analyze complex data to predict outcomes, provide decision options, and show alternative business impacts. It involves, for example, models used for understanding how alternative learning investments impact the bottom line (rare in HR).
The process starts with the simple reporting of HR metrics and goes all the way up to prescriptive modeling of business practices. Although financial capital (cash) and economic capital (intangible assets) are the lifeblood of a business, it is human capital (people) that apply cash and leverage intangible assets to drive business performance. As you move from descriptive to prescriptive, the value add grows exponentially.

V. THE EVOLUTION OF HR ANALYTICS

According to a 2004 *Workforce Management* (formerly *Personnel Journal*) article, "In 1978—in this publication—Jac Fitz-enz proposed a radical, anti-establishment idea. Human resources activities and their impact on the bottom line could—and should—be measured. The reaction was apathy, disagreement and disbelief" (Caudron, 2004). For the past three decades Fitz-enz has, along with a growing band of kindred spirits, campaigned tirelessly to improve the state of HR measurement and to help both HR professionals and senior executives understand its importance.

These efforts started out at the nuts and bolts level—creating definitions for basic HR metrics such as compensation, staffing, hiring and retention. This work laid the foundation for gathering comparable data across organizations, which in turn, enabled the benchmarking of HR metrics. Over the years, a number of scholars and practitioners expanded the benchmarking of HR metrics to include investments in training and developing employees, as well as in a broad array of other HR policies and practices.

Refining and improving the benchmarking of HR metrics remained a primary area of focus throughout much of the 1980s and 1990s. This benchmarking focus, while helpful in informing HR professionals about how their organization's HR metrics stacked up to comparable or best-in-class organizations, provided little by way of actionable business intelligence on how to gain competitive advantage through people. It also contributed to an often unhealthy belief by HR professionals in simple one-size-fits-all solutions: something to the effect of, "If we can just look more like our competitors on some standard HR metrics, then we have done our jobs."

During the past decade, this has begun to change. Advances in the software used to automate transactional aspects of the management and development of people have expanded the landscape of possibilities. Not only have data on HR metrics become more readily available, they have become available in forms that make it increasingly possible to link disparate data sources together. So as the worlds of HR metrics and software have converged, new horizons for creating business intelligence on the people side of the business are arising. Many HR professionals, however, wonder why they should go to the trouble of going down this path because they are already way too busy handling what is already on their plate—an issue that is discussed in the following paragraphs.

Questions that had previously required tedious, manual calculations to answer can now be answered more easily and with relative precision. Examples include identifying the profile of candidates most likely to accept a job offer, the probability that any given employee will leave, and the attributes of high-performing employees. But even as some linkage analysis has become easier, other types of analysis—especially that which identifies the human drivers of business results—has remained challenging.

HR leaders help drive business performance by delivering competitive advantage through people. Performance relies on measures, so you need to be adept at planning and interpreting your organization's "people metrics." This requires a solid grasp of HR analytics: the systematic collection, analysis, and interpretation of data designed to improve decisions about talent and the organization as a whole. The use of analytics is changing the way HR professionals quantify the value that people—our biggest asset—have on the organization's ability to succeed in the market or in its mission.

VI. INCREASING ATTENTION TOWARDS BIG DATA AND HR ANALYTICS

In Economist Intelligence Unit Study, commissioned by KPMG International: Evidence-Based HR: The Bridge Between your People and Delivering Business Strategy, 2015 survey about 82% of respondents expect their organization to either begin or increase their use of **big data** over the next three years.

The CAHR partner meeting on HR analytics came up with some interesting findings (2011). Of the 15 fortune 500 companies that took part, all admitted to have been using HR data for some basic reporting purposes. 80% of these respondents were of the view that there exists a dash-board or a score-card that is a ready source of HR data. They were also confident of having in-house expertise in quantitative data techniques. The findings broadly suggest that the companies were capable to execute HR analytics project. However, most did not have any institutionalized HR analytics as a function. The findings also suggested that only 20% of the organizations in the meeting had trust on the reliability and accuracy of organization data.

So, the organizations still require to focusing on maintain adequate quality data to get prepared for Analytics approach.

VII. THE WAY FORWARD

HR processes have now come to a stage of maturity in nearly all organizations. To this effect HR analytics is a useful way to justify the actual business case of the aforementioned processes. Therefore, two strategies primarily emerge as viable if the organization is serious about maximizing the effects and influence of HR analytics in the organization:

First, HR analytics should be used to connect the following HR processes to business outcomes:

On boarding, Selection, Work-life Balance Initiatives, Employee Opinion Surveys, 360 Assessments, Competencies, Performance Management and Leadership Development Each of these processes should be analysed in order to demonstrate ROI/NPV of the processes. This is relevant because once the viability of these processes are conveyed to the management it will become comparatively easy to drive action with urgency across the organization based on the impact perceived.

Secondly, HR analytics can be instrumental in combining the key HR drivers of the business derived from the process analytics approach described above and integrated into a business focussed strategic plan. For example, succession planning consists of indicators from various business processes. So, HR analytics should be used in tandem with other related business processes in the organisation.

So, as far as business analytics is concerned, before taking any decision, HR professionals should ask the same question as Garry Loveman (CEO, Caesars Entertainment Corporation) "Do we think this is true? Or do we know?"

VIII. ANALYTICS: FINDING THE ANSWERS IN THE DATA

Even a rigorous logic can flounder if it is tested on data that are not correct or if an analysis is done incorrectly. For example, there may be a strong logic to suggest that if employee attitudes are improved, they will convey that to customers who will in turn have more positive experiences. It might be tempting to test that logic by correlating employee attitudes with customer attitudes across several retail locations. If higher employee attitudes are associated with higher customer attitudes that might be interpreted to mean that

improving employee attitudes will improve customer attitudes. Of course, this conclusion would not always be correct. A simple correlation between employee and customer attitudes does not imply that one causes the other, nor that improving one will lead to improvements in the other. It may just as easily be that locations with loyal and committed customers are more pleasant to work in, so customer attitudes actually cause employee attitudes. Or, the relationship could result from a third factor. Perhaps stores with better merchandise or more frequent access to new products have higher customer satisfaction because of product selection, and higher employee satisfaction because employees like being in on the latest releases. What do we mean by the term "analytics"? It draws on statistics and research design, but it goes beyond them, to include skill in identifying and articulating key issues, gathering and using appropriate data from within and outside the HR function, setting the appropriate standards for rigor and relevance, and enhancing the analytical competencies of HR throughout the organization. Analytics transforms HR data and measures into rigorous and relevant insights. The more abundant HR data becomes, the more essential is analytical capability. Without it, HR and business leaders can fall victim to improper conclusions, or be misled by superficial patterns, and poor human capital decisions. Analytics ensures that insights from HR data provide legitimate and reliable foundations for human capital decisions. Thus, analytics is an essential addition to deep and rigorous logic for an effective measurement system. As it turns out, many analytical principles and competencies already exist. They are a standard part of the training of social scientists in areas such as psychology, sociology, and economics. Many HR organizations already employ an HR research team. Such teams are often comprised of social scientists with Ph.D.-level training in designing and carrying out research. They often focus on analyzing large databases such as employee surveys or compensation. Sometimes organizations rely on analytical capability outside the HR function. For example, organizations with strong capabilities in customer and market analysis often engage their market analysts on HR issues. It is not unusual to find market researchers called in to look for patterns of employee attitudes, and identifying employee "types." Or, engineers may be adept at data mining, and identifying patterns in everything as varied as oil deposits, customer demographics, and flows through the supply chain. These groups are sometimes asked to examine HR data on employee demographics, movement patterns between jobs, turnover, or attitudes, to try to find useful patterns. Finally, some HR organizations call on outsiders for analytical capabilities, with a wide variety of commercial vendors or universities HR analytics teams are also often called upon as subject-matter experts to support other HR professionals, or they are asked to educate their HR peers, to help raise the level of analytical awareness in the HR function. For example, Sun Microsystems created an R&D laboratory for HR, and over time the HR R&D laboratory evolved from a source of specific research on the effects of HR programs, to a source of analytical expertise for others in HR, to a source of forward looking research on issues deemed to be critical to the strategic future of the organization, such as virtual work (California Strategic Human Resources Partnership, 2004). Whether the analytical skills reside within the HR function, in other parts of the company, or with an outside organization, the analytical teams are generally focused on fairly narrow HR domains. It is not unusual for internal HR research groups to attend exclusively to attitude surveys, or only to compensation market data, or only to mapping flows of employees through different roles and positions. Increasingly, these skills are often valuable outside these rather specialized areas. Analytical skills are even appearing in competency models (National Academy of Public Administration, 2002). The challenge is to create an HR measurement system and organization structure that successfully engages these skills where they can have the greatest effect. Measures: Balancing Elegance with Relevance As noted earlier, the "measures" component of the LAMP model has received perhaps the greatest attention in HR. Lists of HR measures abound, often categorized into scorecards and dashboards. Much time and attention is paid to enhancing the quality of HR measures, based on standard measurement criteria such as timeliness, completeness, reliability, and consistency. These are certainly important standards, but lacking a context they can be pursued well beyond the more abundant HR data becomes, the more essential is analytical capability. Without it, HR and business leaders can fall victim to improper conclusions, or be misled by superficial patterns, and poor human capital.

IX. WHAT WILL YOU DO WITH THE DATA?

There are generally four reasons for gathering data for business purposes: Describe, explain, predict, and optimize performance. Keep these reasons in mind as you report and analyze the data.

1. **Describe**. Using simple statistical terms, such as frequency counts, means, and standard deviations, performance is quantified and described to provide insight about an organization's current state. Performance appraisal results describe the annual performance of individuals with simple numbers. Using a nine-box model, an employee is rated 1 to 9. That single digit summarizes individual performance. It can also be aggregated to describe the performance of a sample or a population.

2. **Explain**. After describing performance, it is often useful to explain it. This is usually achieved by digging deeper into the data, giving it context, and examining differences or relationships. For example, if we classified all of the professionals into three groups —novice, experienced, and advanced—we might see an underlying

relationship that explains the ratings. The small group of top performers in the nine-box example may be the most experienced professionals. Novice professionals receive the lowest ratings, and experienced (but not advanced) professionals fall in the middle. In this way, experience helps explain the pattern in the data.

3. **Predict**. Inferential statistics, such as correlation, regression, analysis of variance (ANOVA) and other techniques, can be used to predict future performance. ANOVA can uncover meaningful differences between groups (e.g., performance among experienced and inexperienced employees). Correlation and regression analysis can uncover relationships among variables—that is, as experience increases, so does performance. It seems reasonable to expect that experience predicts performance, but what if the organization cannot wait for employees to gain experience? Could development programs like coaching or training also improve performance? Of course they can. Moreover, there is likely a dose–response curve for development. As more development is provided, employees improve their performance faster. Given enough cases, it becomes possible to predict performance based on the amount of coaching and training received. Such a model is invaluable because the business can estimate how much to invest in development in order to improve performance.

4. **Optimize**. Once a prediction model is developed, the business can implement programs to improve performance—for example, by providing the optimal amount of coaching and learning. By monitoring the inputs and actual performance, a feedback loop is created so the organization can optimize its investment in performance improvement. In line with the Boudreau and Ramstad approach, the entire data set (e.g., efficiency, effectiveness, and outcome measures) should be used to optimize organizational performance.

What does the optimization process look like? It can have many variations, but consider for a moment a situation where a training budget has been cut substantially, yet the goals for development remain the same, such as educate X number of people each year and ensure they are proficient within a month. In this case, efficiency will be impacted. The chief learning officer and learning and development (L&D) managers must change the curriculum in line with the available budget. This could mean increasing the ratio of e-learning to instructor-led classes. Or it could mean eliminating certain high-cost courses from the curriculum. Both approaches have consequences. The shift to more e-learning can save money by meeting training volume while eliminating the costs associated with instructor-led training. The consequence might be less employee engagement or less cross-functional networking as a result of less face-to-face interaction during training. Or if key courses are cut from the curriculum, the business may not be able to meet quality standards or produce a product, because new knowledge and skills are not learned.

The executive suite thrives on making data-based decisions. Making decisions without data is a hit-or-miss proposition. By using a framework like TDRP, HR can provide useful information to executives so they can make data-driven decisions.

X. WHAT FORM IS THE DATA IN?

When requesting data, be careful what you ask for. There are many forms of data today: HTML, XML, HRXML, text, comma delimited, SQL, SPSS, MS Excel, and MS Access, just to name a few. The variety is overwhelming, but that variety also increases the chances that the data you seek will be in a format that you need. The prevalence of Microsoft products helps matters as well. Most HR professionals use some form of Windows and have access to MS Excel and MS Access. These tools accept a wide variety of file types, such as those just listed. The ability to accept multiple file types is essential, because the business systems that contain the desired data often run on proprietary code, SQL, or other unique languages. Fortunately, those systems often have the capability to export data into standard file types. When working with the IT group to extract data, be sure to specify the file type that you desire. Ask for files to be exported to common formats, such as .txt or .csv that most programs can open.

Another issue to consider is the data structure. Data systems are set up to store data as efficiently as possible, using relational tables that are extremely long but not wide. These "vertical files" have a few columns of data but millions of rows. While they are efficient and improve processing speed on servers, they can cause problems. Files with more than 1.5 million cases often exceed the limits of MS Excel. MS Access can handle large file sizes, but this program is not as user friendly as MS Excel and requires more advanced analytic skills.

The second way to structure the data is to request a cross-tab export. This format displays one person per row. Every column contains a unique piece of information about that person, such as a demographic or a response to a survey. Compared to a vertical file, this structure is wide with many columns. This format is often used when analyzing data in Excel or a statistical package like SPSS or SAS.

XI. STRATEGIC PERSPECTIVE OF HR ANALYTICS

The article on strategic perspective of HR analytics authored by Shaon Banerjee & Sib Sankar Datta on 17 November 2014 from XIMB retrieved from http://www.mbaskool.com/business-articles/human-resource/10089-hr-analytics-a-strategic-perspective.html well explained like this :

Purpose:
Human Capital analytics is context-specific (Baron 2011). Relevance of Human Capital analytics varies from industry to industry. Generally, Human Capital analytics helps an organisation to understand and measure the effect of HR practices and policies on organisational performance and subsequently to influence business strategy (Lawler et al, 2004).

Applications:
According to Harris, Craig and Light (2010) there are five different categories of human capital analytical applications, which are as follows:
• 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)
• Adapt rapidly and scale recruiting supply channels and targets to meet changing business conditions, objectives, and competitive threats.

Metrics:
Mayo (2006) had proposed seven metrics for HR analytics:
• Workforce statistics
• Financial ratios relating to people and productivity,
• Measures of people's values,
• Measures of people's engagement,
• Measures of efficiency of the HR function,
• Measures of effectiveness of people processes
• Measures of investment in one-off initiatives and programs

Human Capital Analytics Framework:
To identify the relevant factors influencing Human Capital practices in an organisation, Paauwe (2004) developed a contextually based human resource theory and came up with the following Human Capital analytics framework:
1. Competitive isomorphism: PMT (Product/Market/Technology) impact on Human Capital analytics which suggests "demands arise from relevant product market combinations and appropriate technology" which shapes the HR policies and practices and thus influences the use of Human Capital analytics.
2. Institutional Isomorphism: SCL (Social/Cultural/Legal) influence on HRM practices and hence Human Capital analytics in the form of societal values (fairness, legitimacy) and legislations.
3. Configuration of Company: Organizational/Administrative/Cultural heritage of an organization influence the HR practices such as Human Capital analytics.
This coalition of the above-stated three dimensions affects the degree and nature of application of Human Capital analytics in a company.

Factors affecting Human Capital Analytics:
Based on the contextual factors affecting the HR analytics framework, the following relevant factors are determined which affect the way Human Capital analytics is used in organisations:
1. Competitive mechanisms: Human Capital analytics helps to increase efficiency and generate better business results (Harris et al, 2010). We can assume more competitive environment pushes an organisation towards greater application of Human Capital analytics.
2. Institutional mechanisms: Companies are implementing Human Capital analytics either by imitating their competitors or to prevent themselves not being seen as outdated. So, the no. of competitors going for Human Capital analytics influences the use of same in an organisation in the same industry.
3. Configuration: The older the company, the more formalised is its behaviour (Mintzberg, 1979). So, Human Capital analytics should be applied more rigorously in older organisations to support formal approach towards decision-making.
4. Organisation Structure: Nowadays most organisations are showing organic growth. So, to gain information about workforce performance drivers and increase organisational effectiveness, Human Capital analytics approach is the way forward (Boudreau & Ramstad, 2006).

5. Labour-capital Ratio: Companies with a high labour-capital ratio, should maintain better workforce related information (King 2010). So, greater application of HR analytics can be observed in knowledge-intensive industries.
6. Financial Health: The better the financial health of a company, more the use of Human Capital analytics and vice-versa (Lawler et al, 2004).
7. Innovation-orientation: The more an organisation is inclined towards innovation, the more is the chance of it to involve itself in Human Capital analytics to thrive continuous improvement and generation of new ideas and practices.
8. Size of Organisations: Planning and control systems of a larger organisation should be more sophisticated (Mintzberg 1979). What more sophisticated than HR analytics can help a larger organisation (by size) to implement sophisticated systems.

Present Practices:
In this section, we'll look into the current Human Capital analytics practices that are prevalent in the industry:
1. Correlation: Correlating people data and business is definitely the future of analytics. However, care must be taken not to use the same for major decision-making as correlation can, sometimes, identify only mere coincidences.
2. Benchmarking: Benchmarking, a powerful data collecting tool, should be used as a way of looking at data, and should not be considered as an analysis procedure.
3. Cause-Effect Analysis: In order to perform cause-effect analysis in Human Capital analytics, Structural Equation modelling methods are being used.
4. Regression Analysis: Regression as a statistical tool helps to view multiple facets of data simultaneously and enables the user prioritize the facets of people data that impact business outcomes.

Barriers to HR analytics
The major impediments to the application of HR analytics identified are (Van Dooren 2012):
• Inconsistent and inaccessibility of data,
• Data quality issues,
• Lack of standard/generic methodologies to analyse HR data,
• Executive buy-in,
• Skill gap in analytical knowledge & experience,
• Funding issues,
• Wrong or not targeting the right analytical opportunities,
• Problems in initiating the project
• Improper timing

These factors are true for countries like India, where companies are trying to develop HR analytics capability. The framework to implement an integrated talent management metric or a HR business driver analytics requires the usage of advanced statistical tools beyond the usual univariate statistical tools (means, quartiles and percentiles). Dooren in his findings questioned the objectives of using HR analytics in a company beyond its basic usages when more than 73.6% of the surveyed organizations admitted of having capability to utilize only the basic univariate statistical tools. His finding suggests that the major impediment in developing HR analytics capabilities is the perceived skill gap in the industry to analyse data using standard research methods (2012).

HOW HUMAN CAPITAL ANALYTICS IS BEING USED
There are several uses for analytics from simple gathering of facts to effective adaptations to market changes. Davenport, Harris, and Shapiro listed six ways that human capital analytics are currently being applied.
1. Selecting and monitoring key indicators of organizational health.
2. Identifying which units or individuals need attention.
3. Determining which actions have the greatest impact on the bottom line.
4. Forecasting workforce levels.
5. Learning why people choose to stay or leave the organization.
6. How to adapt the workforce to changes in the business environment.
The bottom line is that management needs tools and analytic skills to solve new, complex business problems more rapidly than in the past. The intensity of competition is increasing. The need to react quickly is imperative. Human capital analytics supplies the demand for better investment decisions.

XII. HOW GOOGLE IS USING PEOPLE ANALYTICS TO COMPLETELY REINVENT HR

By Dr. John SullivanFebruary 26, 2013TLNT (http://www.eremedia.com/tlnt/how-google-is-using-people-analytics-to-completely-reinvent-hr/)

Top 10 reasons for Google's people analytics approach

The people analytics team reports directly to the VP and it has a representative in each major HR function. It produces many products, including employee surveys that are not anonymous, and dashboards. It also attempts to identify insightful correlations and to provide recommended actions. The goal is to substitute data and metrics for the use of opinions.

Almost everyone has by now heard about Google's free food, 20% time, and wide range of fun activities but realize that each of these was implemented and are maintained based on data. Many of Google's people analytics approaches are so unusual and powerful; I can only describe them as "breathtaking."

Below I have listed my "Top 10" of Google's past and current people management practices to highlight its data-driven approach:

1. **Leadership characteristics and the role of managers** –ts "project oxygen" research analyzed reams of internal data and determined that great managers are essential for top performance and retention. It further identified the eight characteristics of great leaders. The data proved that rather than superior technical knowledge, periodic one-on-one coaching which included expressing interest in the employee and frequent personalized feedback ranked as the No. 1 key to being a successful leader. Managers are rated twice a year by their employees on their performance on the eight factors.
2. **The PiLab** — Google's PiLab is a unique subgroup that no other firm has. It conducts applied experiments within Google to determine the most effective approaches for managing people and maintaining a productive environment (including the type of reward that makes employees the happiest). The lab even improved employee health by reducing the calorie intake of its employees at their eating facilities by relying on scientific data and experiments (by simply reducing the size of the plates).
3. **A retention algorithm** — Google developed a mathematical algorithm to proactively and successfully predict which employees are most likely to become a retention problem. This approach allows management to act before it's too late and it further allows retention solutions to be personalized.
4. **Predictive modeling** – People management is forward looking at Google. As a result, it develops predictive models and use "what if" analysis to continually improve their forecasts of upcoming people management problems and opportunities. It also uses analytics to produce more effective workforce planning, which is essential in a rapidly growing and changing firm.
5. **Improving diversity** – Unlike most firms, analytics are used at Google to solve diversity problems. As a result, the people analytics team conducted analysis to identify the root causes of weak diversity recruiting, retention, and promotions (especially among women engineers). The results that it produced in hiring, retention, and promotion were dramatic and measurable.
6. **An effective hiring algorithm** – One of the few firms to approach recruiting scientifically, Google developed an algorithm for predicting which candidates had the highest probability of succeeding after they are hired. Its research also determined that little value was added beyond four interviews, dramatically shortening time to hire. Google is also unique in its strategic approach to hiring because its hiring decisions are made by a group in order to prevent individual hiring managers from hiring people for their own short-term needs. Under "Project Janus," it developed an algorithm for each large job family that analyzed rejected resumes to identify any top candidates who they might have missed. They found that they had only a 1.5% miss rate, and as a result they hired some of the revisited candidates.
7. **Calculating the value of top performers** – Google executives have calculated the performance differential between an exceptional technologist and an average one (as much as 300 times higher). Proving the value of top performers convinces executives to provide the resources necessary to hire, retain, and develop extraordinary talent. Google's best-kept secret is that people operations professionals make the best "business case" of any firm in any industry, which is the primary reason why they receive such extraordinary executive support.
8. **Workplace design drives collaboration** – Google has an extraordinary focus on increasing collaboration between employees from different functions. It has found that increased innovation comes from a combination of three factors: discovery (i.e. learning), collaboration, and fun. It consciously designs its workplaces to maximize learning, fun, and collaboration (it even tracks the time spent by employees in the café lines to maximize collaboration). Managing "fun" may seem superfluous to some, but the data indicates that it is a major factor in attraction, retention, and collaboration.
9. **Increasing discovery and learning** – Rather than focusing on traditional classroom learning, the emphasis is on hands-on learning (the vast majority of people learn through on the job learning). Google has

increased discovery and learning through project rotations, learning from failures, and even through inviting people like Al Gore and Lady Gaga to speak to their employees. Clearly self-directed continuous learning and the ability to adapt are key employee competencies at Google.

10. **It doesn't dictate; it convinces with data** — The final key to Google's people analytics team's success occurs not during the analysis phase, but instead when it present its final proposals to executives and managers. Rather than demanding or forcing managers to accept its approach, it instead acts as internal consultants and influences people to change based on the powerful data and the action recommendations that they present. Because its audiences are highly analytical (as most executives are), it uses data to change preset opinions and to influence.

Evidence-based approaches must result in real change. RBS's Surveys led management to focus successfully on rebuilding pride after the financial crisis. Ameriprise's metaphor of a store's selling a finite range of products helped HR retire low-value-added services. IBM's work on building an enterprise wide talent pipeline increased consultant utilization rates. Khazanah's leadership audits convinced a range of organizations to improve their processes.

An essential step in any analytics approach is to ensure that the data can be presented to leaders in a way that will help them make decisions.

XIII. CONCLUSION

The business world today is more specific in optimistic utilization of resource. As Human resources are the prime valued sources of any organization, there is a high attention required to manage. There must be valid proof for HR decisions too. This evidence based approach in business surely paving a red carpet way for HR Analytics. HR Analytics is not only driving best HR decisions with accurate evidence, but also provoking organizations to maintain adequate quality data for justifying ROI in HR Investments.

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