Developing A Work On HR Analytics Building The Required Platform For Business Knowledge

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Abstract
The present business climate is forcing organization to make complicated decisions regarding how to maximize the productivity and effectiveness of various assets. Already other criticized areas, like procurement and finance are heavily analyzed, a lot of organization are still do not define, capture and analyze data about employees. Any business if at all to sustain have to deal with the changing world of work. HR Analytics is a relatively new area in the field of Human Resource Management (HRM). By effectively using HR Analytics, business can more effectively manage and improve performance. The focus of HR is on collecting and reporting data about activities instead of outcomes. As such, there is a need for HR to develop itself from descriptive metrics to predictive analytics. The topic of HRA is the subject of much debate in the HR literature. Currently, a main focus of the research on HRA is how to use HRA as a decision support tool predict future events, so-called “predictive analytics”. Arguably the most practical tool and greatest potential for organizational management in the emergence of predictive analytics. Analytics is a meaning of art and science. The arts teach how to look at the world. The Science teach how to do something. When “analytics is used many immediately think of statistics. According to Technopedia (2018) Human Resource Analytics (HR Analytics) is an area in the field of analytics that refers to applying analytics processes to the human resource department of an organization in the hope of improving employee performance and therefore getting a better return on investment. According CIPD (2018), HR analytics, also known as people analytics is the use of people data in analytical processes to solve business problem HR analytics uses both people data, collected by HR systems (such as payroll, absence management) and business information. Thomas Davenport, Jeanne Harris, and Robert Morison (2010) Fact based decisions employ objective data and analysis as the primary guides to decision making. The goal of these guides is to get an the most objective answer through a rational and fair minded process, one that is not colored by conventional wisdom or personal biases.

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The present business climate is forcing organization to make complicated decisions regarding how to maximize the productivity and effectiveness of various assets (IBM, 2009). Already other criticized areas, like procurement and finance are heavily analyzed, a lot of organization are still do not define, capture and analyze data about employees. Any business if at all to sustain have to deal with the changing world of work (Guest, 2004). All these changes in the business context impose new challenges on the management of today’s organizations. As time go on the relations between employers and employees are becoming more fluid and it becomes increasingly important for organizations to indicate the economic output of their employees. Academic and consulting professionals are responding with an even expanding range of new tools usually encapsulated in nice three letter acronyms. The Human Resource Analytics (HRA) is one such new tool. In many cases, the results have been disappointing particularly when the initiatives have been attempted without linking them to corporate strategy (Stivers and Joyce, 2000) Research work has shown that only a small number of companies were able to provide sustained high returns to their shareholders in the last decade.
HR Analytics is a relatively new area in the field of Human Resource Management (HRM). By effectively using HR Analytics, business can more effectively manage and improve performance (Oracle, 2011). This can be done by analyzing existing data in such a way their companies can develop and retain key talent tools, and address retention trouble spots or looming gaps in needed competencies. Organization have to identify human drivers for the organizational success (Smeyers, 2010). The scientific literature also calls for Evidence Based Management (EBM). Pfeffer and Sutton (2006) and Briner, Denyer and Rousseau (2009) dedicate their research to the impact of EBM on Management Practice, and subsequently the business performance. Accordingly to them, decision should be based on data. Pfeffer and Sutton (2006) affirm that it is the evidence that helps to make the right choices.

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In-spite of the progress that has been made in academic research (Paauwe, 2009) and the increasing recognition of the importance and value of HR (Boudreau and Ramstad, 2006) only a very few organizations are now-a-days able to measure the real value that bring to their business (Mayo, 2008). Accordingly to Mayo a very few organizations have a fully integrated approach to Human Capital Measurement (HCM).

A majority of organizations are not able to measure the contribution of their intangible assets objectively, or based on the right measures. The methods used are also fairly standard analytical tools, like regression, and organizations focus on data that is easy to understand (Fink and Sturman 2017). The focus of HR is on collecting and reporting data about activities instead of outcomes. As such, there is a need for HR to develop itself from descriptive metrics to predictive analytics (Ulrich, 2010).

As noted by Bassi (2011), metrics and measurements were discussed as far back as the late 1970s. More than 30 years ago, HR researchers grappled with issues related to the measurement of human resource management (Fitz-Enz, 1984). Although the origins of the field of HRM can be traced back to Peter Drucker’s writings from the 1950s, HRM got its big breakthrough during the mid-1980s (Beer, 2015; Kaufman, 2015; Marciano, 1995).

During the 1990s, the focus shifted to viewing people as a valuable organizational resource and capability that can create competitive advantage (Barney & Wright, 1998; Huselid, 1995; Pfeffer, 1994; Ulrich, 1997; Ulrich & Lake, 1990; Wright, Dunford, & Snell, 2001). As a result, human and intellectual capital became key buzzwords in both academic research and in the management community at large (Edvinsson, 1997; Stewart, 1997; Ulrich, 1998).

In the years that followed, much attention was directed at developing new techniques for calculating the return on human and intellectual capital (Bontis & Fitz-Enz, 2002; Fitz-Enz, 2000). During the first half of the 2000s, new ideas such as HR Scorecards and Workforce Scorecards were developed (Huselid, Becker, & Beatty, 2005; Ulrich & Beatty, 2001), tools that would allow organizations to measure the impact of HR activities and practices on organizational performance. During the mid2000s, there were many calls for more scientific and evidence-based approaches to HR (Boudreau & Ramstad, 2007; Pfeffer & Sutton, 2006; Rynes, Colbert, & Brown, 2002; Rynes, Giluk, & Brown, 2007).

In previous contributions, it has been noted that HRA has existed as a research topic for about 15 years (Angrave, Charlwood, Kirkpatrick, Lawrence, & Stuart, 2016). In addition, HRA relatively early become a topic of discussion in journals focusing on HR and people strategy (e.g. Feather, 2007; Fink, 2010; Levenson, 2005, 2011; Waber, 2013). In the last few years, HRA has received considerable attention in influential practitioner-oriented management outlets such as Harvard Business Review, and in a string of reports written by global consulting and technology giants.
The topic of HRA is the subject of much debate in the HR literature (Rasmussen & Ulrich, 2015; Ulrich & Dulebohn, 2015). Currently, a main focus of the research on HRA is how to use HRA as a decision support tool predict future events, so-called “predictive analytics” (Fitz-Enz & John Mattox, 2014; van den Heuvel & Bondarouk, 2016, p. 8). In addition, it is evident that the proliferation and availability of Big Data has paved the way for HRA, as much of the thinking around HRA has been developed in the aftermath of the introduction of Big Data (Angrave et al., 2016). Big Data makes it possible to use large amounts of data to support HR-related decision making processes (Angrave et al., 2016; Shah, Irani, & Sharif, 2016).

Jac Fitz-Enz (2014) introduced human resource metrics in 1978, with a series of public workshops based on his experience of running a human resource department for a bank and later a computer company. Since then metrics has experienced a long, slow, and somewhat unsteady evolution. Subsequently the research reported in workforce Intelligence Reports 2007 and 2008 revealed the rationale for a management model that promises to help establish better communication between line managers and human resource professionals (Jac Fitz-enz, 2014).

According to Jac Fitz-Enz (2014) there has been a great deal of interest in the past few years on workforce planning, competencies, and change management. Analytics has a key role to play in this area. Too much attention is being paid to workforce planning as an industrial – era, gap analysis process that is unsuited for a new work model. The concept of a defined job is dead. Jobs are fixed routines that do not at all resemble technical and professional work in the twenty-first century. Constant market changes driving frequent organizational transformation make building lexicon of competencies liked to obsolete jobs a fool’s errand. New knowledge and old process are a dysfunctional concoction. The best analytic outputs are useless if we cannot change the organization to take advantage of them. Salesmanship and change management are imperative skills for analytic units.

Arguably the most practical tool and greatest potential for organizational management in the emergence of predictive analytics. Analytics is a meaning of art and science. The arts teach how to look at the world. The Science teach how to do something. When “analytics is used many immediately think of statistics. That is incorrect Statistics play a major role, but only after understanding about the interactions, the relationships, of the problems elements. Analytics is first a mental framework, a logistical progression, and second a set of statistical operations.

The evidence-based approach is making better decision. This popular term is simply the gathering of primarily objective factor and secondarily related subjective data. Analytics is divided into three levels (Jac Fitz-enz et.al., 2014)

1. Descriptive: Traditional HR metrics are largely effectively metrics (turnover rate, time to fill, cost of hire, number hired and trained, etc). The primary focus is on cost reduction and process improvement. Descriptive HR analytics reveal and descriptive relationships and current and historical patterns. This is the foundation of analytics efforts. 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 prediction about the future. It is 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 impacts the bottom line which is rare in HR.

There is a structure to analytics that is more than simply running a statistical analysis. In HR analytics it is important to ask questions that proceed logically from the current state to preferred destination namely identifying the true problem and uncovering the essential conditions surrounding
and driving it. Good questioning rejects beliefs stemming from obsolete experience, irrelevances, and biases. On the positive side, it gradually brings a group together around what is essential and structures a clear goal for the project. Sometimes the solution also develops from the questions and other in no need to go through a statistical exercise.

**Definition of Human Resource Analytics:**

According to Technopedia (2018) Human Resource Analytics (HR Analytics) is an area in the field of analytics that refers to applying analytics processes to the human resource department of an organization in the hope of improving employee performance and therefore getting a better return on investment. HR analytics does not just deal with gathering data on employee efficiency. Instead, it aims to provide insight into each process by gathering data and then using it to make relevant decision about how to improve these processes. HR analytics correlate business data and people data, which helps establishing important connection later on. The key aspect of HR analytics is to provide data on the impact of the HR department has on the organization as a whole. Establishing a relationship between what HR does and business outcomes-and then creating strategies based on that information-is what HR analytics is all about.

HR has core functions which can be enhanced by applying processes in analytics. These are acquisition, optimization, paying and developing the workforce of the organization. HR analytics helps to dig into problems and issues, surrounding these requirements, and using analytical workforce, guide the managers to answer questions and gain insights from information at hand, then make relevant decision and take appropriate action. (Technopedia, 2018)

According CIPD (2018), HR analytics, also known as people analytics is the use of people data in analytical processes to solve business problem HR analytics uses both people data, collected by HR systems (such as payroll, absence management) and business information (for example, operation performance data). At its core, HR analytics enables HR practitioners and employees to gain insights into their workforce, HR policies and practices, with a focus on human capital element of the workforce, and can ultimately inform more evidence based decision making.

Bhattacharya (2017) identifies the following checklist for aligning business with HR analytics.

1. Understanding work to be done.
2. Understanding existing processes and structures.
3. Understanding important roles of various functions.
4. Understanding how far such roles can get influenced with the human resources quality.
5. Developing of behavioural and predictive models.
6. Understanding the changed performance standards.
7. Understanding the process of dissemination of information on HR analytics to all shareholders.
8. Building capabilities of concerned employees to gradually change to data-driven decision-making process.
9. Understanding the process of data integration for HR analytics.
10. Building the required platform for HR analytics.
11. Developing a dedicated task force to work on HR analytics, represented by employee with adequate functional, statistical and business knowledge.

Human resource analytics is a communications tool, first and foremost. It brings together data from disparate sources, such as surveys and operations of different units or levels, to present a cohesive, actionable picture of current conditions, and likely future. Like in every case, human capital measurement started with simply recording inputs and outputs of the workforce. This is the province of accounting. Usually accountants monitor income and expense to tell management what ensures as a result of past decisions and investments. Human Capital Measurement (HCM) is beyond that level. It actually positions management with a view of tomorrow. There are five ways to measurement in business. They are Cost, Time, Quantity, Quality and human reaction. This leads to five steps of analytics.
Step 1: Recording the work (i.e., hiring, paying, training, supporting and retaining). By measuring how efficient organizations processes are, one can improve them, thus creating value for the organization indirectly by saving money or time, or by increasing the ratio of output to input, or by making an employee or customer happy or the result of a less intrusive process or a better result.

Step 2: Relation to organizations goals (i.e., Quality, innovation, productivity, Service (QIPS), QIPS encompasses the fundamental goals of any organization. For this targets are set periodically by senior management across these process outcomes and are reviewed on a regular basis. And link the results of the work to its impact on QIPS goals. This shows there is value in the work.

Step 3: Companioning results to others (i.e. benchmarking). To be effective, benchmarking requires knowledge of the organizations to which it is compared. Broad data about a comparative group in an industry or a region have only managerial value because of their great variance within that population. The more detail one finds the more the value of the benchmarks.

Step 4: Understanding past behaviour and outcomes (i.e., descriptive analytics). This is the first level of true analysis. It looks for and describes relationships among data without giving meaning to the patterns. It is exploration rather than predictive. From this organization see trends from the past; of course, it is risky to extrapolate from the past into the future, considering the volatile, rapidly changing markets of today and likely tomorrow.

Steps 5: Predicting future likelihood (i.e., prescriptive analytics). This form of analytics relates to what organizations know to what we don't know. It compare what happened yesterday to what will probably happen tomorrow. Predictive analytics ascribes meaning to the patterns observed in descriptive analytics. Banks use this method to predict the credit worthiness of borrowers. Insurers use it to predict pattern of illness and mortality. Human resources can apply it to decision about the expected reform on human capital investments in hiring, training, and planning.

The power of analytics depends on the knowledge. Knowledge is the base from which prediction emerges. Without knowledge there will be no tools and no structure. If knowledge is power, then foresight is the lever to take advantage of the knowledge. This is where predictive management takes.

To be able to foretell what is likely to happen with a high degree of probability depends on four things.

1. Comprehension of past and current events.
2. Understanding not only trends but also the drivers behind them.
3. Being able to see patterns of consistency as well as change.
4. Handing tools to describe the probability of something in the future.

Till recently the missing aspect within business intelligence (BI) is data on human capital and especially predictive human resource quality (HRA). HRA is an outgrowth of relation between human resource metrics and general business analysis. Previously, human resource metrics has been confined almost exclusively to labour issues as they relate to business plan. HRA has opened the door to a much broader and more useful view of the metrics. It can draw on any or all Business Information (BI) data to both support the delivery of human resources services and influence the behaviour of all levels of employees, up to and including executives HRA turns human resources metrics towards the future. It takes past and current strategic and operational data and adds leading indicators. Data on retention, readiness, leadership, and engagement speak to what is likely to come tomorrow. This is the newest level in the BI machine.

Chakraborti et.al (2017) list objectives of human capital analytics as:

- Evaluate and prioritize the skills needed to sustain performance.
- Build an agile workforce through flexible capacity planning.
- Determine how the organization can stimulate and reward behaviours that matter.
- Apply a proven succession planning strategy that leverages employee engagement and drivers top time revenue growth.
- Recognize risks and formulate responses that avoid surprises.
- Support decision making by predicting the actions that yield the best returns.

Advantages of Analytics
1. Get a higher return on data investment: Predictive analytics combines information on what has happened in the past, what is happening now, and what is likely to happen in the future to give you a complete picture of situation.

2. Find hidden meaning in data: Predictive analytics enables to concern hidden patterns, trends, and relationships and transform these into action.

3. Look forward, not backward: Using the data already had to anticipate future events, and be predictive rather than reactive.

4. Deliver intelligence in real time: With predictive analytics, one can automatically deploy analytical results and act as change occur.

5. See assumptions in action: Advanced analytics tools help to develop hypothesis, test them, and choose the scenario most likely to give the desired results.

6. Mitigate risk: Predictive analytics help to evaluate risk using a combination of business rules, predictive models, and past employee action, thus minimizing exposure to unforeseen events.

7. Discover unexpected opportunities: Predictive analysis can be used to respond with greater speed and certainty to emerging challenges and opportunities.

8. Guarantee your organization competitive advantage: With predictive analytics, one can drive improved performance in all operational areas. When the organization runs more efficiently, one can take to out think and outperform competitors.

HR analytics refers to the application of a methodology and integrated process for improving the quality of people-related decision for the purpose of improving individual and or organizational performance (Bassi et.al., 2007)

HR analytics relies on statistical tools and analysis but it is more than that. It requires high quality data, leadership, broad-based agreement their analytics is a legitimate and helpful way to improve performance, well-chosen targets, and talented analysis.

As in most newly emerging disciplines, the terminology academics use to discuss HR analytics are varied and confusing. Some choose the term 'human capital analytics'. Boudreau and Ramstad call 'talent-ship decision science'. For the purpose of our study, all these terms and variations thereof as synonymous, and will draw equally on the works of authors and researchers that use a variety of related terms.

HR analytics is one component of a larger development known as "evidence-based management" or 'Competing on analytics'. The researchers define and discuss in the following ways:

- Jac Fitz-enz: (2014) "Analytics is a mental framework, a logical progression first and a set of statistical tools second,

- Wayne Cascio and John Bourdeau (2008) "Analytics is about drawing the right conclusion from data. It includes statistics and research design, and then goes beyond them to include skill in identifying and articulating key issues, gathering and using appropriate data within and outside the HR functions, setting the appropriate balance between, and building analytical relevance, and building analytical competencies throughout the organization. Analytics transforms HR logic and measures into rigorous relevant insight.

Jeffrey Pfeffer and Robert Sutton (2006) If taken seriously, evidence based management can change how every manager thinks and acts. First and foremost, it is a way of seeing the world and thinking about the craft of management. Evidence-based management proceeds from the premise their using better, deeper logic and employing facts to the extent possible permit leaders to do their jobs better. Evidence-based management is based on the belief that facing the hard facts about what works and what doesn't understanding the dangerous half truths that constitute so much conventional wisdom about management, and rejecting the measures that too often passes for sound advice will help organization perform better.

Thomas Davenport, Jeanne Harris, and Robert Morison (2010) Fact based decisions employ objective data and analysis as the primary guides to decision making. The goal of these guides is to get an the most objective answer through a rational and fair minded process, one that is not coloured by conventional wisdom or personal biases. Whenever feasible, fact-based decision makers rely on the
scientific method. With hypotheses and testing and rigorous quantitative analysis. They eschew deliberations that are primarily based on intuition, gut feeling hearsay or faith although each of these may be helpful in framing or assessing a fact-based decision.

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