

HR ANALYTICS AND BIG DATA TRANSFORMING TALENT MANAGEMENT



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Article History: Received: 28.02.2023

Revised: 14.04.2023

Accepted: 06.06.2023

Abstract:

The discussion of the potential talent analytics provides HR practitioners is the goal of this article. The ability to analyze enormous volumes of data has become much more accessible over decades, and businesses are now using talent analytics to manage their workforce. There will be a lot of studies on how talent analytics may improve organizational decision-making. Majority of businesses use databases to hold complex data. A database is a great tool for displaying data and running reports, and they are typically housed in the Cloud. Bigdata exploitation or use of enormous amounts of structured & unstructured data produced by organization's everyday operations, has gained a lot of popularity among businesses over the past several years. Talent can signify different things to different people and in different situations. The idea of a "data lake" has gained significant traction in the field of bigdata management. Data warehouses don't require data to be converted in order to meet a specific data model, allowing businesses to store a variety of data kinds at little expense. Instead of analysis, data warehouses are incredibly helpful for discovering new insights. Big data may assist HR teams in better understanding their staff and implementing better employment policies, as demonstrated by the way that marketing department is utilizing it to know the viewpoints of their customers. Big data and human resources management have been compared and contrasted in this essay.

Keywords: Talent Management, Bigdata, HR, Organization, Performance

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DOI: 10.31838/ecb/2023.12.s3.452

1. INTRODUCTION

Talent management is the primary responsibility of HR professionals in the present environment, adding to their already heavy workload [1]. More challenging to manage than any advanced technology is the complex human behavior. The process of "utilizing all available resources in the most effective manner" is management [2]. An organization typically lists its resources as the 4Ms of its structure: men, machines, money, and material [3]. When the men (human capital) are led in the appropriate direction and given the proper training, machine, money, and material may be controlled with ease [4]. The pool of resources that make up human capital is one that is rarely accessible, highly valued, and hardly replaceable. Approaches as well as possibilities that are suited for the assessment of a talent already present in the organization must be found in order to manage this human capital [5]. Every company now faces this irrefutable dilemma, and in this setting, HR Analytics have grown in popularity. Despite its rising popularity, some businesses continue to hold a negative opinion towards HR Analytics [6]. Such businesses may find it difficult to compete with others whose functional bases already include analytics. The present research is concentrating on how analysis can indeed be applied towards the field of talent management and is being applied to it, along with an analysis of the results [7]. Bigdata [8] exploitation, or use of enormous amounts of structured & unstructured data produced by organizations' everyday operations, has gained a lot of popularity among businesses over the past several years [9]. The causes of this interest are well known: simultaneously with the time that the cost of data generation technology has advanced, so has the cost of data storage [10] (in whatever format). Simultaneously, methods for manipulating and processing

data kept by organizations are increasingly built into common software, enabling practitioners to swiftly draw conclusions from their data and utilize them to boost organizational performance [15].

Scholars had begun to consider how Bigdata utilization within organizations affects performance, reflecting the wellbeing of practitioners [16]. It has two prime directions in which this field's study has evolved. Firstly, it has sought to understand how businesses have exploited the big data assets to boost productivity. We have now proof that firms, because of the improved ability to exploit their bigdata, tend to embrace new "data-driven" tactical decision-making models athwart assorted business functions [17-20]. Often cited study indicated that firms uses bigdata to sustain their scheduling [21] and decision-making [22] processes do better than those who do not. This is because research have quantified contact of data-driven [23] decision-making models on communal performance. More precisely, these companies produced on median 5% more than their rivals within that sector [25]. What benefits can big data (and related analytical methods) provide for HR functions? Talent analytics has arisen as a collection of approaches that make it possible to find patterns in workforce data for workforce management, change-driven change, and ultimately value creation. Key points can be addressed with the aid of talent analytics: the connection between productivity and training, company keep workers on board, a company's wellness programme influence performance, certain degree holders further productive, and permanent workers wiser investment than contract workers.

As terms of generating revenue, talent analytics clearly has advantages [26]. All of this, however, has fast changed. For instance, a 2016 IBM analysis on talent analytics discovered that application of predictive analytics grown by 40% over preceding 2 years. Many factors have

fueled interest in talent analytics (CRF Research, 2017);

- a) As analytics are increasingly used in promotional, economics, and other business operations, there is a growing understanding that data exploitation can contribute to value creation;
- b) Data collection, storage, and processing are now simple and visually appealing because to the accessibility of affordable equipment;
- c) Organizations are spending money on the enlargement of quantitative skills of HR professionals as result of the growing use of metrics within HR teams.

A few firms also point out that using analytics may assist them supervise uncertainty because it can be used to locate the root causes of risks, develop mitigation plans, and ultimately align HRM policies with performance (CRF Research 2017). Yet, before businesses can fully benefit from the prospects that talent analytics provides, a number of crucial issues associated to its utilisation must be resolved. a) The connection between talent analytics and corporate performance. Despite the fact that many claims have been made about how much talent analytics may improve corporate performance. b) Data quality. The talent analytics draws on methods from industries or job functions (e.g. marketing, finance) that frequently generate enormous amounts of data. Nevertheless, undersized businesses might not have high-quality HR data and might not have the analytical skills necessary to apply big data techniques to situations where the volume of data is fairly limited. As a result, it may be difficult to translate the findings into practical commercial outcomes. c) The talent analytics component. Should talent analytics be integrated into HR teams or will they eventually replace traditional HR functions? To each alternative, some advantages and disadvantages remains,

and currently no definite solution to that dilemma[27].

LITERATURE SURVEY

People's expertise, information, ideas, talents, and health are referred to as "human capital" (Chen, et al, 2016). Employers focus on hiring talent quality during the hiring process while also considering the skills and experience of potential workers.

Yet, employers suffer while devoting time and resources, as most employees really aren't evaluated for excellence in actual work performance (McGuire(2018);Lermusi,).

Talent can signify different things to different people and in different situations. Some people attribute this to their capacity and efforts to advance, while others attribute it to the entire workforce of the firm. Talent is the use of mental and physical capacity used in the process of recurrent thinking, feeling, and behaviour abilities in a successful way, as according Fitzgerald (2014).

Data analytics "refers to the approaches that allow one to examine massive data maintained by enterprises," according to Nocker(2019). Data analytics staff must be communicate with stakeholders concerning organization's operations & growth. Those who work in talent analytics, also known as data analytics, are experts who can "help answer critical questions" and spot risk factors (Nocker2019).

Big data are a massive and diverse volume of data that may be gathered & managed, according to George(2016). Big data "...came to be distinguished from little data since it was not generated solely by a firm's internal transaction systems," according to Davenport(2013).

The Objective of Talent management study is- Employers can find and develop a workforce that is as productive as possible and likely to stick around for a while by using talent management. This procedure, when strategically applied, can help the

business perform better overall and maintain its competitiveness. By enabling HR to analyze data on previous performance, development efforts, from social media, and activities that suggest candidate agility & curiosity, bigdata may help organizations find potential & critical talent.[1-4]

TO IMPROVE ORGANIZATIONAL PERFORMANCE THROUGH TALENT ANALYTICS

What connection exists between organizational performance and talent analytics? Although the pathways underlying such relationship really aren't clearly defined, present study in analytics & performance implies that analytics (accompanying bigdata) are example of IT resources [28] for successful firm. The resource-based view (RBV) has traditionally been used by management scholars to identify relationship between bigdata and performance. RBV asserts that after sources of competitive advantage have been discovered, it is then possible to determine how aspects of these sources that are often connected to analytics assist competitive advantage. Conversely, analytics could be considered a case study of an investment in intangible assets that provide value, despite the fact that their impact to profitability might be challenging to measure. The majority of scholarly debates on talent analytics and performance have utilized conceptual frameworks originating from ideas of strategic management [29]. In this sense,

talent analytics is linked to gains in performance as it is a unique resource that organizations may use to create competitive advantage. It RBV in particular has been frequently used for this reason. This point of view has already been challenged for two primary factors: first, it fails to explain what talent analytics creates value. For example, it is feasible to name numerous analytics projects which have reduced this same value of the company, arguing that the use of analytics is not a prerequisite for creation of value while in fact other conditions must be present for talent analytics to be valuable. The RBV also explains how shifting economic situations could impact how performance and talent analytics relate to one another. ICT[30] and performance-related[31] compensation were recognized as resources which will paired alongside talent analytics by study, signifying that these firms give employees the incentives and chance to succeed. Output may augment in these situation as well. Several authors had made the point that certain talent research note primarily result in cost reductions, which has a limited impact on company success. Case studies can offer some additional proof of how talent analytics and performance are related. There are not many research that support the idea that profiles on social media and job performance or turnover are unrelated. Cause-and-effect relationships and hypotheses are found from the many experiments listed above, and they are compared to the fundamental results. The process is shown in figure 1.



Figure 1- Analytics for Talent and Strategy.

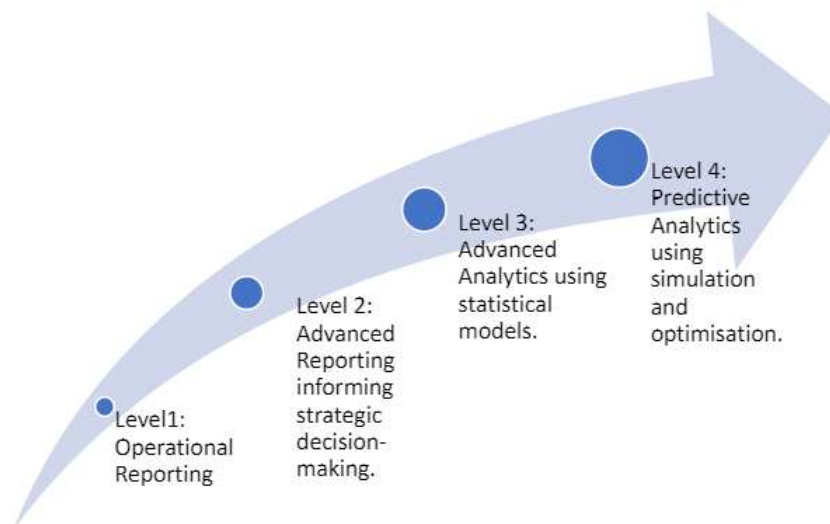


Figure 2- Talent analytics maturity model.

CHALLENGES

Several obstacles may arise when firms use talent analytics in their enterprises, according to a few writers. They include the availability of data, the analytical prowess of HR specialists, top management's backing, and access to fundamental IT capabilities [35]. The data that will be required to support a talent analytics function in an organization must first be identified by the organizations that intend to employ talent analytics. Talent analytics typically needs information on both employees and organizational data (programmes and performance). Whether they constitute large data, some academics have questioned it. Yet, this is not really significant because access and/or the caliber of the data are what issue in this situation. The truth is that developing a plan for data collecting and identifying data that will be applied for project is a crucial part of talent analytics project. Such data are typically structured because the data scheme is connected to employee who serves as observational unit, & they may vary in their degree of detail detailed depending on how frequently they are collected [36].

ETHICAL BIG DATA USAGE IN HR

The use of bigdata presents a variety of options since it enables data to be compared & linked in order to find

previously unrecognized patterns. There are still questions about the use of bigdata in with HR functions, despite the fact that it possesses the potential to alter how personnel resources are handled. Organizations must take considerable caution when determining what data to acquire and what to do with it because workforce data is very sensitive. For instance, it is conceivable to monitor email content, but most businesses would be reluctant to engage in what they would view as a very intrusive activity. As more sensitive data becomes accessible from sources like wearable technology and mobile phone records [39], companies are under even more pressure (CIPD 2013). It's significant to note that the GDPR places restrictions on the employer's capacity to use personal data for purposes that were not apparent at the time of data acquisition. According to the GDPR, employer must kept in loop on the collection of data and its intended use. Indeed, the employee's express consent is required before any data is processed for a different purpose. Furthermore, once personal information is no longer required, it should be erased from server, suggesting that HRM databases need to be constantly audited and cleaned. It is frequently suggested that talent analytics and customer analytics, which concentrate on customer data, are similar. Although this is

correct in theory—it gives managers a better understanding of how the workforce functions—in practice, dealing with personnel data raises a number of ethical concerns. The data that the HR team collects are typically personal, critical, and hold details which shouldn't be disclosed, to start. In other words, whereas consumers have the option to choose not to share their preferred shopping preferences with merchants, employees may not have this option at work and, in some situations, may not even be aware that the data being collected. Second, these data may be biased in favor of the employer because they were gathered in the context of a contractual arrangement. Additionally, the privacy of employees is threatened because data are being acquired at a fine granular level from social media platforms, websites, and mobile communication sources and coupled with data that the HR team stores. However, focusing too heavily on talent analytics may cause workers to feel like mere statistics rather than unique human beings. How should talent analytics be applied in a company in light of these moral dilemmas? Significantly, legal requirements differ from one nation to the next (CRF Research 2017). What is actually needed is the creation of a framework for the ethical use of employee personal data, one that is founded on the four values of privacy, confidentiality, transparency, and identification and gives employees agency over how their data is used within the company. A strong governance framework becomes more crucial as analytics functions develop (CRF Research 2017). Up until now, governance has mainly been concerned with data-related challenges, such as creating data standards & handling receptive individual data [1-4]. Hence, we investigate a theory that views talent analytics to emerging in a social environment with several participants. The relation between bigdata and HR is intrinsically scattered because it cannot be

managed, governed, or sustained in a single location. To find and recognize the participants outside of the companies and "normal" stakeholders, talent analytics needs to be positioned within an alternative ethical framework. The sense of accountability that is evoked relates to the actual interaction with other people and with inherently different people. Our conceptualization points to a shared ethical framework for action. It emphasizes what we might come to share based on mutual acknowledgment and accountability within a community, as opposed to individual-centered ethics. It would give participants the chance to both affirm and contest values & criteria proposed for determining, for instance, when to utilize predictive analytics. Additionally, it would enable the incorporation of "suspension of judgement" moments, preventing hurried or premature decisions between various parties. The rising in need of "opening up spaces of belonging," more distributed leadership, and for creating more inclusive space of action in people analytics & talent management are all brought to light by thoughts of interactions & negotiations in this manner [6,7].

CRITIQUE OF DATA ANALYTICS'S USAGE IN HR METRICS

The idea of using data analytics to improve HR metrics has received enough criticism. The Harvard Business Review mentioned Google's Mission OXYGEN, which analyses data about its users, as an example. The article noted that Google's extensive experiment produced the same results that were decades ago proposed by many studies and could be seen in the majority of textbooks. According to the assessment, there is nothing wrong with considering the use of analytics, but the same thing can be accomplished easily with an excel sheet that has been around for a long time. The removal of "MANAGERS" from Google's personnel roster caused a number of problems. They quickly replaced the cadre and presented

an overview of their Mission OXYGEN, which had discovered the ideal management characteristics. This demonstrated a direct link between the manager's abilities and the contentment of the workforce. The identical information, however, had already been provided by a number of researchers, according to the following review on applying DATA

ANALYTICS to HR METRICS, and it could be learned from a number of textbooks. "The very nature of HR data imposes some inherent limits on analysis," it was stated.

According to several studies, Table 1 shows the HR results of particular talent analytics projects along with possible performance results.

Table 1: Projects that map talent analytics to organizational outcomes.

Talent analysis Project	Organizational Outcomes
Modeling staff turnover Talent Management Workforce planning Engagement Recruitment process Wellbeing initiatives Reward and compensation	Sales performance Profitability Customer satisfaction Innovation Efficiency

Whereas most organizations could indeed agree on every list, it can be challenging to identify the factors that influence organizational outcomes from the list of talent analytics outcomes. For illustration, we can contend that compensation structure could have an impact on profitability, sales performance, and productivity all at once. However, the direction of the effect may differ. For instance, an increase in compensation may short-term impair profitability, while an increase in sales performance may be sufficient to short-term balance an increase in labour costs. Nevertheless, these possible links and feedback effects won't be at all evident until a model of what drives performance is established and approximated. As a result, the real influence of talent analytics on organizational performance may be underestimated or overstated.

2. CONCLUSIONS

One of our most important conclusions is that talent analytics, when applied

correctly, may assist the superior management panel of an organization in coordinating HR goals with worth generation. HR department should take responsibility for learning new things on their own in order to bridge the gap between big data and its implementation. If this is not done, there is a danger that the employee management analytical components will be outsourced. Technology for talent management is already available. This technology improves the effectiveness of data collection and analysis. A more accurate picture of talent is attainable when the data is incorporated throughout the entire talent management cycle. With significant returns like engaged personnel, cost-effective procedures, and higher market share, this aids in better decision making across all HR operations like recruitment, performance appraisal, developmental needs analysis, compensation package, and many more. Big data may assist HR teams in better understanding their staff and implementing better employment policies, as demonstrated by the way that marketing

department is utilizing it to know the viewpoints of their customers. Big data and human resources management have been compared and contrasted in this essay. We assume that big data may present HR professionals with a variety of opportunities. Like any organizations, HR team generates huge amounts of data as they go about their daily business. These data's are used to create traditional HR metrics, they can used in a variety of other ways to provide impending into how to maximize value through HRM. The use of conventional survey statements method is one of the study's drawbacks that may limit how far the findings may be applied. Future research may use a sample, a scenario-based method, machine learning, and artificial intelligence to provide alternative outcomes.

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