

Nice From Afar But Far From Nice: A Systematic Review of the Adoption of Human Capital Analytics in Managing People

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Abstract

Over the past few years data analytics has gained traction in the business domain. Its popularity has been accelerated by the widespread adoption of artificial intelligence with its capacity to analyse complicated big data which increases data credibility and relevance in making business decisions. In a bid to sail through the tides of economic turbulence and stiff global competition, many organizations have adopted data analytics to improve business efficacy and competitiveness. The Human resource function has not been spared from this new management philosophy of embracing data-driven culture in the 21st century which has led to the emergence of human capital analytics. It has been viewed as a tool of strategic value to human resource professionals due to its capability to enhance business value through data analysis. However, in its adoption, most organizations have not yet reaped its intended benefits. Hence the researcher seeks to assess the benefits associated with the adoption of human capital analytics. It further seeks to establish the implementation challenges associated with human capital analytics and recommend strategies that can be utilised to enable the successful implementation of human capital analytics in organizations. Thus, the paper discusses the context through which human resources analytics can be adopted and the factors affecting its implementation.

Keywords: Big data, data analytics, human capital analytics

1. INTRODUCTION

The job of human resource professionals has increasingly become challenging in the dawn of the 4th industrial revolution. Its functions like workforce planning, manpower development, performance management, culture building, and gender equity now increasingly require evidence-based value propositions towards business growth (Grelbard, 2018). Therefore, human capital analytics can be rightly explained as integrating various internal and external data sources to make possibly accurate and impactful evidence-driven business decisions. It enables human resource practitioners to make decisions based on objective data insights rather than subjective intuition (Fallet & Combs, 2022). HR analytics is often categorised into three levels namely descriptive, predictive and prescriptive. Descriptive human capital analytics is properly defined as data analytics which relies on human resources metrics data to report raw information whereas predictive analytics is suitably explained as HR data which provides insights for the future whilst prescriptive analytics has been justified as HR data which recommends possible HR future interventions in solving business problems (Alon-Barkat & Busuioc, 2023).

Human capital analytics was a result of big data disposal and its perceived value capabilities in enhancing an organization sustainable development. The advent and extensive utilization of high-tech data collection and analysis tools have enabled its widespread extensive adoption by organisations (Fallet & Combs, 2022). This has created effective people management in organizations which further aids in the development of entities through the provision of valuable human resources insights of strategic value (Grelbard, 2018). Human resource professionals play a significant role in the collection, collating, analysis and interpretation of data analytics to make accurate, relevant and informed business decisions to positively influence growth and competitiveness in the organization. Worth noting is the fact that many organizations are increasingly relying on predictive human capital analytics due to its capability to accurately predict the often-unpredictable elusive future and prescribe effective HR strategic interventions to promote business sustainability (Alon-Barkat & Busuioc, 2023). Gone are the days when organizations used to rely on reporting data generated from human resources metrics. Human resources professionals nowadays need to integrate data outcomes with other business data from other functions in making predictions and keynote highly detailed decisions.

2. DOES HUMAN CAPITAL ANALYTICS MATTER?

Human resources professionals have been previously criticised by other functional managers for lacking business focus (Fallet & Combs, 2022). Hence the adoption of human capital analytics is increasingly establishing human resource practitioners as strategic business partners in the world of work. It has gradually upgraded human resources practitioners into game changers in business operations through the systematic data quantification of its activities to positively impact business growth. HR professionals are now making convincing business decisions and sound proposals to the board based on evidence and data facts (Grelbard, 2018). However, to make this a success, there is a need for cooperation from all organizational functions. Data insights derived from human capital analytics help the top executive and functional managers to make better game-changing decisions in managing and sustaining employee performance. As a result of data-driven and evidence-based management, HR practitioners have slowly matured into strategic business partners in organizations which signifies the importance of human capital analytics (Alon-Barkat & Busuioc, 2023).

Therefore, there is a need for HR practitioners to understand the business landscape and operations in order to identify the best possible metrics for strategic data collection (Fallet & Combs, 2022). The essence of its adoption is to enhance business productivity and profitability whilst minimizing labour costs. As such, all HR practices must be measured and effectively implemented using data-driven insights. Due to high market competitiveness, this has ushered in a war of talent which has brought in the significance of human capital analytics through predicting suitable candidates and retaining the high performers (Alon-Barkat & Busuioc, 2023). Generally, HR had no strong analytical mechanism as it greatly relied on HR managers' intuition and experience. However, the new era of human capital analytics has ushered in a new reliable system. It is worth noting that it should not be divorced from the entire business strategy, data and decisions. HR decisions should directly speak to the organizations' objectives for them to be valuable (Grelbard, 2018).

2.1. The nexus between human capital analytics and human resource practitioners

HR professionals have previously suffered heavy criticism from other business functions for their divorced and highly unreliable qualitative approach towards the attainment of the overall business strategy (Fallet & Combs, 2022). Other business functions have

extensively embraced data analytics in their operations and decision-making processes. The advent of artificial intelligence and advanced technologies has seen the ushering in of a new era of human capital data analytics which has greatly enhanced the quality and accuracy of HR decisions. Hence this widespread adoption of artificial intelligence, which is the chief enabler of human capital analytics, has led to an outcry for the need for computer and analytical skills from HR people (Alon-Barkat & Busuioc, 2023). It requires a wide range of qualities and capabilities to make it a success due to its complexity. Human capital; analytics has simplified all people-related business problems due to its capability to predict the future and prescribe possible interventions (Grelbard, 2018). Artificial intelligence complexly analyses the HR data to produce detailed graphs and dashboards with clear patterns making it easier for HR people to deduce accurate meaning and predictions from the data outcomes. This has greatly minimised loss on investment caused by inaccurate people's decisions.

2.2. Human Capital Analytics and Human Resource Information Systems.

Due to the sheer complexity of the business environment, many businesses have extensively adopted human resources information systems to enhance their competitiveness (Alon-Barkat & Busuioc, 2023). Workplace virtualization is significantly crucial for business success. It has brought the world into one village through extensively challenging time and geographic factor dimensions (Grelbard, 2018). Hence HRIS enables the storing and gathering of big data which can be analysed technically to produce valuable and useful insights for enhancing organizational growth. The use of technology minimises business error which promotes accuracy in decision making (Fallet & Combs, 2022).

To effectively benefit from the potential of human capital analytical insights, HR practitioners need to first understand the industry and business landscape as well as its operations (Grelbard, 2018). Thereafter adopt the most applicable and relevant technological data tools that will be used in analysing data collected through selectively chosen HR metrics based on relevance. When data is analysed and produced in a dashboard. It is then taken to the board meeting for analysis and predictions that is when strategic data-driven and evidence-based prescriptions are made to achieve business strategy. HR needs to integrate the whole organizational data in order to produce accurate predictions (Alon-Barkat & Busuioc, 2023). Hence people management practices like workforce planning and performance management become easier to manage.

2.3. Human Capital Analytics Controversy

HR practitioners encounter resistance and reluctance from other functional managers in sharing data needed by HR and the data is not always available which compromises its quality from the source. Hence integrating data into a unified system is a mammoth task (Fallet & Combs, 2022). Artificial intelligence cannot capture all the vital elements of employee behaviour which needs human intelligence to analyse (Alon-Barkat & Busuioc, 2023). However, due to data illusion, many executives believe the data outcomes are always more accurate than human judgement. Hence HR managers underestimate their own human intelligence. As they believe in data outcomes even when they are not accurate. This has greatly compromised business operations (Grelbard, 2018).

2.4. Success of Human Capital Analytics

Use of data-driven and fact-based decision-making should be widely adopted by HR practitioners to enhance the effectiveness and accuracy of their interventions. Data administration without producing useful insights is not sufficient and adequate as decision-makers are left guessing on what strategies to use based on their subjective intuition (Fallet & Combs, 2022). Artificial intelligence is the chief enabler of sophisticated data analysis and presentation to promote effective and accurate prescriptions that are aligned with the successful attainment of business strategy. The predictive insights should inform strategic HR interventions with tangible business results. The use of human capital analytics eliminates the costs associated with human error by using mathematically validated information sources to make informed decisions and prescriptions (Alon-Barkat & Busuioc, 2023). A smooth leadership pipeline needs to be maintained to enhance business continuity. HR practitioners can employ data analytics in all HR practices to enhance efficiency (Grelbard, 2018). HR practitioners need to establish good relations with functional managers to enhance the credibility of the data collected. This will promote accurate and timely interventions to meet business needs and solve organizational challenges.

2.5. Adoption and implementation of Human Capital Analytics

Many organizations have shown great interest in adopting human capital analytics due to its perceived benefits in enhancing accurate business decisions. HR departments have finally embraced data analytics in the workplace (Fallet & Combs, 2022). The use of

predictive human capital analytics has enabled the effective management of people in organizations. This has built a very positive perception towards human capital analytics in enhancing business competitiveness. The adoption of data analytics in HRM has re-established HR managers as strategic business partners who can sit in board meetings with company directors (Alon-Barkat & Busuioc, 2023).

2.6. The dark side of human resources analytics

Extensive adoption of human resources analytics has brought along its own fair share of challenges even though it has been widely touted as the panacea to business problems (Leicht-Deobold et al., 2022). Its consequences have been equally felt in the corporate corridors (Zudewirk et al., 2021). Privacy, power imbalance and algorithmic bias concerns have been raised concerning data analytics (Albert, 2019). Hence HRA adoption needs to be approached with caution. Nonetheless, data efficiency and objectivity have enabled effective decision-making even though these analytics are sometimes prone to algorithmic bias (Alon-Barkat & Busuioc, 2023).

2.6.1. Algorithmic bias

Due to the complex nature of human beings, some of the attributes cannot be captured and analysed through artificial intelligence. Hence a need for algorithmic accountability to explain and justify decisions from the data outcomes (Johnson et al., 2022).

2.6.2. Loss of trust

HR analytics has been closely associated with a decline in organizational trust. Data analytics create an imbalance between employers and employees resulting in a loss of autonomy at work (Giermindl et al., 2022)

2.6.3. Privacy

When employees are continuously tracked throughout the day, they feel their privacy invaded. Employee workplace surveillance to gather accurate data result in a loss of employee freedom and autonomy (OECD, 2019).

2.6.4. Data illusion

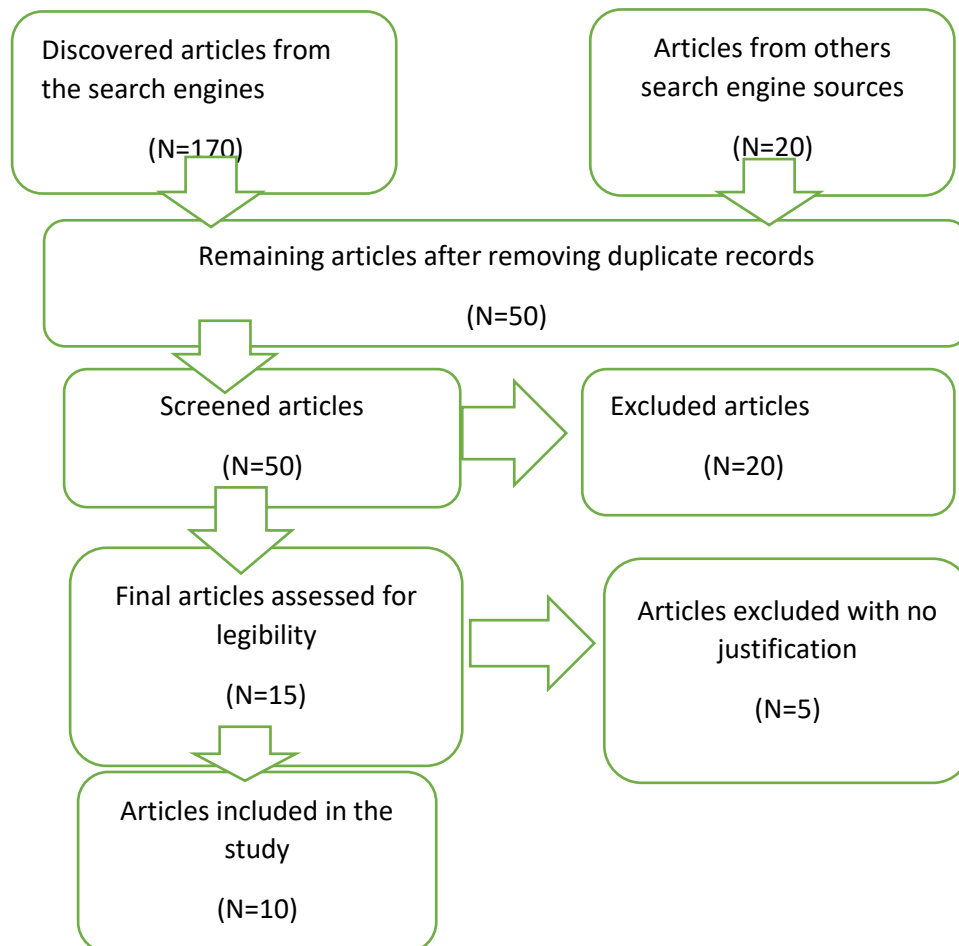
There has been an extensive reliance on data outcomes as objective and accurate (Grelbard,2018). This has barred HR professionals from exercising general reasoning and common sense in making informed decisions. As a result, decisions with gross financial implications have been made. They tend to overestimate their own effectiveness which promotes blind faith.

3. RESEARCH METHODS

The research was performed using keyword search in three databases namely Doij, Francis and Taylor and Google Scholar with much emphasis on articles and journals in commerce and social sciences to identify relevant articles for the review. The research was augmented through cross-reference lists of previously recent meta-analyses and reviews. As a result of the limited space and purpose for this research, the analysis was confined specifically to articles and journals which have been peer-reviewed in the past five years to maintain the relevance of the research. Much emphasis was put on qualitative empirical research in credible journals. All research papers were inconsistent with the characterization of human capital analytics as a belief that its adoption and implementation are still marred with organisational and individual factor dimension challenges. Also, those that did not adequately address the human capital analytics were excluded. This methodology yielded 170 papers. From each paper, data was extracted about the setting, design and sample design and conceptualisation of human capital analytics as well as key findings. For the case of grouping our literature gathering, the papers were qualitatively assigned up to five tags anchored on review, bibliometric method was employed to uncover the hidden literature topography. Co-word analysis was used to identify associations in producing a conceptual domain map. Themes and correlations in previous studies were identified. Judgement was utilised to establish the final dual research list of clusters.

Prism flow diagram

Source: Own search



4. RESULTS

Ten articles were utilised in the final qualitative synthesis of sources using thematic data analysis. Recurring themes were noticed from all the articles through the survey and being guided by the research objectives. The most dominant themes were then analysed and explored according to the aims of the study. The most popular themes were:

4.1. Conditions necessary for effective implementation of HRA

4.1.1. Theme 1: Data management

In order for HRA to be effectively aligned with business strategy, there is a need for buy-in from other functional managers to ensure ease of data collection critical in influencing HRA outcomes (Gelbard et al., 2018). HR practitioners must understand the

business landscape so that relevant data is collected to solve the prevailing business problems (Peeters et al., 2021). The challenge in many entities is resistance and reluctance to give HR people functional data. Other functional managers are still not convinced that HR can be a strategic business partner. Hence, they either refuse, delay or provide inadequate data resulting in the making of misinformed decisions. Hence for HRA to be successfully implemented, HR needs the availability of accurate and relevant data (Sausa et al., 2022)

4.1.2. Theme 2: Staff Capabilities

Its adoption requires the skills and understanding of sophisticated data tools and systematic analytical skills (Fallet & Combs, 2022). The ability to gather data, measure, model, test, display and persuasively present data are requisite skills that HR practitioners need to effectively adopt human capital analytics. They should be further excellent in analysis and interpretation of data outcomes to predict and prescribe (Pan et al., 2022). HR practitioners must understand, and have extensive business, and operations knowledge and business acumen to influence informed decision-making based on HR data. They should be good at storytelling, and experienced with high intuitional judgement (Pan et al., 2022). According to Falleta & Combs (2022), there are several key competencies to be possessed by HR practitioners when adopting HR analytics which are cognitive and emotional which are key in explaining and interpreting data patterns and outcomes.

4.1.3. Theme 3: Acceptance

Effective adoption of HRA does not solely depend on the acquisition of relevant data skills and resource availability but it is largely anchored on the willingness of the organizational employees to embrace the new data-driven culture of HR analytics (Grelbard, 2018). HRA must be aligned with organizational values to minimise resistance (Worens, 2021). Data insights may be challenging to the present authorities but they should not be solely relied on. It should aid intuitional judgement and human intelligence in making informed decisions to minimise resistance (OECD, 2019). Top managers and the generality of employees may feel replaced by artificial intelligence which might trigger resistance due to hyped feelings of job insecurity. Hence soliciting top management support and employee buy-in are the key components in the effective adoption of human capital analytics.

4.2. Discussions:

The research paper sought to identify the key challenges of human capital analytics adoption in organizations. Literature was interrogatively reviewed and theme theme-oriented approach was adopted in mapping the research field (Leidner, 2018). Unquestionably, human capital analytics improve HR practices through enhancing and influencing accurate decision-making and labour cost minimization. Yet the review of research papers has indicated that there are key challenges encountered in organizations when they adopt HRA. Failure to take into consideration the conditions necessary for HRA to be successfully implemented can lead to kore serious organisational implications due to inaccurate decision-making. Conditions like positive functional perception and buy-in, well-rounded HR practitioners and employee acceptance of the new data-driven culture. Hence many organizations have adopted HRA but they have failed to render the expected value due to the above-cited challenges.

4.3. Implication:

The researcher used three databases and the World Wide Web for additional sources to assess the challenges encountered in the adoption of HRA. Human Resources practitioners and functional managers can be informed from the study:

Emergent Themes

Subject matter	Rubric	Writer	Year of publication
Staff capabilities	Building a world-class HR department	Ulrich & Grochowski	2018
Acceptance	People Analytcs-A scoping review of conceptual boundaries and value propositions	Tursunbayev, Lauro and Pagliari	2018
Staff capabilities	Analytical abilities and the performance of HR professionals	Krscynski et al.	2018
Data management	Predictive HR Analytics and human resource management	Ejo-Orusa & Okwakpam	2018

	practitioners in Port Harcourt, Nigeria.		
Data management	Staying close to business: The role of epistemic alignment in rendering HR analytics output relevant to decision-makers	Elmer & Reichel	2021
Acceptance	Strategies for using analytics in improving business performance	Etukudo	2019
Staff capabilities	The questions we ask: Opportunities and challenges for using big data analytics to strategically manage human capital resources.	Hamilton & Sodeman	2019
Staff capabilities	Human resources analytics: A systematization of research topics and directions for future research	Margherita	2022
Data management	Promise versus reality: a systematic review of the ongoing debates in people analytics.	McCartney	2022
Acceptance	Examining the determinants of successful adoption of data analytics in human resource management – A framework for implications.	Shet, Poddar, Wamba Samuel, & Dwivedi	2021

5. CONCLUSION AND RECOMMENDATIONS

Three core challenges of HRA implementation were established using an integrative literature review. Most organizations have adopted the new trend of data-driven culture including HR which has been chiefly enabled by extensive adoption of artificial intelligence. Despite all these advancements, HRA is failing to deliver its intended and promised value as the data insights remain misaligned with the attainment of organizational objectives. Hence the researcher was inspired to carry out a study to explore the key challenges faced in the implementation of HRA.

As a result, a robust culture change exercise is a prerequisite for effective HRA to enable buy-in and acceptance of the new data-driven culture. Also, intense training and induction and individual capacity building are required to build HR practitioners who will successfully implement HRA. The researcher suggests quantitative studies for the observed themes to measure and validate the hypothesis. Hence organisations need to carry out a culture change exercise as the new strategy of data analytics and training of HR practitioners on various business operations.

Workplace virtualization has been the chief enabler in producing detailed HR analytics dashboards that foster effective decision-making. HR analytics has emerged as the game changer as facilitated by the adoption of artificial intelligence. This has led to the prediction and prescription of HR interventions in line with business strategy.

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