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Integration of analytics in performance management in IT organisations

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Abstract
Many competent organisations integrate data analytics into Performance Management (PM) to measure and manage employee performance. But the form and intensity of this analytics integration appear to be varying. Many organisational and technological factors influence this decision. This paper explores the nature and application of analytics-based performance management implemented in IT organisations. It further tries to understand the various tools relied upon and the key implementation challenges. The present study relied on a qualitative approach covering selected HR professionals from three IT organisations which use at least one HR analytics tool. Data collected through semi-structured interviews were analysed to draw conclusions. Findings reveal a prominent use of descriptive analytics in performance management. Organisations utilise analytically drawn insights to predict attrition so that appropriate retention/replacement strategies can be formulated. Predictive analytics was found to have more focus on recruitment-related functions. However, a fully matured integration of analytics in the PM function is yet to be attained.

Keywords: HR analytics, performance management, descriptive analytics, predictive analytics, analytical integration

Introduction
Performance management has become a core HR function with a focus on improving organisational performance by developing the performance of individuals and teams. However, traditional performance management systems suffer from a lack of continuity, absence of real-time feedback and decision-making solely on the manager's intuition challenging the overall effectiveness of the process. As a result, the potential application of HR analytics to improve these limitations has been recognised by an increasing number of organisations in recent years. By providing an evidence-based approach to decision-making, analytics is a logical method that enables the technological manipulation of information to provide insight on relevant issues (King, 2016) [1]. Furthermore, the use of analytics makes it easier to collect, document and retrieve performance data from various sources, providing managers with better information to observe employee performance in terms of both outcome and behaviour (Sharma & Sharma, 2017) [2].

Review of related studies
Creating the best value out of employees has always been a concern of HR and a need to remain competitive for organisations. Performance management aids to identify and harness employee potential for the best organisational outcomes. First and foremost, performance management as a system allows strategy execution through the workforce by aligning individual goals with organisational goals, thus providing a competitive advantage. Further, it serves as a communication tool that facilitates the establishment of goals and outcome expectations. In addition, performance management helps identify employees' strengths and weaknesses, leading to employee development. Finally, PM as a system allows organisations to bring about desired organisational change (Aguinis *et al*., 2011) [3].
Even though the performance management function is praiseworthy for its benefits, there are instances of employees and managers criticising it. How employees perceive ratings, how the process becomes a chore to managers and how lack of continuity challenges its overall impact all contribute to the general frustration around this system. Organisations have been hellbent on overcoming the shortcomings of performance management, making it stand out

as an area where experiments are upwelling. Some emerging approaches incorporate social networks enabled by information technology into feedback and emphasise conversations between managers and employees (Marler & Boudreau, 2016) [4]. One argument is that the disconnect between critical day-to-day activities and the much formal performance management system makes effective performance management a slippery road (Pulakos & O'Leary, 2011) [5]. Consequentially, the availability of electronically stored data, automated analytical methods, and a plethora of HR metrics (Marler *et al*., 2017) [6] dawn upon organisations as the perfect opportunity to streamline performance management on a day-to-day level. Organisations recognise the capability of analytics to make the best use of HR data to describe and even predict various vital scenarios. Further, this will help to strike a balance between effective performance management and gaining a competitive advantage.

HR Analytics, though a concept that builds heavily on ideas and practices circulated in the HR field for quite some time (Madsen & Slåtten, 2019) [7] is still an expanding domain because of the growing recognition it receives based on the potential impact (Huselid, 2018) [8] This continuously emerging nature of analytics contributes to its definitional ambiguity, as Marler & Boudreau (2016) [4] observe. Although with different perspectives, all the concepts refer to the approach to managing people within organisations and making more objective, rational and effective decisions about employees based on data analysis (Margherita,2021) [9]. Analytics has been stirring academic and practitioner interest for quite some time now. Still, the evolution of analytics is more based on its maturity than time.

Determined by the quality of data, HR processes involved, and technological capabilities available (Soundararajan & Singh, 2017) [10], the implementation of analytics follows a linear three-stage maturity model (Margherita, 2021) [9] extending from simple reporting to advanced modelling and techniques. Using available HR data from multiple sources, descriptive analytics generate ratios, metrics, dashboards and reports (Mishra *et al*., 2016) [11] to help organisations see 'what has happened' like employee turnover. Obviously, the focus here is mostly on historical data. Predictive analytics is more mature and uses statistical techniques, data mining, and advanced algorithms (Margherita, 2021) [9] to anticipate 'what might happen' and 'why'. This level uses both existential data and additional data collected per requirements. Finally, prescriptive analytics, the highest stage, uses optimisation and simulation tools and is about prescribing the courses of action if a similar situation arises, like a retention strategy.

Performance management is no longer a one-time discussion at the end of the year. An increasing number of companies recognise the need for continuous touch-points and real-time feedback (Buck & Morrow, 2018) [12] and the ability to identify without bias, predict, manage, and retain key performers. The emergence of data and analytics is the new foundation of all people-centric decisions (Shrivastava *et al*., 2018) [13], which holds the answer to Organisations' longtime struggle to effectively manage employee performance. This is because analytics can enable more objective, rational and effective decision-making through technological manipulation of the data HR departments collect throughout the employee life cycle (Margherita, 2021; King, 2016) [9, 1]

Previous studies reveal how analytics can enhance various HR functions, including performance monitoring and management. In his quantitative study, Hangal (2019) [14] found the application of analytics in performance measurement, which helped the organisation form the correct opinion about the employee. Analytics was also used as an accurate method to track employee performance and spot star performers, which eventually increased productivity by facilitating the transition from performance management system tools to performance management analytics (Momin & Mishra, 2015; Schläfke *et al*., 2013) [15] [16] According to the report by Visier (2019) [17], analytically mature firms (which is only 7%) could improve their competitive advantage through talent management analytics. HR analytics was found to be an important tool for planning employee training and development. In addition, analytics could help some organisations evaluate employee performance, reducing the employee turnover rate, enabling employee development and retention (Barbar *et al*., 2019) [18]. Authors also recognise the predictive capability of analytics in succession planning and retention by examining every possible combination of job, role, skill, position, geography and anything else (Barbar *et al*., 2019) [18].

Organisations make use of various tools available for analytics such as R, Python, Tableau, Power BI, Visier, Qlik, Excel, SPSS and others, including paid and custom-developed software depending on the specific requirements and analytical maturity. Lunsford & Phillips (2018) [19] ranked Microsoft excel as the most frequently used tool in descriptive analytics, predictive analytics, prescriptive analytics, data storage, reporting, and data visualisation. R and Tableau also are two commonly used tools. In performance and retention-related contexts, R, Tableau, Python and Visier get primarily used (Saxena *et al*., 2021) [20]. On the other hand, analytically advanced organisations frequently use business intelligence tools, data discovery and/or statistical analysis tools, and a dedicated analytics solution (Visier, 2019) [17].

Despite being described as a 'must have' capability for the HR profession (CIPD, 2013) [21], many organisations still find it challenging to implement the ideas existent in analytics literature into practice. Despite having enormous employee data, most firms are not integrating analytics in all the HR functions or, when implemented, not treading beyond the descriptive stage of analytics. One of the major findings of a survey sponsored by Oracle in 2021 was that only 29% of organisations call themselves good at analytics. Furthermore, 68% of organisations use descriptive analytics to a moderate extent. Advanced analytics is used by only 15% of firms.

For a strategic function like performance management to be effective, a descriptive focus is not sufficient, integration of predictive or prescriptive levels is also needed. Though employers and organisations realise the possibilities for HRM offered by analytics, there exists immense room to study the relevance of analytics within the various categories that fall under HRM (Mohammed, 2019) [22], like performance management. This study tries to bridge this gap by exploring the integration of analytics in this specific HR function in IT organisations.

Though HR analytics has a proven impact on business performance, it is still expanding in terms of stakeholders, methods, and outcomes (van den Heuvel & Bondarouk, 2017; Huselid, 2018; Margherita, 2021) [23] [8] [9].The rate of

this expansion has been slow despite the heightened appeal it has been having over recent years. Organisations well aware of the significance of analytics are not yet ready to integrate it, which Deloitte (2014) [24] calls the 'capability gap'. Minbaeva (2017) [25] observed that firms focus their efforts mostly on understanding what has happened (descriptive level) even though there is scope for advanced analytics resulting in very few organisations attaining analytical maturity.

One identified factor affecting the adoption of analytics is not understanding or being comfortable with quantitative data (Bassi, 2011; Fitz-enz, 2009) [26] [27]. Fitz-enz further links this discomfort to a lack of business mindset rather than a lack of quantitative aptitude. Lack of business acumen erodes the capability to tell a story using analytics and convince the top management to take action. Leadership not understanding analytics has been identified as a challenge to analytical integration (Lunsford & Phillips, 2018; Deloitte, 2014) [19] [24]. Reluctance to implement HR Analytics can also root in the tendency to reject data that threatens existing beliefs, provided a considerable share of resources have already been invested in projects or ideas (Rassmusen & Ulrich, 2015) [28]. In their study to identify determinants of implementation on an individual level, Kapoor & Kabra (2014) [29] found attitude toward HR Analytics (HRA), technological self-efficacy, quantitative self-efficacy, sociability and trialability as important factors. Further studies unravelled more factors such as performance expectancy, effort expectancy and fear appeals, social influence, quantitative self-efficacy, and tool availability (Witte, 2016) [30]. According to (Visier, 2019) [17], among the organisations in the emerging stage of analytical integration, around 46% of firms face a lack of data-driven skillset within HR. Also, 42% of firms face the challenge of low data quality. Fernandez & Gallardo (2021) [31] summed up 14 barriers to adoption under four categories - data and models, software and technology, people and skills, and management.

Even though previous studies have ruled out several factors affecting integration on organisational and individual levels, research is sparse on what elements affect the integration of analytics, specifically in a performance management function.

Research Problem

Studies reveal that performance management is one of the HR practices that could benefit from using HRA (Apostolatou, 2018) [32]. According to Afzal (2019) [33], the Indian IT sector is enthusiastic about adopting analytics but has mostly confined it to recruitment and selection. Many competitive organisations in IT actively collect and store employee data from day one. Irrespective of enormous employee data, such firms are still positioned in the descriptive analytics stage. Most of the time, this leads to performance management decisions entirely based on the manager's intuitions. In addition, only a few studies exist in the literature that focuses on the impact of analytics on specific HR processes. This drives the present paper to explore the integration of analytics in performance management with IT organisations in focus.

Research Questions

- What are the leading performance management functions in which IT firms use analytics?
- What is the extent of the application of analytics in performance management in the IT sector?
- How do analytics enhance the efficiency of managing performance?
- What are the prominent analytics tools used for managing performance in IT organisations?
- Which are the major factors that challenge analytical integration?

Methodology

This paper adopted a qualitative design. A quantitative study seemed challenging as the number of organisations integrating analytics in performance management is not very high in the IT sector. Sampling is purposive and consists of selected HR professionals from three IT organisations that integrate analytics in performance management. The maturity level of integration has been the basis for selecting organisations for the study. Data were collected through semi-structured in-depth interviews. Various aspects such as the extent/maturity of integration, the specific functions where analytics is integrated, analytical tools used, and challenging factors to integration were covered in data collection interviews. The interviews were recorded and later transcribed. The topics covered in the questions for the interview served as a basis for codifying the data collected. For the same question, answers from different interviews were compared, analysed and summarised. A separate document was set up for the above-mentioned process to ensure accuracy.

Major Findings

Integration of Analytics in Performance Management

In organisation 1(the names of the organisations are kept confidential as requested), the maturity level of analytics is descriptive. Customised tracking software allows employees to set goals and mark achievements on a quarterly basis. Performance is tracked on various KPIs like learning, the number of hours, and goal achievement. Internal portals evaluate quantitative performance aspects and produce outputs in graphical and chart formats, while qualitative aspects in textual form. Annual appraisals are mainly based on the above, but still, managers' judgement weighs over automated evaluations. In organisation 2, 80% of performance decisions are data-driven. Both descriptive and predictive utilisation of analytics exist. Insights from descriptive analytics are utilised for planning/designing systems and strategies. For example, performance review data is predictively used to develop retention strategies (compensation packages etc.) and workforce planning. Organisation 3 is positioned on the descriptive stage of analytics regarding performance management, but there is more predictive usage in the recruitment function. For example, the data collected from selection stages predict low performance or turnover intentions. The organisation is currently in the stage of exploring different tools to utilise the predictive and prescriptive scope of analytics in all functions.

Organisations are well aware of the existence and scope of mature stages of analytics. Still, descriptive analytics seem to be predominantly used in organisations. Predictive capabilities have more focus on recruitment-related functions. One viewpoint is that there is no sense in jumping to advanced stages for the sake of it when present analytical implications are contextually sufficient to make effective decisions.

In organisation 1, for annual performance evaluations, the descriptive capability of analytics is used. However, the final decision still holds a lot from the manager's judgement. In organisation 2, the system to manage performance is designed on a data-driven aspect. Inputs from multiple sources are considered for decision-making. Electronically captured performance data through trackers, goals and achievements recorded in portals by employees, demographic and training data are analysed using analytics software to give performance reviews. Only 20% of human intervention is involved in the entire process. In the next stage, predictive insights are drawn about critical resources likely to leave, to be promoted and trained. Based on this, corresponding strategies are devised. In organisation 3, analytics application is restricted to recruitment-related functions only.

Analytics Tools Used in Performance Management

Organisation 1 predominantly uses MS Excel as an analytical tool. This is due to the descriptive stage of analytics the firm is positioned. Along with Excel, one custom software for performance tracking is also used. The latter gives out descriptive and graphical output as per requirements. Organisation 2 has sensitivities about revealing the analytical tool in use. Organisation 3 currently relies on MS Excel for analysing data and generating reports. For predictive purposes, though Excel is used, organisation 3 mostly relies on human intuitions. However, it is currently exploring TIBCO - a software to unlock advanced analytics- to level up its analytics game.

It is observed that Microsoft Excel is a popular analytics tool. HR professionals having maximum familiarity with this software can be one reason. Organisation 2 views excel as an easy tool to manipulate data and throw up visualisations or reports when required. Lunsford & Phillips (2018) [19] links this popularity to its power to manipulate data in many ways and generate information in multiple formats to incorporate reports produced in other tools.

Impact of Analytics in Managing Performance

All three organisations studied agree on the ability of analytics to increase performance management efficiency. One significant aspect was the opportunity to get more insights from the same HR data. This allows a deeper understanding of the system, employees and scenarios (current and future), which adds an edge to decision-making. It is to be highlighted that HR professionals from firms currently integrating analytics in performance management and those looking forward to are equally aware of its potential benefits and the positive impacts. Organisation 1 considers the integration of analytics for less subjectivity, faster and more precise data interpretations. This allows performance management to be continuous and provide real-time feedback, thus improving employee engagement and satisfaction. This makes the line and HR manager's roles less of a chore. The IT industry is one sector with comparatively high attrition rates. Finding the apt replacement when the battle for talent is high consumes time and cost, further eroding productivity. Organisation 3 considers analytics to remove the guesswork from HR decisions so that logical conclusions are made on time.

Key Challenges in Implementing HR Analytics

Organisation 1 observes the willingness of line managers is not up to the mark when it comes to analytical integration. One reason is the perception that outcomes from performance management can still be obtained without the involvement of multi-source data and algorithms, addressing them as an overhead. In addition, there is a possibility that some employees may perceive the corporate environment to be based on mistrust, triggering their job-related insecurities. Evaluating peers or subordinates with ultimate objectivity as they fear might backfire in many cases, leading to a general reluctance to take the automated road. The organisation is presently focusing more on helping employees put analytics in better perspective. Analytical proficiency being less in HR personnel, i.e., low technological self-efficacy also slows analytical integration in organisation 1. In the case of Organization 3, the right mindset of both line and HR managers are critical factors in integration. Achievement of analytical integration or maturity becomes challenging when there is only limited understanding of its need and significance. Organisation 2 notes that most of the time, managers have no idea what is the right question to ask or what to analyse with the data they already have. This makes the decision-makers hesitant to invest in analytical tools and processes, despite the availability of technical and financial resources.

Conclusion

Even though analytics has been labelled as the must-have capability for HR, analytically competent organisations in the true sense are fewer. Even in organisations that make use of analytics in performance management, it is seen that the manager's intuition still plays a major role in decision making. Further, analytically emerging organisations (according to the classification by (Visier, 2019) [17] ,organisations at the beginning of their journey to analytical maturity) face various challenges, which reduces the overall rate of integration in the industry. In the light of the findings of the study, it is high time for organisations to overcome the hindering factors. Whether it is HR personnel, line managers, or any other stakeholder, analytical integration needs to be put in better perspective, easing its adoption in all core HR functions. This will make decision-making efficient and help HR further ascend as a strategic function.

References

1. King KG. Data analytics in human resources: A case study and critical review. Human Resource Development Review. 2016;15(4):487-495.
2. Sharma A, Sharma T. HR analytics and performance appraisal system: A conceptual framework for employee performance improvement. Management Research Review. 2017;40(6):684-697.
3. Aguinis H, Joo H, Gottfredson RK. Why we hate performance management—and why we should love it. Business Horizons. 2011;54(6):503-507.
4. Marler JH, Boudreau JW. An evidence-based review of HR analytics. The International Journal of Human Resource Management. 2017;28(1):3-26.
5. Pulakos ED, O'Leary RS. Why is performance management broken? Industrial and Organizational Psychology. 2011;4(2):146-164.
6. Marler JH, Cronemberger F, Tao C. HR analytics: Here to stay or short-lived management fashion? In: Electronic HRM in the Smart Era. Emerald Publishing Limited; c2017. p. 59-85.
7. Madsen D, Slåtten K. An examination of the current

status and popularity of HR analytics. International Journal of Strategic Management. 2019;19(2):17-38.
8. Huselid MA. The science and practice of workforce analytics: Introduction to the HRM special issue. Human Resource Management. 2018;57(3):679-684.
9. Margherita A. Human resources analytics: A systematization of research topics and directions for future research. Human Resource Management Review. 2022;32(2).
10. Soundararajan R, Singh K. Winning on HR Analytics: Leveraging Data for Competitive Advantage. Sage Publications Pvt Ltd; c2017.
11. Mishra SN, Lama R, Pal Y. Human resource predictive analytics (HRPA) for HR management in organizations. International Journal of Scientific & Technology Research. 2016;5(5).
12. Buck B, Morrow J. AI, performance management and engagement: Keeping your best their best. Strategic HR Review. 2018;17(5):261-262.
13. Shrivastava A, Purang P. Employee perceptions of performance appraisals: A comparative study on Indian banks. The International Journal of Human Resource Management. 2011;22(3):632-647.
14. Hangal A. Role of HR analytics on employee performance improvement. Gavesana Journal of Management. 2019;12(2):1-6.
15. Yancey Momin WM, Mishra K. HR analytics as a strategic workforce planning. International Journal of Applied Research. 2015;1(4):258-260.
16. Schläfke M, Silvi R, Möller K. A framework for business analytics in performance management. International Journal of Productivity and Performance Management. 2013;62(1):110-122.
17. Visier. The age of people analytics: Survey on characteristics, value achieved, and leading practices of advanced organizations; c2019.
18. Barbar K, Choughri R, Soubjaki M. The impact of HR analytics on the training and development strategy—Private sector case study in Lebanon. Journal of Management and Strategy. 2019;10(3):27.
19. Lunsford DL, Phillips PP. Tools used by organizations to support human capital analytics. Performance Improvement. 2018;57(3):6-15.
20. Saxena M, Bagga T, Gupta S. Fearless path for human resource personnel's through analytics: A study of recent tools and techniques of human resource analytics and its implication. International Journal of Information Technology (Singapore). 2021;13(4):1649-1657.
21. CIPD. Talent analytics and big data - The challenge for HR. 2013;28.
22. Mohammed AQ. HR analytics: A modern tool in HR for predictive decision making. Journal of Management. 2019;10(3).
23. van den Heuvel S, Bondarouk T. The rise (and fall?) of HR analytics. Journal of Organizational Effectiveness: People and Performance. 2017;4(2):157-178.
24. Deloitte Consulting LLP and Bersin by Deloitte. Global Human Capital Trends 2014: Engaging the 21st-century workforce; c2014.
25. Minbaeva D. Human capital analytics: Why aren't we there? Introduction to the special issue. Journal of Organizational Effectiveness: People and Performance. 2017;4(2):110-118.
26. Bassi L. Raging debates in HR analytics. Human Resource Management International Digest. 2011;20(2):74-80.
27. Fitz-enz J. Predicting people: From metrics to analytics. Employment Relations Today. 2009;36(3):1-11.
28. Rasmussen T, Ulrich D. Learning from practice: How HR analytics avoids being a management fad. Organizational Dynamics. 2015;44(3):236-242.
29. Kapoor B, Kabra Y. Current and future trends in human resources analytics adoption. Journal of Cases on Information Technology. 2014;16(1):50-59.
30. Witte L. We have HR analytics! So what? An exploratory study into the impact of HR analytics on strategic HRM. 2016;(June):1-49.
31. Fernandez V, Gallardo-Gallardo E. Tackling the HR digitalization challenge: Key factors and barriers to HR analytics adoption. Competitiveness Review. 2021;31(1):162-187.
32. Apostolatou P. HR analytics: How does a data-driven approach affect fairness perceptions of the performance appraisal system?; c2018.
33. Afzal M. HR analytics: Challenges and prospects of Indian IT sector. International Journal of Management. 2019;9(7):404-415.