

# An Exploration of the Implications of Human Resources Analytics for Workforce Planning

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## ABSTRACT

Workforce is a tangible and talent-driven asset for high-performing organisations in today's global economy. Arguably, if workforce is not adequately planned, it impacts the effective execution of future business strategies. This research uses the Standard Chartered and HSBC Holdings as a case study. A sample size of 60 participants is selected and descriptive data analysis employed to examine the online survey questionnaire. The findings indicate that HRA helps organisations to develop and sustain high-quality planning and eliminates the conventional obstacles HRA provides. It aligns strategic planning by head counting and establishing a clear view of talent demand and supply problems. It is a useful tool used to evaluate the impact of their decision and prioritise future investments in the workforce. Key identifiers include: Control, employee production efficiency and structure. The study recommends organisations to combine demand planning and internal supply analysis to identify workforce gaps and plan accordingly.

**Keywords:** succession planning, workforce, mobility, human resource, business

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## 1. Introduction

Organisations are founded by individuals, and who are the most significant resources of organisations. No specific organisation can function effectively and efficiently without its use of talented and experienced human resources. To attain maximum standards, organisations seek to utilise human resources (Lunenburg, 2012), and all organisational outcomes ought to be met through adequate and purposeful workforce planning (Hota & Ghosh 2013). In this respect workforce planning is a process for creating long-term capacity to meet employees challenges (Choudhury, 2007); thus, human resource analytics has the potential to enable organisations to survive, grow, and compete at an advanced level (Werner et al., 2012).

Workforce planning is critical in human resource management (HRM) due to the fact it converts an organisational mission into the number of employees needed situation by evaluating the qualified personnel required by the organisation to meet its specific priorities (Samwel, 2018). An organisation's assurance is about having efficient workforce planning to manage its human resources. Over the last two decades, the business climate has transitioned to a global context, becoming integrated in the world market. Companies are being made to reconsider their business strategies due to micro and macroeconomic conditions. In an era of globalisation and the recurring changes, competition is becoming increasingly fierce. Therefore, organisations have been forced to align their HR strategy with their business goals and objectives. Every strategy developed by the HR department is meant to be compatible with the organisation's main corporate strategy. This transitional belief is instilled by the numerous product lines, service offerings, and options that are available to customers and

clients. Today, quality, high accuracy, and cutting-edge innovation are unmistakable pleas, and almost every business organisation adheres to these criteria. The crucial question is why an organisation is a market leader when its rivals are equally comparable in terms of dominance, pricing, functionality, and preparedness. The answers lie in the expertise of the application of HR analytics to HRM through effective workforce planning.

## **2. Theoretical Perspectives**

### **2.1. Human Resource Analytics**

The HR department plays an important role in evaluating the qualities and efficiency of the organisation (Nocker and Sena, 2019). These ultimate tasks of the organisations cannot be fully accomplished without the assistance of new IT-based technology such as HR analytics and/or Workforce analytics. It is generally agreed that HR analytics aids in the transformation of raw data into informative and measurable results. Diverse workforce planning can be made in a far more decisive manner with the help of HR analytics. This gives the organisation an edge over its rivals, as human capital has always been a critical part of any organisation (Miller, 2016; Samwel, 2018).

Human Resource analytics is characterised as an evidence-based approach that involves components of business intelligence, instruments, and methodologies ranging from simple HR metrics reporting to the predictive model. The goal of HR analytics is to allow companies to make informed strategic decisions about their people. It inculcates primary original data for valuable information, eventually connecting the narrative to the company's overall target. HR analytics processes raw data and then attempt to identify the various disturbed HR metrics and illustrates the critical areas to work on, assisting top managers in formulating strategic choices (Samwel, 2018).

It has been demonstrated that HR analytics has become popular among organisations, and most businesses acknowledge that workforce planning is no longer pleasant, but they lack the courage of using data or to begin to think about their workforce differently to accept tasks and value them (Momin & Mishra 2015). Therefore, the use of HR analytics within HR departments is more properly represented than ever (Bersin, 2012), and several practical case analyses are now accessible to map and fully comprehend how HR analytics is being used by some HR departments, particularly within large corporations (Nocker and Sena, 2019) such as Standard Chartered and HSBC Holdings.

However, as noted by Sierra-Cedar (2018) other businesses are reaping the benefits of HR analytics, only 16% of companies have implemented advanced HR analytics. This low rate of adaptation has prompted growing debate amongst scholars about the numerous problems that workforce planning faces in practice; nevertheless, there has been an increase in the adoption of HR analytics in workforce planning in the last five years (Peeters et al., 2020; Minbaeva, 2017).

This study seeks to evaluate the implications of HR analytics for workforce planning using Standard Chartered Bank and HSBS Holdings in the UK as a case study. It considers the different components of HR analytics adopted by organisations to support effective workforce planning. Given this, it analyses human resource management where HR analytics effectiveness is applied in promoting successful workforce planning. The benefits and ways of aligning HR analytics with strategic planning are discussed from workforce planning perspective.

### **3. Methodology**

#### **3.1. Data Collection**

This paper adopts a descriptive research design to systematically gather the relevant data from a wider audience. A questionnaire design was important due to its riches in terms of reaching large number of respondents within a given period (Baker 2017). In this regard the online survey questionnaire was used as the instrument for data collection. Arguably, the most common method for gathering quantitative primary data is to use a survey questionnaire. The use of a questionnaire makes it possible to gather quantitative data in a standardised manner, which ensures that the results are internally consistent and coherent for the purpose of analysis (Roopa & Rani 2017). The reason for using this method of data collection is due to the fact it is difficult to obtain data on the type dimensions of HR analytics that are adopted by organisations as this is not readily available on Annual Statements and reports of the organisations used as a case study.

Selection criteria was used to decide the sections. To gain a better understanding of individual's perception regarding HRA, partitioning a lengthy questionnaire eases the stress on the respondents and improves the likelihood of receiving timely and thorough responses.

The survey questionnaire was divided into two sections. The first section covered participants' demographics while the second section covered the implications of HR analytics for workforce planning. The questionnaire used open-ended and closed-ended questions to elicit comprehensive responses. Likert 4-point scales of Highly Effective = 4, Moderately Effective = 3, Slightly Effective = 2, and Not Effective = 1 were used to design the questionnaire.

#### **3.2. Sampling Techniques**

Purposive sampling techniques were used in the survey. It entails the selection of participants depending on individual characteristics (Leiner, 2014). It is a non-random technique that does not necessitate any underlying assumptions or a set number of participants. Put simply, the researcher can determine what data is necessary and then seeks out individuals who can provide it based on experience. It is mostly employed in this quantitative research, and it can also be used in descriptive research where the questionnaire is the data collection instrument to find and select the most information-rich participants to make the best use of available resources.

#### **3.3. Reliability and Validity**

The regularity of the research findings from the survey instruments and analysis is associated with reliability, whereas the authenticity of the research findings is associated with validity (Bryman, 2010). Since this research will focus more on the HR managers and practitioners, and employees of Standard Chartered Bank and HSBC Holding UK, which can provide primary data, it is critical to minimise any potential bias; thus, the integration of descriptive approaches to enhance the relevance and reliability of the results.

Moreover, the descriptive method of analysis that was used in this investigation enables the use of the online survey questionnaire, which is one unbiased source for data gathering. Because of all of this, all relevant requirements would be considered to improve the reliability and consistency of the data to achieve the research objectives.

### 3.4. Ethical Consideration

The main difficulties in this research are avoiding potential sources of bias, trying to eliminate deception, preserving accuracy, protecting participants by keeping confidentiality and anonymity, obtaining full permission from the participants, reducing risk, and making sure research ethics were maintained throughout the process of data collection (Dongre and Sankaran, 2016; Mooney-Somers and Olsen, 2017; Sanjari et al., 2014; Yin, 2018).

In dealing with ethical issues associated with research of this nature, respondents were sent a link to the online survey questionnaire outlining the aim and objectives of the research, benefits, confidentiality measures, and withdrawal procedures. The questionnaire stated that the results would not be communicated to participants, and there would be no cash reward for their time. Adequate information on the research was provided to guide the participants in making informed decisions. Researchers advised presenting as much information as possible before gaining consent to participate in this study (Robinson, 2014; Sanjari et al., 2014).

## 4. Results and Discussion

This section presents, describes, analyses, and discusses the responses of the participants to the survey questionnaire. It begins with the analysis of the response rate to the questionnaire, and then the presentation of the results on the adoption of HR analytics as well as its application and effectiveness in workforce planning and the benefits of HR analytics in workforce planning.

### 4.1. Participants' Gender and Organisational Distribution

Data were collected from 60 participants drawn from Standard Chartered and HSBC Holdings, and results were also presented and analysed subsequently. Table 1 shows the gender and organisational distributions of the participants. More males ( $n = 34$ , 55.9%) than females ( $n = 26$ , 44.1%) participated in the survey; and more participants ( $n = 36$ , 61%) from Standard Chartered Bank responded to the survey questionnaire than participants ( $n = 24$ , 39%) from HSBC holdings.

Table 1.  
*Gender and Organisational Distribution of Respondents*

Demographics	Actual Responses	Percentage (%)
<b><u>Gender</u></b>		
Male	33	55.9
Female	26	44.1
<b><u>Name of Organisation</u></b>		
Standard Chartered	36	61
HSBC Holdings	23	39

*Source: Survey Questionnaire 2022*

### 4.2. Analysis of Adopting HR Analytics

Figure 1 depicts the dimension of HR analytics adopted by HR practitioners in Standard Chartered Bank and HSBC Holdings. All 60 participants but one provided response to item 3 of the survey questionnaires: Which component of HR analytics is adopted in your organisation?

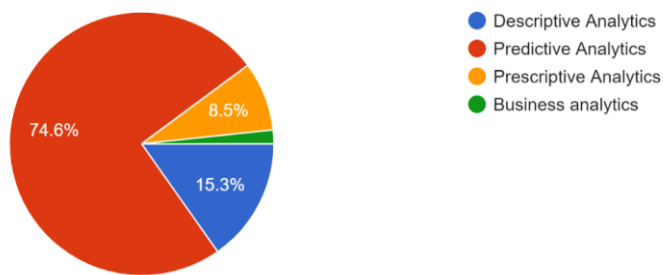


Figure 1. HR Analytics Component

Source: Online Survey Questionnaire (2022)

The displayed outcome of the responses as shown in Figure 1 reveals that descriptive analytics ( $n = 9$ , 15.3%), and prescriptive analytics ( $n = 5$ , 8.5%) are adopted by few HR practitioners as compared to predictive analytics ( $n = 44$ , 74.6%). This outcome implies that 15.3% of HR practitioners adopt descriptive analytics to translate previously collected data to provide meaningful information and insights to aid the understanding of employees' previous and present performance. Also, 8.5% of HR managers adopt prescriptive analytics which entails combining optimisation techniques with statistical analysis to provide insight into uncertainty surrounding employee data, which represents a more advanced form of predictive analytics. Predictive analytics is majorly adopted and applied by 74.6% of HR practitioners in human resources management. This indicates HR managers rely on the use of statistical and forecasting models to make predictions of the future workforce needs of organisations by utilising employee past and current data (Ejo-Orusa & Okwakpam, 2018). In addition, a salient but relevant mention is business analytics. Figure 1 indicates that HR manager ( $n = 1$ , 1.7%) adopts business analytics which implies collecting and analysing employee data relating to business to obtain insights for enhanced understanding and improvement in HR decision making.

#### 4.3. Areas where HR Analytics is applied in Workforce Planning

The responses of the participants on the application of HR analytics in workforce planning are presented in Figure 2.

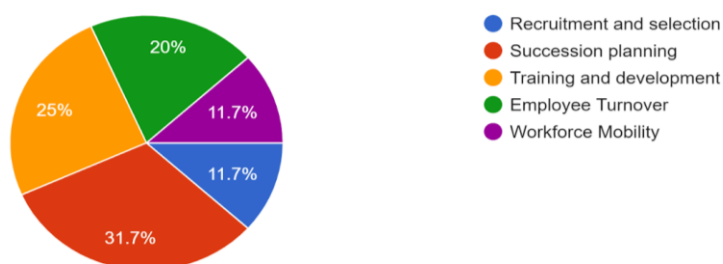


Figure 2. Areas HR Analytics is applied to Workforce Planning

Source: Online Survey Questionnaire (2022)

Figure 2 reveals that HR practitioners insisted that HR analytics supports recruitment and selection ( $n = 7$ , 11.7%); succession planning ( $n = 19$ , 31.7%); training and development ( $n = 15$ , 25%); employee turnover ( $n = 12$ , 20%); and workforce mobility ( $n = 7$ , 11.7%). This result portrays that HR analytics is used by organisations to support workforce planning starting from the recruitment and selection process, to training and development, and for

succession planning through effective mobilisation of employees to reduce and control employee turnover (Inamdar and Abhi, 2020).

As a follow-up on the application of HR analytics in workforce planning, Figure 3 indicates the effectiveness of HR analytics in promoting effective workforce planning. HR analytics is moderately effective in recruitment and selection ( $n = 32$  “Moderately Effective”), succession planning ( $n = 26$  “Moderately Effective”), employee turnover ( $n = 31$  “Moderately Effective”), and workplace mobility ( $n = 32$  “Moderately Effective”); but highly effective in identifying and designing employee training and development ( $n = 28$  “Highly Effective”). The results portray a prevailing application and effectiveness of HR analytics in supporting HR departments for effective workforce planning. This is a clear indication that most HR practitioners employ predictive analytics to achieve effective workforce planning, providing evidence that HR analytics is fast becoming a prerequisite for maintaining and sustaining competitive advantage in a globally competitive business environment where organisations compete to attract skilled and competent employees (Guru et al., 2021).

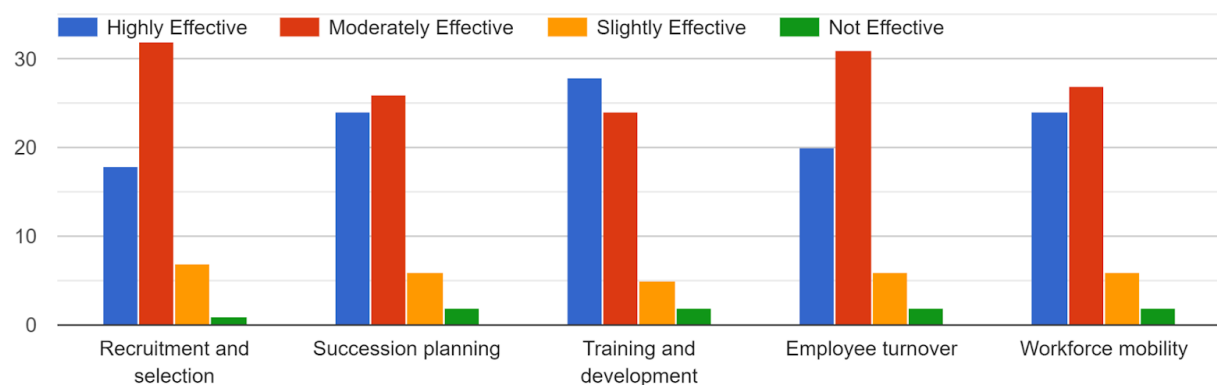


Figure 3. Effectiveness of HR Analytics in Workforce Planning

Source: Online Survey Questionnaire (2022)

#### 4.4. Benefits of HR Analytics

The benefits of HR analytics are enormous. Figure 4 depicts the responses of the participants to item 6 of the survey questionnaire on the benefits organisations derived from adopting HR analytics for workforce planning.

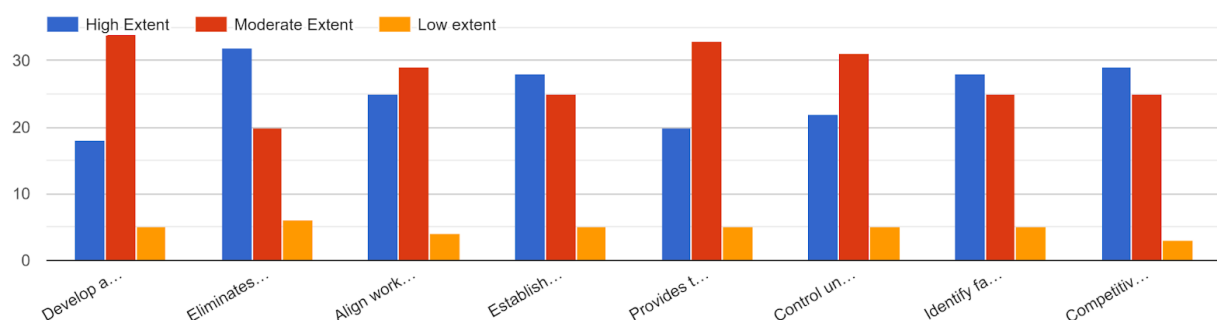


Figure 4. Benefits of HR Analytics

Source: Online Survey Questionnaire (2022)

From the left of Figure 4, the responses depicted in Panel One indicate that 18 participants to a "High Extent"; 34 participants to a "Moderate Extent"; and 5 participants to a "Low Extent" identify developing and sustaining high-quality workforce planning as the benefits of HR



analytics. In Panel Two, 32 participants to a “High Extent”; 20 participants to a “Moderate Extent”; and 6 participants to a “Low Extent” say the benefits of HR analytics in HRM is that it eliminates conventional obstacles to effective workforce planning.

The responses in Panel Three indicate that 25 participants to a “High Extent”; 29 participants to a “Moderate Extent”; and 4 participants to a “Low Extent” see aligning strategic planning with talent planning as the benefits of HR analytics in organisations that adopt it. One of the benefits of HR analytics is establishing a clear view of the challenges in talent demand and supply through cost-benefits analysis as reported by the participants in Panel Four; where 28 HR practitioners agreed to a “High Extent”; 25 HR practitioners to a “Moderate Extent”; and 5 HR practitioners to a “Low Extent”. Additionally, in Panel Five, to a “High Extent,” 20 HR practitioners from Standard Chartered and HSBC Holdings affirm that HR analytics provides HR managers with easy-to-use tools to evaluate HR decisions to prioritise future investment in the workforce. More so, 33 participants to a “Moderate Extent”; and 5 participants to a “Low Extent” say the benefit of HR analytics is providing tools that are easy to use when planning future investments in the workforce.

HR analytics helps control unplanned talent costs in organisations (Isson and Harriott, 2016), as highlighted by 22 HR practitioners to a “High Extent”; 35 HR practitioners to a “Moderate Extent”; and 5 HR practitioners to a “Low Extent” as presented in Panel Six. In Panel Seven, 28 HR practitioners to a “High Extent”; 25 HR practitioners to a “Moderate Extent”; and 5 HR practitioners to a “Low Extent” aver that HR analytics helps to identify factors that reduce employee production efficiencies such as absenteeism, job dissatisfaction, and low morale.

Finally, the analysis in Panel Eight portrays those 29 HR practitioners to a “High Extent”; 25 HR practitioners to a “Moderate Extent”; and 3 HR practitioners to a “Low Extent”; were of the view that HR analytics assists organisations to building competitive edge via reactive and carefully planned talent management.

#### 4.5. Comparative Analysis of the Adoption of HR Analytics

Table 2 indicates that HSBC Holdings (n = 19, 82.60%) uses HR analytics for recruitment and selection more than Standard Chartered (n = 28, 77.77%). The use of HR analytics for succession planning is paramount in Standard Chartered (n = 29, 80.56%) than in HSBC Holdings (n = 16, 69.56%). More than 80% of the respondents agreed that HR analytics is adapted in both Standard Chartered (n = 30, 83.33%) and HSBC Holdings (n = 19, 82.60%) essentially to improve employees’ training and development needs. HSBC Holdings (n = 18, 78.26%) seems to be more concerned than Standard Chartered (n = 22, 61.11%) regarding the adoption of HR analytics for employee turnover. The use of HR analytics for workforce planning is relatively the same in Standard Chartered (n = 31, 86.11%) and in HSBC Holdings (n = 20, 86.95%).

*Table 2.*  
*Adoption of HR Analytics*

	Standard Chartered		HSBC Holdings	
	Actual	%	Actual	%
Recruitment and Selection	28	77.77	19	82.60
Succession Planning	29	80.56	16	69.56
Training and Development	30	83.33	19	82.60
Employee Turnover	22	61.11	18	78.26
Workforce Planning	31	86.11	20	86.95

*Source: Author's Computation from Survey Responses*

#### 4.6. Discussion

The results from the data analysis indicate that organisations are increasingly adopting predictive analytics because it enables HR practitioners to analyse past and current employee data to determine future needs through accurate forecasting of labour demand and supply changes by using statistical and forecasting models. This finding corroborates the position of Isson and Harriot (2016) that most senior executives need to be able to accurately predict their employees' behaviour by applying predictive analytics to every phase of the talent life cycle, and they want tools and solutions that enable them leverage through into unrealised potential of talent to drive company performance. Malisetty and Archana (2017), claim that predictive analytics in HR is viewed as a game-changer in the field because it has the potential to significantly improve workplace interactions before they become a concern. It can extract useful insight from raw information and apply it to routine activities and operations. Organisations are finally catching on to this trend and reaping the benefits of increased economic viability. According to Ejo-Orusa and Okwakpam (2018), predictive analytics helps businesses in understanding and forecasting which talent category would still be retained and predict the absent rate based on a plethora of variables such as staff retention or satisfaction. Edward and Edward (2019) say using HR analytics to gain predictive insights allows HR to test statistical models and predict high performance or what might cause an employee to leave the organisation.

It is also reported from the data analysis above, that the application of HR analytics for workforce planning covers recruitment and selection, succession planning, training and development, employee turnover, and workforce mobility. Several studies have also provided evidence to support these findings. For example, Jain and Jain (2020) surmised that most organisations implement multiple HR initiatives spanning the entire employee life cycle, from recruitment to retirement. As a result, HR analytics provides a decision-making platform based on various HR indicators. Walsh and Volini (2017) asserted that human resource decision-making is evolving, and HR analytics is beginning to play a role in guiding talent, management, and recruitment and selection decisions. This is beneficial because it enables businesses to collect and analyse data that can help them increase revenues by better understanding and targeting skilled employees while decreasing expenses through improved business operations. Lakshmi and Pratap (2016) agreed that HR metrics and HR analytics help organisations balance the costs and benefits of various options. HR analytics has evolved into a critical tool for succession planning, allowing organisations to forecast future return on investment (ROI) and gain a competitive advantage by using past and current data. According to van Vulpen (2016), HR analytics helps businesses turn data into action and use evidence-based practices to improve their overall organisational strategy.

In terms of effective workforce planning, HR analytics is more effective in supporting organisations to identify and design their training and development needs than is supporting recruitment and selection, succession planning, employee turnover, and workforce mobility. Walford-Wright and Scott Jackson (2018) findings suggested that HR analytics play a crucial role in the success of different organisations, and that utilising HR data provides a significant advantage. This implies that HR analytics provides companies with workforce data that can be used to forecast business performance. It assists human resource professionals in developing strategic plans that significantly improve talent investment opportunities while effectively tracking recruitment and selection, supporting employees' training and development needs, engagement, and a variety of other workplace activities.

The results reveal that the benefits of adopting HR analytics for workforce planning include developing and sustaining high-quality workforce planning; eliminating conventional



constraints to effective workforce planning; aligning strategic planning with talent planning and management, establishing a clear view of talent demand and supply gaps, providing HR managers with simple and easy to use tools that help in evaluating HR decision and prioritise future investment in human capital; reducing and controlling unplanned talent expenditure, identifying factors that reduce employee production efficiency, and assisting organisation in building competitive advantage. According to Tomar and Gaur (2020), HR analytics play an important role in workplace planning, building competitive advantage through employee acquisition to employee retention, leveraging data, and developing insights and models for organisations, for the overall performance of the organisation. Likewise, Water et al., (2018) stated that HR analytics helps to identify the factors that boost organisational productivity and help HR managers to make informed decisions about HR spending plans and workforce planning. However, despite the benefits of HR analytics, Ferrar and Green (2021) explain that HR analytics can be used to make HR decisions but not with financial consequences.

#### **4.7. Implications of HR Analytics**

In the last few decades, the business environment has shifted tremendously. These developments are the result of globalisation, enhanced data availability, and the demands of a high-tech society. This paper encourages HR professionals to take a more practical approach by identifying organisational objectives when leveraging HR analytics to acquire and analyse employee data, as well as assessing the presence and visibility of reliable data. Also, HR managers in determining if internal needs meet analytical demands can go the extra mile to consider outsourcing or gathering talented employees if it is not found in-house and creating a plan for using the results of employee data analysis can position the organisation to find success using HR analytics. It will also help HR professionals understand how to address workforce planning challenges and business questions. According to Water et al, (2018) many organisations still seldom do not depend on data to make critical choices when it comes to their workforce, despite having access to more data and analytical capacity than ever before. Therefore, organisations cannot afford to operate in the dark with their human resources if they want to achieve success utilising HR analytics for workforce planning in today's rebounding global economy and complex labour environment. They must have a thorough awareness of their workforce segments and a clear picture of what they need to meet their current and future goals and objectives.

#### **5. Conclusion**

This paper has evaluated the implications of HR analytics for workforce planning. Based on the findings of this paper, corporations are actively embracing predictive analytics because it empowers human resource professionals to analyse past and current employee data to determine future requirements via accurate forecasting of labour demand and supply shifts using analytical and predicting models. Predictive analytics is being used at every stage of the talent life cycle because HR leaders are interested in making precise predictions about their employees' performance. Predictive analytics assists businesses in understanding and forecasting which talent categories will still be retained, as well as predicting absenteeism based on a variety of variables such as employee retention or satisfaction. Using HR analytics to gain predictive insights enables HR to test statistical models and forecast high performance or what may cause an employee to leave the company.

HR analytics for workforce planning applications include recruitment and selection, succession planning, training and development, employee turnover, and workforce mobility. Several studies have also provided evidence to back up these conclusions. As an outcome,

HR analytics offers a framework for decision-making depending on multiple HR metrics. Workforce development decision-making is changing, and HR analytics is increasingly being used to guide talent management and recruiting, and selection choices. HR analytics has evolved into a critical tool for succession planning, allowing organisations to forecast future ROI and achieve a competitive edge by leveraging past and current data.

HR analytics seems to be more instrumental in supporting organisations in identifying and designing their training and development needs than it is in assisting with recruitment and selection, succession planning, employee turnover, and workforce mobility. As a result, HR analytics provides businesses with workforce data that could be used to anticipate organisational effectiveness. It helps HR practitioners create strategic plans that greatly enhance talent investment options while effectively monitoring recruitment and selection, employee training and development needs, involvement, and a wide range of other job functions.

The advantages of using HR analytics for workforce planning include establishing and sustaining a high-quality planning process; removing traditional constraints to effective workforce planning; integrating long-term planning with talent planning and management, setting a clear perspective of talent demand and supply disparities, supplying HR managers with simple and easy tools that aid in evaluating

In conclusion, HR analytics has significant and positive implications for workforce planning, but organisations need to understand that adopting HR analytics is associated with costs, but the benefits outweigh the cost.

On the findings from the analysis above, it is recommended that organisations should adopt HR analytics for workforce planning to develop and sustain high-quality workforce planning. This can be achieved using appropriate statistical approaches and predictive models relevant to the purpose for which HR analytics is adopted. It is also suggested that organisations should aim to eliminate common barriers to effective workforce planning, especially the lack of expertise in the use of analytical tools. To this end, HR managers should be trained on the dimensions of HR analytics. Organisations need to align strategic planning with talent planning and management because it would help achieve organisation long-term goals.

### **5.1. Limitations**

Quantitative researchers acknowledge the shortcomings of their research. Limitations entail the factors that are not within the control of the researcher that might influence the validity of the research (Soilkki, Cassim & Karodia, 2014). First, the sample size of 60 HR practitioners drawn from Standard Chartered Bank and HSBC Holdings derived from purposeful sampling represents a limitation. The utilisation of the results from more than two multiple case studies would be robust with a conclusion that is replicable.

A second limitation was that the study was restricted to HR practitioners whereas an extension to other employees would have provided additional information and views on the implications of HR analytics. The study used extant literature to increase the study's reliability. The third limitation is that the study was restricted to the UK and may not reflect the outcomes from other jurisdictions. The questionnaire was the instrument for data collection and it is acknowledged that certain constraints may limit the responses including bias, time, willingness to provide accurate information, and distraction. To deal with this likely limitation, the study used participant checking through WhatsApp messages for control purposes.

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