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**Human Resources Analytics in SMEs in Harare CBD: Opportunities and Challenges**

**Abstract**

SMEs have been the lifeline for the Zimbabwean economy for a long time. However, issues to do with survival and competitiveness have been problematic in Zimbabwean SMEs. Their demise will be fatal for the Zimbabwean economy and populace. However, human resources analytics could prove fundamental in making smart strategic and human resources decisions that can enhance profitability and survival of SMEs. The main purpose of this study is to understand the viability of human resources analytics in SMEs in Zimbabwe. The main objective of the study is to understand the impact of human resources analytics on SMEs competitiveness. The study will be used to determine challenges and opportunities associated with use of human resources analytics in SMEs. The study uses qualitative methodologies to tap into the subjective data from research participants. At the 13th interview data was saturated, and face to face interviews were stopped. However, repeat interviews were conducted after two weeks to check for consistency so as to determine the trustworthiness of the study. The study found that human resources analytics can be instrumental in recruitment, selection, performance management, reward management and health and safety decisions that can improve competitiveness of the organisation. However, the study found that lack of formal human resources department, lack of skills, limited data and lack of financial resources as challenges associated with human resources analytics. The study recommends improvisation and human resources personnel capacity development in order to take advantage of human resources analytics.

**Key Words:** *human resources management, human resources analytics, SMEs, competitive advantage, survival, performance management*

**INTRODUCTION**

Over the past ten or so years, there has been a tendency in the human resources industry toward the use of quantitative approaches rather than qualitative ones. Over time, human resources management (HRM) has changed dramatically to meet the shifting demands of both the workforce and businesses (Davernport & Harris, 2007). HRM was largely concerned with administrative duties in the early 20th century, including keeping track of employees, processing payroll, and guaranteeing legal compliance. Making sure labor was managed effectively was the primary objective. The human relations movement began to take shape in the 1920s and 1930s, highlighting the significance of worker motivation and satisfaction. The importance of social aspects and employee involvement in raising productivity has been recognized by researchers such as Elton Mayo (Capplie, 2008). In the mid-20th century, HRM shifted towards a more strategic approach, known as personnel management. This approach aimed to align HR practices with organizational goals and involved functions such as recruitment, training, and performance evaluation.

HRM continued to change throughout the 1970s, concentrating on the skill and capability development of employees. The idea of HRD placed a strong emphasis on career advancement, training, and fostering a culture of learning within businesses (Barney, 2001). HRM become more strategic in the 1980s and 90s as a result of the realization that human resources may provide a competitive edge. Strategic HRM entailed seeing human capital as a valued commodity and coordinating HR procedures with overarching company plans. HRM changed to focus more on talent management in the late 1990s and early 2000s, which included finding, nurturing, and keeping high-potential workers (Schieman et al, 2009). Employee engagement, performance management, and succession planning were all included in talent management plans.

Human resource management has changed in recent years to include employee experience, diversity, digitalization, and—most importantly—human resources analytics (Biswas & Misra, 2019). The introduction of technology has caused a major change in HRM in recent years. Digital tools and automation have made HR procedures like hiring, onboarding, and employee data management more efficient. AI and data analytics have also improved workforce planning and allowed HR managers to make data-driven decisions. The importance of employee experience and well-being in HRM has increased recently (Laumer et al., 2018). Businesses understand how critical it is to foster a healthy work-life balance, support employees' mental

and physical health, and create a good work environment. Additionally, HRM has given diversity, inclusion, and equity more attention. In order to provide employees from various backgrounds with equal chances and fair treatment, organizations are actively seeking to build diverse and inclusive workplaces. The rise in popularity of flexible work schedules and remote work is attributed to the COVID-19 pandemic. In response to this change, HRM has created procedures and regulations that facilitate remote work, online teamwork, and preserving worker productivity and engagement in a dispersed workforce.

Analytics in human resources are a relatively new development. Human resources management (HRM) analytics, sometimes referred to as people analytics or talent analytics, is the application of data and statistical analysis to obtain insights and make data-driven choices (Kavanagh & Thite, 2019). HR professionals and decision-makers can use objective, accurate data from HR analytics to guide their choices. Organizations may improve their workforce planning, retention tactics, training and development programs, and talent acquisition by evaluating workforce data, including employee performance, engagement, turnover, and recruiting indicators. Organizations may predict future talent demands and pinpoint skill gaps with the help of HR analytics. Organizations can make proactive decisions about workforce planning, talent acquisition tactics, and succession planning by examining past data and trends (Tansley et al., 2017). This keeps the correct people on hand when it's needed and helps the workforce connect with the organization's strategic goals.

HR analytics can improve how successful the hiring process is. Organizations may enhance their recruiting strategy, pinpoint the best channels for luring top talent, and expedite the hiring process to increase efficiency by examining data on the sources of hire, time-to-fill, candidate quality, and cost per hire (Davnport, 2018). HR analytics can reveal information about employee satisfaction, engagement levels, and retention-influencing variables. Organizations may spot patterns and trends and take proactive steps to boost employee engagement and lower turnover by evaluating data on employee feedback, surveys, performance, and turnover. This can involve activities to address employee problems, individualized development plans, and targeted interventions (Bock et al., 2005). HR analytics can help improve performance management processes by providing objective data on employee performance, productivity, and skill gaps. By analyzing performance data, organizations can identify high-performing employees, recognize patterns in performance, and provide targeted development opportunities to enhance individual and team performance.

The study focuses on SMEs in Harare. Zimbabwe is a country under sanctions. This has resulted in many companies closing. This has resulted in small to medium enterprises taking over the economy. The SMEs are a vital source of employment and they contribute to the government through taxes, and some of them are foreign currency earners. It is important that these SMEs harness the power of HR analytics in ensuring that they are competitive and can survive the harsh Zimbabwean economic climate.

## Problem Statement

SMEs are the lifeline of the Zimbabwean economy. A lot of SMEs in Zimbabwe are closing down because of failure to perform. This is catastrophic to the large numbers of employees that work for these firms. Furthermore, this can be fatal for the Zimbabwean economy that is largely dependent on the performance of these firms. To the general populace they depend on SMEs for services and products. Closure of SMEs will mean that people have to go to the neighbouring countries for these goods and services. However, use human resources analytics have been argued to be fundamental in firm performance and survival. It is against this background that this study seeks to understand opportunities and challenges in the use of HR analytics in SMEs.

## Objectives of the Study

This study is guided by the following objectives:

1. To identify types of HR analytics in use in SMEs in Harare CBD;

2. To establish challenges associated with HR analytics usage in SMEs in Harare CBD; and

3. To assess the opportunities associated with HR analytics usage in SMEs in Harare CBD.

## LITERATURE

## Theoretical Framework

## Theory of HR Quantification

This study is guided by the theory of HR quantification. The theory was developed in India by Jain and Jain (2020). According to the theory HR just like other management field is quantifiable and numerical. The theory postulates that the more HR is quantifiable the more it is of strategic value to the organisation. According to the theory of HR quantification data in human resources can be used to learn from previous mistake. The theory asserts that historical

data can be used to inform on decisions. This theory is closely related to human resources analytics and it was not possible to overlook it in this study.

## HR Analytics

Using data and statistical techniques to obtain insights and make defensible judgments regarding human resources practices and strategies is known as HR analytics, sometimes known as people analytics or workforce analytics (Cappelli & Keller, 2014). It comprises gathering, evaluating, and interpreting data about workers, HR procedures, and organizational performance in order to support evidence-based choices about hiring, engagement, talent management, and retention.

Gathering pertinent data from several sources, processing it with statistical tools and methodologies, drawing conclusions that are useful, and applying those conclusions to guide strategic decision-making are important aspects of HR analytics (Davenport, 2018). HR analytics facilitates personnel management, retention, and recruitment improvements. It also helps firms make well-informed decisions regarding training and performance management. It also makes it possible for businesses to find ways to cut costs.

## Types of Analytics

### Descriptive Analytics

Descriptive analytics is the use of historical data to describe the occurrences in the organisation. For example, using demographic data to have a picture about the gender and age of the current employees in the organisation (Laumer et al, 2018). In a nutshell, descriptive analytics is just about describing what is happening in terms of human resources using the relevant data. In descriptive analytics measures of central tendencies such as mean, mode and median are used together with measures of dispersion such as standard deviation and variance (Tansley et al, 2017). Descriptive analytics is low order analytics, and is the starting point of HR analytics. It informs other types of analytics such as diagnostic and predictive analytics.

### Diagnostic Analytics

After descriptive statistics there is need to understand why it happened this way. In other words diagnostic analytics is a higher order form of descriptive analytics (Biswas & Misra, 2019). Correlations and multiple regression analysis are used to understand the causal relationship between two variables. For example, correlational tests may be used to identify the relationship

between two human resources variables such as performance and flexible work arrangements. Numerical data is used to perform these tests (Rasmussen et al, 2017). Knowledge of causal relationships will enable organisations to come up with informed decisions.

**Predictive Analytics**

After identifying causal relationships the organisation is able to predict. The organisation uses historical data to predict the future (Van Dooren et al, 2015). The predictions can be for near future or distant future. For example, the organisation can predict using the current age demographic of staff to predict future employee turnover. Regression is the main tool used for predictive analytics where historical data is used to test hypothesis and come up with valid conclusions and predictions (Davenport, 2018). Predicting helps the organisation to make decisions that can make them to avoid negative future outcomes.

**Prescriptive Analytics**

Prescriptive analytics is a field of analytics that focuses on utilizing data and statistical algorithms to recommend the best course of action or decision to achieve a desired outcome. It goes beyond descriptive analytics, which describes what has happened, and predictive analytics, which predicts what is likely to happen (Cappelli & Keller, 2014). Prescriptive analytics, on the other hand, provides actionable insights and recommendations on what should be done. Prescriptive analytics involves a combination of historical data, real-time data, mathematical models, optimization algorithms, and business rules to determine the best possible actions (Davenport, 2018). It takes into account various constraints, objectives, and potential outcomes to provide decision-makers with a range of options or a recommended action plan.

**HR Analytics Opportunities in SMEs**

By evaluating information from multiple sources, including job boards, application tracking systems, and candidate evaluations, HR analytics can assist in streamlining the hiring process. It can determine the best hiring practices, evaluate the calibre of new hires, and forecast applicant success using past data (Biswas & Misra, 2019). As a result, HR professionals can choose and recruit the best individuals by using data to inform their decisions. HR analytics can examine the variables that affect employee churn and spot trends or patterns that could point to an attrition risk. Organizations can identify important factors of employee turnover

and establish measures to improve employee retention by looking at employee data, such as performance evaluations, engagement surveys, and exit interviews (Van Dooren et al, 2015). HR analytics can provide insights into employee performance by analyzing data related to performance reviews, goal achievement, and productivity metrics. It can identify high-performing employees, uncover performance gaps, and highlight areas for improvement. This helps HR professionals develop targeted training and development programs and make more accurate decisions regarding performance evaluations and promotions.

Strategic workforce planning can benefit from the analysis of present and future labor needs provided by HR analytics. To identify key positions and create succession plans, it can assess retirement risks, skill gaps, and workforce demographics. This makes it possible for businesses to anticipate talent shortages and guarantee a seamless handoff of important positions (Cappelli & Keller, 2014). HR analytics can assist businesses in monitoring and evaluating their diversity and inclusion initiatives. Organizations can monitor progress towards diversity and inclusion goals, uncover potential biases, and evaluate the impact of diversity programs by examining demographic data, employee surveys, and performance indicators. This makes it possible for HR specialists to design focused plans for fostering an inclusive workplace.

HR analytics can assess survey results, feedback platforms, and other pertinent sources to gauge employee happiness and engagement. It can recognize elements like work-life balance efforts, growth opportunities, and recognition programs that support employee engagement. HR professionals can use this information to better plan and carry out activities that enhance overall corporate performance and employee happiness. According to Van Dooren et al. (2015), HR analytics can evaluate incentive data to guarantee equitable and competitive pay practices. It has the ability to spot pay disparities, compare salaries to industry norms, and evaluate the success of compensation plans. This makes it possible for HR professionals to decide on incentive plans, benefits packages, and compensation modifications based on data.

**Challenges of HR Analytics**

To properly deploy and use HR analytics, firms must overcome a number of hurdles. Data availability and quality, data governance and compliance, data integration and fragmentation, skills and resources, change management, interpretation and actionability, and ethical considerations are only a few of the issues that these problems cover (Biswas & Misra, 2019). In order to effectively manage change, ensure data privacy and accuracy, integrate disparate

data sources, acquire the necessary skills and resources, interpret insights and turn them into decisions, and uphold ethical standards, organizations must address these challenges (Tansley et al., 2017). Organizations may optimize people management and improve HR results by addressing these difficulties and utilizing HR analytics.

For HR analytics to produce insightful findings, accurate and trustworthy data are essential. Results from analytics can be skewed or untrustworthy if the data is inadequate or inaccurate. Furthermore, companies can struggle to integrate data from various HR systems and sources, which could make it more difficult to do the thorough research needed to produce reliable insights (Van Dooren et al., 2015). In order to uphold data quality requirements, concerns about data cleanliness, consistency, and privacy must also be addressed. Compliance and data governance provide yet another significant obstacle for HR analytics. Since HR departments manage sensitive employee data, having strong data governance procedures is essential. Data protection laws must be followed by organizations in order to preserve employee privacy and guarantee compliance. Implementing appropriate security measures, data access controls, and data handling protocols are essential components of effective data governance in HR analytics.

In HR analytics, data fragmentation and integration present major obstacles. HR data is frequently scattered among several systems, including performance management software, recruitment platforms, and HR information systems. It can be difficult and time-consuming to integrate and harmonize these various data sources (Tansley et al, 2017). In order to ensure a consistent picture of HR data for analysis, organizations must invest in technological infrastructure and solutions that facilitate smooth data integration, standardization, and consolidation. One of the main challenges in HR analytics is skills and resources (Biswas & Misra, 2019). Professionals possessing a special combination of HR knowledge, data analysis proficiency, and statistical modelling abilities are needed for successful implementation. However, finding and retaining such talent can be challenging, particularly in a competitive market. Organizations must invest in training and upskilling HR professionals to enhance their analytical competencies. Adequate resources, both in terms of technology infrastructure and budget allocation, are crucial for supporting HR analytics initiatives effectively.

An important component of implementing HR analytics is change management. It is frequently necessary for a business to undergo a culture transformation in order to implement analytics into the decision-making process and adopt a data-driven attitude. Gaining the support of stakeholders—such as HR specialists and executives—is essential to accepting analytics and

utilizing its findings. Implementing HR analytics requires overcoming reluctance to change and creating a culture that values making decisions based on facts. Another difficulty is interpreting and using analytics insights (Tansley et al, 2017). The value of generating insights depends on how well they can be comprehended and turned into decisions that can be implemented. According to Van Dooren et al. (2015), HR practitioners must be able to evaluate and comprehend analytics outputs, draw significant conclusions, and apply such conclusions to actual HR problems and decision-making procedures. Achieving excellent HR results requires the capacity to bridge the gap between analytics and actual actions. In HR analytics, ethical considerations are crucial. Analytics algorithms and models should be created and maintained with fairness, impartiality, and nondiscrimination in mind. When it comes to the ethical ramifications of utilizing HR data, organizations need to be open and responsible. Keeping stakeholders and employees trusting requires making sure analytics decisions and results adhere to ethical norms.

## METHODOLOGY

The objective of the study was to gain insights into opportunities and challenges of HR analytics in SMEs in Harare CBD. To achieve this, qualitative methodologies were employed. The target population for this research was SMEs located in Harare CB. In-depth interviews were selected as the primary data collection tool, as they allowed for detailed exploration and clarification of participants' perspectives on HR analytics. Both face-to-face and telephone interviews were conducted, with face-to-face interviews providing the advantage of capturing non-verbal cues, which can be valuable information. Telephone interviews were chosen for their convenience, and out of the total of 10 interviews conducted, 4 were telephone interviews.

The sampling technique employed in this study was a mixture of purposive sampling and snowball sampling, focusing exclusively on managers in SMEs. The participants were the ones who referred the researcher to other potential participants. Data saturation was achieved after the 13th interview, at which point no new information or insights were emerging, leading to the termination of further interviews. To ensure the trustworthiness of the data, the interviews were triangulated by involving both researchers in the interview process, mitigating the risk of data manipulation or alteration. Thematic analysis was utilized as the approach for data analysis. This involved identifying and analyzing recurring themes and patterns within the interview data, allowing for the extraction of meaningful insights and conclusions. The study adhered to ethical considerations, and participants were not coerced or compelled to participate.

Informed consent was obtained, ensuring that participants fully understood the purpose and nature of the study, as well as their rights as participants. Overall, the study utilized qualitative methodologies, including in-depth interviews, to explore auditors' perceptions of the potential of artificial intelligence and machine learning in early fraud detection.

## RESULTS AND DISCUSSIONS

### Types of HR analytics in use in SMEs in Harare CBD

The study found that SMEs frequently use descriptive analytics. Participants are able to use historical data to describe what is occurring in terms of human resources management. They describe issues such as employee performance, age of employees and gender issues. One of the respondents R4 said *"In my organisation for now I can say we are using descriptive analytics especially in terms of employee demographics, we end there."* This is congruent to Cascio (2018) that descriptive analytics is the easiest form of HR analytics and can easily be used by firms. However, in terms of diagnostic analytics, predictive analytics and prescriptive analytics these are not in use. One of the participants R10 said *"It is my first time to hear about these types of analytics, I haven't heard about them and I haven't implemented them."* This may be because they are more advanced than descriptive analytics as reported by Marler & Boudreau (2017). However, this study diverges from Tansley et al (2017) who submit that these three types of analytics are in use. This deviation may be due to the fact that Tansley et al (2017) studies were carried out in advanced western countries where the HR has capacity to implement diagnostic analytics, predictive analytics and prescriptive analytics.

### Challenges associated with HR analytics usage in SMEs in Harare CBD

The second objective of the study was on challenges associated with HR analytics usage in SMEs in Harare CBD. Four themes emerged pertaining to challenges associated with HR analytics. The first challenge is on *lack of formal human resources management department*. Many SMEs do not have the formal human resources management department that can use HR analytics for firm's competitiveness. For example, R5 said, *"In our organisation we do not have the HR department to implement HR analytics, the company owner is the one which does the human resources activities and lacks knowhow of HR analytics."* Other respondents such as R1 and R10 asserted that the accountant is the one who performs HR activities but doesn't implement HR analytics. Were as R2 and R8 contributed that they have an HR consultancy but

does not implement HR analytics. This resonates with Van Dooren et al (2015) findings that lack of HR department is a hindrance to implementation of HR analytics in SMEs.

The other challenge that emerged from the study is lack of skills. The study found that personnel in the SMEs lack skills to perform HR analytics. This was reinforced by R11 who said *"Some of us are not able to perform complicated tests such as multiple regression tests and correlational tests."* To perform complex HR analytics such as predictive and diagnostic tests should be carried out, and personnel in the SMEs lack those skills. This hindrance is also picked up by Rasmussen et al (2017). The study also found that lack of readily available data is another challenge to implementation of HR analytics. R13 said *"The only data we store here is financial data and employee data, we haven't been doing that."* SMEs in Zimbabwe are not investing in data storage, and at the end of the day they do not have historical data to use for HR analytics. This resonates with Bondrouk & Ruel (2017) that without historical data it is impossible to implement HR analytics. The other challenge established was on financial resources. SMEs do not have finance to fund HR analytics operations. There is need for money to have the HR personnel and money to acquire computers to store historical data. This was stated by R12 who submitted that *"The economy we are operating on is very harsh, we do not have money to use for acquiring HR personnel and buy computers we are surviving on break even…."* This finding is not picked up by Bondrouk & Ruel (2019) because they focused on conglomerates that have the capacity to acquire inputs to HR analytics.

**Opportunities associated with HR analytics usage in SMEs in Harare CBD**

The study found that there is an opportunity for HR analytics to be used in HR activities. Pertaining this objective five themes emerged. One major area that HR analytics is useful is *training*. The study found that SMEs can use HR analytics to determine the viability of a training exercise. They can use historical data to test whether training is beneficial or not, and make an informed decision. R2 said *"We can use HR analytics to perform correlational tests on the impact of training on performance, if there is a positive impact we continue training our staff, and if its negative we stop wasting our money on training."* This finding is also established by Hansen & Boudrea (2018) that HR analytics are key to effective training. The study also found that HR analytics can be used for effective occupational health and safety. Predictive analytics can be used to predict occurrences of accidents and put in place measures to avoid that. For example, R1 said *"With predictive analytics we can analyse trends and see identify the times and seasons where accidents occur the most, and then we put up measures*

*such as increasing lighting and air conditions in those times and seasons to avoid accidents that can be fatal."* This converges with Lawler & Boudrea (2015) that HR analytics is useful in occupational health and safety.

The investigation found that HR analytics can be useful in reward management. Participants showed that they can use HR analytics to identify the major reward that derive the maximum motivation for employees. For example, R3 said *"I can perform a multiple regression to identify the reward aspect that generate employee performance, and invest on that."* This is also similar to Fitz-enz & Mattox (2014) that HR analytics are instrumental in reward management. Furthermore, the study found that HR analytics are important in recruitment and selection. Participants that included R1, R4, R7 and R11 noted that they can use historical data to identify the recruitment platform that resulted in a wide pool of respondents, and in future invest on that specific recruitment platform. This again resonates with other studies (Cappelli & Keller, 2014). The final opportunity of HR analytics is on performance management, as participants said they can use it to check the historical performance of employees whether they are improving or not. They can describe employee performance identify the trains and perform tests to see what causes employees to have high or poor performance. This again resonates with other studies (Cacinnotta & Manaresi, 2018; Davenport, 2018).

## CONCLUSIONS AND RECOMMENDATIONS

The study concludes that the major type of HR analytics used in SMEs in Harare CBD is descriptive statistics. The study also concludes that challenges associated with HR analytics in SMEs are lack of formal human resources department, lack of skills, limited data and lack of financial resources. However, the study concludes that there are vast opportunities of HR analytics in recruitment, training, occupational health and safety, reward management and performance management which can make the organisation effective, efficient and ultimately acquire a sustainable competitive advantage. Therefore the study recommends that:

- ➤ Adoption of other types of HR analytics which are diagnostic, predictive and prescriptive;
- ➤ Invest in HR analytics by having HR personnel and funding data storage as this can enhance HR analytics which can result in a sustained competitive advantage;
- ➤ Use HR analytics in all HR activities so as to derive maximum value; and

> ➢ Future studies to focus on HR analytics in government owned entities as they are also the major player in the Zimbabwean economy.

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