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HUMAN RESOURCES ANALYTICS AND EMPLOYEE PERFORMANCE IN TELECOMMUNICATIONS COMPANIES IN KENYA

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ABSTRACT

This study sought to examine the influence of human resources analytics on employee performance of telecommunications companies in Kenya. The specific objectives of the study are: to determine the effect of employee churn rate, and data capabilities analytics on employee performance of telecommunications companies in Kenya.The study adopted cross sectional research design. The study targeted 6274 staff of telecommunication sector in Kenya. The study used Yamane (1967) formula was used to calculate the sample of 376 staff sampled using stratified sampling. Primary data was collected using structured and semi-structured questionnaires. Pilot test was conducted with 10% of the sample hence 37 staff. The study used content and construct validity. Reliability was tested using Cronbach's Alpha Coefficient. Data was analyzed using Statistical Package for Social Sciences version 26. The findings were presented in tables. Findings show that; there is a moderate significant relationship between data capabilities analytics (r=0.386, p=0.000) and employee performance a strong significant relationship between employee churn rate and employee performance (r=0.620, p=0.000). The study recommends that; the firms should invest more on technology infrastructure that is functional, easily compatible with other information systems, and can be easily used by employees, the firms should regularly review the salary to ensure that the staff are compensated based on the market rates, and the firms should make efforts to invest more on research and development.

Key Words: Human Resources Analytics, Employee Performance, Employee Churn Rate, Data Capabilities Analytics

Background of the Study

Human Resource Analytics (HRA) has become an indispensable element of modern human resource management. This practice involves the systematic collection and analysis of human resource-related data to enhance HR processes and facilitate well-informed decision-making (Boon, Den Hartog & Lepak, 2019). It holds particular significance in scrutinizing various aspects of human resource practices within organizations. In the context of telecommunications companies, HRA takes on a vital role by utilizing data analysis techniques to reveal insights into the interplay between HR strategies, employee performance, and the achievement of organizational objectives (Dahlbom, et, al., 2020). Through the analysis of relevant HR metrics and analytics, for example turnover rates, and employee engagement, telecommunications companies can identify prevalent trends and address challenges that affect their workforce dynamics. This data-driven approach empowers HR professionals by providing data-driven insights instead of relying on intuition, thus aiding informed decision-making (Campero, 2018). Analytics serves as a tool to assess the efficacy of various HR practices, contributing to evidence-based human resource management. Organizations embracing people analytics can leverage data insights to enhance talent retention, training, team collaboration, performance management, and overall organizational efficiency (Kassim & Nagy, 2019).

The evolution of HRM, catalyzed by information technology, has shifted it from an administrative function to a value creator aligned with business strategy (Stone et al., 2018). Human Resource Analytics emerges as a response to this changing landscape, providing a mechanism to transform voluminous data into actionable insights driving decision-making within HRM. The progression from basic reporting to predictive and prescriptive analytics emphasizes the growing sophistication of HR analytics tools. Despite the logical connection between HR analytics and strategic HRM, empirical evidence on the effect of HR analytics on organizational performance is limited (Rasmussen & Ulrich, 2018). Deloitte's report indicates that though HR analytics is gaining traction, only a minority of organizations possess robust analytics capabilities (Deloitte, 2018). This validates the ongoing exploration of the true value of HR analytics and the need for more comprehensive research. This study aims to bridge this research gap by examining the influence of HR analytics on organizational performance.

Despite the growing interest in HR analytics and the logical argument that HR analytics can be integrated into strategic HRM, relatively few empirical studies have directly investigated whether HR analytics function can improve organization performance (Rasmussen & Ulrich, 2018). The study aims to investigate whether and how human resource analytics have been implemented and their influence on telecommunication companies performance. The specific objectives include examining the effect of performance management analytics, reward analytics, and workforce planning analytics on organization performance.

Statement of the Problem

The telecommunications sector in Kenya stands as a linchpin of economic growth, facilitating advancements in mobile infrastructure and fostering a burgeoning e-commerce market. Notably, the introduction of services like Safaricom's M-Pesa has catalyzed significant economic activity, with mobile money transactions contributing a substantial portion to the country's GDP. According to a report by Communications Authority (2022), daily transactions through mobile money in Kenya contributed to 17% of the GDP by December 2022. These advancements underscore the sector's critical role in shaping Kenya's economic landscape, driving innovation, and fostering financial inclusion.

However, beneath the surface of these remarkable achievements lies a pressing challenge: the optimization of employee performance within telecommunications companies. Despite the sector's overall success, statistical evidence points to persistent issues that impede workforce efficiency and organizational effectiveness. For instance, Noor Al-Zubi's (2022) research on Safaricom highlights that while the company boasts a relatively low turnover rate of 5.4%, reports highlight issues such as inadequate training in technical areas and challenges with job satisfaction among employees. Similarly, other telecommunications firms, like Airtel Kenya, have faced layoffs and role duplications, reflecting an atmosphere of instability and uncertainty within the industry (Omondi, 2022).

Moreover, the reliance on temporary workers, while offering short-term advantages in terms of productivity and cost-effectiveness, presents long-term challenges. Research by Dessler (2018) although temporary workforce are more productive and less expensive to recruit and train, they generally cost employers 20% to 50% more than comparable permanent workers (per hour or per week). Safaricom sustainability report (2021) shows that majority of employees have experienced challenges in their work place resulting to low employee productivity. The main issues include low market remuneration and work life balance aspects such safety, flexibility as well as productivity in their working stations and the overall opportunities achieved through direct interaction with the governance of the entity.

Furthermore, there is a notable gap in the effective implementation of people analytics for talent management within the sector. Despite the recognized importance of data-driven HR practices, many telecommunications firms in Kenya struggle to leverage analytics effectively. According to a survey conducted by the Society for Human Resource Management (SHRM) in Kenya (2019), only 14% of organizations believed they were effectively using data analytics for talent management, indicating a significant gap between perceived importance and actual utilization.

In addition, studies in human resource analytics have been undertaken locally (Mugo, 2017: Karia & Omari, 2015: Mbugua, 2019: Muriithi & Waithaka, 2019). However there exists no similar study in the telecommunication sector in Kenya. In light of these observations, there emerges a clear imperative for research and intervention. This study therefore aimed at adding knowledge on the influence of human resource analytics on employee performance in telecommunication industry in Kenya.

Objectives of the Study

i. To assess the influence of employee churn rate on employee performance of telecommunications companies in Kenya.
ii. To explore the influence of data capability analytics on employee performance of telecommunications companies in Kenya

LITERATURE REVIEW

Theoretical Review

Technology Acceptance Theory

Davis (1989) introduced the Technology Acceptance Theory. The goal of this theory was to provide an explanation of the determination of computer acceptance. The model is generally capable of explaining user behavior across a broad range of end user computing technology (Davis, 1989). The theory posts that perceived ease of use (PECU) and perceived usefulness (PU) are important factors that determine the user attitude toward his/her intention to use and actual usage of IT. Venkatesh and Bala (2008) set forth three major determinants of adoption and utilization of information systems, which included accessibility (user-friendliness), usefulness (suitability, convenience) and acceptance (ease of use). According to Davis, Bagozzi and Warshaw (1989), accessibility (user-friendliness) is the extent an end-user believes that using a new information system would increase their productivity. The more a user finds an information system easier to use, the more they will operate it with ease. According to TAM, perceived usefulness and perceived ease of use, both influence one's attitude toward system usage, which influences one's behavioral intention to use a system, which, in turn, determines actual system usage.

Kondrup (2004) contend that TAM's unique feasibility in explaining the acceptable integration of various IT services in organizational environments is of high value to practitioners and scholars seeking to justify IT usage in their respective systems. Breen and Zhang (2008) explain TAM as a model that posits that the perceived usefulness and ease of use of an IT tend to determine one's (or an organization's) intention to utilize the respective IT. If both perceived usefulness and perceived ease of use are satisfied criteria among those evaluating the compatibility of the HRMIS, then attitudes are likely to change and be in favor of implementing the HRMIS. If embraced, actual use is bound to follow. If the technology fits the purpose of the task at hand and works effectively and efficiently in the process, then acceptance of that technology is likely to ensue in the respective environment. The theory hinges on the objective of data management capability whereby if the HR managers perceive the data management systems as easier to use and useful in the organization then they will embrace the technology. Hence, perceived usefulness, perceived ease of use and self-efficacy will be used as factors that may affect acceptance and adoption of management of HR data using technology

Equity Theory

Equity Theory, a fundamental concept, it suggests that individuals are intrinsically motivated by a fundamental desire for fairness and equality in their social interactions. This theory suggests that people assess the balance between their inputs, such as effort and time, and the outcomes they receive, such as rewards and recognition, in comparison to others. When individuals perceive a lack of equity—feeling either under-rewarded or over-rewarded relative to their peers—they experience a range of emotions, including distress or a drive to restore balance.

In the contexts of Employee Churn Rate, Equity Theory provides valuable insights into the drivers of employee turnover. Firstly, perceived inequity plays a pivotal role. Employees who feel that their contributions aren't adequately acknowledged or compensated compared to their colleagues may harbor feelings of discontent. For instance, if diligent employees believe they're not receiving fair compensation or opportunities for advancement, they might be more inclined to seek employment elsewhere, thus contributing to a higher churn rate.

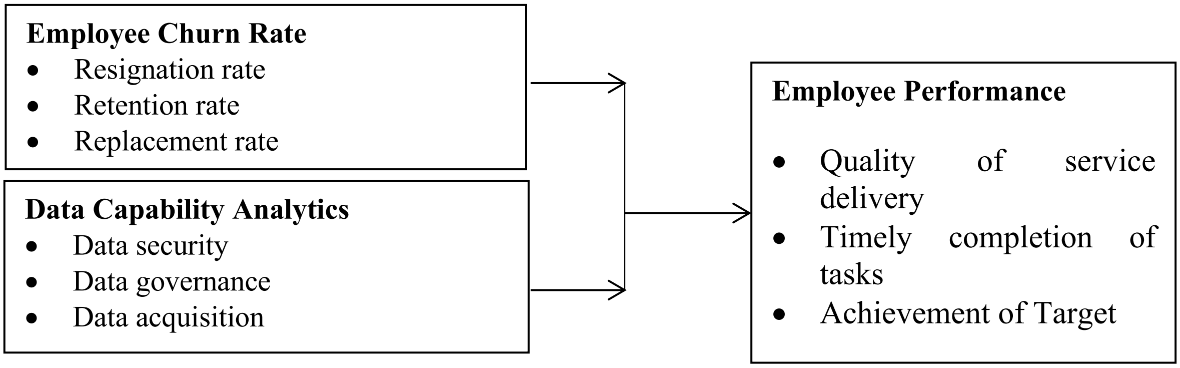
Moreover, Equity Theory emphasizes the importance of comparative referencing. Employees often evaluate their treatment, rewards, and experiences within the organization against those of their peers or industry standards. Should they perceive disparities where others receive preferential treatment or better opportunities, they're likely to feel unfairly treated. This sense of injustice can fuel their decision to leave the organization, amplifying the churn rate.

Management practices also come into focus through the lens of Equity Theory. Fair and transparent practices in decision-making, reward distribution, and performance evaluations are crucial in maintaining employee satisfaction and retention. Organizations that prioritize fairness foster a sense of equity among their employees, thereby reducing turnover rates. Conversely, organizations that demonstrate favoritism, bias, or inconsistency risk breeding feelings of inequity and dissatisfaction, which can escalate churn rates.

Equity Theory underscores the profound influence of perceptions of fairness and equity on employee attitudes and behaviors, particularly their intentions regarding turnover. By recognizing and addressing employees' perceptions of fairness, organizations can mitigate turnover risks and cultivate a more stable, engaged, and productive workforce.

Conceptual Framework

A conceptual framework is a research tool that is used to communicate as well as developing a clear understanding of the topic under study (Kombo & Tromp, 2018). It shows the expected relationship between the dependent and the independent variables. The dependent variable is organizational performance of telecommunications companies in Kenya.



Dependent Variable **Independent variable**

Figure 1: Conceptual Framework

Employee Churn Rate

Employee churn is the overall turnover in an organization's staff as existing employees leave and new ones are hired. Although some staff turnover is inevitable, a high rate of churn is costly (Anzazi, 2018). Churn rate is calculated by dividing the number of employees who have left the company by the average number of employees in the company over the same period of time. Churn rate is used to help businesses understand how stable their workforce is and to identify areas where they may need to make changes to keep employees from leaving. There are e a number of factors that can affect churn rate, including the company's culture, its benefits and compensation packages, and the quality of its management. The economy can also play a role, as companies that are struggling may see a higher churn rate as employees leave in search of better opportunities. The types of jobs that a company offers can also affect churn rate, as positions that are difficult to fill or that offer low pay may see a higher turnover rate(Sutherland, 2018).

Attrition among employees is a natural process that every business will go through; it is not a negative reflection on the company. Attrition data include statistics for employees leaving for various reasons: they might relocate, retire, or have family obligations. But their reason for leaving a company isn't because of an issue with the employer. It is simply a fact of business life. The average employee turnover rate refers to when staff members leave the company due to termination, finding a new job, or not believing they can grow their career with their current employer. These reasons for an employee's departure are examples of voluntary turnover. Employee churn due to turnover usually means that the company needs to fill the vacant position quickly (Al-Suraihi, 2021).

The benefits of measuring Churn Rate are plentiful. By tracking the percentage of employees who leave your company each month, a manager can identify patterns and trends in the workforce. This information can help to make better decisions about hiring and retention practices. For instance, if a particular department has a high churn rate, the HR manager may need to evaluate why employees are leaving and make changes to improve the situation. Additionally, measuring churn rate can help to identify areas where the company is losing the most valuable employees. This information can help to focus retention efforts on the employees who are most important to the business. Finally, measuring churn rate can help to benchmark a company against others in the industry. This information can help to identify areas where the company is performing well, and areas where they need to improve (Gupta 2022).

Data Capability Analytics

Capability analytics refers to the talent management process that helps to identify the core competencies of workforce. Once the capabilities are known, it is easier to set them as benchmark and compare them to the capabilities of workforce and measure any gaps(Levenson & Fink, 2017). Big data analytics management capability reflects the intangible ability of an organization to apply big data to implementing plan, investment, coordination and controlling activities (Sun & Liu 2020). With the increase use of Human resource analytics, the amount of private data from customers is acquired. This data is sensitive and therefore the organizations should invest more in data governance and security. Effective data governance ensures that data is consistent and trustworthy and doesn't get misused. It's increasingly critical as organizations face new data privacy regulations and rely more and more on data analytics to help optimize operations and drive business decision-making ((Angrave *et al*., 2016).

Capability analytics enables managers to identify core competencies their business would benefit from. HR analytics provides multiple benefits to employees and organizations. But employee privacy may be compromised due to unauthorized access to employee data (Chatterjee, *et al.,* 2022). In most organizations, various people are involved in the data security, data governance, data acquisition processes. That includes business executives, data management professionals and IT staffers, as well as end users who are familiar with relevant data domains in an organization's systems. These individuals require adequate skills to adequately execute their tasks. It takes smart people to glean insight from data and information and it also takes smart and influential people to use those insights in an actionable and valuable way (Falletta, 2018).

Employee Performance

Employee performance is the ability of an employee to achieve a specified task measured against predetermined standards of accuracy, completeness, cost and speed (Sendawula, 2018). It has further been defined as the overall expected result from employees' behaviors achieved within a given timelines. Task performance involves activities that directly generate goods and services from raw materials and it's clearly reflected in job descriptions. Employee performance is a concept that is increasingly popular amongst scholars of management sciences, as employee performance is vital to both individual and the organization. Employee performance contributes to the overall betterment of the processes of the organization particularly in terms of efficiency and productivity (Abualoush, 2018). According to Rodriguez (2017), the principal factors of the performance of employee are as follows: productivity, retention, and customer service. According to Musnadi and Chan, (2018) the performance of employees is a performance challenge that must be tolerated by each employee as according to their duties and functions

According to Saridakis and Cooper (2016), experienced employees exhibit a higher rate of productivity than non-experienced employees. Competence and skills are the primary factors that determine the productivity of an employee. Experienced employees use these resources with caution and, and as a result, enhance their efficiency. The quality of customer service and the quality of products and services are critical in determining the level of customer satisfaction. Quality can be either tangible or intangible. Therefore, it is important for organizations to retain experienced and talented employees who are conversant with the quality requirements of organization services. According to Dhouha (2019), satisfied and experienced employees are more likely to enable positive customer experiences.

Empirical Review

Employee Churn Rate and Employee Performance

A study by Kuhn and Rocco (2018) found a positive relationship between satisfaction with compensation and overall job satisfaction, leading to improved performance and reduced turnover. An organization that effectively analyzes and adjusts its reward systems to align with employee expectations can experience higher levels of satisfaction, contributing to enhanced productivity and performance. Reward analytics can significantly influence employee satisfaction, which is a critical driver of organizational performance. When employees perceive that their compensation, benefits, and rewards are fair and competitive, they are more likely to be satisfied with their jobs. Satisfied employees tend to be more engaged, motivated, and committed to their work.

Studies like that of Delaney and Huselid (2019) emphasize that competitive compensation practices can help organizations secure skilled employees, resulting in improved performance and a competitive advantage. Organizations that utilize reward analytics to offer compensation packages aligned with or better than market rates are more likely to attract high-caliber employees, leading to increased performance and business success. Reward analytics enables organizations to benchmark their compensation packages against industry standards and competitors. Ensuring external competitiveness is crucial for attracting and retaining top talent.

A study by Milkovich and Newman (2021) emphasizes the importance of fair compensation distribution in maintaining employee motivation and job satisfaction. By using reward analytics to ensure pay equity, organizations can foster a positive work environment that supports higher performance levels. When employees perceive pay disparities among themselves, it can lead to feelings of inequity and negatively influence performance. Reward analytics can help organizations identify and address pay inequities across different employee groups and levels. A study by Lawler (2018) highlights that well-designed reward systems can enhance employee commitment, engagement, and discretionary effort, leading to better overall organizational performance. Effective reward systems, backed by data-driven insights from reward analytics, can serve as powerful motivators for employees to achieve higher performance levels. When employees see a clear link between their efforts and the rewards they receive, their motivation to excel increases. This alignment between performance and rewards can be a driving force behind improved individual and team performance.

Nyaga (2017) researched on assessment of employee turnover on organizational efficiency: a case study of International Livestock Research Institute (ILRI). The study found out that the organization was experiencing high cases of employee turnover. Most respondents indicated that lack of retention strategies affected organization productivity to a great extent. High rate of employee's turnover impacted negatively on organization productivity since most of the experienced and highly productive staffs were lost and it took a long time before the newly recruited staff. The study concluded that causes of employees turnover that impacted negatively on organizational productivity included; lack of employees retention strategies, low level of employee motivation, lack of career development opportunities and poor work environment.

Data Capability Analytics and Employee Performance

Ying (2022) studied the effect of performance management system on employee performance. This study analyzed data or a period of years. The Kruskal-Wallis test and Ordered logit regression were used to test the relationship. The results showed that continuous communication within organization and personnel development impact significantly and positively on employee performance. Wan, Mao, Hsieh and Chen (2017) researched the influence of data analytics capabilities on organizational performance. This study found that data analytics capacity can enhance organizational performance and also facilitate employee effectiveness.

Bechter, Brandl, and Lehr (2022) studied the role of the capability, opportunity, and motivation of firms for using HR analytics to monitor employee performance. The study target was more than 20,000 firms in all member states of the European Union. Results showed that the digitalization of business processes has led to the availability of (big) data which increasingly allows firms to analyze their workforce using HR analytics. The use of HR analytics depends upon firm characteristics as well as contextual factors. Firms require the structural and managerial capability to make use of HR analytics. Shao, Benitez, Zhang, Zheng and Ajamieh (2022) researched on antecedents and performance outcomes of employees' data analytics skills. Study data was collected from 258 frontline employees of three data-intensive research institutes in China. Results showed that data-driven culture, affordability of data analytics, and individual absorptive capacity are positively associated with employees' data analytics skills, which in turn, have positive influences on their task and innovative performance. Data-driven culture plays a more significant role in driving data analytics skills for digital immigrants and affordability of data analytics has a strong influence staff productivity.

Tejasvi (2022) found that the main aim of good data governance is to align the corporate governance objectives of maintaining and strengthening a corporation's contribution to market integrity and economic performance. The also reported that most telecommunication companies view data governance as a promising means to ensure the quality of data and maintain its value as a corporate asset. In addition to being governed by accountability, data as a corporate asset has to be protected by procedures and policy to create an internal control environment. With growing volumes and implications of big data, data governance mechanisms improve the value protection of business attained through data-driven capabilities. Formalization of management through data governance can increase transparency, accountability, responsibility, independence, and fairness in implementing corporate governance.

RESEARCH METHODOLOGY

This study adopted cross-sectional research design. The study targeted three main telecommunication firms in Kenya as the unit of analysis. The unit of observation was the staff of Safaricom, Airtel and Telkom Kenya

Table 31: Target Population

Company	Number of Staff
Safaricom	4503
Airtel	1220
Telkom	551
Total	**6274**

The study used Yamane (1967) formula to calculate the sample of 376 respondents. Stratified simple random sampling technique was used to arrive at the sample size of employees. The study used primary data. This study adopted the self-administered questionnaire approach. The researcher carried out a pilot study to ensure the data collection tool was reliable and valid. According to Singpurwalla (2013), a pilot study sample size should ideally be 1-10% of the study sample. The pretesting sample was made of 37 employees representing 10% of the sample size. Quantitative was generated from the closed-ended and open-ended questions, respectively. Descriptive statistics such as frequency distribution, mean (measure of dispersion), and percentages were used. Inferential data analysis was conducted by use of Pearson correlation coefficient, and multiple regression analysis.

RESEARCH FINDINGS

The study sample was 376 staff of telecommunication firms in Kenya. The pilot comprised of 37 staff that were not included in the actual data. Questionnaires were hence administered to 339 respondents. The response rate was 82.6%. This is a good representation of the sample size. Kothari (2014) recommended that a response rate of more than 70% should be the goal of every researcher. The response rate was hence considered excellent

Churn Rate

The third objective aimed at assessing the influence of employee churn rate on employee performance of telecommunications companies in Kenya. Respondents were asked to tick on degree to which they agree/disagree with listed statements on employee churn rate. Findings are presented in Table 1.

Table 1: Churn Rate

Key: Strongly disagree (SD), Disagree (D), Not Sure (NS), and Agree (A), strongly agree (SA)

Statements	SD		D		N		A		SA		M
	F	%	F	%	F	%	F	%	F	%	
Monetary reward increases staff morale to work harder	20	7.1	34	12.1	18	6.4	141	50.4	67	23.9	3.72
Job security promotes employee retention	14	5.0	19	6.8	13	4.6	147	52.5	87	31.1	3.98
There is high work overload leading to staff turn over	13	4.6	23	8.2	15	5.4	152	54.3	77	27.5	3.92
Attrition helps in reducing redundancy in the organization	15	5.4	23	8.2	9	3.2	74	26.4	159	56.8	4.21
The salary and wages accorded to employees are within the market rates	98	35.0	131	46.8	15	5.4	24	8.6	12	4.3	2.00
The organization has promoted policies that enable employee retention	0	0	12	4.3	24	8.6	85	30.4	159	56.8	4.27
The organization has enhanced salary increment policies	81	28.9	145	51.8	13	4.6	18	6.4	23	8.2	1.87
Staff are quickly replaced which reduces workload	198	70.7	52	18.6	7	2.5	13	4.6	10	3.6	2.48
The rate of staff resigning in this organization is increasing	11	3.9	5	1.8	10	3.6	65	23.2	189	67.5	4.49

Findings show that the staff strongly agreed that; the organization has promoted policies that enable employee retention (M=4.27), the rate of staff resigning in this organization is increasing (M=4.49), and attrition helps in reducing redundancy in the organization (M=4.21). The staff agreed that; monetary reward increases staff morale to work harder (M=3.72), job security promotes employee retention (M=3.98), and there is high work overload leading to staff turn over (M=3.92). The staff disagreed that; the organization has enhanced salary increment policies (M=1.87), the salary and wages accorded to employees are within the market rates (M=2.00), and staff are quickly replaced which reduces workload (M=2.48).

Findings imply that the firms have promoted strategies that promote employee retention. These policies related to conducive work environment, payment and rewards that may motivate staff stay in a firms. Staff churn rate is further reduced by better monetary rewards and job security. There is however high rate of staff attrition which may imply that regardless of the firms' efforts to reduce staff retention, the staff are not yet satisfied with their job and leave the firms as they seek for better employment. In some firms, there are many staff handling similar roles which leads to role duplication hence in some instances staff attrition help to reduce redundancy of some roles and responsibilities. Majority of the staff feel that they are paid at lower rates than the market margins and the firms take time to replace staff who leave the organization. Findings are in support of Kuhn and Rocco (2018) that an n organization that effectively analyzes and adjusts its reward systems to align with employee expectations can experience higher levels of satisfaction, contributing to enhanced productivity and performance.

Capability Analytics

The fourth objective sought to explore the influence of data capability analytics on employee performance of telecommunications companies in Kenya. Respondents were asked to tick on degree to which they agree/disagree with listed statements on data capability analytics. Findings are presented in Table 2.

Table 2: Capability Analytics

Key: Strongly disagree (SD), Disagree (D), Not Sure (NS), and Agree (A), strongly agree (SA)

Statements	SD		D		N		A		SA		M
	F	%	F	%	F	%	F	%	F	%	
There are security measures to protect HR data	19	6.8	18	6.4	5	1.8	87	31.1	151	53.9	4.19
The company management has set data policies on how staff data is gathered, stored, processed and disposed	22	7.9	42	15.0	14	5.0	162	57.9	40	14.3	3.44
The company employs various software for data management	13	4.6	22	7.9	9	3.2	76	27.1	160	57.1	4.24
Human resources professionals consistently collects data and compares it with firm and human resources goals	165	58.9	37	13.2	18	6.4	38	13.6	22	7.9	1.98
Company has invested in research and development on staff needs	143	51.1	70	25.0	5	1.8	32	11.4	30	10.7	2.06
The firm applies in analyzing the skills and performance of staff	21	7.5	40	14.3	7	2.5	58	20.7	154	55.0	3.99
Data management helps to discover skilled staff	5	1.8	6	2.1	14	5.0	31	11.1	223	80.0	4.71
Staff biometrics are updated frequently	3	1.1	5	1.8	11	3.9	56	20.0	205	73.2	4.63
Employee appraisals are often conducted to collect data on staff training needs	209	74.6	50	17.9	2	0.7	6	2.1	13	4.6	1.56

Findings show that the staff strongly agreed that data management helps to discover skilled staff (M=4.71), staff biometrics are updated frequently (M=4.63), and the company employs various software for data management (M=4.24). The staff agreed that; there are security measures to protect HR data (M=4.19), the firm applies in analyzing the skills and performance of staff (M=3.99), and the company management has set data policies on how staff data is gathered, stored, processed and disposed (M=3.44). The staff disagreed that; the companies have invested in research and development on staff needs (M=2.06), human resources professionals consistently collects data and compares it with firm and human resources goals (M=1.98), and employee appraisals are often conducted to collect data on staff training needs (M=1.56).

Findings imply that the firms utilize staff biometrics which is updated frequently. This helps to monitor staff activities especially on time management. The firms use various software to manage data which proves its ability to manage staff data which is also protected to prevent data breach. There is, however, poor investment in research and development on staff needs. The staff data is rarely collected which is evidenced by the fact that appraisals are rarely conducted in majority of the telecommunication firms. Findings support Tejasvi (2022) who also found that most telecommunication companies perceive data management as a promising means to ensure the quality of data and maintain its value.

Respondents were asked to tick on degree to which they agree/disagree with listed statements on employee performance. Findings are presented in Table 3.

Table 3: Employee Performance

Key: Strongly disagree (SD), Disagree (D), Not Sure (NS), and Agree (A), strongly agree (SA)

Statements	**SD**		**D**		**N**		**A**		**SA**		**M**
	F	**%**	**F**	**%**	**F**	**%**	**F**	**%**	**F**	**%**	
I always achieve goals within set timeliness	191	68.2	7	2.5	19	6.8	29	10.4	34	12.1	1.96
I meet targets as set by my supervisors	119	42.5	41	14.6	50	17.9	26	9.3	44	15.7	2.41
Quality of services rendered in the firm has greatly improved over the last 5 years	41	14.6	7	2.5	11	3.9	23	8.2	198	70.7	4.18
The amount of work I complete at a given time always exceeds the expectations of my boss.	39	13.9	14	5.0	12	4.3	24	8.6	191	68.2	3.88

Findings show that the staff agreed that the quality of services rendered in the firm has greatly improved over the last 5 years (M=4.18), and the amount of work that they complete at a given time always exceeds the expectations of their boss (M=3.88). Findings further show that the staff disagreed that they always achieve goals within set timeliness (M=1.96), and they meet targets as set by their supervisors (M=2.41). Results imply that although the staff meet the set targets, they are not able to meet deadlines implying that the staff bypass delivery timelines of tasks assigned. This could be due to work load that result to fatigue and sluggishness in service delivery.

Correlation

The study employed Pearson correlation to measure assess the strength of the relationship between the human resources analytics and employee performance. The significance level was p value of <0.05. A Pearson correlation (r) value of ± 0.5 indicates a strong correlation, ± 0.30 to ± 0.49

moderate correlation and ± 0.29 is a small correlation. Significance is at less than 0.05 (Wong & Hiew, 2005). Pearson correlation results are presented in Table 4.

Table 4: Coefficient of Correlation

Variables		Performance	Churn rate	Data Capability
Employee performance	Pearson Correlation	1		
	Sig. (2-tailed)			
Churn rate	Pearson Correlation	.620**	1	
	Sig. (2-tailed)	.000		
Data Capability	Pearson Correlation	.318**	.016	1
	Sig. (2-tailed)	.000	.789	

**. Correlation is significant at the 0.05 level (2-tailed).

A strong significant relationship between employee churn rate and employee performance (r=0.620, p=0.000), and a moderate significant relationship between data capabilities analytics and employee performance (r=0.318, p=0.000). Findings are in support of scholars who also found out that human resource analytics (employee churn rate, and data capabilities analytics) have a significant relationship with employee performance. Kuhn and Rocco (2018) a positive relationship between satisfaction with compensation and reduced turnover, and Shao, Benitez, Zhang, Zheng and Ajamieh (2022) that data analytics has a strong influence staff productivity.

Regression Analysis

Regression analysis was conducted to examine how a unit change in the independent variable (employee churn rate, and data capabilities analytics) may cause a change in the dependent variable (employee performance). The coefficient of determination shows how a statistical model is expected to predict future results. Table 5 presents the regression results.

Table 5: Model Summary

Model	R	r^2	Adjusted r^2	Std. Error of the Estimate
1	0.910	0.827	0.821	.618

Predicators: (constant) employee churn rate, and data capabilities analytics

The results in Table 5, show that adjusted R squared was 0.827 implying that there was 82.7% variation of employee performance in the telecommunication firms due to the changes in data, employee churn rate, and data capabilities analytics. This means that other human resources analytics that this study did not focus on contribute to 17.9% of employee performance in the telecommunication firms.

Table 6: Analysis of Variance

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	493.894	4	91.731	109.609	.000^b
	Residual	103.177	275	.837		
	Total	597.071	279			

Predicators: (constant) employee churn rate, and data capabilities analytics

The ANOVA tests whether the overall regression model is a good fit for the data. The results shows that employee churn rate, and data capabilities analytics statistically significantly predict employee performance in telecommunication firms , F (4, 279) = 109.609, p < .0005 (the regression model is a good fit of the data).

Table 7: Regression Coefficients

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
Constant/Y Intercept	3.078	.612		5.029	.000
Employee churn rate	.832	.062	.706	13.406	.000
Data capabilities analytics	.517	.043	.512	12.102	.000

As per the SPSS generated in Table 7,
Project performance = 3.078 + 0.832 X_1 + 0.517X_2
A unit change in employee churn rate would cause a significant change in project performance ($\beta = 0.832$; $t = 13.406$; $p = 0.000$), a unit change in data capabilities analytics. There was a significant change in employee performance ($\beta = 0.517$; $t = 12.102$; $p = 0.000$). Findings imply that employee churn rate had the greatest effect on employee performance, followed by data capabilities analytics, on employee performance in the telecommunications firms in Kenya.

Conclusion

There is employee churn rate in the telecommunication firms. There is high number of staff leaving the firms as they try to seek for better jobs. This is churn rate is attributed to work load, unimpressive work environment and remuneration. The staffs feel that they are overworked which is an indication that some of them work extra hours which they may not be well compensated for. Work overload is also due to the fact that some staff who leave the organizations are not replaced on time, hence overworking other staff. Adoption of human resources analytics may help to understand the staff and as well point out the areas that need to be changed to retain the staff. The impact of employees' turnover leads to loss of the most competitive and experienced staff and this influences the organization to incur huge expenditure in recruitment and training of the new employees. The new employees' exhibits low level of effectiveness and efficiency in the execution of the organization job task functions and this lowers the performance of the individual employees that in turn lowers the level of organization productivity.

The telecommunication firms are able to analyze human resources data which has enabled them to discover the skills of the staff, improve them through staff and development which may improve their productivity and work performance. This is achieved through application of various software to capture organization data. The firms have effective policies on human resources data collection, storage, processing, and disposure. The staff data is rarely collected. The human resources managers may hence miss crucial data on staff needs. This may result to irrelevant training which could be waste of both time and money.

Recommendations

The firms should regularly review the salary to ensure that the staff are compensated based on the market rates. The firms should also ensure that the working conditions for the staff are conducive to promote staff retention. This will enhance employee satisfaction which will motivate them to improve their productivity. The firms should also ensure that the staff who retire or leave are replaced on time. This will reduce work load among the staff as well as fatigue caused by working for long hours.

The firms should make efforts to invest more on research and development. Employee training needs survey should be conducted regularly. This will enable the human resources managers to understand the staff training needs which will also ensure that the training offered to the staff is relevant. Employee appraisals should also be conducted regularly to gather information on productivity of staff and the professional gaps among the staff. Data security should also be beefed up to reduce data breach and enhance customer satisfaction.

Areas for Further Study

A similar study should be conducted in other telecommunication firms in Kenya since the study only focused on the three main telecommunication firms in Kenya

A study should be conducted incorporating other variables that probably predict 17.9% of firm performance.

REFERENCES

Adams, J. S. (1963). Towards an understanding of inequity. *The Journal of Abnormal and Social Psychology,* 100(5), 422-436.

Aguinis, H., & Kraiger, K. (2019). Benefits of training and development for individuals and teams, organizations, and society. *Annual Review of Psychology*, 60, 451-4104.

Aljumah, A.I., Nuseir, M.T. & Alam, M.M. (2021).Organizational performance and capabilities to analyze big data: do the ambidexterity and business value of big data analytics matter? *Business Process Management Journal.* 27(4) 1088-1107

Angrave, D., Charlwood, A., Kirkpatrick, I., Lawrence, M., & Stuart, M. (2018). HR and analytics: why HR is set to fail the big data challenge. *Human Resource Management Journal*, 26: 1–11.

Bechter, B., Brandl, B. & Lehr, A. (2022). *The Role of the Capability, Opportunity, and Motivation of Firms for Using HR Analytics to Monitor Employee Performance: A Multi-level Analysis of the Organizational, Market, and Country Context*.', New Technology, Work and Employment.

Blau, P. M. (1964). *Exchange and power in social life*. John Wiley & Sons.

Boon, C., Den Hartog, D. N., & Lepak, D. P. (2019). A systematic review of human resource management systems and their measurement. *Journal of management*, *45*(6), 2498-25310.

Burns, N., Grove, S. K., & Gray, J. R. (2018). *Understanding Nursing Research: Building an Evidence-Based Practice*. Elsevier Health Sciences.

Chatterjee, S., Chaudhuri, R., Vrontis, D. & Siachou, E. (2022). Examining the dark side of human resource analytics: an empirical investigation using the privacy calculus approach", *International Journal of Manpower*, 43(1),52-74.

Cooper, D. R., & Schindler, P. S. (2018). *Business Research Methods*. McGraw-Hill Education.

Dahlbom, P., Siikanen, N., Sajasalo, P., & Jarvenpää, M. (2020). Big data and HR analytics in the digital era. *Baltic Journal of Management*, *15*(1), 120-138.

Deloitte (2018). Rewriting the rules for the digital age 2017. Deloitte Global Human Capital Trends.

Emerson, R. M. (19106). Social exchange theory. *Annual Review of Sociology*, 2(1), 335-362.

Falletta, S.V. (2018). In search of HR intelligence: evidence-based HR analytics practices in high performing companies”, *People and Strategy*, 36(4), 28-37.

Frankfort-Nachmias, C., & Nachmias, D. (2018). *Research Methods in the Social Sciences*. Worth Publishers.

Hair Jr, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2010). *Multivariate Data Analysis.* Pearson.

Harter, J. K., Schmidt, F. L., & Hayes, T. L. (2018). Business-unit-level relationship between employee satisfaction, employee engagement, and business outcomes: A meta-analysis. *Journal of Applied Psychology*, 810(2), 268-2109.

Huselid, M. A. (2019). The influence of human resource management practices on turnover, productivity, and corporate financial performance. *Academy of Management Journal*, 38(3), 635-1002.

Huseman, R. C., Hatfield, J. D., & Miles, E. W. (19810). A new perspective on equity theory: The equity sensitivity construct. *The Academy of Management Review*, 12(2), 222-234.

Kamau, J. & Omondi, M. (2020). Influence of Remuneration on Employee Retention In Commercial Banks In Kenya: A Case Of Kenya Commercial Bank. *International Research Journal of Business and Strategic Management,* 4(2), 25-39

Kassim, I. & Nagy, M. (2019). *The State of Workforce analytics in Europe*. Workforce Analytics Summit.

Kothari, C. R. (2012). *Research Methodology: Methods and Techniques*. New Age International.

Kuhn, K. M., & Rocco, T. S. (2018). The Influence of Compensation Satisfaction on Job Satisfaction and Organizational Commitment: A Study of Higher Education Administrative Professionals. *Research in Higher Education*, 59(1), 60-109.

Kunu E.K., FranÇois M., Boahen, P. & Denu M. (2017). The Effect of Employee Turnover on the Performance of Zoomlion Ghana Limited. *Journal of Business and Economic Development*, 2(2) 116-122

Levenson, A. & Fink, A. (2017). Human capital analytics: too much data and analysis, not enough models and business insights", *Journal of Organizational Effectiveness: People and Performance,* 4(2), 159-170

Muriithi, W. & Waithaka, P. (2019). People Analytics and Performance of Deposit-Taking Micro Finance Institutions in Nyeri County, Kenya. *International Journal of Current Aspects*, 3(5) 186-209

Nutley, S. M., Walter, I., & Davies, H. T. O. (2017). *Using evidence: How research can inform public services.* Bristol: Policy Press.

Nyaga R. (2017). *Assessment of Employee Turnover On Organizational Efficiency: A Case Study Of International Livestock Research Institute (ILRI).* A Research Project Report Submitted to the Chandaria School of Business

Otieno, G. (2016).*Influence of Human Resource Information Systems on Organization Performance*: A Case of United States International University- Africa

Pape, T. (2016). Prioritizing data items for business analytics: Framework and application to human resources. *European Journal of Operational Research*, 252, 687–698

Saridakis, G. & Cooper, C. (2016). *Research handbook on employee turnover*, Edward Elgar Publishing, Northampton, MA.

Schultz, T. W. (1961). Investment in human capital. *The American Economic Review*, 51(1), 1-110.

Singpurwalla, D. (2013). *Statistical Research Methods: A Guide for Non-Statisticians*. World Scientific.

Sutherland, M. M., (2018). *Factors Affecting the Retention of Knowledge Workers. Published PhD Thesis,* Rand Afrikaans University

Tejasvi, A. (2022). The Impact of Data Governance on Corporate Governance and Financial Performance in Firms. Available at http://dx.doi.org/10.2139/ssrn.4364941

Walster, E., Walster, G. W., & Berscheid, E. (19108). *Equity: Theory and research*. Allyn & Bacon.

Wright, P. M., & Snell, S. A. (1998). Toward a unifying framework for exploring fit and flexibility in strategic human resource management. *Academy of Management Review,* 23(4), 1056-10102.

Wu, X., Howlett, M., & Ramesh, M. (2017). Blending skill and resources across multiple levels of activity: Competences, capabilities and the policy capacities of government. Policy and Society.