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Research Paper

Knowledge Management Strategy and Academic Performance of Public Day Secondary Schools in Matungu Sub-County, Kenya

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Abstract
Past research with regard to human resource management strategies against academic performance gave little attention on how knowledge management affect academic performance. This study examined the relationship between knowledgemanagement strategies and academic performance of public day secondary schools in Matungu Sub- County of Kakamega County in Kenya. The study was anchored on Behavioral Perspective Theory. The study used descriptive research design with a target population of 20 principals and 388 teachers totaling 408 respondents. The respondents were drawn from 20 public day secondary schools in Matungu Sub-County of Kakamega County. Purposive and stratified sampling method was used. Yamane formula was used to calculate the sample size of 201 respondents. Primary data was obtained using a structured questionnaire pre-tested for reliability and validity. For reliability analysis Cronbach's alpha was used. Pilot study was carried out at Madende Mixed day secondary school in Busia County. The period of the study covered was five years from 2017 to 2022. The data collected was analyzed quantitatively in relation to research objectives. Descriptive statistics was employed which consisted of frequency tables, percentage, standard deviation and weighted mean. Trend analysis was then applied to predict the research variables and then finally data was presented using tables. Knowledge management had a positive and statistically significant relationship with Academic Performance (Knowledge Management (B = 0.142, Beta = 0.160, p = 0.008). On recommendations,Knowledge management boosts academic performance in public day secondary schools,encourage collaboration between policymakers, practitioners, and academics to ensure that research informs policy and practice, and vice versa.But gaps exist in aligning training outcomes with organizational objectives and understanding individual impact on success...

Key words: *Academic performance, Behavioral Perspective Theory, Human resource management, Knowledge management, Public day secondary schools.*

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I. Introduction

In Kenya's public day secondary schools, academic performance serves as a vital measure of educational effectiveness and a predictor of future prospects for students. Despite the implementation of policies like the Free Day Secondary Education (FDSE) aimed at improving access, the rising enrolments have not consistently translated into better academic outcomes. This points to the need for more strategic approaches, particularly in managing human resources within schools. Among the various human resource management (HRM) strategies, **knowledge management** stands out as a crucial yet underexplored factor in enhancing academic performance.

Knowledge management refers to the systematic process of creating, sharing, using, and managing the knowledge and information within an organization (Girard & Girard, 2015). It involves capturing the collective

expertise of teachers and administrators, organizing it for easy access, and facilitating its effective use to drive better learning outcomes (Thomas et al., 2016). In the context of public day secondary schools, knowledge management is not about replacing individual expertise but complementing it, strengthening teaching practices, and fostering a culture of continuous improvement (Dalkir, 2005). For instance, collaborative knowledge-sharing among teachers can lead to innovative pedagogical approaches and improved curriculum delivery. This, in turn, can support student learning, especially in resource-constrained environments where external support may be limited.

However, while global studies highlight the benefits of HRM strategiessuch as teacher empowerment in Finland (Kunnari et al., 2018), professional development in Spain (Runhaar, 2017), and supportive leadership in the US (Geiger & Pivovarova, 2018)Kenyan public schools have primarily focused on recruitment and basic training, with less emphasis on knowledge-sharing systems. The gap in aligning staff training outcomes with school objectives and measuring individual contributions to organizational success remains significant.

Therefore, this study seeks to examine how knowledge management strategies can be leveraged to enhance academic performance in public day secondary schools in Matungu Sub-County, Kenya. By exploring the role of knowledge management alongside other HRM practices, this study aims to provide actionable insights for policymakers, school leaders, and educators in improving learning outcomes in an evolving educational landscape.

1.1 Statement of the Problem

Public day secondary schools are expected to deliver high-quality education that enables students to excel academically. However, in Matungu Sub-county, academic performance has been persistently low. For instance, in 2021, the mean score for public day secondary schools stood at 3.46, and in the 2023 KCSE, only 15% of students achieved a C+ and above, falling below the national average of 22.2% (KNEC, 2024). Additionally, student attendance rates remain low, with only 78% of students attending regularly, while mid-term assessments show that less than half of the students meet core subject benchmarks (Matungu Sub-County Education Office, 2023).

While several factors influence academic performance, limited attention has been given to the role of **knowledge management** in enhancing learning outcomes. Studies increasingly show that ineffective knowledge management practicessuch as poor knowledge-sharing among teachers, inadequate documentation of best practices, and the lack of systems to retain and apply institutional knowledgecontribute to declining teaching quality and school management inefficiency (Kianto et al., 2016; Dalkir, 2005). Without a deliberate focus on creating, sharing, and applying knowledge within schools, efforts to improve academic outcomes may remain fragmented and ineffective.

This study, therefore, seeks to examine the relationship between knowledge management strategies and academic performance in public day secondary schools in Matungu Sub-county. Understanding how knowledge management can be used to enhance teaching practices, improve resource utilization, and foster collaboration among educators is crucial to addressing the persistent performance challenges in the region. By filling this gap, the study aims to provide insights for policymakers, school leaders, and stakeholders seeking to improve educational outcomes in resource-constrained public schools.

1.2 OBJECTIVE

The main objective of the study was to assess the influence of knowledge management on theacademic performance of public day secondary schools in Matungu sub-county, Kenya.

1.3 Hypothesis of the study

H_{01}: There is no statistically significant influence of knowledge management on academic performance of public day secondary schools in Matungu Sub- County, Kenya.

II. THEORETICAL REVIEW

The Resource-Based View (RBV) theory was primarily advanced by Barney (1991), building upon earlier works by Wernerfelt (1984) and Conner (1991), who laid the foundation for understanding how firms achieve sustainable competitive advantage through the unique resources they possess. The RBV assumes that organizations are heterogeneous in terms of their resources, and it posits that a firm's competitive advantage stems from resources that are valuable, rare, inimitable, and non-substitutable. Within the context of education, this theory emphasizes that the tacit knowledge held by teachers and school leaders, being deeply embedded and context-specific, serves as a critical strategic resource that can significantly influence academic performance. However, the RBV is not without its limitations, as it faces challenges in defining, identifying, and measuring intangible resources such as knowledge, and it tends to adopt a static view of resources without adequately addressing how they are developed, shared, or evolve over time (Tilton, 2009).

The Behavioral Perspective Model (BPM), introduced by Schuler and Jackson (1987) and later refined by Jackson et al. (1989), complements the RBV by emphasizing the role of employee behaviorspecifically, the practices and collaborative behaviors of teachersin achieving desired organizational outcomes. The BPM assumes that targeted human resource management (HRM) practices, such as training programs, performance incentives, and knowledge-sharing initiatives, can influence teacher behaviors in ways that support improved academic performance. However, the model also has its limitations, as it focuses predominantly on observable behaviors, potentially neglecting the deeper knowledge, skills, and abilities (KSAs) that drive sustained performance and innovation in educational settings.

Together, these theories provide a robust foundation for understanding the role of knowledge management (KM) in enhancing academic performance. The RBV positions knowledge as a critical, strategic asset that must be effectively identified, protected, and leveraged, while the BPM highlights the importance of aligning teacher behaviorssuch as collaboration, instructional practices, and continuous learningwith the broader goals of the institution. In the context of knowledge management, the RBV underpins the need for schools to recognize and manage knowledge as a source of competitive advantage, while the BPM underscores the importance of designing KM practices that encourage the desired knowledge-sharing behaviors among teachers and staff. By integrating these theoretical perspectives, educational institutions can foster a culture of continuous improvement, collaboration, and innovation, all of which are essential for achieving and sustaining high levels of academic performance.

2.1 EMPIRICAL REVIEW

2.1.1 KNOWLEDGE MANAGEMENT

In their 2017 study, Lim, Tseng, Tan, and Bui explored the integration of knowledge management (KM) within sustainable supply chain management (SSCM) to enhance performance in Vietnam's textile industry. The research aimed to identify and analyze the interrelationships between KM practices and SSCM, recognizing that previous studies had not thoroughly examined these connections. By focusing on the textile sectora significant contributor to Vietnam's economythe study sought to provide insights into how KM can drive sustainability and performance improvements in supply chains.The researchers employed an Interpretive Structural Modelling (ISM) approach, a methodology that facilitates the identification and summarization of relationships among specific variables, which define a problem or issue. This approach is particularly useful in dealing with complex systems where variables are interrelated. In this study, ISM was used to develop a hierarchical structure of KM practices and their influence on SSCM, enabling the identification of driving and dependent factors within the system.Data collection involved gathering expert opinions from professionals within the Vietnamese textile industry. These experts provided insights into the critical KM practices influencing SSCM. The data collection instrument was designed to capture the perceptions and experiences of these professionals regarding KM and SSCM practices. The target population included managers and decision-makers in textile firms who are directly involved in supply chain and knowledge management processes.The sampling technique utilized was purposive sampling, selecting individuals with specific expertise and experience relevant to the study's focus. This non-probability sampling method ensured that the participants had the necessary knowledge to provide meaningful insights into the KM and SSCM practices within their organizations.The study conceptualized KM as a critical enabler of SSCM, proposing that effective KM practices could lead to improved sustainability and performance in supply chains. The ISM methodology allowed the researchers to construct a model illustrating the relationships among various KM practices and their impact on SSCM. The model identified key driving factors, such as learning organization, information and knowledge sharing, joint knowledge creation, information technology, and knowledge storage, which were deemed most effective in enhancing firm performance.The findings highlighted that these KM practices possess high driving and dependence power, indicating their significant role in influencing SSCM outcomes. The study recommended that textile firms in Vietnam prioritize the development and implementation of these KM practices to achieve sustainable supply chain performance. By fostering a culture of continuous learning, promoting knowledge sharing, and leveraging information technology, organizations can enhance their SSCM initiatives.In conclusion, the research by Lim et al. (2017) underscores the importance of integrating KM into SSCM strategies within the textile industry. The study provides a structured approach to understanding the complex relationships between KM practices and supply chain sustainability, offering practical recommendations for firms aiming to improve their performance through effective knowledge management.

Mangulo and Akwala(2021), embarked on an exploration of the global knowledge management (KM) community's perspectives concerning the intersection of KM and business performance, aiming to delineate prevailing research trends and identify prospective avenues for future inquiry. The study was situated within the broader context of organizational performance enhancement, recognizing KM as a pivotal factor influencing business outcomes.The researchers adopted a qualitative research design, utilizing a systematic literature review methodology to aggregate and analyze existing scholarly works on KM and business performance. This

approach enabled them to synthesize diverse viewpoints and extract thematic patterns prevalent in the literature.Data collection was conducted through an extensive review of peer-reviewed journal articles, conference proceedings, and other academic publications pertinent to KM and business performance. The selection criteria for these sources were based on relevance, recency, and the credibility of the publication outlets. The target population comprised academic researchers, industry practitioners, and thought leaders who have contributed to the discourse on KM and its impact on business performance.Sampling techniques involved purposive sampling, where literature was deliberately selected to ensure a comprehensive representation of the field's intellectual landscape. This method facilitated the inclusion of seminal works and contemporary studies that collectively offered a holistic view of the subject matter.The study conceptualized KM as a multifaceted construct encompassing processes such as knowledge creation, sharing, storage, and application, all of which are instrumental in driving business performance. By examining the interplay between these KM processes and organizational outcomes, the researchers sought to elucidate the mechanisms through which KM contributes to business success.Findings from the study revealed that while there is a consensus on the positive correlation between effective KM practices and enhanced business performance, there exists a need for more empirical research to substantiate this relationship. The study identified gaps in the literature, particularly concerning the quantification of KM's impact on performance metrics and the contextual factors influencing this dynamic.Consequently, Mangulo and Akwala recommended that future research endeavors should focus on developing robust measurement frameworks for KM effectiveness, conducting longitudinal studies to assess KM's long-term impact on business performance, and exploring sector-specific applications of KM strategies. These recommendations aim to deepen the understanding of KM's role in organizational success and guide practitioners in implementing evidence-based KM initiatives.

Kruger and Johnson(2010) examined the principles of knowledge management (KM) maturity within South African organizations, aiming to understand how KM practices are institutionalized across various industries. The context of the study was set against the backdrop of South Africa's diverse economic sectors, recognizing the need for effective KM to enhance organizational performance.The researchers focused on the business sector, encompassing a range of industries to assess the maturity of KM practices. Their objective was to identify the extent to which KM principles, policies, and strategies had been established and implemented within these organizations. Employing an empirical research design, the study utilized a structured inventory developed by Kruger and Snyman to assess KM maturity levels. Data collection involved interviews with 434 employees across 86 organizations, spanning nine economic sectors in South Africa. The participants were distributed over three managerial levels: operational, middle, and senior management. This approach allowed for a comprehensive understanding of KM practices across different organizational hierarchies.The target population included organizations from various industries, ensuring a diverse representation of the South African business landscape. The sampling technique involved selecting organizations engaged in collaboration programs with a large urban South African university, providing access to a broad spectrum of industry groupings.The study conceptualized KM maturity through the lens of established principles, policies, and strategies, assessing how these elements contribute to the effective management of knowledge within organizations. By evaluating the presence and implementation of KM components such as strategy formulation, measurement, policy development, content management, process optimization, technology utilization, and cultural integration, the researchers aimed to gauge the overall maturity of KM practices.Findings indicated a positive trend towards the establishment and successful implementation of KM principles across South African industries. Organizations that scored higher in the establishment of KM principles also demonstrated higher implementation scores, suggesting a strong correlation between the two. The study highlighted that elements such as strategy formulation, measurement, policy, content, process, technology, and culture significantly influence an organization's ability to manage knowledge effectively.Based on these findings, Kruger and Johnson recommended that organizations should focus on developing and institutionalizing comprehensive KM principles to enhance their knowledge management capabilities. By emphasizing the formulation of clear strategies, establishing robust policies, leveraging appropriate technologies, and fostering a culture conducive to knowledge sharing, organizations can achieve higher levels of KM maturity and, consequently, improved performance.

In their 2010 study, Mosoti and Masheka investigated the role of knowledge management (KM) in organizational development within Kenya, focusing on how KM practices are implemented and their contribution to organizational performance. The study was conducted in the context of Kenyan organizations adapting to the rapidly changing and high-technology environment of the 21st century, where innovation and effective management of knowledge assets are crucial for competitiveness and growth .The researchers targeted various organizations across Kenya, aiming to understand the extent to which KM practices were being carried out and institutionalized. The study encompassed multiple sectors, reflecting the diverse economic landscape of the country.Employing a qualitative research design, the study utilized a combination of primary and secondary data collection methods. Primary data were gathered through interviews and questionnaires administered to employees at different organizational levels, including top, middle, and operational management. Secondary

data were obtained from existing literature and organizational documents related to KM practices.The target population comprised employees from various organizations in Kenya, with a focus on those involved in or affected by KM initiatives. The sampling technique involved selecting organizations that were representative of different sectors and sizes, ensuring a comprehensive understanding of KM practices across the organizational spectrum.The study conceptualized KM as a strategic asset encompassing the creation, sharing, and application of knowledge to enhance organizational performance. It emphasized the importance of integrating KM into organizational culture, leadership, and strategy to foster innovation and adaptability in a dynamic business environment.Findings from the study revealed that while some organizations in Kenya had begun to implement KM practices, there was a general lack of understanding and institutionalization of KM principles. Challenges identified included resistance to change, inadequate technological infrastructure, and a lack of supportive organizational culture and leadership.Based on these findings, Mosoti and Masheka recommended that organizations in Kenya should prioritize the development and implementation of KM strategies aligned with their overall objectives. They emphasized the need for leadership commitment, cultural transformation, and investment in technology to support KM initiatives. By doing so, organizations could enhance their capacity for innovation, improve decision-making processes, and achieve sustainable competitive advantages in the evolving business landscape.

2.1.2 ACADEMIC PERFORMANCE

Wu, Li, Zheng, and Guo (2020) conducted a comprehensive study in China to explore the intricate relationships among medical students' motivation, self-efficacy, learning engagement, and academic performance. The research was grounded in the theoretical framework of self-determination theory, which differentiates between intrinsic and extrinsic motivation, and posits that these motivational types influence learning outcomes through mediators such as self-efficacy and engagement.The study was situated within the field of medical education, focusing on undergraduate medical students across China. Employing a cross-sectional design, the researchers collected data from 1,930 medical students enrolled in ten universities and colleges, selected through stratified sampling to ensure representation across different institutional types. The data collection occurred via an anonymous electronic questionnaire administered between May and June 2014. The survey comprised three validated subscales: the Enrolment Motivation Scale (adapted from the Academic Motivation Scale) to assess intrinsic and extrinsic motivation; a modified Self-Efficacy Scale to measure students' belief in their capabilities; and the Learning Engagement Scale (adapted from the Utrecht Work Engagement Scale–Student) to evaluate vigor, dedication, and absorption in learning. Academic performance data were obtained directly from institutional records, providing objective measures of students' cumulative grade means.To analyze the data, the researchers utilized structural equation modeling (SEM) to examine the mediating roles of self-efficacy and learning engagement in the relationship between motivation and academic performance. Additionally, multiple-group SEM analyses were conducted to explore differences across gender and institutional types—specifically, key universities and colleges (KUCs) versus non-key universities and colleges (NKUCs).The findings revealed that students in KUCs exhibited significantly higher intrinsic motivation, better academic performance, and lower extrinsic motivation compared to their counterparts in NKUCs. Interestingly, male students reported higher intrinsic motivation but lower academic performance than female students. The analysis demonstrated that intrinsic motivation had a more substantial total effect on academic performance than extrinsic motivation. Moreover, both types of motivation indirectly influenced academic performance through learning engagement. While both intrinsic and extrinsic motivation were significant predictors of self-efficacy, self-efficacy did not have a direct significant effect on academic performance.Based on these results, the study recommended that educational interventions aiming to enhance medical students' academic performance should focus on fostering intrinsic motivation and promoting active learning engagement. The findings also suggest that while self-efficacy is influenced by motivation, its role as a direct predictor of academic performance may be limited, indicating the need for further research to explore its indirect effects and interactions with other variables. These insights can inform the development of targeted counseling and support programs tailored to different student demographics and institutional contexts.Broadbent (2017) conducted a study in Melbourne, Australia, to investigate the differences in self-regulated learning (SRL) strategies and academic performance between online and blended learners. The research was grounded in the social cognitive theory, emphasizing the role of self-regulation in learning processes. The study aimed to determine whether the mode of learning influences the use of SRL strategies and how these strategies predict academic outcomes.The study was situated within the higher education sector, focusing on undergraduate students enrolled in psychology courses at an Australian university. A quantitative research design was employed, utilizing a cross-sectional survey method to collect data. The primary data collection instrument was the Motivated Strategies for Learning Questionnaire (MSLQ), which assesses various SRL strategies, including time management, elaboration, rehearsal, peer learning, and help-seeking behaviors. The target population comprised students enrolled in either fully online or blended learning modes. A total of 606 students participated in the study, with 140 in the online learning group and 466 in the blended learning group. Participants were

selected based on their enrollment in the specified courses, ensuring representation from both learning modes.The study's conceptual framework was based on the premise that SRL strategies are critical determinants of academic success, particularly in environments where learners have varying degrees of autonomy and interaction. The research hypothesized that online learners, due to the nature of their learning environment, would employ SRL strategies differently compared to blended learners. Data analysis involved comparing the frequency and type of SRL strategies used by both groups and examining the predictive value of these strategies on academic performance, measured by course grades.Findings revealed that online students reported higher usage of most SRL strategies compared to their blended counterparts, except for peer learning and help-seeking, which were more prevalent among blended learners. Time management and elaboration strategies emerged as significant positive predictors of academic performance for both groups, while rehearsal strategies were negatively associated with academic outcomes. Despite differences in SRL strategy usage, the overall predictors of academic performance were found to be equivalent across both learning modes.Based on these findings, the study recommended that educational interventions should focus on enhancing students' time management and elaboration skills to improve academic performance, regardless of the learning mode. Additionally, the research suggested that instructors should be aware of the distinct SRL strategies employed by online and blended learners and tailor their support accordingly to foster effective learning behaviors.

Ainin, Naqshbandi, Moghavvemi, and Jaafar (2015) conducted a study in Malaysia to examine the impact of Facebook usage on students' academic performance. The research was grounded in social learning theory, which posits that individuals learn behaviors through observation and interaction within their social environment. The study aimed to determine whether socialization influences Facebook usage and how this, in turn, affects academic performance.Situated within the higher education sector, the study focused on undergraduate students from Malaysian universities. A quantitative research design was employed, utilizing a cross-sectional survey method to collect data. The primary data collection instrument was a structured questionnaire designed to assess variables such as Facebook usage patterns, socialization factors, and self-reported academic performance. The target population comprised university students across Malaysia, and a total of 1,165 responses were collected. Participants were selected using a convenience sampling technique, targeting students who were accessible and willing to participate in the study.The study's conceptual framework was based on the premise that socialization factors, such as being socially accepted and acculturation, influence Facebook usage, which in turn affects academic performance. Data analysis involved examining the relationships between these variables using statistical methods. The findings revealed that the construct of being socially accepted significantly influenced Facebook usage, whereas acculturation did not have a significant relationship with usage. Furthermore, the results indicated a positive relationship between Facebook usage and students' academic performance, suggesting that higher usage was associated with better self-perceived academic outcomes.Based on these findings, the study recommended that educational institutions consider the role of social media platforms like Facebook in the academic environment. Since Facebook usage was found to have a positive association with academic performance, integrating such platforms into educational strategies could enhance learning experiences. However, the study also emphasized the importance of understanding the underlying social factors that drive Facebook usage to effectively leverage its benefits in an academic context.

Mwangi and Nyagah (2013) conducted a study in Kiambu County, Kenya, to investigate the determinants of academic performance in the Kenya Certificate of Secondary Education (KCSE) among public secondary schools. The study was motivated by the observation that Kiambu County consistently recorded the lowest KCSE performance in Central Province from 2007 to 2010, despite its relatively high socio-economic status. This paradox prompted an inquiry into the factors influencing academic outcomes in the region.The research was situated within the educational sector, focusing on secondary education. Adopting an ex-post-facto research design, the study aimed to examine the relationship between various school-based factors and students' academic performance. This design was appropriate as it allowed the researchers to analyze existing conditions without manipulating the independent variables.Data collection involved both quantitative and qualitative methods. Questionnaires were administered to 260 teachers and 246 students to gather quantitative data, while interviews were conducted with 36 principals and the County Director of Education to collect qualitative insights. The study employed simple stratified random sampling to ensure representation across different schools and stakeholders.The conceptual framework of the study centered on the premise that academic performance is influenced by multiple interrelated factors, including the availability of teaching and learning resources, teaching methodologies, students' entry behavior (as indicated by their Kenya Certificate of Primary Education scores), and the supervision of curriculum implementation. The researchers hypothesized that deficiencies in these areas could contribute to poor academic outcomes.The findings revealed several critical issues affecting academic performance in Kiambu County. Many schools lacked well-equipped laboratories and libraries, limiting students' access to essential learning resources. The predominant use of lecture-based teaching methods, as opposed to more interactive approaches, was also noted. Furthermore, a significant proportion of students entered secondary school with low KCPE scores, indicating weak academic foundations. The study also highlighted inadequate supervision of curriculum implementation, which adversely affected the quality of

education delivery.Based on these findings, the study recommended several interventions to improve academic performance. Schools should invest in equipping laboratories and libraries to enhance the learning environment. Teachers should be encouraged to adopt more interactive teaching methods to engage students effectively. Additionally, strategies should be implemented to support students with low entry behavior, such as remedial programs. Strengthening the supervision of curriculum implementation was also emphasized to ensure adherence to educational standards.

2.2 CONCEPTUAL FRAMEWORK

A conceptual framework serves as a visual or narrative representation of the key variables and the presumed relationships among them within a study. It provides a structured approach that guides the research by linking theoretical constructs to the research objectives and hypotheses. Typically illustrated in a figure (e.g., Figure 1 below), a conceptual framework helps clarify how independent, dependent, and mediating variables interact, thereby informing the methodology and analysis (Miles, Huberman, & Saldaña, 2014). By grounding the research in established theory, the conceptual framework ensures coherence and directs the investigation toward understanding the phenomena under study.

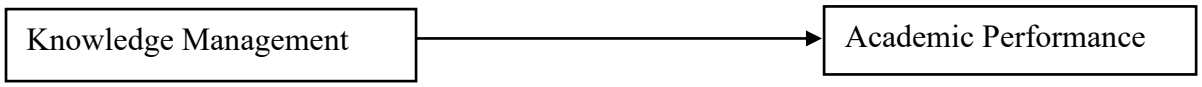

Figure 1:Conceptual framework

III. RESEARCH METHODOLOGY

3.1 Research Design

The study adopted a descriptive cross-sectional and correlational research design to explore the relationships between variables. This design was selected because it allows for statistical inference and generalization of findings to the larger population, while minimizing the risk of incorrect causal inferences (Ohen & Yuko, 2009, as cited by Odollo, 2019). The approach facilitated the examination of linkages between human resource strategies and academic performance in public day secondary schools.

3.2 Target Population

The target population consisted of principals, teachers, and the Matungu TSC Subcounty Director of Education responsible for human resource management within Matungu Subcounty, Kakamega County, Kenya. Specifically, the population included 20 principals and 388 teachers across 20 public day secondary schools, totaling 408 individuals (Mutula, Kyalo, Mulwa, & Gichuhi, 2018; Ministry of Education, Kakamega County, 2023).

3.3 Sample Size and Sampling Techniques

A sample of 201 respondents was selected using stratified and purposive sampling techniques. Purposive sampling targeted principals and teachers deemed crucial for strategic school management, while stratification ensured representation across school types (Imbambi, Oloko, & Rambo, 2017; Mutula et al., 2018). The Yamane formula was applied to determine a manageable sample size from the total population, ensuring proportional representation of teachers from mixed, boys', and girls' schools.

3.4 Data Collection Instruments

Structured questionnaires, incorporating a five-point Likert scale ranging from strongly agree to strongly disagree, were used to gather data. These questionnaires were designed based on the study's specific objectives related to talent analytics, employee experience design, knowledge management, and upskilling programs as independent variables influencing academic performance (Kothari, 2004; Imbambi et al., 2017).

3.5 Data Collection Procedure

The researcher obtained permission from the National Council for Science Technology and Innovation and coordinated with local education administrators. Two trained research assistants helped administer the questionnaires directly to the selected respondents, who were given adequate time to complete them before collection.

3.6 Data Analysis Procedures

Data were cleaned, coded, and analyzed using both descriptive (means, percentages, standard deviations, frequencies) and inferential statistics. Pearson Product Moment Correlation was applied to test relationships among variables, while multiple regression analysesincluding moderated regressionexamined the effects of independent variables and government regulations on academic performance. T-tests assessed the direction of

relationships, and ANOVA tested model applicability. Data presentation included pie charts, bar graphs, and tables. Assumptions of regression analysis such as linearity, normality of errors, homoscedasticity, and independence were adhered to during analysis (Kothari, 2004; Creswell, Fetters, & Curry, 2013).

IV. RESULTS AND DISCUSSION

4.1 RELIABILITY

The reliability of the knowledge management variable was assessed using Cronbach's alpha, which yielded a value of 0.873, indicating high internal consistency among the nine items used to measure this construct. When standardized, the Cronbach's alpha slightly decreased to 0.866, yet it remained well above the acceptable threshold of 0.70, thereby confirming the reliability of the scale. Consequently, the findings demonstrate that the knowledge management construct is measured reliably within this study, supporting its use for further analysis.

Table 4.1: Reliability of Research Variables

Variable	**Cronbach's** Alpha (α)	**Cronbach's Alpha Based on Standardized Items**	**Items**	**Conclusion**
Knowledge management	.873	.866	9	Reliable

Source: (Researcher, 2024)

4.2 Descriptive Statistics for Knowledge Management

The researcher conducted an examination of descriptive statistics related to knowledge management, asking participants to express their perceptions on various aspects of this construct. The results revealed that for the item measuring whether the organization has a specific talent analytics initiative in place, responses ranged from a minimum of 1 to a maximum of 5, with a mean score of 3.47 and a standard deviation of 0.906. Overall, the average mean across all knowledge management items was 3.86 with a standard deviation of 0.997, indicating a generally positive perception of knowledge management practices among the respondents, alongside moderate variability in their responses.

Table 4.2: Descriptive Statistics for Knowledge Management

	N	Minimum	Maximum	Mean	Std. Deviation
B1:The organization has a specific talent analytics initiative in place	183	1	5	3.47	.906
Average Mean				**3.86**	**0.997**

Source: (Researcher, 2024)

These findings align with Lim, Tseng, HuaTan, and Bui (2017), who argue that learning organizations, knowledge sharing, collaborative knowledge creation, information technology, and knowledge storage are among the most critical factors for improving firm performance.

Additionally, Heisig et al. (2016) emphasize that while experts acknowledge the complexities

Source: (Researcher, 2024)

.**Table 4.3: Correlations Matrix**

		Knowledge Management
Knowledge Management	Pearson Correlation	1
	Sig. (2-tailed)	
	N	183

**. Correlation is significant at the 0.01 level (2-tailed).

The correlation matrix for knowledge management reveals a perfect positive correlation with itself, indicated by a Pearson correlation coefficient of 1. This correlation is statistically significant at the 0.01 level (2-tailed), confirming the internal consistency of the variable across the 183 respondents surveyed.

4.3 Multicollinearity Test

The multicollinearity test results indicate that the assumption of no excessive correlation among independent variables holds true in this study. Specifically, the tolerance value for Knowledge Management is 0.598, which is well above the critical threshold of 0.1, and the Variance Inflation Factor (VIF) is 1.673, which is below the

commonly accepted cutoff value of 5 (and certainly less than 10). These statistics suggest that there is no significant multicollinearity present between Knowledge Management and other predictors in the regression model, ensuring that the independent variables do not excessively correlate with each other and thus supporting the reliability of the regression analysis.

Table 4.4 Multicollinearity Test

		Collinearity Statistics	
Model		Tolerance	VIF
1	(Constant)		
	Knowledge Management	.598	1.673

Source: (Researcher, 2024)

4.4 Multiple Regression Analysis

Multiple linear regression analysis was performed to calculate the effects of the predictor variables on academic performance. The model summary of the regression model is presented in table below.The multiple regression analysis results reveal that the predictor variable, Knowledge Management, has a strong positive relationship with academic performance, as indicated by an R value of 0.790. This suggests that Knowledge Management explains a substantial portion of the variance in academic performance. The R Square value of 0.624 indicates that approximately 62.4% of the variability in academic performance can be accounted for by Knowledge Management.

Table 4.5: Model Summary on Human Resource Management Strategies and Academic Performance

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.790[a]	.624	.616	.28467

a. Predictor: (Constant), Knowledge management

Source: (Researcher, 2024)

b Dependent Variable: employee output

Moreover, the Adjusted R Square of 0.616, which adjusts for the number of predictors in the model, confirms that the model provides a good fit to the data. The standard error of the estimate, 0.28467, reflects the average distance between the observed academic performance values and the values predicted by the model, indicating a relatively small prediction error. Overall, these results suggest that Knowledge Management is a significant predictor of academic performance in this context.

Table 4.6 : ANOVA[a] on Human Resource Management Strategy and Academic Performance

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	23.982	4	5.996	73.985	**.000[b]**
	Residual	14.425	178	.081		
	Total	38.407	182			

a. Dependent Variable: Academic Performance

b. Predictor: (Constant), Knowledge management

Source: (Researcher, 2024)

The ANOVA table evaluates the overall significance of the regression model linking human resource management strategies, specifically Knowledge Management, to academic performance. The regression sum of squares (23.982) represents the variation in academic performance explained by the model, while the residual sum of squares (14.425) reflects the variation not explained by the predictors. With 4 degrees of freedom for the regression and 178 for the residuals, the mean square for the regression is 5.996, and for the residuals, it is 0.081. The calculated F-statistic is 73.985, with a significance value (p-value) of .000, which is less than the conventional threshold of 0.05. This indicates that the regression model significantly predicts academic performance, confirming that Knowledge Management as a human resource management strategy has a statistically significant effect on academic performance.

To investigateknowledge management strategyon academic performance of public day secondary schools, the following coefficient were generated and presented in table:

Table 4.7: Coefficients[a] on Human Resource Management Strategy and Academic Performance

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.585	.198		2.957	.004
	Knowledge Management	.142	.052	.160	2.700	.008

a. Dependent Variable: Academic Performance

Source: (Researcher, 2024)

The coefficients table presents the results of the multiple regression analysis examining the effect of Knowledge Management on academic performance. The constant (intercept) has an unstandardized coefficient (B) of 0.585 with a standard error of 0.198, which is statistically significant ($t = 2.957$, $p = 0.004$), indicating the predicted value of academic performance when Knowledge Management is zero.The unstandardized coefficient for Knowledge Management is 0.142 with a standard error of 0.052, suggesting that for every one-unit increase in Knowledge Management, academic performance increases by 0.142 units, holding other variables constant. The standardized coefficient (Beta) of 0.160 shows the strength of this relationship relative to other variables in the model. The effect of Knowledge Management on academic performance is statistically significant, as indicated by the t-value of 2.700 and a p-value of 0.008, which is less than 0.05. This confirms that Knowledge Management positively and significantly predicts academic performance in the studied context.
Basedontheaboveresultsthestudyderivedthefollowingmultiplelinearregressionmodel.
$Y=0.585 + 0.142X_1$

V. Conclusions & Recommendations

The study establishes that knowledge management significantly influences academic performance in public day secondary schools within Matungu Sub County, as the regression analysis confirms a positive and statistically significant relationship, indicating that effective knowledge management practices contribute to improved academic outcomes. Moreover, the demographic data demonstrate that the respondents are well-qualified and experienced, which provides credible insights into human resource management strategies, while the reliability tests further confirm that the measurement tools used in the study are consistent and dependable. Overall, the findings highlight that the strategic management of knowledge—including talent identification, skills alignment, and management commitmentplays a critical role in enhancing academic performance, thereby confirming the broader theoretical understanding that knowledge sharing, learning organizations, and systematic talent analytics are crucial to organizational success, even within educational settings.

Building on these conclusions, it is recommended that academia expand research on human resource strategies in education by exploring additional variables such as employee motivation, training quality, and technology integration, to deepen the understanding of factors influencing academic performance. Furthermore, educational programs for school management should integrate modules on knowledge management and talent analytics to prepare future leaders for effective human resource management. In parallel, policy makers should develop comprehensive guidelines and frameworks that emphasize knowledge management practices in schools, ensuring that school administrations have clear strategies for talent identification and skills development. They should also prioritize investment in continuous professional development programs that focus on knowledge sharing and talent management for school leaders and teachers, recognizing that such capacity building will improve academic outcomes.

Simultaneously, stakeholders including school administrators, teachers, and the community should adopt formal knowledge management initiatives that facilitate the identification, sharing, and application of knowledge to support teaching and learning processes. Additionally, these stakeholders ought to collaborate actively to support human resource management initiatives that recognize and leverage individual talents, aligning them with school goals to foster a performance-oriented culture. Together, these conclusions and recommendations aim to strengthen the role of human resource management, particularly knowledge management, in driving academic success, thereby benefiting all parties invested in educational excellence.

For further study, it is recommended that future research explores additional dimensions of human resource management beyond knowledge management, such as the impact of employee motivation, leadership styles, and organizational culture on academic performance. Researchers could also examine the role of technology integration and digital tools in enhancing knowledge sharing and talent development within schools. Longitudinal studies might provide deeper insights into how changes in human resource strategies influence academic outcomes over time. Additionally, comparative studies across different regions or types of schools could help to generalize the findings and identify context-specific factors affecting the effectiveness of human resource management in education.

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