

KNOWLEDGE STORAGE AND ORGANIZATIONAL PERFORMANCE: AN EMPIRICAL STUDY OF NATIONAL TEACHERS COLLEGES (NTCS) IN UGANDA

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Abstract: The importance of knowledge as a critical factor in providing organizations with a competitive advantage has become increasingly crucial. Organizations need to adopt a knowledge-based approach to operate effectively in today's economy. This is due to the competitive environment in the global marketplace, where organizations have recognized the need to remain competitive through adequate knowledge storage. This study aims to evaluate the impact of knowledge storage on the performance of organizations, specifically the National Teachers' Colleges (NTCs) in Uganda. Data obtained using a questionnaire were collected from 141 respondents from a target population of 221 from five national teacher training colleges in Uganda. The data were analyzed using descriptive and inferential statistical techniques to determine the impact of knowledge storage as an independent variable on NTCs' performance. The analysis revealed a strong positive impact ($r = .510$) of knowledge storage on the performance of the NTCs in Uganda. The coefficient of determination indicated that knowledge storage accounted for 51.0% of the change in NTCs' performance. Further testing showed that the significance value ($p = .000$) was less than the recommended .05, supporting the study's findings. The study guides for NTC to integrate its knowledge and assets, such as databases, people, experience, expertise, systems, policies, and procedures, into knowledge management to improve performance. The results of this study will be used to improve knowledge storage at the NTCs in Uganda, resulting in improved relevance to Ugandan society and beyond.

Keywords: Knowledge storage, organizational performance, university

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Introduction

The explicit knowledge of the employees of an organization (that knowledge which can be expressed and shared) is a source of accumulated knowledge acquired during the implementation process, leading to lessons learned on specific management

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practices, methods, tools, and so forth (Raudeliuniene and Matar, 2022). Knowledge can be shared if the organization has acquired and retained enough (Lithuania, 2017). For an organization's ability to efficiently improve its knowledge management cycle, its ability to perform better depends on its ability to amass valuable knowledge. Thus, knowledge storage is essential to knowledge management (Lithuania, 2017; Yu et al., 2019). According to Cordeiro, Oliveira, and Sánchez-Segura (2022), knowledge storage is considered the systematization and structuring of an organization's stock of knowledge to make it accessible and usable by members of the organization. Therefore, knowledge can only be shared if properly systematized and preserved. It is believed that if knowledge is considered valuable, then the storage of these valuable assets should be given great care (Becerra-Fernandez and Sabherwal, 2014). Once the necessary valuable knowledge is acquired, it should be coded and recorded to facilitate access to it and improve an organization's performance (Kiessling et al., 2009).

Thus, this research aims to assess the impact of knowledge storage on organizational performance with particular reference to NTCs in Uganda. The article consists of the following parts: an introduction, a theoretical review, a literature review, a methodology part, research results, and conclusions with a description of the study's implications, limitations, and future research ideas.

Literature Review

Higher education institutions (HEIs) have a strategic interest in generating knowledge from internal and external sources to enhance their competitive performance worldwide (Ouma et al., 2022). As a result, HEIs view knowledge storage as an institutional strategy that can enhance the quality of learning, facilitate better decision-making, and improve the performance of their academic staff, students, and the institution as a whole (Wanderage et al., 2021; Amayah, 2020). Effective storage and retrieval strategies are one of the primary mechanisms for preserving organizational memory (Alavi and Leidner, 2001). The process of knowledge storage within HEIs involves identifying, generating, and creating the necessary knowledge to achieve specific objectives (Paschen et al., 2020; Gakuo and Rotich, 2017). This process is specifically focused on extracting knowledge, making it explicit, and recording it systematically for future uses, often through the implementation of knowledge repositories. It increases the productivity of many knowledge workers who analyze various documents and spreadsheets or switch between folders in their daily work. Higher education institutions (HEIs) have implemented various methods and models to enhance the quality of education and improve the learning experience for students (Shahzad, 2020). In order to gain knowledge for improved and effective teaching and learning processes, some of the most popular and effective approaches used by HEIs include working group presentations, collaborative problem-solving, and online and classroom discussions (Rono, 2017). The storage of knowledge is crucial for the success and sustainability of HEIs, and it should be considered a continuous process rather than a one-time

event. HEIs must strive to ensure that the knowledge they store is relevant, up-to-date, and applicable to the needs of their stakeholders (Escorcía and Barros, 2020). This requires a continuous effort to scan, and monitor the environment in which they operate, identify emerging trends, and develop strategies to respond to them. HEIs must also create a culture that values and promotes the acquisition and dissemination of knowledge, where faculty members and students are encouraged to engage in research, innovation, and knowledge-sharing activities (Zhou and Li, 2012). In addition to this, HEIs must also leverage technological and scientific innovations to enhance their knowledge storage process. For instance, the use of e-learning platforms, online databases, virtual libraries, and other digital tools can help to improve access to information and knowledge resources, as well as facilitate collaborative learning and knowledge sharing among students and faculty members (Ouma et al., 2022). Furthermore, HEIs must invest in the development of their faculty members and students, providing them with the necessary training, support, and resources to enhance their knowledge and skills. The storage of knowledge is a crucial strategy for HEIs to remain competitive and relevant in the rapidly evolving global academic landscape. HEIs must adopt a proactive approach to knowledge storage, leveraging technological and scientific innovations and creating a culture that values and promotes continuous learning and knowledge sharing. By doing so, HEIs can enhance their overall performance, improve the quality of their academic offerings, and better serve the needs of their stakeholders (Ramakrishnan and Yasin, 2018). There is a lack of research on knowledge storage in Ugandan higher education institutions (HEIs). As noted by Poonkothai (2016), the excellence of HEIs is typically measured by academic performance in the classroom, with less emphasis on the actual acquisition of knowledge. Webster, Hammond, and Rothwell (2014) argue that knowledge storage in HEIs should prioritize market fit over traditional assessment methods and academic performance measures commonly used by most HEIs. The use of Resource-Based Theory (RTB) helped to explain how knowledge storage impacts NTC performance in Uganda (Sousa et al., 2021). According to the RBT, for an organization to achieve sustainable competitive advantage and succeed, it must not only modify its organizational characteristics but also adjust its overall direction (Craighead et al., 2020). The primary framework for organizational performance suggests that an organization's competitiveness is determined by its internal factors, such as resources and capabilities. According to the Resource-Based Theory (RBT), an organization can gain a competitive advantage over its rivals by possessing valuable resources and capabilities (Felin and Zenger, 2009). These advantages can provide long-term benefits for the organization. Valuable resources and capabilities are considered expensive, rare, difficult to imitate, and irreplaceable. In the context of HEIs, the RBT suggests that knowledge storage is a critical asset that distinguishes successful organizations from others (Gibson et al., 2021). The RBT provides a framework for explaining and predicting the factors that drive organizational performance and competitive advantage and is widely used as a

management framework to determine a company's critical capabilities and resources for achieving a sustainable competitive advantage (Nayak et al., 2023) Barney's (1991) seminal work on valuable resources was a crucial contribution to Resource-Based Theory (RBT), which transformed the concept of the resource-based view (Hitt et al., 2016; Craighead et al., 2020). While traditional RBT does not explain how and why some organizations gain a competitive advantage through unpredictable resources, developing new capabilities through learning, skill acquisition, and knowledge accumulation over time can also lead to competitive advantages. RBT logic suggests that sustainable competitive advantages can be generated by those who control the capabilities and resources owned by organizations (Setia and Patel, 2013). Organizations can continuously combine or configure various types of capabilities and resources to create a new way of storing knowledge to meet market needs and gain advantages (Sousa et al., 2021; Gibson et al., 2021). The Resource-Based Theory (RBT) has found widespread use in the field of strategic management and has also been applied both quantitatively and qualitatively in other areas of business management, including entrepreneurship (Lieberman, 2021), information systems (Setia and Patel, 2013), supply chain management, and economics (Ahmed et al., 2014), operations management (Hitt et al., 2016), and marketing (Kozlenkova et al., 2014; Amis et al., 2020). Numerous studies have explored the relationship between RBT and the achievement of various business objectives.

Hypothesis Development

The research hypothesis tested in this study was, "*Knowledge storage significantly and positively impacts the performance of National Teachers' Colleges (NTCs) in Uganda.*" The assumption in this study was that poor knowledge storage by NTC in Uganda would contribute to the poor performance of NTCs. On the other hand, better knowledge storage by NTCs in Uganda would contribute to the better performance of the NTCs. This research hypothesis has been confirmed in previous studies that have been conducted elsewhere in the world, showing that knowledge storage impacts organizational performance. One of these studies is that by Ohioyenoya and Eboreime (2014) conducted among universities in Nigeria. There was, however, a need to find out if similar results would be arrived at in the context of universities in Uganda when testing this hypothesis using Spearman correlation, coefficient of determination, and regression. This study also tested if the two sub-variables of knowledge storage, including knowledge database quality and knowledge database update, significantly impact the performance of NTCs in Uganda. The performance of NTCs in Uganda was investigated using three dimensions which included the impact performance of the NTCs Uganda, the transparency performance of the NTCs Uganda, and the excellent performance of the NTCs in Uganda.

Thus, the assumption of this study in relation to two dimensions of knowledge storage was as follows. Knowledge database quality and knowledge database updates by NTCs in Uganda contributed to the poor performance of NTCs in Uganda in terms of poor impact performance, poor transparency performance, and poor excellence performance of the NTCs in Uganda. On the other hand, better knowledge database quality and better knowledge database updates by NTCs in Uganda contributed to better performance of NTCs in terms of better impact performance, better transparency performance, and better excellence performance of NTCs in Uganda.

These are the hypotheses that were confirmed by the study by Ohiorenoya and Eboeime (2014) that was conducted from a positivist philosophical epistemology similar to that adopted in this study to examine the relationship, if any, between knowledge storage and organizational performance. The study found that better knowledge storage practices were linked with better performance of the organization. Therefore, organizations need to invest in ways that enable them to store information from people and other institutional repositories. This, if done, is likely to benefit the performance of the organization.

Research Methodology

This section presents the methodology the researcher used to gain and analyze information on knowledge storage and performance of the NTCs in Uganda. It focuses on the research design and approach, study population, sample size, sampling techniques, data collection methods and instruments, data quality control, data collection procedure, and data analysis.

Research Design and Approach

This study adopted a cross-sectional research design. This design was used because it is important for the researchers to find out the opinion of a cross-section of the population about the subject under investigation in a particular period of time using a particular part of the organization. It also enabled the researcher to target a large group of respondents to obtain information without making follow-ups with the respondents once information was obtained from them (Amin, 2005). Therefore, this design helped to save on time and resources during data collection. A quantitative approach was adopted in the study. This is because the quantitative approach allowed the researchers to solicit information that was quantified (Amin, 2005).

Target population and sample size determination

In Uganda, there were five National Teacher's Colleges (NTCs), namely NTC Muni, NTC Unyama, NTC Kaliro, NTC Mubende, and NTC Kabale. These colleges were higher learning institutions that specialized in training and producing teachers with diplomas. Data collection was conducted in July 2022, targeting a sample of 141 teaching staff from a total population of 221, using the R. V. Krejcie and D. W. Morgan (1970) sampling method. The sample included 29 respondents from Muni NTC, 18 from Unyama NTC, 30 from Kaliro NTC, 32 from Mubende NTC, and 32 from Kabale NTC. Each lecturer had an equal chance of being selected using simple

random sampling, except for Mubende NTC, where a census was used due to the relatively small number of teaching staff. The questionnaire was administered through face-to-face interviews.

Method of data collection

The quantitative method allowed the researcher to collect data that translated into figures, and it involved the use of a five-Likert scales such as agree, strongly agree, neutral, disagree, and strongly disagree—this study used questionnaire survey methods for collecting data. A questionnaire survey was used to collect information from a sample of 141 teaching staff from the five NTCs, using a standardized questionnaire (Amin, 2005; R. V. Krejcie and D. W. Morgan, 1970). subjected

Table 1. Validity of the data collection instrument

Raters	Relevant items	Not relevant items	Total
Rater 1	15	6	21
Rater 2	17	4	21
Total	32	10	42

Source: Primary data

$$CVI = 32/42 \approx .762$$

Amin (2005) recommends the CVI of .70 and above. This means that the instrument used for the data collection was capable of collecting valid data.

Reliability

To ensure that the data collection instrument was capable of collecting reliable data, the researcher performed a reliability test using SPSS to determine Cronbach's Alpha. The results are as in Table 2.

Table 2. Reliability of the data collection instrument

Variable	Cronbach's Alpha	N of Items
Knowledge storage	.788	10
Performance of NTCs	.743	11

Source: Primary data

The two Cronbach alphas in Table 2 were above the recommended reliability of .70, as suggested by Amin (2005). It means that the instrument used for the data collection was capable of collecting data consistently for both independent and dependent variables. Therefore, the findings were reliable.

Data analysis

The study used original data and applied quantitative analysis techniques using the Statistical Package for the Social Sciences (SPSS) computer program, which allowed

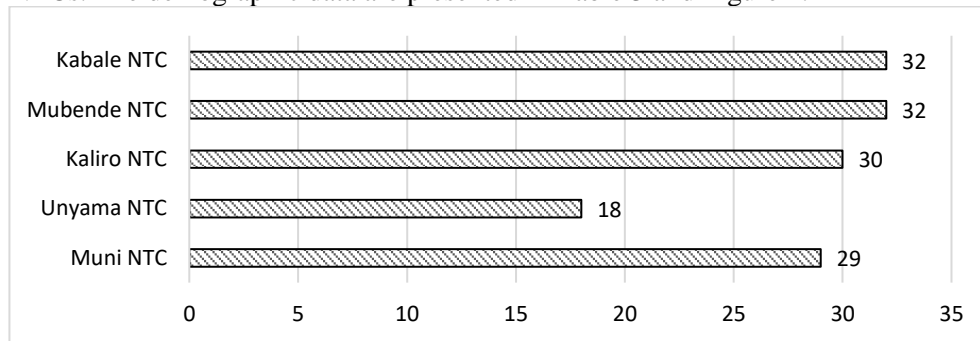
for rapid analysis of large amounts of data. One-dimensional statistics were conducted, which were in descriptive form and were necessary to understand the survey participants' responses to statements about the variables. Responses to items/questions in the questionnaire were measured using an ordinal scale, and percentages were used to analyze the results. Multivariate statistics such as Spearman's correlation, coefficient of determination, and regression analysis were also used to examine the impact of knowledge management, the independent variable, on NTC scores. This study was conducted according to the recommendations of various authors.

Research Results

This primary section of the study presents the empirical results, which are divided into two parts. The first part presents the demographic data, while the second part presents the findings on the impact of knowledge storage on the performance of the NTCs in Uganda.

Background information findings

The NTCs' teaching staff members were asked about the NTCs employing them as well as their gender, age, and length of time the teaching staff has worked with the NTCs. The demographic data are presented in Table 3 and Figure 1.



Figures 1: Institutions employing teaching staff
Source: Primary data (Frequency)

The results depicted in Figure 1 indicate that 20% of the teaching staff members that participated in this study were from Muni NTC, 13% were from Unyama NTC, 21% were from Kaliro NTC, 23% were from Mubende NTC, and 23% were from Kabale NTC. The percentages are almost equally represented among the five NTCs.

Table 3. Demographic data

Gender of teaching staff	Frequency	Percent
Male	128	91
Female	13	9
Total	141	100
Age of teaching staff	Frequency	Percent
20-29 years	12	9
30-39 years	96	68
40-49 years	19	13
Above 49 years	14	10
Total	141	100
Length of time teaching staff has worked with the NTCs	Frequency	Percent
Less than 5 years	38	26
5-10 years	98	70
11-15 years	5	4
Total	141	100

Source: Primary data

Further, it is shown that more male teaching staff members (91%) participated in this study than their female counterparts (9%). The same descriptive statistics, however, confirm that both males and females participated in the study. In addition, the majority of the teaching staff members (68%) were aged 30 to 39 years, followed by teaching staff members aged 40 to 49 years (13%), teaching staff members aged above 49 years (10%), and teaching staff members aged 20 to 29 years (9%). This confirms that the study participants were mature enough to give data that could be relied. Lastly, the majority of the teaching staff members had worked with the NTCs for 5 to 10 years, followed by teaching staff members that had worked for less than five years (26%) and 11 to 15 years (4%), meaning the participants in the research knew and understood very well the dynamics in the institutions they served since they had worked in them for a good number of years and therefore were capable of volunteering informed data.

Impact of knowledge storage on the performance of the NTCs in Uganda

In the field of statistics, it is customary to present descriptive statistics for each variable studied in a research project before presenting inferential results. Therefore, this section provides descriptive findings related to knowledge storage in the NTCS and those related to the performance of the NTCS separately. These are followed by inferential findings concerning knowledge storage and the performance of the NTCS in Uganda.

Descriptive findings related to knowledge storage in the NTCS in Uganda

Knowledge storage in the NTCs in this study was measured in terms of knowledge database quality and knowledge database update. The teaching staff members were requested to respond to items on each of these two measures of knowledge storage with the guidance of a five-response Likert scale ranging from never to very often, as shown in Table 4.

Table 4. Descriptive findings related to knowledge storage in NTCS in Uganda

Statement about knowledge database quality	N	VR	Total	R	O	VO	Total
1. This institution's academic community has adequate time to store relevant knowledge that can be utilized to solve problems	15%	39%	54%	7%	14%	25%	39%
2. This institution's academic community has adequate funds to store relevant knowledge that can be utilized to solve problems	24%	48%	72%	4%	11%	13%	24%
3. This institution's academic community stores quality new ideas that can be utilized to solve problems	13%	41%	54%	8%	13%	25%	38%
4. This institution's academic community stores quality new understanding of problems of concern that can be utilized to solve problems	20%	38%	58%	9%	24%	9%	33%
5. This institution's academic community stores quality discovered new facts that can be utilized to solve problems	13%	41%	54%	8%	13%	25%	38%
Statement about knowledge database update	N	VR	Total	R	O	VO	Total
6. This institution academic community has adequate time to update existing knowledge that can be utilized to solve problems	17%	37%	54%	7%	17%	22%	39%
7. This institution's academic community has adequate funds to update existing knowledge that can be utilized to solve problems	22%	37%	59%	7%	23%	11%	34%
8. This institution's academic community updates existing ideas that can be utilized to solve problems	17%	34%	51%	11%	17%	21%	38%
9. This institution's academic community updates existing	18%	38%	56%	6%	19%	19%	38%

understanding of problems of concern that can be utilized to solve problems							
10. This institution's academic community updates existing facts that can be utilized to solve problems	23%	34%	57%	9%	21%	13%	34%

Source: Primary data

Note: N = Never, VR = Very rarely, R = Rarely, O = Often and VO = Very often

To simplify the analysis of the results presented in Table 4, the percentages for "Never" and "Very rarely" were added together to represent teaching staff members who responded "less favorably" to the statements. Similarly, the percentages for "Often" and "Very often" were added together to represent teaching staff members who responded "more favorably" to the items. However, the percentages for "Rarely" were left unchanged and considered as teaching staff members who responded moderately to the items.

To summarize, the results in Table 4 indicate that a majority of teaching staff members (54% to 72%) responded negatively to the statements related to knowledge database quality, suggesting that they perceived it to be poor at the NTCs in Uganda. On the other hand, a minority of teaching staff members (24% to 43%) responded positively, indicating that they perceived the knowledge database quality to be good. Only a small percentage of teaching staff members (4% to 9%) responded neutrally, suggesting that they perceived the knowledge database quality to be fair. Overall, the findings suggest that there is room for improvement in the quality of knowledge databases at the NTCs in Uganda.

Table 4, which pertains to the update of the knowledge database, indicates that the teaching staff members who responded negatively to the five statements had the highest overall percentage range (ranging from 51% to 59%). Conversely, the teaching staff members who responded positively to the statements had the second-highest percentage range (ranging from 34% to 39%), while those who responded neutrally had the lowest percentage range (ranging from 6% to 11%). As a result, it can be inferred from this analysis that a majority of the teaching staff members held the opinion that the data/knowledge database update was inadequate at the NTCs, while approximately one-third of them believed it was satisfactory, and a minimal number deemed it to be fair.

Descriptive findings related to the organizational performance of the NTCS in Uganda

In this study, the performance of the NTCs was evaluated based on three measures: impact (visibility) performance, transparency (openness) performance, and excellence performance. The teaching staff members were asked to rate their agreement with statements related to each of these performance measures using a five-point Likert scale ranging from "never" to "very often," as presented in Table 5.

Table 5. Descriptive findings related to the organizational performance of NTCS in Uganda

Statement about the impact (visibility) performance	N	VR	Total	R	O	VO	Total
1. The institution has been recognized globally for producing relevant and graduates with the skills and knowledge needed by society	18%	38%	56%	6%	25%	13%	38%
2. The institution has been recognized globally for engaging research/innovations that have been useful to the community	18%	36%	54%	4%	21%	21%	42%
3. The institution has been recognized globally for assisting the country in addressing developmental challenges	14%	38%	52%	13 %	17%	18%	35%
Statement about transparency (openness) performance	N	VR	Total	R	O	VO	Total
4. The institution has been recognized globally for having published works that are accessible	21%	40%	61%	3%	22%	14%	36%
5. The institution has been recognized globally for employing international academic staff in various fields of expertise	16%	35%	51%	12 %	21%	16%	37%
6. The institution has been recognized globally for enrolling international students in various fields of expertise	13%	42%	55%	8%	12%	25%	37%
7. The institution has been recognized globally for publishing a large of research through various platforms	21%	51%	72%	3%	11%	14%	25%
Statement about excellent performance	N	VR	Total	R	O	VO	Total
8. The institution has been recognized globally for carrying out the best research work in various fields of expertise	13%	42%	55%	8%	13%	24%	37%
9. The institution has been recognized globally for having high teaching quality in various fields of expertise	18%	38%	56%	8%	25%	11%	36%
10. The institution's academic community has been recognized	13%	42%	55%	8%	12%	25%	37%

globally for winning Nobel prizes and fields medals							
11. The institution's academic community has been recognized globally for producing research publications that attract citations	18%	38%	56%	8%	25%	11%	36%

Source: Primary data

Note: N = Never, VR = Very rarely, R = Rarely, O = Often and VO = Very often

The data presented in Table 5 regarding impact (visibility) performance reveals that the teaching staff members who responded negatively to the statements had the highest overall percentage range (ranging from 52% to 56%). On the other hand, those who responded positively had the second-highest percentage range (ranging from 35% to 42%), while those who responded neutrally had the lowest percentage range (ranging from 4% to 13%). Based on these findings, it can be inferred that the majority of teaching staff members believed that the NTCs' impact (visibility) performance was unsatisfactory, with only about one-third of them believing it was reasonable and a very small number considering it to be fair.

The data presented in Table 5 regarding transparency (openness) performance reveals that the teaching staff members who responded negatively to the statements had the highest overall percentage range (ranging from 51% to 72%). Conversely, those who responded positively had the second-highest percentage range (ranging from 25% to 37%), while those who responded neutrally had the lowest percentage range (ranging from 3% to 12%). Based on these findings, it can be inferred that most teaching staff members believed that the transparency (openness) performance of the NTCs was inadequate, with only about one-third of them perceiving it to be good and very few considering it to be fair.

Table 5 presents findings on the topic of excellence performance. The results indicate that teaching staff members who responded negatively to the statements had the highest sum percentage range (55% to 56%) across the five statements. Those who responded positively had the following highest sum percentage range (36% to 37%), while those who responded neutrally had the lowest sum percentage range (8%). Based on these results, the majority of teaching staff members believe the NTCs' excellence performance is poor, with approximately one-third believing it is good and very few considering it to be fair.

Inferential findings on knowledge storage and performance of NTCS in Uganda

The objective of this study was to evaluate how knowledge storage affects the performance of NTCs in Uganda, and the inferential findings were used to address this objective—the inferential analysis comprised of computing the Spearman correlation, coefficient of determination, and multiple-regression. The results are described in the following paragraphs.

The hypothesis that was tested stated, “*Knowledge storage significantly and positively impacts the performance of the National Teacher Colleges in Uganda*”.

Results of the Spearman correlation and coefficient of determination for knowledge storage and performance of NTCS in Uganda are presented in Table 6.

Table 6. Correlation and coefficient of determination findings for knowledge storage and performance of NTCS in Uganda

	Knowledge storage in NTCs
Performance of NTCS in Uganda	$\rho = .714$ $\rho^2 = .510$ $p = .000$ $n = 141$

Source: Primary data

According to Table 6, there is a strong positive relationship ($= .510$) between knowledge storage and the performance of NTCs in Uganda. However, since the study's objective is to assess the impact of knowledge storage on performance rather than just the relationship, a coefficient of determination was calculated ($= .510$). This indicates that knowledge storage accounts for 51.0% of the variation in NTCs' performance in Uganda. The significance value in Table 4 ($p = .000$) was found to be less than the recommended .05 through hypothesis testing, so this finding was accepted. As a result, the hypothesis was also accepted, and it was concluded that there is a significant positive impact of knowledge storage on the performance of NTCs in Uganda. The positive impact suggests that poor knowledge storage leads to poor performance, while better knowledge storage results in better performance. The strong impact indicates that a unit change in knowledge storage leads to a substantial change in NTCs' performance in Uganda.

The regression analysis played a crucial role in this study as it allowed the researchers to evaluate how the two measures of knowledge storage, namely knowledge database quality and knowledge database update, impact the performance of NTCs in Uganda. The results are presented in Table 7.

Table 7. Regression findings for knowledge storage and performance of NTCS in Uganda

<i>Multiple Regression Statistics</i>	
Multiple R	.737
R Square	.544
Adjusted R Square	.537
Standard Error	1.621
Observations	141

<i>ANOVA statistics</i>					
	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Sig F</i>
Regression	2	431.9	215.9	82.2	.000

Residual	138	362.7	2.6
Total	140	794.6	

Coefficients statistics

	<i>Coefficients</i>	<i>Standard Error</i>	<i>Beta</i>	<i>t Stat</i>	<i>P-value</i>
Intercept	4.35	.58		7.45	.000
Knowledge database quality	.39	.05	.61	7.91	.000
Knowledge database update	.12	.05	.18	2.33	.021

Source: Primary data

Table 7 indicates a strong linear relationship ($R = .737$) between the combined measures of knowledge storage, including knowledge database quality and knowledge database update, and the performance of NTCs in Uganda. The adjusted R Square (.537) suggests that the combined measures of knowledge storage accounted for 53.7% of the variation in NTCs' performance in Uganda. Hypothesis testing using ANOVA statistics shows that the Fisher's ratio ($F = 82.2$) had a significance value (Sig $F = .000$) that was lower than the recommended significance value of .05. As a result, this finding was accepted.

The coefficients statistics were used to examine how each of the measures of knowledge storage, namely knowledge database quality and knowledge database update, affected the performance of NTCs in Uganda. The findings reveal that both measures of knowledge storage had significance values ($p = .000$, $p = .021$) lower than .05, indicating that they both had an impact on the performance of NTCs in Uganda. However, the t-Stat value for knowledge database quality (7.91) was higher than that of knowledge database update (2.33), indicating that knowledge database quality had a more significant impact on the performance of NTCs in Uganda compared to knowledge database update.

Discussion

The findings of this study clearly demonstrate the importance of knowledge storage for the performance of NTCs in Uganda. The fact that knowledge storage accounted for more than half of the change in performance highlights the critical role that knowledge management can play in enhancing the effectiveness of these institutions. The study further emphasizes that poor knowledge storage can negatively impact the performance of NTCs, while better knowledge storage can contribute to improved performance. This underscores the need for NTCs in Uganda to prioritize knowledge management strategies and invest in tools and systems that can help them better organize and access their knowledge resources. By doing so, they can ensure that they are effectively transferring knowledge to their students and contributing to the development of the wider education sector in Uganda.

These findings are supported by various studies. For example, Cordeiro *et al.* (2022) conducted a study related to this one except that instead of investigating the NTCs, their study was carried out on primary education schools. In addition, their

measurement of the performance of these schools differed from that of this study as it focused on results. Despite these differences between Cordeiro *et al.*'s study (2022) and this study, the results for both indicated that knowledge storage has a significant impact on the performance of the two types of organizations.

The study by Mustafa, Wahaba, El-Gharabawi, and Ragheb (2021) also supports the findings of this study. Their study was conducted at a Ports Training Institution. Nonetheless, the dependent variable was financial and non-financial performance, which differed from how this study measured the performance of NTCs in Uganda. Despite this difference, Mustafa *et al.*'s study (2021) established a weak correlation ($r = 0.284$) between knowledge storage and financial performance. However, when the hypothesis was tested, their finding was significant at $p < .05$. Their regression analysis also indicated a weak influence ($B = .342$) which when tested, it was found to be significant at $p < .05$. However, knowledge storage was insignificantly related to non-financial performance. Thus, it can be seen that Mustafa *et al.*'s study (2021) findings, to some extent, were in line with the findings of this study.

Conclusion

The purpose of this research was to examine how storing information (such as the quality and updating of a knowledge database) affects the effectiveness of NTCs (National Teacher Colleges) in Uganda. Through a survey that used quantitative methods, the findings indicate that the storage of knowledge had a beneficial effect on the performance of NTCs in Uganda.

Educational institutions administrators and leaders can use these results to consult with investors about implementing knowledge storage projects in their institutions. This study also contributes to practitioners as it provides organizations with new insights and findings that HEIs administrators or managers from other industries can improve the performance of their organizations. In line with the finding, the study recommends that storing knowledge that is higher quality and updated in NTCs databases and making it accessible should be highly prioritized. This can be achieved by NTCs utilizing information technologies that enhance their knowledge storage capabilities.

The results will allow to propose a new strategy of organizational norms and values that can help improve NTC knowledge management in Uganda, especially in the area of knowledge retention, and ultimately improve their performance. This innovative approach aims to improve the performance of NTC by integrating various knowledge resources such as databases, personnel, experience, expertise, systems, policies and procedures into knowledge management. By implementing this approach, NTCs can manage their knowledge more effectively and increase overall performance.

Higher education institutions play a vital role in promoting the socio-economic growth of a country. They achieve this by producing individuals who possess knowledge and skills that contribute to innovation, conducting research to tackle societal challenges, and overall, making significant contributions to the measurement

of the performance of NTCs. The effectiveness of knowledge management, with knowledge storage being a key component, is critical to the various ways in which NTCs promote the socio-economic development of a country. Consequently, the results of this research are anticipated to improve the knowledge management of NTCs, which could ultimately enhance their significance to the society in which they function

This study has some limitations that may provide avenues for future research. Firstly, the research only focused on teaching staff members at NTCs in Uganda. Future studies could include other employees of higher education institutions, such as members of the administration. Secondly, the study was limited to NTCs in Uganda only. Conducting a study in other developed countries may yield further insights into the impact of knowledge storage on the performance of NTCs. Lastly, opportunities for more research exist to explore a moderator analysis based on respondent demographics, such as position, and the use of mixed methods could also be considered.

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PRZECHOWYWANIE WIEDZY A WYDAJNOŚĆ ORGANIZACJI: BADANIE EMPIRYCZNE KRAJOWYCH KOLEGIÓW NAUCZYCIELSKICH W UGANDZIE

Streszczenie: Znaczenie wiedzy jako krytycznego czynnika zapewniającego organizacjom przewagę konkurencyjną staje się coraz bardziej istotne. Organizacje muszą przyjąć koncepcję opartą na wiedzy, aby skutecznie działać we współczesnej gospodarce. Wynika to z konkurencyjnego środowiska na globalnym rynku, gdzie organizacje dostrzegły potrzebę zachowania konkurencyjności poprzez odpowiednie przechowywanie wiedzy. Niniejsze opracowanie ma na celu ocenę wpływu przechowywania wiedzy na wydajność organizacji, w szczególności Narodowych Kolegiów Nauczycielskich (National Teachers' Colleges - NTC) w Ugandzie. Dane uzyskane za pomocą kwestionariusza zostały zebrane od 141 respondentów z populacji docelowej 221 z pięciu krajowych kolegiów nauczycielskich w Ugandzie. Dane zostały przeanalizowane przy użyciu opisowych i wnioskowych technik statystycznych w celu określenia wpływu przechowywania wiedzy jako zmiennej niezależnej na efektywność NTC. Analiza wykazała silny pozytywny wpływ ($r = .510$) przechowywania wiedzy na wyniki NTC w Ugandzie. Współczynnik determinacji wskazał, że przechowywanie wiedzy odpowiadało za 51,0% zmian w wydajności NTC. Dalsze testy wykazały, że wartość istotności ($p = .000$) była mniejsza niż zalecane .05, potwierdzając wyniki badania. Przeprowadzone badanie wskazuje, że NTC powinno zintegrować swoją wiedzę i aktywa, takie jak bazy danych, ludzie, doświadczenie, wiedza specjalistyczna, systemy, zasady i procedury, z zarządzaniem wiedzą w celu poprawy wydajności. Wyniki tego badania zostaną wykorzystane do poprawy przechowywania wiedzy w NTC w Ugandzie, co poprawi ich znaczenie dla społeczeństwa ugandyjskiego i nie tylko.

Słowa kluczowe: Przechowywanie wiedzy, wydajność organizacyjna, uniwersytet

知识存储和组织绩效：乌干达国家师范学院 (NTCS) 的实证研究

摘要 作为为组织提供竞争优势的关键因素，知识的重要性变得越来越重要。组织需要采用基于知识的方法才能在当今经济中有效运作。这是由于全球市场的竞争环境，组织已经认识到需要通过足够的知识存储来保持竞争力。本研究旨在评估知识存储对组织绩效的影响，特别是乌干达国家师范学院 (NTC)。使用问卷获得的数据是从乌干达五所国立师范学院的 221 名目标人群中的 141 名受访者那里收集的。使用描述性和推论性统计技术分析数据，以确定知识存储作为独立变量对 NTC 性能的影响。该分析揭示了知识存储对乌干达 NTC 绩效的强烈积极影响 ($r = .510$)。决定系数表明，知识存储占 NTC 绩效变化的 51.0%。进一步的测试表明显著性值 ($p = .000$) 小于建议的 .05，支持研究结果。该研究指导 NTC 将其知识和资产（例如数据库、人员、经验、专业知识、系统、政策和程序）整合到知识管理中以提高绩效。这项研究的结果将用于改善乌干达 NTC 的知识存储，从而提高与乌干达社会及其他地区的相关性。

关键词：知识储存，组织绩效，大学