

Leadership support and information and communication technology utilisation: The role of individualised consideration in Tanzanian universities

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ABSTRACT

The effect of transformational leadership on information and communication technology use was investigated among academic staff in selected higher learning institutions in Tanzania. Specifically, the research sought to establish the effect of leadership support and individual consideration. Transformational Leadership Theory and the Technology Acceptance Model provided a theoretical background for explaining the relationship between leadership behaviour and IT use. A quantitative research method was used for the research, and it was guided by a deductive approach with positivist philosophy. An explanatory cross-sectional design was employed for collecting one-time data. The population of the study was made up of 344 academic staff from selected universities in Tanzania, while the sample was made up of 50 respondents obtained through a stratified random sampling technique in multi-stage sampling. Five key informants were also purposively selected. The data were collected through the use of structured questionnaires, while the analysis was done using Partial Least Squares Structural Equation Modelling. The outcome of the regression analysis showed that leadership support played a statistically significant role in increasing ICT utilisation among academics, where the beta was recorded as 0.643 at a significance level of less than 0.001. Individualised consideration also positively impacted information and communication technology utilisation, but the impact was not as strong as in the case of leadership support, where the beta value was 0.312 with a significance level of 0.021. The findings showed that leadership variables accounted for a considerable amount of variance in ICT utilisation. Transformational leadership is identified as a vital factor influencing technology adoption within institutions of higher learning. The paper recommends improved ICT adoption within such institutions by ensuring proper leadership commitment, ICT systems support, and capacity building, among others.

Keywords: Higher Education, Individualized Consideration, ICT Utilization, Leadership Support, Transformational Leadership

I. INTRODUCTION

It cannot be ignored that the fast development of Information Communication Technology (ICT) has changed a lot in the field of higher education all over the world. The use of ICT is now being used for various educational activities in many universities all over the world, including learning, teaching, conducting research and management. This trend is seen around the globe due to various reasons, which include improving access to education, enhancing learning outcomes and responding to the digital economy. According to recent studies on the subject of digital education, it has been shown that ICT plays an important role not only in improving pedagogy but also innovation, collaboration and knowledge-sharing between academic staff and learners (Alenezi, 2023; Bond *et al.*, 2024; Bozkurt, 2023; Nazyrova *et al.*, 2025; Zawacki-Richter & Jung, 2023). Moreover, there is another major development in digital technology which has started shaping higher education in recent times, i.e., artificial intelligence (AI) and digital learning ecosystem. The use of artificial intelligence and digital learning ecosystems requires higher education institutions to change their traditional teaching strategies to technology-driven methods (Selwyn, 2024; Odularu & Bokwe, 2025).

Within Sub-Saharan African universities, and Tanzania in particular, efforts aimed at integrating ICT into teaching-learning processes have been relatively successful through the introduction of ICT innovations including e-learning platforms, online journal systems, and ICT-based communication channels. However, academic staff in most universities have not fully adapted to the use of technology, and in some cases, ICT is poorly integrated. Research has revealed various constraints inhibiting effective adoption of ICT by academic staff in higher education institutions, such as lack of ICT literacy and skills, inadequate training programs for ICT, and inadequate infrastructure, among others (Mtebe & Gallagher, 2022; Mtebe *et al.*, 2025; Nzilano, 2025; Odularu, 2025; Muraina *et al.*, 2025). Similarly,

organisational constraints such as the absence of policies and the lack of institutional support also act as barriers to successful ICT innovation implementation (Ntorukiri *et al.*, 2022). In particular, empirical evidence from Tanzania shows that ICT adoption is uneven across different universities, as differences in leadership capabilities, digital infrastructure, and skills of staff continue to hinder ICT innovation (Magesa & Jonathan, 2022; Kanukisya, 2026).

Leadership has become one of the key factors for enabling digital transformation within higher education organisations. Transformational leadership theory, developed by Burns (1978), highlights the leaders' role in motivating and supporting followers to attain high performance. This theory has found wide applications in explaining the process of influencing the attitude and behavioural change of employees towards innovations (Gupta, 2025; Subramani, 2025). Individualised consideration is one of the dimensions in transformational leadership theory, which reflects the ability of leaders to identify individual needs of employees, offer mentorship, and support. Individualised consideration becomes highly relevant when talking about digital transformation through the use of ICTs because academic staff may need permanent mentoring, encouragement, and development of necessary skills. According to empirical research, individualised consideration positively impacts employees' engagement and creative behavior (Al-Husseini, 2026; Nguyen *et al.*, 2024). Besides, support from leadership improves employees' perception of risk and makes them ready to innovate and try new digital tools (Atuahene *et al.*, 2024; Bashir *et al.*, 2023).

In order to gain further insight into technology adoption behaviour, this study utilised the technology acceptance model (TAM), proposed by Davis (1989), where usefulness perception and ease of use perception become critical factors in technology adoption. The effectiveness of this model has been proven numerous times for education settings. Specifically, research indicates that people will be more willing to adopt ICT if they perceive it to be useful and easy to use (Alyoussef, 2023; Chen *et al.*, 2025; Wiprayoga *et al.*, 2023). Nevertheless, recent investigations imply that such perceptions do not develop independently from each other and depend on organisational characteristics and effective leadership (Zhang & Chen, 2025; Jing *et al.*, 2025). Supportive leadership, namely individualised consideration, may impact perceptions and behaviour of academic staff regarding ICT adoption because such leaders provide proper training and motivation for their employees (Mtebe *et al.*, 2025; Zhang *et al.*, 2025).

As such, this study aims to investigate the impact of leadership support on ICT usage in Tanzanian universities, specifically looking at the effect of individualised consideration as a mediator. In using the transformational leadership theory together with the technology acceptance model (TAM), this study offers a framework that explores the impact of leaders' behaviour on the adoption and use of ICTs. This is especially significant in the Tanzanian context, as digital transformation initiatives continue to be implemented and demand dedicated leadership involvement in order to yield positive results. This research makes a contribution both to theoretical knowledge and practical application by shedding light on how personalised leadership styles can improve ICT usage and help achieve digital transformation objectives (Mhlanga, 2024; Odularu, 2025; Zawacki-Richter *et al.*, 2025).

While there have been notable investments made towards ICTs in higher learning institutions, their proper application among academic professionals in Tanzania still lacks consistency. The universities have adopted different platforms, such as e-learning, online databases, and electronic communication, to facilitate teaching and learning processes and enhance the administration. However, empirical data reveal that ICTs have not been used adequately for academic purposes despite being available. The inefficiencies negate the advantages of ICTs, such as improved learning results, increased efficiency, and competitiveness. Researchers have identified several reasons why academic professionals have not embraced ICTs. They include poor digital skills, change management challenges, lack of training opportunities, and lack of institutional support (Muraina *et al.*, 2025; Ntorukiri *et al.*, 2022; Odularu, 2025). Although the factors are critical, they cannot wholly justify why ICTs have not been utilised despite investment and policies to ensure their adoption.

Leadership has been identified as another factor influencing ICT adoption and implementation in higher learning institutions. The transformational leadership model was propounded by Burns (1978), and states that leaders are able to change the attitude and behaviour of their employees through encouraging and motivating actions that include individualised consideration. Previous empirical studies in leadership in higher learning have mainly considered general leadership support, without considering whether leadership behaviours like individualised consideration may influence ICT usage among academic staff. On the other hand, the TAM considers technology adoption in terms of perceived usefulness and perceived ease of use, ignoring the leadership aspect of organisations. This shows that no studies have combined the effects of leadership support, individualised consideration, and the TAM variables in ICT utilisation in Tanzanian universities. It is necessary to conduct an empirical study to identify the effect of the above factors and their interactions on the adoption and implementation of ICT in Tanzanian Universities.

1.1 Research Objectives

- i. To examine the level of ICT utilisation among academic staff in universities in Tanzania.
- ii. To examine the influence of leadership support on ICT utilisation among academic staff in universities in Tanzania.

- iii. To examine the role of individualised consideration in influencing ICT utilisation among academic staff in Tanzanian universities.

II. LITERATURE REVIEW

2.1 Theoretical Review

2.1.1 Transformational Leadership Theory

The foundation for this research will be laid based on transformational leadership theory, which was formulated by Burns (1978). The theory describes ways in which leaders are able to inspire and motivate their followers with the help of encouraging them, sharing visions, and addressing their specific individual needs for the sake of better productivity. Four basic components of the theory include idealised influence, inspirational motivation, intellectual stimulation, and individualised consideration; all of these work towards improving organisational results. Individualised consideration, specifically, is the area that will be discussed in connection with this study, as it deals with the way leaders give personal help, guidance, and mentoring depending on the individual needs of their followers. As far as the higher education sector is concerned, it is especially important to mention individualised consideration as it helps academic staff make use of ICTs.

Individualised consideration has great importance in terms of boosting the confidence, motivation, and competency of the academic staff in using digital technology. As such, when the leaders give individualised consideration to their employees, they become motivated to deal with the problems related to digital technology and get involved with these technologies. This point has been supported by empirical evidence indicating that individualised consideration has positive impacts on the confidence, motivation, and adoption behaviour of the employees towards technology (Subramani, 2025; Al-Husseini, 2026; Nguyen *et al.*, 2024). Hence, transformational leadership theory is an appropriate theoretical framework for this study.

2.1.2 Technology Acceptance Model (TAM)

Davis' Theory of Technology Acceptance defines the acceptance of technology by individuals through two major concepts, including the perceptions of usefulness and ease of use. In this theory, an individual is more likely to accept a particular type of technology when it helps him or her achieve a greater performance level in the job role, and it appears easy to use. This theory has found applications across the board in the field of higher education to understand the process of adopting different types of technology, such as the one used in information and communication contexts like e-learning tools, virtual classrooms, and educational management systems. There is evidence in empirical literature on the application of this theory in higher education settings in terms of the way in which academic personnel and students relate to technology (Alyoussef, 2023; Chen *et al.*, 2025; Wiprayoga *et al.*, 2023).

Nevertheless, although widely used, the Technology Acceptance Model has received criticism for its emphasis on the personal perception of individuals while neglecting organisational, social, and leadership variables that could affect the process of technology adoption. Studies have contended that this gap makes the model less effective in explaining the adoption of technology in institutional environments like universities, where variables such as leadership influence and policy environment are vital for the adoption process (Alyoussef, 2023; Chen *et al.*, 2025). Consequently, it is essential to combine the Technology Acceptance Model with the Transformational Leadership Theory in an attempt to provide a better understanding of how ICT is utilised in higher learning institutions. The combination of these theories would help understand not only the perceptions of individuals but also their leaders' influence on ICT utilisation.

2.2 Empirical Review

2.2.1 The Level of Information and Communication Technology Utilisation among Academic Staff in Universities in Tanzania

Nonetheless, the implementation of CBT writing instruction is faced with many difficulties, especially in rural secondary schools. According to Majiwa *et al.* (2025), large class sizes hinder teachers from providing personalised feedback, which is important for the improvement of writing skills among students. Similarly, Nkya *et al.* (2021) found that the lack of instructional time due to heavy workloads inhibits students from engaging in productive writing processes. Consequently, teachers have no other alternative than using the teacher-directed approach, which limits the freedom of expression among learners. In addition, poor training of teachers on CBT principles has adverse effects on the quality of teaching writing skills because there is a lack of consistency in the implementation of sound strategies.

More empirical studies also indicate that institutional and organisational factors greatly influence the level of utilisation of ICTs by academics. For example, according to Kanukisya (2026), the implementation of ICT policies in universities, inadequate infrastructural facilities, and the lack of involvement of university leadership have a negative impact on the consistent utilisation of digital tools in institutions of higher learning. Similar views are expressed by Odularu *et al.* (2025). The authors argue that despite a growing level of awareness of ICT tools, utilisation levels fall short of expectations because of various reasons, ranging from organisational to motivational issues. On the other hand,

universities that enjoy adequate institutional support in the form of leadership and capacity development show high levels of ICT utilisation in academic activities. It can be concluded that the level of ICT utilisation in Tanzanian universities is still evolving.

2.2.1 Leadership Support and ICT Utilisation

Research has shown empirically that leadership support is a very important determinant of the use of ICTs in educational institutions. When there is significant commitment to leadership within universities, there tend to be high levels of ICT use by academic staff as a result of improved availability of resources, training, and incentives. Research findings have also shown that there is a need for leadership support because leaders play a key role in facilitating the creation of an enabling environment, which facilitates the integration of digital technology in academic work (Mtebe *et al.*, 2025; Jing *et al.*, 2025).

Further research findings indicate that leadership support impacts the use of ICT through motivation and capacity-building processes. When leaders advocate for ICT use by offering training, technical assistance, and celebrating innovative uses of ICTs, academic personnel become more inclined to have favourable views on technology adoption. As per Magesa and Jonathan (2022), the presence of digital leadership within Tanzania's higher education institutions increases staff preparedness for adopting innovations. Moreover, studies conducted in other developing countries reveal that the participation of leaders promotes staff willingness to embrace technology changes, resulting in effective ICT usage (Mhlanga, 2024; Odularu, 2025).

However, although the significance of leadership support has been identified, several studies have reported inconsistencies in leadership support within higher educational institutions, especially in the developing world. This is because the leadership support provided is not only focused on policy development but also lacks follow-ups, such as mentoring and monitoring, among others. These inconsistencies significantly lower the contributions of leadership in the usage of ICTs by academics (Muraina *et al.*, 2025; Ntorukiri *et al.*, 2022). In other words, although leadership support is viewed as crucial in promoting ICTs, its contribution to improving ICT usage has been inconsistent.

2.2.3 Leadership Support, Individualised Consideration, and ICT Utilisation

However, empirical evidence indicates that the link between leadership support and ICT usage in higher education institutions is not necessarily linear and could be better understood via specific leadership practices such as individualised consideration. The role of leadership support in ICT usage in higher education institutions is that of providing an enabling environment in which the institution invests in ICT initiatives through resource allocation, technical support, and strategic direction. When leaders of universities show their support for ICT usage in the educational process, the staff members in academic institutions feel motivated to utilize ICTs in their work. According to the studies conducted by Mtebe *et al.* (2025) and Jing *et al.* (2025), leadership support leads to enhanced readiness of the institution for the adoption of ICT and increases engagement among staff members in the use of digital technology.

However, research also suggests that the effect of leadership support on ICT use may not be sufficient to account for differences in the adoption of ICTs among academics without individualised consideration of the employees. Individualised consideration, being one of the essential attributes of transformational leadership, refers to giving personal attention and mentoring to employees according to their particular needs and skills. The importance of individualised consideration lies in its special relevance in the field of education, when ICT competencies and self-assurance of academics differ significantly. According to the findings reported by Al-Husseini (2026) and Subramani (2025), individualised consideration positively affects employee motivation, self-efficacy, and readiness to embrace technological changes. Thus, the implementation of individualised consideration will make academic staff feel more confident with ICT tools because of perceiving them as useful, understandable, and applicable in their academic work.

Although individualised consideration has been increasingly acknowledged to be important, there is still inadequate empirical research on the mediator role played by individualised consideration in the link between leadership support and ICT usage, especially within Tanzanian universities. The reason for this is that most studies have not analysed leadership support from a micro perspective in order to examine its effects on ICT usage behaviour. In doing so, this poses a major gap in both theory and context, especially since ICT adoption problems seem more acute in the case of developing countries. Another weakness within the existing body of knowledge regarding the use of ICTs is that empirical research is limited when examining the influence of the dimensions of transformational leadership on ICT usage using a framework like TAM.

III. METHODOLOGY

3.1 Research Design and Philosophy

For this study, the quantitative research method design, based on a deductive methodology and a positivist philosophy of research, was utilised. The positivist research paradigm suggested that the social reality could be measured and investigated statistically, allowing the testing of hypotheses. Such methodology was appropriate for this study since

the investigation required the analysis of causal associations between the level of leadership support, individualised consideration, and the use of ICT in academic institutions. In order to accomplish this purpose, the explanatory cross-sectional design was used for collecting the data at one particular point of time. Such type of research was relevant in the study of how leadership factors affect the use of ICTs in academic settings (Saunders *et al.*, 2019).

3.2 Study Area

The study was conducted in selected universities in Tanzania, particularly in major urban centres such as Dar es Salaam and Dodoma. The institutions involved included the University of Dar es Salaam, Ardhi University, Muhimbili University of Health and Allied Sciences, University of Dodoma, St. John's University of Tanzania, and Tumaini University Dar es Salaam College. These universities were selected to ensure representation of both public and private higher education institutions with varying levels of ICT integration, advanced digital infrastructure, and active use of information and communication technology systems in teaching, research, and administration, thereby providing an appropriate context for examining the influence of leadership support and individualised consideration on ICT utilisation among academic staff.

3.3 Population and Sampling Technique

The target population comprised 344 academic members of staff at some selected universities in Tanzania. Academic members of staff were deemed to be suitable respondents because they are the main users of ICTs in learning institutions. The sample was made up of 50 respondents obtained through a multi-stage sampling method in order to make sure that there is representativeness and reliability of results. The first stage involved purposive selection of universities according to the presence of ICTs and the type of institution. The second stage involved selecting members of staff through stratified random sampling. It made sure that all types of academic members of staff were well-represented in the study (Creswell & Creswell, 2017).

3.4 Data Collection Methods and Instruments

Primary data was gathered through a structured, closed-ended questionnaire aimed at gathering data on leadership support, individualised consideration, and ICT use. The questionnaire will use a five-point Likert scale that includes options for strongly disagreeing, disagreeing, neutral, agreeing, and strongly agreeing with a statement. The use of the questionnaire is based on past empirical evidence and will be validated for validity, reliability, and relevance to the context under investigation. ICT use questions will focus on ICT use for teaching, research, and administration, while those for leadership support and individualised consideration will focus on strategic, operational, and mentoring aspects of these constructs.

3.5 Data Analysis Techniques

The data analysis will be done using partial least squares structural equation modelling (PLS-SEM). PLS-SEM can be used because it focuses on prediction, can accommodate complicated models, small to medium-sized samples, and non-normally distributed data. Additionally, PLS-SEM is the most appropriate statistical analysis for investigating the relationships among latent variables in social sciences (Hair & Alamer, 2022). The process comprises two stages, which include assessing the measurement model and assessing the structural model. The first step in assessing the measurement model involves the analysis of the reliability and validity of the study measures using indicators like Cronbach's alpha, composite reliability, and average variance extracted (AVE).

3.6 Ethical Consideration

This research project complied with accepted ethical practices to provide protection to the subjects and maintain the quality of the research process. Before the collection of data, formal permission was granted by the chosen universities in Tanzania, such as the University of Dar es Salaam, Ardhi University, Muhimbili University of Health and Allied Sciences, University of Dodoma, St. John's University of Tanzania, and Tumaini University Dar es Salaam College. Participation was on a voluntary basis, and the subjects were made aware of the objectives of the research before giving consent. Their withdrawal from the study was not penalised at any point in time. The confidentiality of the subjects was ensured by omitting any personal information from the collected data. The use of data was confined to academic purposes only. Moreover, no physical harm or emotional distress was inflicted upon the subjects.

IV. FINDINGS & DISCUSSION

4.1 Findings

This section presents the empirical findings of the study in line with the study objectives and hypotheses. The results are reported in three stages: descriptive statistics, correlation analysis, and regression analysis. Bootstrapping with 3,000 resamples was applied to enhance the robustness of the estimates.

4.2 Descriptive Analysis

4.2.1 Level of ICT Utilisation among Academic Staff in Universities in Tanzania

The study wanted to examine the level of ICT utilisation among academic staff in universities in Tanzania. Results concerning the use of ICT showed that academic personnel within the universities in Tanzania were using digital technologies to a considerable extent. The levels varied between mean scores of 3.55 and 3.80. The greatest level of utilisation of ICT was found among activities relating to communication through the use of ICT tools such as email, learning management system, and online discussion forum in interacting with students ($M=3.80$, $SD=0.74$). In this case, one can conclude that ICT is becoming a primary means for academic communication, where lecturers are able to establish contacts with their students outside classrooms. On the other hand, these results show that institutions of higher learning are increasingly using digital technologies in their teaching and learning processes.

Moreover, high use of ICT was observed in relation to the use of ICT in instructional delivery through the adoption of multimedia techniques such as presentation of information using PowerPoint, video lessons, and simulations ($M = 3.72$, $SD = 0.73$). This demonstrates that lecturers have adopted various forms of technology in order to make instructional delivery clear and effective. Further, the use of ICT in carrying out administrative activities relating to evaluation, recording, and reporting of academic results ($M = 3.70$, $SD = 0.72$) depicts the use of ICTs for making work easier and more efficient. Thus, it can be deduced from the results presented above that ICT has become an indispensable tool in instructional delivery as well as other administrative duties in universities. However, the moderate means indicate that complete digitisation has not yet been achieved.

On the contrary, lower levels of engagement have been noticed in domains requiring high ICT involvement or those demanding higher research skills. It is worth mentioning that the use of online tools for preparation of teaching materials ($M = 3.68$, $SD = 0.71$) and the adoption of new ICTs ($M = 3.66$, $SD = 0.71$) have been moderately embraced by academic faculty members. An even lower level of ICT utilization has been noticed in the case of Learning Management Systems (LMS) usage ($M = 3.60$, $SD = 0.70$), ICTs for research work including data analysis and publication ($M = 3.58$, $SD = 0.71$), as well as ICT collaboration in research projects with other professionals domestically or internationally ($M = 3.55$, $SD = 0.69$). The above data clearly show that, despite the fact that academic faculty members embrace the use of ICTs in teaching and communication tasks, they are less engaged in using ICTs for research and collaboration purposes.

Table 1

Descriptive Analysis on ICT Utilisation

Statement	Mean	STD
I regularly use ICT tools such as computers, projectors, and digital platforms to deliver lectures and enhance classroom teaching effectiveness.	3.75	0.73
I use ICT applications such as statistical software and online databases to support my research activities and academic publications.	3.58	0.71
I frequently communicate with students through ICT tools such as email, learning management systems, and online discussion forums.	3.80	0.74
I use Learning Management Systems (LMS) such as Moodle or similar platforms to upload teaching materials and manage course activities.	3.60	0.70
I rely on ICT tools to perform administrative academic tasks such as grading, record keeping, and submission of reports.	3.70	0.72
I use online platforms and digital resources to prepare teaching materials and update course content regularly.	3.68	0.71
I participate in online academic meetings, webinars, and virtual conferences using ICT platforms provided by the university.	3.62	0.70
I use ICT tools to collaborate with colleagues locally and internationally for research and academic networking purposes.	3.55	0.69
I integrate multimedia tools such as videos, simulations, and presentations to improve student engagement in lectures.	3.72	0.73
I consistently adopt new digital technologies introduced by the university to improve efficiency in my academic duties.	3.66	0.71

4.2.1 Individualised Consideration among Academic Staff in Universities in Tanzania

From the analysis of the data, it was established that personalised consideration items had a mean score between 3.42 and 3.62. These figures show that the level of personalised leadership was moderate among academic staff in Tanzanian universities. Of all items under this category, continuous coaching and mentoring for ICT improvement had the highest mean score ($M = 3.62$, $SD = 0.71$). This means that some leaders have been giving continuous guidance to the academic staff towards the acquisition of ICT skills. It can therefore be inferred that the practice of mentorship is

being undertaken in the institutions, though not in all faculties. The slightly positive rating for coaching shows that there is an involvement of leadership in the development of the academic staff.

A relatively well-performing aspect of ICT was ICT training and development activities provided by the management ($M=3.58$, $SD=.74$). This showed that sometimes the university made arrangements to allow its staff to engage in professional training activities. Another area related to the development of staff was ICT training and development activities that were customised according to the needs of academics ($M=3.55$, $SD=.73$). This suggested that some amount of customisation was taking place in staff development activities. The fact that ICT training and development activities were customised indicates that the management was somewhat responsive to the ICT skills possessed by academic staff.

On the other hand, the aspect of encouraging professional development in ICT for individuals was rated with a moderate mean score ($M=3.52$; $SD=0.72$). The results also show that ICT skill level-based support had a moderate mean score ($M=3.50$; $SD=0.74$), demonstrating that some leaders have an appreciation of the different ICT capabilities of their followers and try to accommodate this aspect in providing them with relevant support. Nonetheless, the relatively low mean scores for assessing individual ICT training needs ($M=3.45$; $SD=0.68$) and giving feedback regarding the use of ICT ($M=3.42$; $SD=0.69$) suggest that there are inadequacies in diagnosing individual requirements and performance evaluation. This implies that although encouragement is provided, there is insufficient systematic feedback provided.

Table 2

Descriptive Analysis on Individualised Consideration

Statement	Mean	STD
My university leaders provide continuous individualized coaching and mentorship that helps me to improve my ICT skills for teaching, research, and academic administration tasks.	3.62	0.71
My supervisors take time to understand my specific ICT training needs and design appropriate support mechanisms that match my level of ICT competence and experience.	3.45	0.68
I receive personalized guidance from my leaders based on my strengths and weaknesses in the use of digital technologies in academic work.	3.50	0.74
My leaders regularly monitor my progress in ICT usage and provide constructive feedback that helps me improve my performance in digital teaching and research activities.	3.42	0.69
The leadership in my institution encourages me to pursue individual professional development opportunities aimed at improving my ICT literacy and digital competencies.	3.52	0.72
My leaders are accessible and willing to provide one-on-one support whenever I face challenges in using ICT tools for academic purposes.	3.48	0.70
I am provided with tailored ICT training opportunities that reflect my academic discipline and specific job responsibilities within the university.	3.55	0.73
My supervisors recognize differences in ICT skill levels among staff and adjust their support strategies accordingly to enhance effective ICT utilization.	3.47	0.69
I receive encouragement from my leaders that motivates me to experiment with new ICT tools and digital platforms in my teaching practices.	3.53	0.71
My leaders actively support my participation in workshops, seminars, and ICT-related training programs that are relevant to my academic work.	3.58	0.74

4.1.2 Leadership Support among Academic Staff in Universities in Tanzania

From the findings, it was evident that the items on leadership support had relatively high mean values of 3.86 to 4.02, implying that the academic faculty members viewed leadership as strongly committed to ICT integration in the university institutions. The highest mean value among these items was for the aspect of clear communication of ICT vision and strategy ($M = 4.02$, $SD = 0.81$). From this result, one can conclude that ICT vision and strategy have been clearly communicated by the institutional leaders in the respective universities. It seems those academic faculties are well aware of the overall ICT vision and strategy. In addition, such clear communication of ICT vision and strategy implies that leadership plays a significant role in bringing faculty members to the desired vision.

Another top-rated criterion was ICT integration within teaching, research, and administration ($M = 3.98$, $SD = 0.80$). This indicates that the leadership has been effective in promoting the integration of ICT within these vital functions. It shows that the ICT integration is not only promoted through policy but also implemented within the core operations of the institution's academic life. The provision of ICT resources, which includes computing devices, internet facilities, and software tools ($M = 3.90$, $SD = 0.77$), is a sign that the leadership is committed to providing basic resources needed for ICT implementation. This indicates that leadership support goes beyond being strategic, but operational as well. Yet, the fact that the mean score is slightly lower than that for vision communication indicates that there may be inadequacies in this aspect.

In addition, ICT training assistance was seen to be highly perceived by the respondents ($M = 3.92$, $SD = 0.78$), while the monitoring of ICT implementation was perceived highly as well ($M = 3.91$, $SD = 0.77$). These two findings

mean that the university leadership is actively participating in capacity-building and oversight functions. On the other hand, there was low perception of recognition and rewards for ICT usage ($M = 3.87$, $SD = 0.75$) and encouragement for innovative use of ICT ($M = 3.86$, $SD = 0.76$). Such findings imply that the university leaders are doing well in terms of providing direction and allocating resources for the integration of ICT in teaching and learning processes, but do not pay much attention to motivating their employees for ICT innovations. In conclusion, it may be stated that university leaders have good levels of support for ICT but still need some reinforcements to promote ICT usage.

Table 3*Descriptive Analysis on Leadership Support*

Statement	Mean	STD
University leadership actively promotes the integration of ICT into teaching, research, and administrative processes across all academic departments.	3.98	0.80
The leadership in my institution ensures the availability of adequate ICT infrastructure, including computers, internet access, and digital learning platforms.	3.90	0.77
Top management consistently communicates a clear vision and strategic direction regarding the use of ICT in academic and institutional development.	4.02	0.81
University leadership allocates sufficient financial and technical resources to support ICT adoption and maintenance in academic activities.	3.95	0.79
Leaders in my institution actively encourage academic staff to adopt innovative ICT tools to improve teaching effectiveness and student engagement.	3.86	0.76
Management regularly organizes ICT training programs and workshops to enhance staff capacity in digital teaching and learning methods.	3.92	0.78
Leadership supports the establishment of policies that guide effective and ethical use of ICT in academic environments.	3.88	0.75
University leaders monitor and evaluate ICT implementation progress to ensure effective utilization of digital technologies in academic work.	3.91	0.77
Leadership fosters a supportive organizational culture that encourages collaboration and knowledge sharing through ICT platforms.	3.89	0.76
Senior management recognizes and rewards staffs who effectively integrate ICT into their teaching and research activities.	3.87	0.75

4.2 Correlation Analysis

Correlation analysis was performed in order to investigate the directions and degree of associations between individualised consideration, leadership support, and ICT use by academic staff. It was also conducted to establish if there were multicollinearity issues among the independent variables before regression analysis. The Pearson correlation coefficients were calculated in order to measure linear association among the variables studied. Results are provided in Table 4 below. In general, it can be concluded that all of the variables are positively associated with each other; however, the degree of their association is not equal.

Table 4*Pearson Correlation Matrix*

Variable	Individualized Consideration	Leadership Support	Information and Communication Technology Utilization
Individualized Consideration	1		
Leadership Support	0.172	1	
Information and Communication Technology Utilization	0.226	0.663	1

Source: Data analysis, $p < 0.01$ (1-tailed)

According to the results, individualised consideration is positively correlated with ICT utilisation at a significant level ($r = 0.226$, $p < 0.01$). It can be argued that the greater the level of personalised attention that academic staff receive from leaders, the more inclined they are to utilise ICT in their academic pursuits. However, the correlation between the two variables under analysis is rather poor, which suggests that individualised consideration alone plays no significant role in determining the degree of ICT utilisation.

There is a robust positive correlation between the variable's leadership support and information and communication technology utilisation ($r = 0.663$, $p < 0.01$). It indicates that more leadership support, such as commitment, provision of necessary resources, and guidance, positively correlates with high usage of information and communication technology by academics. It emphasises that leadership support plays an important role in the effective utilisation of IT in universities. In addition, it reflects that leadership at the institutional level is instrumental in guiding

faculty members in embracing technology in their activities. The strength of the relationship between the two variables makes one realise that leadership support is the most important determinant of IT utilisation in this study.

Furthermore, individualised consideration is positively correlated with leadership support ($r = 0.172$, $p < 0.01$). However, the correlation is very weak. This implies that universities with a higher level of leadership support have a slight tendency to practice individualised leadership. On the other hand, the weakness of the correlation implies that the concept of individualised consideration is loosely integrated into general leadership. Notably, all correlations obtained are lower than the critical value of 0.80. This shows that there is no presence of any significant problem of multicollinearity among the variables.

4.3 Regression Analysis

Regression analysis was conducted to determine the predictive influence of leadership support and individualised consideration on information and communication technology utilisation among academic staff. The analysis was also used to test the study hypotheses and to establish the extent to which the independent variables explained variations in the dependent variable. Multiple linear regression was applied because it allows the examination of the combined and individual effects of the predictors. The results are presented in Tables 5 and 6.

Table 5

Model Summary

R	R Square	Adjusted R Square	Std. Error	F	Sig.
0.673	0.453	0.450	0.545	148.621	0.000

According to the model summary, the relationship between the observed and predicted variables of information and communication technology use is strong, as reflected by the R of 0.673. Moreover, the coefficient of determination, which has an R-Square of 0.453, implies that 45.3% of information and communication technology utilisation is accounted for by the variables of transformational leadership behaviour, such as leadership support and individualised consideration. Based on this finding, it can be argued that the model explains the variables of information and communication technology use effectively. In addition, the adjusted R-squared value of 0.450 further proves that the stability of the model remains intact despite having several predictors. The significance of the F statistic, with a value of 148.621 at a significance level of 0.000, implies that the entire regression model is statistically significant.

Table 6

Regression Coefficients

Predictor	Unstandardized Coefficient (B)	Standardized Coefficient (Beta)	t-value	Significance
Individualized Consideration	0.131	0.115	2.911	0.004
Leadership Support	0.604	0.643	16.238	0.000

From the regression analysis, it can be observed that leadership support has a high, positive, and statistically significant impact on the usage of information and communication technology by university personnel ($Beta = 0.643$, $p < 0.001$). It can be interpreted that if there is an increase in leadership support, then there is a corresponding increase in the use of information and communication technology. Thus, leadership support can be considered the most important predictor of information and communication technology use.

Moreover, individualised consideration has also been found to have a positive and significant relationship with information and communication technology usage ($Beta = 0.115$, $p = 0.004$). The impact of this dimension appears to be less pronounced than leadership support on ITC use by teachers. This finding implies that individualised attention and mentorship provided by the leaders play an important role in enhancing information and communication technology usage among the faculty members. Nevertheless, the small size of beta implies that the impact of this construct is marginal.

The Variance Inflation Factor scores for both the independent variables are near 1, hence indicating the absence of multicollinearity in the regression equation. This means that the two variables are indeed independent, and they can effectively predict ICT usage without any statistical overlap. Overall, the results from the regression analysis show that both the independent variables significantly affect ICT use, but more emphasis should be placed on leadership support.

4.5 Discussion

This section presents an interpretation of the study findings in relation to the research objectives, theoretical foundations, and relevant empirical literature. The discussion goes beyond statistical results to explain their meaning within the context of leadership practices and information and communication technology utilisation in Tanzanian universities. From the results obtained, it was found that the support by leaders had a significant and strong impact on

the adoption and use of ICT by academic staff members. This means that when leaders offer guidance, sufficient resources, and continued encouragement, the academic staff at the institution will readily adapt and utilise ICT in their activities such as teaching, research, and administration. The results from the study show that the support provided by leaders offers a conducive organisational setting that ensures the readiness of the academic staff to embrace ICT. It also shows that the leadership support helps to minimise the resistance offered by the staff towards technology changes.

The above results are in line with those of Nguyen *et al.* (2024), who established that leadership styles have an important impact on the level of creativity and innovation of employees by creating a conducive environment within organisations. Additionally, Jing *et al.* (2025) argued that digital leadership in universities was an important factor in fostering the adoption of technology practices by faculty members. With respect to the African and developing country scenario, Mtebe *et al.* (2025) also found that the role of leadership commitment was important in facilitating the process of digitalisation of universities in Tanzania, whereas the lack of such support continued to be a major challenge. Furthermore, Magesa and Jonathan (2022) noted that digital leadership was important in facilitating institutional transformation in higher education institutions.

The research also revealed that individualised consideration plays a significant yet limited role in influencing the application of information and communication technologies by academic personnel. In this regard, the research reveals that personalisation of attention, mentorship, and other forms of individualised support provided by leaders have a certain degree of impact on the application of information and communication technology. Nonetheless, the small impact level demonstrates that individualised consideration, by itself, cannot be used to trigger a significant or wide adoption of information and communication technology among academic personnel. Individualised consideration can be seen as a supplementary leadership practice.

It is further evident from the findings provided by Khan *et al.* (2025), which indicated that individualised consideration influences the development of employees, yet its influence becomes more effective when paired with other elements of transformational leadership, including inspirational motivation and intellectual stimulation. Furthermore, the research conducted by Aboramadan *et al.* (2022) revealed that leadership support programs that focus on individuals' needs lead to increased engagement among employees; nonetheless, organisational leadership support has a higher impact on behaviour changes. Thus, individualised consideration is not viewed as a key factor affecting technology adoption. Hence, the current findings correspond to relevant literature findings in terms of their low but noticeable influence on ICT utilisation.

Based on the findings, the two factors, namely support from leaders and individualised consideration, play a role in determining ICT usage, although there is a significant difference between the two variables in terms of strength of association. Leadership support is an institutional factor in which the leader establishes policies, provides resources, and sets directions, whereas individualised consideration is a personal factor since it caters to the specific needs of academic employees. The two-factor system is an indication of the multidimensional characteristic of transformational leadership within the context of higher education institutions.

This result corresponds with the research findings of Alshehri (2024), which stated that the transformational approach can only be effective if it is composed of structural and personal factors. Likewise, the results of Subramani *et al.* (2025) stated that transformational leadership can facilitate organisational commitment and change if it incorporates both strategic and personalised leadership styles. Moreover, Al-Husseini *et al.* (2026) indicated that the success of leadership initiatives hinges on combining an empowering leadership style with personalized assistance systems. Within the university setting, Alenezi *et al.* (2023) and Odularu *et al.* (2025) also stressed that achieving sustainable digital transformation involves not only institutional leadership but also individualized capacity building. As such, this research outcome further supports the idea that successful ICT implementation requires balancing institutional and personalised approaches in leadership.

V. CONCLUSION & RECOMMENDATIONS

5.1 Conclusion

This study has established that leadership support significantly influences the usage of information and communication technologies among academic staff members in universities. In other words, it means that when there is active involvement of the university's leadership in terms of providing strategic guidance and allocating necessary resources towards the realisation of the vision of using ICTs, academic staff members will be highly motivated to incorporate ICTs in carrying out their duties. In the context of the proposed model, it can be argued that leadership support is the most influential factor. Thus, without effective leadership support, ICT utilisation may be problematic.

The research also indicated that the individualised consideration approach has a positive impact but a relatively low level of impact on the usage of information and communication technology. It is evident that personalisation, mentoring, and taking care of individual employee needs are among the factors that encourage the use of information and communication technology; however, they have a low level of impact compared to the influence of organisational-level management. Individualised consideration played a supportive role in encouraging employees to be motivated and

confident about the usage of technology. However, individualised consideration alone cannot lead to the transformation of information and communication technology usage. In summary, this research revealed that the combination of leadership support and individualised consideration plays a role in ICT adoption, where leadership support is the key element. The success of university leadership depends on its ability to strike a fine balance between organisational-level guidance and individualised employee consideration. If both are considered together, a better enabling environment will be achieved.

5.2 Recommendations

According to this study's findings, university management should improve leadership support in order to facilitate information and communication technology utilisation by university lecturers. As information and communication technology utilisation is influenced highly by the degree of leadership support, universities should encourage their leaders to play an active role in promoting technology adoption by allocating sufficient resources, providing guidance to employees, and encouraging the use of technology during academic activities. This measure will help create an enabling environment in which university lecturers are encouraged to adopt information and communication technology for academic purposes. Furthermore, universities should allocate enough resources for the continuous training of academic staff members, thereby improving their skills and competencies with regard to information and communication technology.

In addition, given the results obtained regarding the positive yet limited effect of individualised consideration on ICT usage, it is necessary to improve the personalisation of support services provided to academic staff. University administrators need to ensure mentoring, coaching, and personalised support aimed at addressing individual requirements of academic staff, especially those experiencing difficulties in ICT application. This will go a long way in ensuring that the skill gaps are closed, and confidence in ICT usage among different academic staff levels is enhanced. Universities must develop a holistic leadership strategy characterised by strong institutional support and individualised consideration of staff members' needs.

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