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FRAMEWORK OF SNS USAGE FOR KNOWLEDGE AND INFORMATION SHARING IN HIGHER LEARNING INSTITUTIONS IN TANZANIA

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Abstract

This study investigated a framework for implementing SNS for knowledge sharing in Tanzania's higher learning institutions (HLIs). The study deployed mixed-methods research, where a convergent research design was used. This enabled the researcher to collect quantitative and qualitative data in a similar research phase, but they were analysed differently. A convergent research design enabled the researcher to compare the findings obtained from quantitative data with those from qualitative data to ensure rigour. A total of 171 out of 239 targeted postgraduate students completed an online survey from the four HLIs in Kilimanjaro and Arusha regions, Tanzania. The study included eight heads of academic departments from the respective HLIs as interview participants. The study discovered that using SNS for knowledge sharing in HLIs has several advantages, including facilitating interaction, collaborative learning, and sharing various types of knowledge among students and lecturers, promoting learning and improving students' academic performance. However, there are challenges to using SNS in Tanzania HLIs, such as issues with internet connectivity, a lack of security, a lack of ICT facilities and poor infrastructure, and a lack of SNS usage policies. Therefore, the study proposes a framework for implementing SNS for knowledge sharing in Tanzanian HLIs. The study also suggests that all national policies and guidelines relating to education and ICT use in Tanzania HLIs be reviewed to include a mandatory section for SNS usage as formal learning platforms in all higher learning institutions. Finally, the study suggests that HLIs in Tanzania subscribe to internet services from reliable internet providers.

Keywords: Information sharing, knowledge sharing, higher learning institutions, social networking sites, Tanzania.

Introduction

Knowledge is recognised as a critical resource for organisational success and survival since it allows people to innovate, minimise mistakes, and enhance productivity. Therefore, it is essential to their long-term success (Janus, 2016; Masele, 2021; Anand et al., 2021). Nonaka (1994) defined knowledge as a personal belief since it is built on the notion of trust. Nonaka and Takeuchi (1995) distinguished two categories of knowledge: tacit knowledge and explicit knowledge. Janus (2016) characterised tacit knowledge as being difficult to capture, whereas explicit knowledge can be acquired and documented in various ways. Many organizations worldwide are working to implement knowledge management (KM) systems to guarantee that knowledge owned by their employees is not lost even after their retirement, resignation, or death (Kazak 2021; Dhamdhere, 2015).

Knowledge management is profiting from an organization's knowledge capital (Diab, 2021). We may look at KM through the lenses of culture, human resource skills, and technology (Andem, Akpan, and Ogosi, 2022). It entails fully using their knowledge base, creativity, skills, competencies, and experience to develop a successful and efficient organisation (Imhanzenobe, Adejum, and Ikpesu, 2021). KM improves an organization's ability to learn from its environment and incorporate knowledge into business operations by managing the intellectual capital in both tacit and explicit forms (Iwata and Hoskins, 2020). People, processes, information, and technology are the four primary components of KM, according to Alonzo (2022), and all are influenced by company culture. Knowledge creation is fundamentally a human activity; technology can help but cannot replace people, necessitating their continuous development and improvement (Sokoh and Okolie, 2021).

The use of information technology in business may improve knowledge and information exchange (Adhikari, 2020; Rahman, 2016). Both formal and informal settings can be used to share knowledge and information. Official meetings, training sessions, and conferences are examples of formal meeting methods, whereas informal meeting methods include exchanging expertise and information with colleagues over tea (Paulin and Suneson, 2020; Zaffar and Ghazawneh, 2012). Other methods of sharing knowledge and information, according to Rakov and Ridder (2022), include coaching, communities of practice, knowledge cafés, knowledge

maps, knowledge repositories, knowledge-sharing events, mentorship, storytelling, and workshops. HLIs must include their staff to generate trust, personal meaning, and happiness to promote and drive knowledge sharing (Syed et al., 2021). As an academic institution, a university serves as a repository of knowledge, especially if that knowledge is organised. Knowledge is valuable in an academic setting because all organisations are knowledge-based (Tran, 2022). Knowledge management (KM) can help higher education institutions support their missions by developing knowledge-based processes aligned with institutional success, particularly performance (Djangone and El-Gayar, 2021).

Knowledge sharing fosters innovation, competitiveness, and economic growth, and it is critical to the global standing of higher education institutions through collaboration, networking, visibility, and stakeholder involvement (Njiraine, 2019). Knowledge generated through academic and administrative processes in the form of papers and procedures in higher education institutions may become tacit in the form of experiences, judgments, perspectives, and perceptions that reside inside individuals (Charles and Nawe, 2013). Thus, knowledge influences the behaviour of faculty members and students at higher learning institutions through the adoption of tacit knowledge obtained through university research activities (Paudel, 2019). The quality of higher education is mainly determined by the academics that work in the industry. For this to occur, knowledge and information sharing must be practised as a standard throughout the institution (Shina, 2020). The primary role of enabling and expanding the value of knowledge is carried out through information technology-based knowledge-sharing platforms such as social networking sites (SNS), which are also designed to handle non-technical elements impacting the process dynamics (Yigzaw, Tewelde, and Tukiainen, 2021).

Statement of the problem

The usage of social networking platforms in Tanzanian higher learning institutions (HLIs) has recently increased. Students and academics use such platforms to share knowledge and information on all academic and social issues. HLIs are also using social networking platforms to market their products and services and share knowledge at various organisational levels. The

popularity of SNS usage in HLIs is related to its advantages, which include allowing students to obtain knowledge and information on a timely basis, compatibility with education, friendliness, and an increase in students' academic achievement. Although such platforms provide several benefits to academics, students, and HLIs, they also have drawbacks requiring strict measures. Even though social networking platforms are growing increasingly popular among students and academics, implementing such platforms still faces challenges at higher learning institutions in Tanzania, which limits their use in transferring knowledge and information among students and lecturers. Several studies in Tanzania have found that using SNS for knowledge and information exchange activities could be more effective (Masele 2021; Shembilu 2013; Charles and Nawe 2013; Maiga 2017). As a result, this study proposes a framework for implementing SNS usage for knowledge and information sharing in Tanzanian HLIs.

Research objectives and questions of the study

The study's main objective was to investigate a framework for social networking site usage for knowledge and information sharing in Tanzanian higher learning institutions.

Specifically, the study intends to:

- (i) Identify benefits of SNS in sharing knowledge and information in Tanzanian HLI's
- (ii) Examine barriers to SNS usage for knowledge and information sharing in Tanzanian HLI's
- (iii) Propose a framework for implementing the usage of SNS for knowledge and information sharing in Tanzanian HLI's

The following research questions guided the study:

- (i) What are the benefits of SNS in sharing knowledge and information in Tanzanian HLI's?
- (ii) What are the barriers to SNS usage for knowledge and information sharing in Tanzanian HLIs?

Conceptual framework

According to Ngulube (2020), a conceptual framework can be founded on theories, models, and literature. It might also be the outcome of the researcher's synthesis and reasoning about the topic

under study (Kivunja 2017). This research is guided by Nonaka and Takeuchi's (1995) organisation knowledge creation model, Fishbein and Ajzen's (1977) theory of reasoned action (TRA), and Davis's (TAM) 2 technology acceptance model (TAM) (1989).

SECI Model

The organisation knowledge creation (OKC) model proposed by Nonaka and Takeuchi (1995) identifies four ways for an organisation to create, combine, transfer, and share tacit knowledge.

According to them, individual knowledge relates to the current interaction between tacit and explicit knowledge. SECI, which stands for socialisation, externalisation, combination, and internalisation, refers to the stages in which individuals' tacit and explicit knowledge interact to form new tacit knowledge. Tacit knowledge is rooted in personal experience and includes concrete variables such as attitudes, beliefs, and values (Nonaka and Takeuchi 1995). Tacit knowledge is transmitted through physical interaction between individuals rather than any other form of human communication. Individuals can exchange experiences through socialisation, forming new tacit knowledge, such as common mental modes and technical abilities (Nonaka and Takeuchi 1995).

Externalisation transforms tacit knowledge into explicit knowledge, which can take the form of written documents or be codified and easily disseminated (Faith and Seeam 2018). Combination entails creating new explicit knowledge by consulting existing explicit knowledge from various sources such as papers, meetings, telephones, or computerised communication networks. Internalisation is the process of converting explicit knowledge into tacit knowledge. Individual tacit knowledge bases are strengthened through socialisation, externalisation, and experience synthesis (Nonaka and Takeuchi 1995). The SECI model is useful in this study because it shows how using social networking platforms can promote knowledge and information sharing among Tanzanian HLI lecturers and students. Using such collaborative platforms may encourage interaction, increasing knowledge creation, innovation, and creativity while improving student academic performance. Because HLIs are an inherent component of society, new knowledge developed in them may aid in producing knowledgeable and competent graduates to assist the nation in achieving development.

Theory of Reasoned Action

Fishbein and Ajzen's (1975) theory of reasoned action (TRA) is based on learning theory. It proposes that the intention toward a specific object of concern influences the driving force toward that behaviour. Attitudes and subjective norms are the two drivers of intentions, which means that the stronger the intention to practice a specific behaviour when it is judged valuable and favourably evaluated by the beneficiaries, such as coworkers and the surrounding community (Otieno et al., 2016:3; Rahab and Wahyuni 2013). According to this study, students and lecturers with knowledge may exhibit knowledge sharing behaviour if they have positive attitudes toward using SNS for knowledge exchange.

Technology Acceptance Model

Fred Davis (1989) developed the technology acceptance model (TAM 2), which is one of the useful models for determining user adoption and use of new technology. The TAM 2 model identifies two factors influencing new technology acceptance and usage. The first is an individual's perception of how simple the new technology is, and the second is the user's perception of how useful the new technology is. Other TAM 2 model-related characteristics include user attitudes toward new technology adoption and use (Otieno et al., 2016:4). Based on Otieno et al. (2016:4), the TAM 2 model was found to be useful in anticipating the use of SNS for exchanging knowledge among postgraduate students in Tanzanian HLIs by examining their perceptions and attitudes toward the use of social networking in sharing academic knowledge and information, as well as how their skills in using such platforms influence their perceived ease of use of the technology.

Literature review

Benefits of using SNS for knowledge and information sharing in HLIs

According to Kaplan and Haenlein (2010), social networking sites (SNS) are internet applications that allow users to generate, edit, share, and view content created by others sharing a similar platform. Eid and Al-Jabri (2016) affirm that SNS serves as a platform for facilitating interaction, communication, and collaborative learning in higher education institutions. It has also enabled lecturers and students to share classroom materials facilitating the learning process

(Arshad, Ahmad, and Saddiqui, 2018). Dumpit and Fernandez (2017) discovered that perceived usefulness, perceived ease of use, subjective norms, and perceived enjoyment were the main determinants of SNS use in the Philippines.

A similar finding was observed in a study conducted in Tanzania by Masele (2021), who revealed that the perceived ease of use of SNS and their friendliness attracted their usage in knowledge sharing initiatives in the African context. According to a study conducted by Mbegani, Mambo, and Mubofu (2023), students in Tanzania HLIs were drawn to use social networking sites because such platforms improved their academic performance, were user-friendly, and provided access to current information. A study by Mwanakatwe (2021) found that students in HLIs in Tanzania relied on SNS to obtain information to answer their assignments. In their study, Moghavvemi et al. (2017) discovered that factors such as perceived reciprocal benefits, outcome expectation, and perceived enjoyment encouraged students to share their knowledge via SNS with other members in the expectation of rewards and a desirable outcome.

Donelan (2015) discovered in his study that lecturers who use multiple SNS frequently have a high chance of reaping various benefits. In a study conducted in Saudi Arabia by Arshad, Ahmad, and Saddiqui (2018), it was discovered that social networking sites (SNS) were useful platforms when used in educational settings in this digital era. Another study conducted in Zimbabwe by Zanamwe, Rupere, and Kufandirimbwa (2013) found that the most popular knowledge-sharing sites were Facebook, Myspace, LinkedIn, and Twitter. Students used such websites to share academic information. Similar findings were found in an Oman study conducted by Mehmood and Taswir (2013), which discovered that through SNS, students could share knowledge related to their studies and achieve good grades in the course they were pursuing. Al-rahmi, Othman, and Musa (2014) discovered that frequent interaction through SNS and collaborative learning between lecturers and students improved students' academic performance, resulting in the persuasion of ease of use and perceived usefulness among them in their study conducted in Malaysian higher education institutions. Mosha (2019) found similar results, stating that the use of SNS in Tanzanian HLIs provided spaces for classroom discussion and promoted learning. Maiga (2017) found that knowledge sharing in Tanzanian HLI has improved the quality of teaching, research, and consultancy, supporting the findings of Mosha

(2019) and Al-rahmi, Othman, and Musa (2014). Chiparausha, Onyancha, and Ezema (2022) found that to increase productivity, HLIs in Zimbabwe should invest in ICT facilities that encourage the use of SNS. Comparable findings were obtained in a study conducted in Tanzania by Innocent and Masue (2020), who discovered that for universities in Tanzania to achieve effective e-learning, there should be strong internet connectivity, classes with adequate ICT facilities, and qualified ICT personnel to assist students and academic staff in the event of difficulties. Another study conducted in Tanzania by Koshuma (2020) revealed that SNS had both positive and negative effects on students and lecturers; therefore, steps should be taken to educate them on the proper use of such sites to minimise or eliminate the negative effects. According to Masele and Rwehikiza (2021), to realise the potential of SNS, universities in Tanzania should invest in financial and management resources to ensure SNS integration.

According to the literature review, when appropriately used in higher education institutions, SNS have potential such as facilitating teaching, learning, communication, innovations, consultancy services, sharing, and access to knowledge, all of which may improve students' academic performance. SNS, on the other hand, have been shown to have several negative effects on the security, privacy, image, and reputation of HLIs and individuals, necessitating their proper control to realise their full potential in academia.

Challenges encountered by HLI's in using SNS for knowledge and information sharing.

Students and lecturers in higher education institutions interacted, communicated, and shared knowledge through social networking sites to improve teaching, learning, research, and innovation. However, using SNS for knowledge sharing in higher education institutions has proven difficult. Basar et al. (2021) discovered that students in HLIs could not collaborate on class assignments using online learning platforms such as SNS due to poor internet connectivity caused by a lack of ICT infrastructure. Similarly, Chakuzira and Kadyamatimba (2017) discovered that the barriers to SNS usage were a lack of reliable internet connectivity, distraction, viruses, training, and poor infrastructure. Kolan and Dzandza (2018) found that if proper control mechanisms were not in place, addiction and distraction associated with using SNS could affect students' learning. Mweroro (2018) discovered that students' academic performance suffered due to their use of SNS for non-educational purposes in his study. Similar findings were found in a study conducted by Zaidieh (2012), which revealed that social media

addiction, miscommunication, privacy, and real friends were the challenges students faced when using SNS. Ogedengbe and Quardi (2020) obtained comparable results in their study, which discovered that cyberbullying, a lack of privacy, and social media addiction were the challenges students faced when using SNS. The findings obtained by Ogedengbe and Quardi (2020) were supported by a study conducted by Samuel, Frempong-Kone, and Akoto (2022). According to their findings, factors affected the use of SNS included a lack of security and privacy, power outages, and poor internet connectivity.

Demuyakor (2020) discovered that cyberbullying is the most common challenge students face when using social networking sites. According to Dadzie and Fiawotoafor (2020), students in Ghanaian HLIs spent significant time on SNS for social purposes, which impacted their learning. Similar findings were obtained in another study conducted in Kenya by Waweru (2018), who discovered that students spent most of their time on SNS for social purposes rather than academic purposes, negatively impacting their academic performance. Individual factors such as lack of awareness of SNS benefits, interest and willingness to share knowledge, ICT skills, lack of management support, and the absence of dedicated ICT staff were identified as challenges that impede the use of SNS for knowledge and information sharing in a study conducted by Al-Busadi, Ragsdel, and Dawson (2017). Similar findings were obtained in a Tanzanian study conducted by Semlambo, Sengati, and Angalia (2022). It was discovered that HLIs in Tanzania faced challenges such as a lack of ICT facilities, ICT staff, management support, and insufficient e-learning skills among instructors.

Challenges such as the cost of purchasing internet data and a lack of skills, including ICT skills, were also observed in a study conducted by Boateng and Tindi (2022). In his study, Ismael (2022) discovered that low bandwidth, power outages, and a lack of required devices and facilities impacted the use of SNS. Similarly, a study conducted in Kenya by Kibuku, Ochieng, and Wausi (2020) found that low bandwidth, a lack of proper ICT training, and poor investment in ICT infrastructure were the challenges encountered in the use of SNS. In their study that was conducted in Tanzania, Yunus et al. (2020) observed that challenges associated with the use of web 2.0 technologies such as SNS included poor internet connectivity, a lack of ICT facilities and infrastructure, a lack of ICT skills in learning, and immoral pictures and videos posted

through such sites. A study by Langat (2017) indicated that the use of SNS had positive effects on students' learning, but that the use of such platforms for enjoyment, socialisation, and passing time had some negative impact on students' learning.

Research Methods

By using mixed methods research, this study applied a pragmatism paradigm. The researcher used a convergent research design, allowing the collection of quantitative and qualitative data during the same study session. This is consistent with Creswell and Plano Clark (2018), who stated that researchers who use a convergent design should use the pragmatic paradigm because it allows for an understanding of the phenomena under investigation from multiple perspectives. 171 postgraduate students completed the online survey out of the targeted 239. Moshi Co-operative University, Nelson Mandela Institution of Science and Technology, Institute of Accountancy Arusha, and Mwenge Catholic University provided data for this study. Interviews were conducted to collect qualitative data from eight heads of academic departments from the respective institutions who were purposefully selected. A documentary review was used to collect qualitative data to corroborate the quantitative data and various national and institutional policies, including Tanzania's ICT Policy of 2016, the Education and Training Policy of 2014 and 1995, and the National Science and Technology Policy of 1996, were consulted. Using SPSS version 24, quantitative data were descriptively analysed and presented in tables and frequencies. In contrast, qualitative data were coded to generate themes and then thematically analysed using Atlasi, Ti 7, and Word Art software.

Results

Findings from student questionnaire

Based on the data collected through questionnaire, the findings revealed that out of 171 postgraduates, 136(79.5%) indicated that the use of SNS strengthened their knowledge base, 127(74.3%) promoted students academic performance, 121 (70.8%) helped in the creation of new knowledge, 120(70.2%) provided quick access to knowledge and information, 109(63.7%) postgraduates indicated that SNS enabled them to collaborate with other online research

scholars, 104(60.8%) used SNS for entertainment during free lecture hours, 103(60.2%) SNS reduced the cost of accessing knowledge, 97(56.7%) mentioned that the use of SNS facilitated collaborative learning, 97(56.7%) facilitated the creation of new knowledge, 86(50.3%) students felt convenience to express their view through SNS, 78(45.6%) recognition, 2(1.2%) provide knowledge and information promptly, 1(0.6%) provide different ways of learning, and 1(0.6%) indicated that SNS facilitated the study as shown in Table 1.

Table 1: Benefits of using SNSs in academic activities

Responses of students	N-171	Percentage
Strengthen the knowledge base	136	79.5
Promote students academic performance	127	74.3
Help in creation of new knowledge	121	70.8
Provide quick access to knowledge and information	120	70.2
Collaborate with other online research scholars	109	63.7
Used for entertainment during free lecture hours	104	60.8
Reduce the cost of accessing knowledge	103	60.2
Facilitate the collaborative learning	97	56.7
Facilitate the creation of new knowledge	97	56.7
Students felt convenience to express their views through SNS	86	50.3
Recognition	78	45.6
Provide knowledge and information promptly	2	1.2
Provide different ways of learning	1	0.6
Facilitated learning	1	0.6

Source: Field data, 2022

Findings from heads of academic staff interview

Benefits of using SNS for knowledge and information sharing between students and lecturers in HLIs in Tanzania,

HoD-1 Had this to say:

"Whether on campus or at home, social networking sites allow students to interact and actively participate in classroom-related matters."

HoD-2 Stated that:

"Social networking sites provided a forum for students and lecturers to discuss academic issues, which enabled all of them to strengthen their general understanding."

HoD-3 Proclaimed that:

"Through social networks, students were able to exchange various types of knowledge, which enabled them to keep informed on the issues relating to their field specializations."

HoD-4 Highlighted that”

"With social networking sites, students were able to access the knowledge they needed for their studies on time."

HoD-5 Affirmed that:

"The use of social networking sites has eliminated the distance barrier to accessing knowledge; therefore, students can now access the knowledge and information they need without visiting libraries."

HoD-6 Narrated that:

"Most of the students prefer to share knowledge through such sites, which has also enabled them to minimise their knowledge gap by acquiring new knowledge from others that they did not have before."

HoD-7 Had a view that:

"If proper mechanisms are put in place to ensure social networking sites are not misused, such sites can enable students to attain better academic grades in their studies."

HoD-8 Assert that:

"Through social networking sites, students were able to learn various concepts related to their studies by attending online tutorials such as those on YouTube and other useful sites."

Findings from student's questionnaire

The second objective of the study assessed the challenges encountered by students in their use of SNS for sharing knowledge. Findings established that out of 171, 116(67.8%) of respondents

indicated a problem of internet connectivity, 82(48.0%) lack of training, 80(46.8%) absence of the required technology, 79(46.2%) a lack of skill, 78(45.6) insecurity, 75(43.9%),unreliable power sources, 66(38.0%) absence of knowledge sharing culture, 65(38.0%) lack of trust, 61(35.7%) lack of awareness on the use of SNS, 60(35.1%) absence of policy regarding the use of SNS, 59(34.5%) lack of management support and 47(27.5%) respondents mentioned the tendency of hoarding knowledgas shown in Table 2.

Table 2: Barriers to SNS usage in HLIs in Tanzania

Responses of students	N-171	Percentage
Unreliable internet	116	67.8
Lack of training on the use of SNSs for Knowledge Sharing	82	48.0
Absence of the required technology/facilities	80	46.8
Lack of skills in the use of SNSs for knowledge sharing	79	46.2
Insecurity	78	45.6
Unreliable power sources	75	43.9
Absence of knowledge sharing culture	66	38.6
Lack of trust	65	38.0
Lack of awareness on the use of SNSs for knowledge sharing	61	35.7
Absence of policy regarding knowledge sharing	60	35.1
Lack of management support	59	34.5
Tendency of hoarding knowledge	47	27.5

Source: Field data, 2022

Findings from heads of academic staff interview

Barriers of using SNS in knowledge sharing between students and lecturers in HLIs in Tanzania,

Participant HoD-1 remarked that:

"Internet connectivity is the main challenge affecting the use of social networks in sharing knowledge between students and lecturers. Sometimes internet connectivity may go off for one or two weeks.

Participant HoD-2 had this to say:

"Cyberbullying is another factor that discourages most students and lecturers from using social networking sites, which also affect knowledge sharing processes."

Participant HoD-3 articulated that:

"The existing ICT infrastructure has become obsolete, and as a result, it cannot support effective knowledge sharing among students and lecturers."

Participant HoD-4 stated the following:

"Some students are not using such platforms for academic matters; hence, they waste their time, which also affects their studies."

Participant HoD-5 stated that:

"Lack of security and privacy caused some lecturers and students hesitant in using such platforms for sharing knowledge".

Participant Hod-6 explained that:

"Some members of staff at the managerial position are unhappy with the use of social networks in educational settings, and thus they don't put any efforts towards the integration of such sites in learning."

Participant HoD-7 explained that:

"Some lecturers have no skills in using such sites for learning purposes; therefore, they try as much as they can to discourage their use in learning, thus affecting the use of social networking platforms in learning."

Participant HoD-8 proclaimed that:

"There is no policy guiding the use of social networking sites, therefore their usage is not formally recognised by the management."

Findings from document review

Various national and institutional policies were consulted to gather information for this study on using SNS for knowledge sharing in Tanzanian HLIs. According to a documentary review report from the Tanzania Commission for Universities (TCU 2019:199), universities must provide all necessary facilities, such as lecture halls, libraries, and ICT resources, to facilitate teaching and learning to ensure the quality of education in the country. While the use of SNSs as a learning platform has increased, several issues, including security, must be addressed, according to Tanzania's National Information and Communication Technology Policy (2016:10).

Tanzania Education and Training Policy 2014 stated that to facilitate the implementation of the education and training policy, education providers at all levels in the country must ensure that the educational, legal framework in place is followed. This statement emphasises the significance of universities deploying and utilising ICT, including incorporating SNSs into teaching and learning.

According to Section 3.5 of the MoCU ICT policy (2019:7), the university is responsible for scheduling and implementing ICT capacity building events as needed. 3.5.3 (d) of the same policy stated that the department in charge of ICT should conduct a periodic assessment of ICT skills among its patrons to identify gaps and training needs. Section 3.6 of a comparable policy states that the university should create various online contents that are communicated to local and international stakeholders through various communication channels such as social networks, television, radio, e-learning, and websites. One of Tanzania's National Science and Information Technology Policy's sectoral objectives, according to a documentary review report (1996:33), is to ensure that adequate and appropriate science and technology teaching and learning equipment, as well as competent and experienced science and technology instructors, are available in schools, colleges, and higher education.

Another review of the NM-AIST Policy (2016:3) document revealed that NM-AIST is a government-based higher education institution required by law to have various policies, including the ICT policy. The ICT policy instructs the academic community, including students and faculty, on how to use the available ICT facilities effectively and in an acceptable manner. Another section of the NM-AIST policy (2016:11) states that NM-AIST must develop acceptable

procedures to guide the acquisition, storage, access, and management of computer software and data in a manner that does not jeopardise the services provided, as well as the users' security, integrity, and confidentiality. The policy emphasised the significance of developing policies and guidelines to ensure the security and privacy of users.

Section 1.6 of the IAA ICT Policy and Procedures, which was revised in July 2021, stated that all activities performed by IAA staff and students are expected to be in accordance with the national legal frameworks in place and the IAA policy, according to a document analysis report. According to Section 1.8 of the policy, the department in charge of ICT is also responsible for ensuring that the current ICT policy is reviewed every three years to accommodate any future changes and to maintain ICT standards and best practices. In addition, the policy outlined the need for various policies, including those relating to the use of ICT in educational systems, to be developed in universities and higher education institutions.

Discussion

Regarding the advantages of using social networking sites for knowledge sharing in HLIs, the majority of students 136 (79.5%) stated that it helped them strengthen their knowledge base and improved their academic performance. The findings are consistent with the findings of a study conducted by Mbegani, Mambo, and Mubofu (2013), who discovered that students were drawn to use SNS for knowledge sharing because such platforms assisted them in improving their academic performance. The study also found that using SNS provided numerous benefits to lecturers and students, such as facilitating collaborative learning. Similar results were obtained in studies such as those conducted by Mosha (2019) and Al-Rahmi, Othman, and Mussa (2014), the use of SNS has provided a platform for collaborative learning between students and lecturers, as well as a space for discussing classroom issues.

The study's findings are consistent with Nonaka and Takeuchi's (1995) SECI model, which states that explicit and tacit knowledge can be shared via computerised networks. As a result, lecturers and students interacted, communicated, and shared various types of knowledge via SNS, allowing them to strengthen their existing knowledge base. Students and lecturers in Tanzanian HLIs were using SNS because such sites provided them with many benefits in their learning;

thus, they perceived such platforms as useful for their educational matters. The study's findings are also consistent with Davis's (1989) TAM 2 model, which states that people will be drawn to use technology if it is perceived useful. The findings showed that students developed positive attitudes toward SNS due to the benefits they received from them. This is consistent with TRA by Fishbein and Ajzen (1975), which states that attitudes influence individuals to perform specific behaviours.

In respect of the challenges encountered when using SNS for knowledge and information sharing between students and lecturers in Tanzania HLIs, this study found that out of 171, the majority of respondents, 116, (67.8%), stated that there was an issue with the internet connectivity, which impacted knowledge sharing practices. Comparable findings were found in a study conducted by Chakuzira and Kadyamatimba (2017), which discovered that poor internet connectivity and ICT infrastructure were barriers to SNS usage in knowledge and information sharing between students and their lecturers. Similar findings were obtained in studies conducted by Samuel, Frempong-Kone, and Akoto (2022) and Ogedengbe and Quardi (2020), which established that the lack of reliable internet connectivity was one of the factors that contributed to the findings. Other difficulties encountered in the use of SNS for knowledge sharing observed in this study included a lack of training, a lack of management support, insecurity, a lack of skills, and the absence of SNS usage policies to guide proper usage. Such factors were also discovered in studies by Al-Busadi, Ragsdel, and Dawson (2017) and Semlambo, Sengati, and Angalia (2022). Their research found that a lack of ICT training, ICT staff, management support, and inadequate ICT skills affected the use of SNS between lecturers and students in Tanzanian HLIs. As a result, students and lecturers in HILs Tanzanian faced various challenges when using SNS for knowledge exchange.

The study's findings also indicated that the use of social networking sites in educational contexts had been generally stated in national policies and guidelines reviewed, such as those of the Tanzania Commission for Universities (2019) guidelines, the Tanzania National ICT Policy (2016), the Tanzania Education and Training Policy (2014), and the Tanzania Education and Training Policy (1995), as well as institutional policies. As a result, most Tanzanian higher learning institutions had not developed stand-alone policies to guide the use of SNS in

exchanging knowledge and information. This situation has hampered the realisation of the vision and mission of several national policies, including the Education and Training Policy (2014), Tanzania's National Science and Technology Policy (1996), and the National ICT Policy (2016).

Conclusion and recommendations

The use of SNS for knowledge and information has proven beneficial because such sites allow students and lecturers in Tanzanian HLIs to interact, communicate, and share various types of knowledge required for their academic careers. Students and lecturers should continue using such platforms for educational purposes to encourage innovation and creativity in HLIs. This will assist educational institutions in achieving competitiveness and improving student academic performance. Because the use of SNS is becoming more popular, students and lecturers in Tanzanian HLIs should be aware of the benefits and drawbacks to make sure to use them effectively. Concerning the difficulties encountered when using SNS to exchange knowledge and information, immediate action is required to resolve them and ensure knowledge is easily shared between students and their instructors. It is critical for HLIs in Tanzania to take SNS seriously because technology has changed the way students prefer to learn.

This study recommends revising national policies to include SNS usage in all HLIs in Tanzania. As a result, higher education institutions must comply by developing stand-alone SNS usage policies to ensure that such sites promote learning rather than other non-academic purposes. As a result, students and lecturers who were hesitant to use them due to their security and privacy will be more willing to use them for knowledge sharing. HLI management should assist by investing financial resources to ensure ICT facilities are in place, subscribing to reputable internet providers, and employing technical ICT personnel to assist in the event of problems. Power generators should be installed to ensure that knowledge-sharing activities are not disrupted during a power outage. Finally, training should be organised to train lecturers and students how to use ICT devices so that such sites can be easily used for knowledge sharing.

Proposed framework for the implementation of SNS usage in HLIs in Tanzania

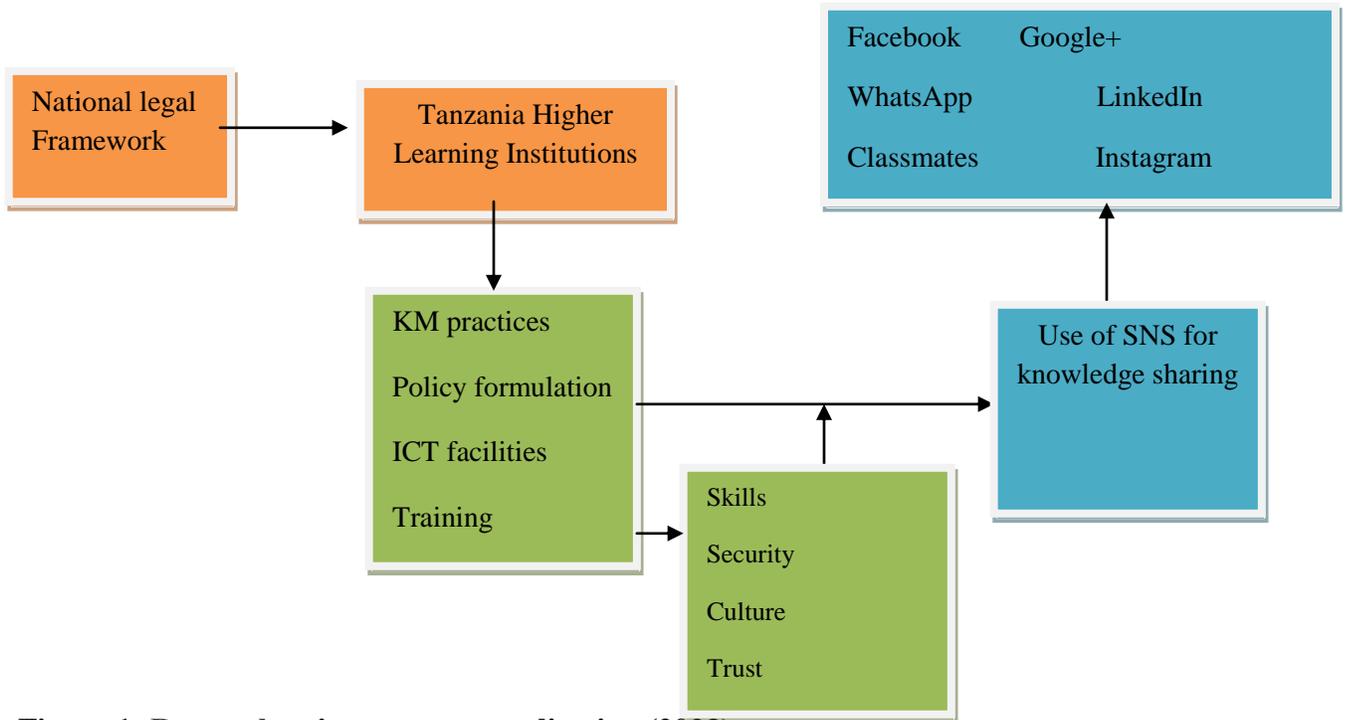


Figure 1: Researchers’ own conceptualization (2023).

When solving a specific problem, the framework is important in guiding the process (Muzvondiwa & Marutha, 2021). This research proposed a framework for using social networking sites for knowledge sharing in Tanzanian higher education institutions. The proposed framework is based on Nonaka and Takeuchi's (1995) SECI model, Fishbein and Ajzen's (1975) theory of reasoned action (TRA), Davis' (1989) Technology Acceptance Model (TAM 2), and concepts from the literature review. Tanzania's national legal framework, which ensures the use of technology such as SNS in HLIs without jeopardising the country's educational quality, serves as the framework’s foundation. This includes the Tanzania Education and Training Policy of 2014, the National Science and Education Policy for Tanzania of 1996, the Tanzania National Information and Communication Technology Policy of 2016, and standards and guidelines for university education in Tanzania of 2019. The policies and guidelines at the national level have generally outlined the use of technology, including social media, in educational contexts in Tanzania. However, it has not been indicated anywhere that all HLIs in Tanzania must integrate and use SNS as formal learning platforms. Thus, the framework proposes that all national

policies and guidelines be revised to include the aspect of SNS usage in all HLIs in Tanzania. This will be the turning point for using SNS as formal learning platforms.

The HLIs in Tanzania, as the implementing agencies of the national level policies in educational matters, play four core roles: teaching, research, consultancy, and innovation. To fulfil their mission and vision at the institutional and national levels, they must adhere to national policies by incorporating social networking sites for knowledge sharing as official learning platforms. To attain the quality education and competitiveness, all HLIs will have to put in place knowledge management (KM) practices to ensure that knowledge that is created by students and lecturers of the particular institution is collected, codified, stored, and shared through SNS to create new knowledge. KM practices, especially the aspect of knowledge sharing through SNS, should be guided by stand-alone policies on the use of SNS to ensure its proper usage. By stipulating better ways to use such platforms, policies will help to protect user security and privacy, increase trust, and protect the institutional image.

To realise the full potential of SNS in HLIs in Tanzania, the management of such institutions should strongly invest in ICT facilities and infrastructure to ensure knowledge sharing practices are maintained. Investing in ICT will involve employing qualified ICT personnel to assist lecturers and students in case they encounter challenges. Investment in ICT should also go hand in hand with training to equip lecturers and students with the skills to use such gadgets to share knowledge. Training will enable students and lecturers to become skilled information users, capable of searching for and accessing knowledge and information needed for their education. Skills will lead to the perceived ease of use of SNS platforms, and attaining better academic performance will lead to its perceived usefulness. Finally, it will promote the culture of using various SNS, such as WhatsApp, Facebook, Google+, and others, for knowledge sharing.

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