Internal University Organizing Management Function in Promoting Knowledge Economy Practices in Tanzania

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Abstract: *This study investigated the internal management practices of Tanzanian universities in organizing and promoting knowledge economy (KE) practices. As universities shift from traditional, autonomous roles to more strategic organizational processes, they are restructuring their operations to enhance effectiveness, competitiveness, and relevance in the knowledge-based economy. The research, aligned with an interpretive research philosophy, focuses on how universities manage and organize activities that support knowledge creation, dissemination, and application. The study targeted key university management figures, including Directors of Research, Deans, Heads of Departments, and Coordinators, selecting 30 participants through non-probability sampling. Data was collected through document reviews and in-depth interviews, analyzed thematically. Findings reveal that universities have implemented practices such as consultancy bureaus, research dissemination through conferences, exhibitions, and media platforms, as well as competitions to encourage innovation. However, the study highlights weaknesses in facilitating interdisciplinary research and a lack of focus on qualitative assessments of research value. These gaps include insufficient collaboration across fields, limited qualitative feedback, and a need for ethical and societal considerations in evaluating research. The findings emphasize the need for stronger organizational processes to optimize universities' contributions to the knowledge economy.*

Keywords*: Internal Management Practices, Knowledge Economy, Knowledge Creation, Knowledge Dissemination, Organizational Processes*

1. Introduction

Universities are pivotal in advancing knowledge economies, playing a key role in producing and disseminating knowledge that fuels innovation and economic growth. As countries increasingly shift towards knowledge-based economies, universities must adapt to meet the rising demand for knowledge creation and dissemination. In Tanzania, a developing East African nation, universities are essential in promoting a knowledge-based economy amidst rapid economic changes. However, challenges such as limited research funding, inadequate infrastructure, and a shortage of skilled personnel hinder universities' full participation in the knowledge economy (Laal, 2010; OECD, 2003).

Globally, governments recognize the importance of higher education in fostering economic growth. Countries like Finland and the U.S. have successfully integrated knowledge economy principles into their education systems. Finland has responded through competitive reforms, including university mergers (Poutanen, 2022), while U.S. research universities continue to drive innovation and competitiveness (Farazmand, 2018). Universities contribute by producing highly skilled graduates, conducting research, and collaborating with industries to promote technology transfer and entrepreneurship.

Despite these global advancements, developing nations like Tanzania face challenges in fully adopting knowledge economy practices. Cultural and societal factors, along with the persistence of traditional management models, hinder knowledge sharing and innovation within universities (Jackson, 2003; Kabilwa, 2018). Universities must transition to more open, collaborative models to foster knowledge-driven growth. Tanzania's Vision 2025 and the Five-Year Development Plan (FYDP III) underscore the country's commitment to building a knowledge economy through policies that promote innovation and research commercialization.

However, gaps remain in understanding how internal processes, such as planning and leadership, within universities can align with knowledge economy goals. Research from countries like Russia and the UK has demonstrated the importance of strategic university management in driving economic impact (Moiseev et al., 2019; Marginson, 2009). For Tanzania, strengthening internal processes and fostering a culture of knowledge management are critical to aligning universities with the demands of the knowledge economy, ensuring their contribution to sustainable development (Kahangwa, 2018).

2. Literature Review

2.1 Theoretical Framework

2.1.1 Henry Fayol's management theory

Administrative Organisation Theory advanced by Henri Fayol (1841–1925), who was a French businessman and manager, informs this study and he is considered to be a significant influence on the contribution of classical management theories. He was the first to suggest the management functions that are now known as an essential component of a manager's work by modern management authorities. His analysis of management includes cycle of planning, organizing, commanding, coordinating, and controlling which lead an organization to achieve its predetermined objectives (Bacud, 2020). The university management is a process that entails the elements of planning, organizing, directing/leading, coordinating and controlling as Fayol suggested. While Fayol's Administrative Management theory provides a strong framework for setting study objectives and understanding management functions of planning, organizing, leading and controlling, it may not fully capture the complex interdependencies and dynamic interactions within a university setting. This limitation requires the use of Systems Theory in the study to better understand the holistic nature of university management and its impact on the knowledge economy. Systems Theory will help address the interconnectedness of various management functions and how they collectively contribute to achieving KE goals, ensuring a more comprehensive analysis of the university's efforts to promote KE.

2.1.2 Systems theory

Systems theory offers a framework for studying groups of interconnected elements and their properties collectively, with the aim of understanding the resulting outcomes. The systems theory posits that focusing on isolated occurrences is a reactive approach. According to Chun et al. (2008), researching long term patterns of behaviour is a more suitable strategy for understanding how systems might be improved over time, as an alternative. Within the context of businesses, systems theory is a theoretical framework used to solve problems. It entails identifying patterns to improve comprehension and responsiveness to the problem at hand. This statement implies that problem-solving inside an organization relies on reaching a resolution through the collective efforts of individuals and the cohesive factors that unite the systems, rather than relying just on individual performance in specific roles. Based on the aforementioned background, Chun et al. (2008) argue that an organization, whether it is a system or one of its components, exhibits distinct features, values, or characteristics that are specific to its nation.

According to Chun et al., (2008), the state of a system undergoes modifications, which are referred to as events or manifestations. Systems theory, when applied to knowledge management, provides a perspective that examines the collective events, behaviours, processes, and states associated with knowledge inside an organization. Furthermore, an essential term in systems theory, as proposed by Senge (1990), is structural learning, which pertains to knowledge. This method entails utilizing, incorporating, and tailoring pre-existing knowledge to align with the requirements of a novel application or user (Bacud, 2020).

According to Taborga's (2011) study, systems archetypes play a crucial role in planning by helping to detect and handle possible problems early on, when they are more manageable. Furthermore, when individuals within an organization have a comprehensive understanding of the specific characteristics of systems archetypes, they may utilize this knowledge to develop dynamic systems that are capable of withstanding any negative consequences that may arise (Taborga, 2011). Therefore, within the scope of this study, the utilization of a systems thinking method is suitable for comprehending the intricate and ever-changing characteristics of knowledge exchange. Organizational knowledge management is a subject that comprehensively examines events, behaviours, processes, and states related to knowledge within

organizations. Chun et al. (2008) argue that systems thinking is a suitable framework for addressing the absence of a comprehensive framework in organizations that can offer a broad sense of direction for knowledge exchange activities.

While Systems Theory provides a valuable framework for understanding the complex interdependencies of management within a university in supporting Knowledge Economy (KE) initiatives, its weaknesses in this specific study context highlight the need for complementary approaches. Systems Theory may not sufficiently explain the processes of adopting innovations and new technologies, which can be better addressed through the adoption model. To address this gap, the study has selected the Technology-Organization-Environment (TOE) framework for a more nuanced analysis of the factors influencing management practices within universities in promoting KE, such as the complex dynamics of innovation adoption.

2.2 Empirical Review

Balozi et al., (2014) study, conducted in Tanzania, aimed to construct theory with immediate significant outcomes, focusing on the development of theory within the Tanzanian context and its potential contribution to global knowledge economy. The study underscored the importance of investigating the applicability and performance of theory in Tanzania, drawing comparisons with developed countries. It specifically examined the theory of deliberate behaviour (TPB) as the foundational theory for understanding knowledge sharing in the Tanzanian context. The study identified key propositions crucial for the development of the theory of planned behaviour when studying knowledge sharing in Tanzania. A limitation of the study was noted, as it concentrated solely on one theory during the analysis phase, in contrast to the current study aims to address how leading university play a role in the growth of knowledge economy.

Rivera et al., (2022) examined knowledge management strategies in Mexico. They utilized a model that consisted of six essential factors: management, culture, structure, human resources, information technology, and measurement. These characteristics were recognized as essential for the establishment, retention, transmission, and utilization of knowledge. The results emphasized the importance of cultural, human, and structural factors in influencing information management models in university environments. Nevertheless, the study's disadvantage is its exclusive dependence on a survey approach, which may limit the extent of comprehension. Hence, the primary objective of the present investigation is to ascertain the role of control mechanisms in facilitating the knowledge economy.

Ruxandra (2016) carried out research in German with an emphasis on universities' roles as knowledge-based learning institutions. The study utilized a qualitative research approach and included a sample of 26 universities. The findings indicate that universities have the potential to modify their activities in line with the principles and framework of a learning organization. The study suggests that the learning organization should be redesigned to be more applicable to public organizations, safety organizations, human service organizations, and knowledge-intensive companies. Conversely, the present study specifically examined how university management incorporates elements of the knowledge economy into their planning.

Brostom et al. (2021) did a study in Ethiopia that looked at the knowledge economy, new ideas, and the new problems academics have to deal with. The study utilized a qualitative research approach and adopted a case study as its research design. The study revealed that universities have emerged as crucial contributors to the knowledge economy and are actively addressing the expectations of stakeholders by adopting new roles in teaching and research. However, these institutions also encounter many problems during the implementation process, as they navigate the complex landscape of the knowledge economy and undergo significant transformations. Ultimately, the study suggests that further investigation should be undertaken to explore the impact of the knowledge economy and innovation. Contrary to this, the present study specifically examines the role of major universities in Tanzania in fostering the expansion of the knowledge economy and how university management organizes practices related to the knowledge economy.

3. Methodology

The study employed a qualitative approach rooted in social constructivism, utilizing a multi-case study design to examine internal university management's promotion of the knowledge economy at the University of Dar es Salaam and the University of Dodoma. Data was collected from 30 purposively selected participants, including Deans, Heads of Departments, Coordinators, and Directors of Research and Publications. Purposive sampling targeted key informants in managerial roles involved in knowledge economy practices, while snowball and convenience sampling were also used to access relevant participants. The qualitative approach enabled an in-depth exploration of managerial processes such as planning, organizing, leading, and controlling to promote knowledge economy initiatives. The study aimed to achieve data saturation by capturing diverse perspectives across faculties and departments, ensuring rich and meaningful insights into knowledge economy practices.

The study used two qualitative data collection methods: document review and semi-structured interviews. Interviews were conducted with 26 respondents in universities and 4 by phone, focusing on how internal management practices of Tanzanian universities in organizing and promoting knowledge economy (KE) practices. Face-to-face interviews allowed for deeper insights, flexibility in questioning, and rapport-building, with conversations in English and Kiswahili. Scheduling challenges and participant hesitations were managed through explanation and rescheduling. Documentary review included university policies, strategic plans, and handbooks, helping assess how KE practices are integrated. Thematic analysis was applied, following Braun and Clarke's (2006) framework. Initial familiarization with the data involved reading, coding, and organizing themes. Both inductive and deductive coding approaches were used, integrating Henri Fayol's Administrative Management Theory. Codes like "strategic role" and "supportive role" were linked to the broader theme of organizing KE initiatives. Themes were refined through an iterative process, ensuring coherence.

4. Results and Discussion

The organizing function was found to involve a systematic process of identifying strategies and resources essential for advancing knowledge economy initiatives within the university. This was evident through the following:

4.1 Organizing through Breakdown of KE administration procedures

Findings revealed that administrative processes in universities can either enhance or limit the execution of knowledge economy (KE) practices, such as conference attendance, funding requests, and the presence of research and knowledge exchange sub-offices. These sub-offices, typically managed by the university's administrative body, are essential for coordinating research activities and aligning them with institutional strategic goals. Their presence helps foster innovation by providing access to necessary resources and support. Decentralizing research management through smaller units, such as school or department-level coordinators, can ease administrative burdens and encourage faculty research growth.

One respondent emphasized the importance of having a dedicated research coordinator at the office level to manage university functions more effectively (MM#6). This decentralization simplifies tasks, with coordinators at the school, college, or department level overseeing research processes, thereby relieving heads of departments from some responsibilities. This insight

underscores the need for universities to establish effective organizational structures to support research and innovation.

Respondents also highlighted the role of coordinators in knowledge exchange offices, who facilitate administrative procedures and enhance communication on research (MM#8, MM#3, MM#1). For example, LM#5 mentioned their role in collecting and documenting research data and organizing seminars, while LM#7 focused on day-to-day research management tasks, such as tracking research output and scheduling meetings. However, research coordinators were often seen as having a primarily supportive role, with limited autonomy to influence strategic decisions.

Despite the presence of coordinators, several respondents raised concerns about inefficiencies in the administrative processes, particularly regarding lengthy approval procedures and bureaucratic barriers. These delays, especially in securing research funding and conference approvals, can hinder the research process. Respondents like LM#4 noted that middle-level managers are often implementers, unable to make significant changes without approval from top management, which can slow down innovation. Additionally, the long chain in disbursing funds for projects was identified as a bottleneck, particularly in consultancies involving revenue-sharing with the university (MM#8, LM#3, LM#7).

The issue of bureaucratic complexities was further emphasized, with respondents citing governmental processes as barriers to innovation. MM#3 and LM#2 highlighted the need for simplification of approval and funding processes to facilitate more efficient research and innovation. Streamlining administrative procedures is seen as critical to enhancing the university's ability to contribute to the knowledge economy by enabling faster knowledge transfer and commercialization of research findings.

4.2 Collaborative governance

The findings also presented that academic leaders sometimes have collaborative leadership in terms of implementing KE activities. As one of the participants from the middle level commented:

"Most of the time you will find us three heads of departments of the college meeting to plan and discuss matters such as organizing competition on research and innovation that will represent the college at the university level, sharing ideas on conferences (MM#6)"

But other respondents MM#6, MM#10, and MM#13 pointed out that promoting proper coordination among different departments in a university, especially within the university units, is crucial for advancing Knowledge

Economy (KE) initiatives and this could involve sharing of lab equipment others spoke of spaces for research.

Coordination also between different levels of management was mentioned to be an important factor in supporting knowledge economy. These findings underscore the interconnectedness of administrative processes, leadership dynamics, and organizational coordination in shaping the implementation of KE initiatives within universities. Addressing challenges related to fund disbursement, promoting collaborative leadership, and enhancing coordination across departments and management levels are essential steps towards fostering a conducive environment for knowledge creation, dissemination, and application within the university ecosystem.

4.3 Organizing operations of KE Ecosystem

The findings reveal that the university has implemented various structures and mechanisms to facilitate knowledge economy (KE) activities. These include research & innovation issues, allocation of resources, formation of research teams, Departmental meetings, and research information systems. The findings indicate that knowledge creation, dissemination, application and transfer at universities primarily occurs through various organizing structures at the university. This process is supported and driven by various mechanisms and strategies, as evidenced by statements from university managers and different university documents.

4.4 Organizing knowledge production

The findings highlight the challenges and strategies associated with organizing knowledge production in universities, particularly in balancing basic and applied research, fostering interdisciplinary collaboration, and overcoming structural obstacles.

University management recognizes the importance of both basic and action research in generating new knowledge. As one senior manager noted, "We push our faculty members to produce research that is fundamental to the university and society" (SM #4). Basic research, which focuses on expanding theoretical knowledge, is still more prevalent compared to action research, which aims to solve practical problems and can be commercialized. However, the translation of research into marketable products is often difficult, especially in disciplines like social sciences or education, where the process can be more complex compared to sciences (SM #4).

Some faculty members conduct research primarily for promotion, which may limit their focus on producing commercially viable outcomes. According to one participant, "Conducting research for promotion has

been the norm for a long time, but this is changing. Research should translate into something of economic value" (MM #8). This highlights the university's effort to shift researchers' focus toward action research, with an emphasis on generating practical solutions that can drive economic growth.

A key finding is the need for more action research that can be directly applied and commercialized to enhance the university's economic impact (SM #2). The annual Research Week, initiated in 2015, is one example of how universities are promoting research and innovation. Awards and recognition are given to outstanding researchers and innovators, which motivates faculty members to participate in impactful research (Research and Innovation Week press release, 2021).

However, challenges remain, such as the heavy workload on academic staff, who must balance teaching, research, and administrative responsibilities. One manager noted, "Most managers are also academic staff, so they have to juggle multiple roles" (MM #3). Furthermore, junior staff often feel undervalued, as they are tasked with administrative duties like marking scripts rather than being actively involved in research projects. This lack of collaboration between senior and junior staff can hinder junior researchers' development and limit opportunities for innovation (MM #6).

Interdisciplinary Collaboration: Interdisciplinary research is essential for advancing the knowledge economy. One respondent emphasized the importance of collaboration across disciplines: "Our university has focused on fostering interdisciplinary collaboration to address complex societal challenges" (SM #4). Interdisciplinary research is seen as a way to generate holistic solutions to societal problems, as demonstrated by the Msimbazi River study, which involved collaboration between the Department of Water Resources Engineering and the Department of Sociology and Anthropology.

Despite its potential, interdisciplinary research faces significant challenges within the university. Rigid disciplinary boundaries and traditional academic structures hinder collaboration between different fields. As one participant noted, "University departments are structured into specialized disciplines, making it difficult to foster interdisciplinary research" (SM #1). This sentiment underscores the structural barriers that need to be addressed to promote more interdisciplinary work.

Researchers are also often more focused on advancing their disciplinary expertise, leading to resistance against interdisciplinary initiatives. One participant remarked, "Many of our researchers are more focused on their disciplinary expertise, which can sometimes lead to resistance against interdisciplinary initiatives" (MM

#3). This resistance is compounded by a lack of training in interdisciplinary methodologies. Researchers are not always equipped with the skills to think beyond their specific field, which limits their ability to engage in interdisciplinary projects effectively (LM #2).

Lack of Infrastructure for Interdisciplinary Research: Another significant challenge is the absence of dedicated offices to support interdisciplinary research. Without specific structures in place, researchers are left to manage the complexities of interdisciplinary projects on their own, which can hinder successful collaboration. As one respondent explained, "Without specific offices for interdisciplinary research, it is challenging to coordinate efforts and manage the logistics of such projects" (MM #9).

To overcome these challenges, the findings suggest several steps the university can take. First, there should be more training on interdisciplinary methods to equip researchers with the skills needed to engage in collaborative projects. Second, the establishment of dedicated interdisciplinary offices is crucial to provide the necessary infrastructure and administrative support for such research. Lastly, the academic reward system should recognize and value interdisciplinary achievements, encouraging more researchers to participate in these initiatives.

4.5 Organizing Resourcing of KE

The responses from interviews indicated that while universities are striving to enhance their research infrastructure, further updates are necessary to meet the demands of current market and industry needs. One respondent highlighted the challenges faced in accessing adequate equipment: "Access to adequate equipment is essential for conducting effective research. However, there are times when we have to rely on other universities or institutions for necessary equipment that we lack in our department. In such cases, we send our students to these institutions, where they sometimes have to pay a fee" (MM#5).

Findings indicated that university management supports Knowledge Economy (KE) through a dual funding approach, comprising internal and external funding. However, the bulk of this support primarily comes from external sources. As one participant explained, "Mostly our funding for research and innovation projects comes from external grants and partnerships. These external sources are crucial because they provide substantial financial resources that we might not be able to generate internally" (SM#5). Another participant added, "While we do receive external funding, the university is also making efforts to develop internal funding mechanisms. This includes allocating a portion of the university's budget specifically for research activities and seeking donations from alumni and industry partners" (SM#9).

Furthermore, the university's Research Policy notes, "Dependence of funding from one source such as the government could highlight the disadvantage in the weak financial sustainability and independence for the university research and innovation projects" (U-Research Policy and Guideline, 2023).

These findings reflect the university's commitment to diversifying its funding sources to support research and knowledge creation, demonstrating an effort to ensure sustainable research funding and a robust environment for innovation. Additionally, the university management has established comprehensive financial regulations to support KE initiatives, particularly for externally funded research projects. These policies ensure that both direct and ancillary costs associated with research are covered. According to the university's guidelines, "Every cost must be covered including and not limited to indirect prices that will arise during the implementation of all superficially funded research projects unless grounds for exemption have been succumbed and accepted by the Vice Chancellor" (Guidelines & Procedures for Management of Research Projects & Activities Funded from External Sources, 2020).

Moreover, the Research Policy and Operational Procedures mandate that research grants include a provision for indirect cost recovery. The policy specifies that "The amount of institutional fees retained within the Department and College/School/Institute that can be spent on remuneration shall not exceed 40% of the total amount," while the remaining 60% is allocated to enhancing research infrastructure (U-Guidelines & Procedures for Management of Research Projects & Activities Funded from External Sources, 2020).

The structured distribution of external funds ensures that various administrative levels within the university receive adequate support for their specific needs, with a significant portion directed towards enhancing research infrastructure. One participant noted, "Limiting the remuneration to 40% ensures that more funds are directed towards important areas such as acquiring new infrastructure, which benefits effectiveness in conducting research and maintaining an effective innovation environment" (SM#6).

Despite the detailed funding policies, administrative delays can hinder the research process. One participant remarked, "Going through the administrative requirements can be time-consuming and frustrating" (LM#2). Moreover, while university management is making strides in strengthening funding mechanisms, significant challenges remain. For instance, one participant expressed, "There is still a gap between the available funds and the actual financial needs of our research departments. While we do receive funding, it is often insufficient to cover all the funding needs, especially for large-scale projects" (MM#4). Another

participant highlighted the competition for external grants, stating, "The competition for external grants is intensive, and not all researchers have the skills or support needed to write successful grant proposals" (SM#5).

Additionally, the university provides financial support for academic staff to attend conferences, which is vital for knowledge exchange and professional development. The university policy states, "The University shall support its academic staff in attending academic conferences by covering 30% of the associated costs" (U-Research Policy and Guideline, 2023). However, some participants noted challenges with this policy, as one middle manager said, "While the 30% coverage is helpful, it still leaves a significant portion of the costs to be covered by the staff. For many, this can be a financial burden" (MM#4).

Another participant pointed out the cumbersome approval process for obtaining funding, stating, "The process for obtaining this funding can be quite tiresome" (LM#3). Furthermore, respondents suggested enhancing funding policies to fully cover costs for presenters at conferences, thereby promoting greater engagement in the research community (LM#4).

The study also emphasized the importance of technical support staff in laboratories and ICT infrastructure, which are essential for maintaining and troubleshooting equipment critical for research activities. As one respondent stated, "The presence of technical support in laboratories ensures that our academic researchers operate equipment because we have the experts required to operate them effectively" (SM#8). This support enables researchers to focus on innovative thinking and complex problem-solving, thereby fostering an environment of innovation essential for the knowledge economy.

4.6 Organizing through Information systems

Technology that is friendly to execute KE activities Technology was recognized as a catalyst for innovation and efficiency, making it a crucial element in achieving Knowledge Economy initiatives in terms of creation, storage sharing. Its strategic use enhances research capabilities, facilitates interdisciplinary collaboration, supports dynamic curriculum delivery, and positions the institution at the forefront of technological advancements, aligning with the strains of the knowledge economy. Particularly, the findings highlighted Information Systems (IS) identified within one of the selected case studies in the research used in research as a critical aspect in facilitating research activities and promoting a Knowledge Economy (KE) within the university. One senior manager emphasized the importance stating: "Our Research Information

System (RIMS) streamlines the process of managing research projects, providing researchers with necessary documents and ensuring transparency in research related issues administration" (SM#3).

In addition, findings showed that Research Information Systems (RIS) often include modules for tracking publications, citations, and research outputs that help in the management functionalities. For instance, as per one of the selected university website, the Research Information Management System (RIMS) is described as "a web-based platform, serving as a comprehensive portal to oversee research-related activities within the university. It includes modules for various functions such as project registration, research management, maintaining a research repository, facilitating UDSM grant applications, managing research clearance processes, and vetting publications. This system streamlines the research process by providing researchers with a centralized platform for submitting proposals, managing projects, and ensuring compliance with university guidelines and standards. Therefore, RIS serve as comprehensive platforms for managing and tracking research projects, funding, publications, and collaborations.

4.7 Organizing through Partnerships and collaborations

Findings indicated that partnerships and collaborations established in the university between organizations, academia, and industry are important for driving innovation. This entails joint research initiatives, technology development, or joint marketing efforts. While the partnerships can also help to share resources, expertise, and risks, allowing organizations to leverage each other's strengths and address weaknesses.

Example of statements from respondents:

"Collaboration with industry partners allows us to access cutting-edge technology and expertise that we might not have. This has significantly accelerated our research projects."(SM#2). Another manager highlighted the benefits of joint initiatives, saying, "Working with external organizations has opened new avenues for funding and resources, which are essential for our innovative projects. For instance, our collaboration with Stockholm University enabled the strengthening of our university research management through capacity building to the staff and supportive environment for the research management "(SM#1).

Other respondents (MM#6, MM#3, MM#2) highlighted that partnerships can also involve various forms of support for research and innovation. This includes inviting external experts, both local and international, to speak at conferences and provide training. As one respondent noted, "Our unit is holding the 50th annual

conference this year on Adult Education, and we have invited speakers from within and outside the country, as well as other guests" (MM#7). Additionally, a press release from 2019/2020 from one of the university emphasized the university's efforts in partnership by conducting seminars on entrepreneurship and inviting facilitators for the seminars from various related institutions, including the Tanzania Bureau of Standards (TBS), Tanzania Revenue Authority (TRA), Business Registration and Licensing Agency (BRELA), Small Industries Development Organization (SIDO), Tanzania Trade Development Authority (TANTRADE), and Kinondoni Municipal.(Press Release, University A,2020).Further in one of the university strategic plan, it targets 20 new collaborative partnerships with industry to commercialize applicable research findings by June, 2025. (Five year rolling action strategic plan 2020/21-2024/25).

These partnerships and collaborations are crucial as they bring diverse expertise and perspectives, enriching the research and innovation landscape. By involving external experts and partnering with various institutions, the university enhances the quality and relevance of its academic and investigation activities. This collaborative approach not only fosters innovation but also strengthens the university's role in addressing real societal challenges and contributing to the knowledge economy. Overall, the findings highlight the importance of collaborative efforts in the academic and industrial spheres to drive innovation, share resources, and maximize the potential of research initiatives.

4.8 Organizing through Incubation Programs

The findings illustrate that incubation programs can play a vital part in supporting early-stage startups and entrepreneurs by providing them with access to resources, mentorship, and networking opportunities. Incubation programs can help startups to overcome the challenges they face during the early stages of development, such as access to funding, talent, and market validation. By providing a supportive environment, incubation programs can help startups to develop their ideas, build their teams, and scale their operations.

"Our different incubation program has been instrumental in helping us to refine our product idea, and secure funding especially for students and graduates. Example of one of the programs included the contract incubator program that dealt with engineering graduates and the program is 3 years" (SM#10)

As outlined further in one strategic plan of a university, the university aimed to establish a multidisciplinary incubation center, which was successfully set up by June 2018. This center has been providing multidisciplinary incubation services at since 2016. Additionally, the university facilitated the establishment of spin-off companies to engage in business with strategic partners. By December 2018, one spin-off company was established for this purpose. Notably, student companies such as Guavay Company Limited, founded in 2015 to produce and market industrial-grade NPK organic fertilizer pellets, and Bio Food Tech Enterprises, also recognized in 2015, to advance a unique brand of probiotic and logically nutritious products, were launched as part of this initiative.

The findings from the strategic plan indicates the university's commitment and proactive steps to fostering innovation and entrepreneurship through the establishment of multidisciplinary incubation centers and spin-off companies. This approach is designed to support graduates in translating research and innovative ideas into viable commercial ventures.

Despite these successes, some respondents feel that the academic research do not receive enough support compared to what is provided to these incubation programs. This shows that one participant expressed,

"While the incubation center is a great initiative especially for the students there is a need to have more support for faculty-led research projects that have the potential for commercialization. My academic staff in the faculty often feel unsupported and lack the necessary resources to advance their research projects" (MM#2).

However, to fully harness the potential of these programs, there needs to be a balanced support system that also addresses the needs of academic researchers. This will ensure that both student-led and faculty-led innovations are adequately nurtured, ultimately driving the university's role in the knowledge economy.

Other participants from the education and social science units claimed that Incubation programs within the university may prioritize research ideas and projects with clear business and commercial potential, sidelining fundamental or exploratory research. We need a more inclusive approach to innovation. For instance, one of the respondents mentioned "In this wide field of research every faculty has unique strengths and ideas that can contribute significantly to different areas if given the chance" (MM#7). This narrow focus might lead to discourage long-term, high-risk, high-reward research projects that don't have immediate market applications but are essential for scientific and technological advancement.

4.9 Organizing Communication of research and innovation output

The findings reveal that the university adopts a multi-channel approach to communicate its research output

effectively. This strategy employs various communication channels, including journals, policy documents, social media, exhibitions, trade fairs, conferences, and external consultancies, to ensure broader engagement with different stakeholders. Participants noted the importance of these channels:

"We use multiple channels to ensure our research reaches a wide audience. By publishing in journals, presenting at conferences, and participating in trade fairs, we can engage with both academic peers and industry professionals" (MM#1).

"Disseminating research involves showcasing our work at various exhibitions and trade fairs... For instance, we participate in the annual Nane-Nane Day. By sharing our innovations at these events, we demonstrate our research and also have the opportunity to attract potential collaborators and investors" (SM#5).

These channels are instrumental in bridging the gap between academia and real-world implementation, facilitating the translation of research into practical applications. They also provide networking opportunities and potential commercial partnerships for the university.

University managers recognize the significance of social media in promoting research in the digital age. Findings indicate that platforms like YouTube and national TV channels are the most common audiovisual tools used for this purpose. One manager noted, "I strongly encourage the use of WhatsApp group as a platform for sharing and disseminating our research outputs" (MM#6). Another stated, "We have seen benefits from using social media, especially our YouTube channel to publicize our research" (SM#4).

The university's websites and presentations also contribute to making research findings accessible to various stakeholders. As noted by a participant, "Presenting research at international conferences helps a researcher to disseminate findings and receive relevant feedback" (LM#6).

The university management acknowledges the role of open access in promoting transparent scientific knowledge. For example, a respondent mentioned a workshop organized by the Association of African Universities (AAU) on Open Access and Open Science (SM#5). However, some middle-level respondents highlighted a reluctance among academic staff to publish in open access due to concerns about recognition and prestige. One respondent stated, "Some academic staff worry about the recognition... and most still prefer the traditional way of publishing in renowned journals" (LM#3).

Nevertheless, some participants argued that open access can enhance visibility and collaboration. One noted,

"Publishing our research in open access journals increases visibility... This enhances our reputation and fosters greater collaboration" (SM#2). Another added, "When our research is published in open access journals, it is more likely to be noticed by potential funders" (SM#5). This suggests that managers advocate for open access publishing as a catalyst for both local and international collaboration, enhancing the university's role in the knowledge economy.

Internal university journals are pivotal for disseminating scholarly work, allowing faculty researchers to connect with experts and practitioners. A participant noted, "Our university journals produced by different units are a resource for disseminating our research... It attracts attention from partners" (SM#1). Furthermore, these journals provide a platform for peer-reviewed, quality research, essential for maintaining academic standards.

Smaller departmental meetings play a crucial role in sharing and disseminating academic investigations. They provide platforms for researchers to share findings, discuss ongoing projects, and receive feedback. One respondent mentioned, "We organize meetings among staff members on research issues" (MM#8). These interactive meetings foster a culture of innovation and creativity within university institutions. By promoting knowledge sharing, they drive and improve research outputs among faculty members.

4.10 Organizing through Leveraging academic staff for KE related activities

The findings illustrate that the university actively utilizes its academic staff's expertise to drive knowledge economy-related initiatives, fostering innovation, publications, and collaborations with industry stakeholders. Faculty members play a pivotal role in generating new ideas, making discoveries, and addressing societal challenges. As one participant highlighted, "Our academic staff and researchers 'ndio wanaongoza' (are at the forefront) of generating new ideas and making discoveries at the university... We rely on the expertise of our faculty members to conduct research and form collaborations" (SM#3).

The university promotes a culture of knowledge sharing through weekly research seminars, where staff members present and discuss topics relevant to their work. This exchange of ideas is particularly beneficial for junior staff, providing them with opportunities to learn from peers and remain updated on the latest research (MM#6). Additionally, the university supports training programs both internally and externally, focusing on areas like research methodology and data analysis. This investment in capacity building equips staff with the skills necessary to thrive in a rapidly evolving knowledge economy.

Evidence from university documents, including the Five-Year Rolling Strategic Action Plan 2020/2021–2024/2025 (FYRSAP, 2020), outlines initiatives aimed at enhancing academic staff's capabilities. The plan notes, "At least 60 academic staff members are taught how to develop research proposals every year," and it highlights the importance of attending academic conferences and utilizing research grants for proposal writing. Furthermore, staff members are encouraged to engage in consultancy activities, which are promoted during industrial exhibitions (SM#5).

Peer systems within the university facilitate knowledge sharing among faculty, such as peer mentoring and collaborative projects. For example, departments form teams to respond to research funding calls, allowing staff of varying experience levels to work together on proposals, enhancing the quality and success rate of submissions (MM#9). Such collaboration capitalizes on collective strengths and increases the likelihood of securing funding for innovative research.

The tangible outcomes of these efforts are evident in the generation of intellectual property, research publications, and partnerships with industry. One participant noted that academic staff's work led to significant advancements in cashew nut farming management, contributing positively to national agricultural productivity (SM#5).

Despite these achievements, challenges arise from academic staff's external engagements, such as consultancy work or other jobs, which often detract from their research commitments. Participants expressed concerns about this division of attention, stating, "Many of our academic staff are involved in consultancy work... This means they have less time to dedicate to their primary roles here of research work" (MM#3). The allure of external jobs often competes with the demands of university research, impacting overall productivity and innovation.

To address these challenges, university management may need to enhance support structures, financial incentives, and professional development opportunities to encourage faculty members to prioritize their academic roles. Improving these conditions could help mitigate the distractions posed by external engagements, ultimately strengthening the university's contributions to the knowledge economy. In summary, while the university successfully leverages its staff expertise to advance knowledge creation and foster collaborations, the external commitments of academic staff pose significant challenges. A concerted effort to improve internal support and incentives is essential for maximizing research productivity and maintaining a robust innovation ecosystem.

4.11 Discussion of the findings

The study highlights how university management organizes consultation and research practices to support the knowledge economy. By establishing consultancy bureaus (UCBs) and dedicated areas for consultancy services, universities contribute significantly to the knowledge economy. This structured approach allows academic staff to generate additional income while engaging with partners, thereby enhancing their experiences, teaching, and research efforts (Shattock, 2009; Chun et al., 2008; Marginson, 2019).

Additionally, the findings indicate that universities have created research sub-offices and sustainable funding mechanisms to facilitate research activities. These centers provide resources and specialized services, enabling faculty members to secure funding, such as Center Core grants, which support shared facilities and resources for various research projects (Dědečková, 2020). By maintaining research infrastructure, universities foster innovation and academic inquiry, further contributing to the knowledge economy.

The study also emphasizes the importance of knowledge exchange (KE) through well-organized management structures. University management actively seeks diverse funding opportunities, including research grants and industry partnerships, to support KE initiatives. Incubation programs have been established to commercialize research outputs. However, bureaucratic hurdles related to research proposal approvals and funding allocations were identified as significant barriers, leading to delays in KE initiatives. This finding aligns with the knowledge triangle framework, which stresses the integration of education, research, and innovation (Unger et al., 2020), and highlights the need to strengthen the entrepreneurial ecosystem within higher education institutions (HEIs) (Lehmann et al., 2020).

In a related study, Balozi et al. (2014) examined the theory of planned behavior (TPB) in Tanzania, emphasizing the importance of context in knowledge sharing. Their focus on a single theory contrasts with the current study's broader exploration of universities' contributions to the knowledge economy. Rivera et al. (2022) identified leadership, culture, structure, human resources, information technology, and measurement as critical for knowledge management in Mexico. However, their reliance on survey methodology limited depth, underscoring the need for comprehensive approaches to understand how control mechanisms support the knowledge economy.

Ruxandra (2016) explored how German universities adapt to the knowledge economy by transforming into learning organizations. This qualitative study found that universities must redesign themselves to remain

relevant to various sectors. While Ruxandra focused on organizational learning, the current study emphasizes university management's integration of knowledge economy aspects into planning.

Brostom et al. (2021) investigated challenges faced by Ethiopian universities in the knowledge economy, highlighting the importance of diverse funding sources and public-private partnerships (PPPs) in advancing knowledge-based initiatives. They noted that barriers such as unreliable risk-sharing mechanisms and lack of institutional support hinder progress. Similarly, Hassan and Ahmed (2024) emphasized the need for improved institutional capacities to secure government support for HEIs. These findings underscore the growing role of universities in the knowledge economy and the necessity for enhanced institutional frameworks to overcome challenges and foster sustainable development.

5. Conclusion and Recommendations

5.1 Conclusions

The study concluded that the internal universities' management has been organizing consultation Practices through consultancy Bureau (UCB), specific areas for providing consultancy services, creating a schedule for providing consultancy services to community and informing the community kind of consultancy services provided. In addition, the study concluded that the internal universities' management has been organizing Research Practices through research center and research policy, Sustainable research funding, Research information management unity and that universities organizes researches under research, innovation and knowledge exchange department. Furthermore, the study concluded that the internal universities' management has been organizing training Practices, universities on research and technical skills.

5.2 Recommendations

1. Universities should strengthen their outreach programs by improving communication channels to inform the community about the consultancy services available. Creating more awareness campaigns and platforms, such as community forums, newsletters, and digital platforms, would ensure that the community is aware of and utilizes these services effectively.

2. Universities should explore more avenues for sustainable research funding. This can include partnerships with private and public sectors, grants from international bodies, and internal reallocation of resources. Expanding the role of the research

information management unit can also enhance visibility and access to ongoing research projects.

3. Universities should encourage interdisciplinary research collaboration across different departments and faculties. This would foster innovation and knowledge sharing across various fields, ultimately benefiting the broader community. Establishing platforms where researchers from different fields can collaborate on projects and share resources will improve the overall quality and relevance of research.

4. Universities should invest in continuous professional development for academic staff by providing regular training on research methods, technical skills, and innovation strategies. Expanding access to workshops, seminars, and online learning opportunities will help staff stay updated with the latest advancements in their fields, which will enhance their teaching and research capabilities.

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