

Transforming Higher Education at the Pinnacle of the Knowledge Economy: A Management Perspective from a South African University

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Abstract: South Africa is undergoing a profound economic transformation towards a knowledge-based economy, wherein the generation, dissemination, and application of knowledge serve as central drivers of growth and development. This paper examines a management perspective within a South African university concerning the role of higher education in addressing the imperatives of the knowledge economy. Drawing on a qualitative participatory research design, data was collected through semi-structured face-to-face interviews and analysed using narrative analysis. The findings revealed a consensus among Heads of Departments regarding the necessity of aligning higher education with the demands of the knowledge economy to foster innovation, entrepreneurship, and socio-economic development. Heads of Departments acknowledge the need to re-imagine traditional models of teaching, learning, and research to cultivate the skills, competencies, and mindsets required for success in a knowledge-driven society. Moreover, they emphasise the importance of fostering partnerships with industry, government, and civil society to bridge the gap between academia and the broader knowledge economy ecosystem. Overall, the findings of this paper contribute to a deeper understanding of the opportunities and challenges facing higher education institutions in responding to the imperatives of the knowledge economy and offer insights into the strategies that Heads of Departments can employ to position their institutions for success in this dynamic and rapidly evolving landscape.

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Keywords: Heads of departments, higher education, knowledge-economy, management perspectives.

1. Introduction

In today's rapidly evolving world, the role of higher education is increasingly shaped by the perspectives and actions of Heads of Departments. Their insights guide the adaptation of educational institutions to meet the demands of the knowledge economy, where the generation, dissemination, and application of knowledge are key drivers of growth and development. This transformative period necessitates a critical examination of how academic institutions can effectively prepare students for a future deeply intertwined with technological advancements and global interconnectedness (Iqbal et al., 2019). Viewing higher education through the lens of Heads of Departments (HODs) reveals the importance of fostering an environment that prioritises innovation, critical thinking, and practical skills. Within this context, Sustainable Development Goal 4 (SDG 4), which aims to ensure inclusive, equitable, and quality education and promote lifelong learning opportunities for all, serves as a foundational framework. Pasara and Mhlanga (2023) affirm that Heads of Departments play a pivotal role in aligning institutional policies and curricula with SDG 4 by ensuring access to education, promoting equity and inclusion, and embedding lifelong learning principles into higher education strategies. By integrating these goals, higher education can not only respond to the demands of the knowledge economy but also contribute meaningfully to sustainable, inclusive global development.

Padilla, Zarth, Ocampo, and Ramirez (2023) contend that Heads of Departments (HODs), who function as both middle managers and curriculum specialists, are expected to lead the charge in

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advocating for improved teaching and learning conditions for students. As middle managers, HODs are responsible for leading and coordinating the efforts of teachers within their departments (Badat, 2017). This involves setting goals, developing plans, and ensuring that these plans are effectively implemented. Their dual responsibilities empower them to lead initiatives that enhance educational conditions, ultimately benefiting students and fostering academic excellence (Mzangwa, 2019). Higher education institutions (HEIs) in South Africa were a major part of the post-apartheid social transformation process that changed the landscape of the South African education system through the mergers of various institutions (Popescu et al., 2015).

Heads of departments recognise the need to bridge traditional education methods with cutting-edge practices that reflect the dynamism of the knowledge economy (Aithal & Maiya, 2023). This involves integrating interdisciplinary approaches, promoting research and development, and enhancing collaboration with industry partners. Fombad (2023) states that, through these efforts, universities and colleges aim not only to produce graduates who are workforce-ready but also to contribute to societal advancement through groundbreaking discoveries and the creation of new knowledge. The embrace of digital technologies within education is also crucial in preparing students for the challenges and opportunities of the knowledge economy. Heads of Departments advocate for adopting digital learning platforms, online resources, and virtual simulations, recognising their potential to significantly enrich the learning experience (Aithal & Maiya, 2023).

Bafon (2025) asserts that these technologies facilitate access to vast amounts of information and encourage interactive learning, allowing students to apply theoretical knowledge in practical, real-world scenarios. As higher education navigates these changes, the perspectives of Heads of Departments shed light on the importance of developing agile learning environments that can quickly adapt to new developments. Emphasising the cultivation of soft skills such as adaptability, communication, and teamwork alongside specialised knowledge is seen as critical for success in the knowledge economy (Hanushek & Woessmann, 2023). Ultimately, the goal is to equip students with a comprehensive skill set that enables them to thrive in an ever-changing global landscape.

The ongoing dialogue about aligning higher education with the needs of the knowledge economy, as guided by insights from Heads of Departments, highlights a pivotal shift towards innovative, responsive, and technologically integrated education models (Hanushek & Woessmann, 2023). By prioritising the alignment of educational objectives with the demands of the knowledge economy, higher education institutions can ensure they remain relevant and effective in cultivating the next generation of leaders, thinkers, and innovators (Fombad, 2023). In the contemporary era, higher education has become intricately intertwined with the knowledge economy—a system where economic success hinges on the quality, accessibility, and innovation within education, especially at the higher education level (Balzer, 2020). This paradigm shift has prompted a renewed focus on how universities and colleges prepare students not just for the job market, but for lifelong learning and adaptation. In this context, the role of Heads of Departments has become increasingly pivotal as they navigate the challenges and opportunities presented by the shift towards a knowledge-driven society (Aithal & Maiya, 2023).

Heads of Departments, including university presidents and department heads, are at the forefront of adapting their institutions to better align with the needs of the knowledge economy. This involves re-evaluating curricula to foster critical thinking, creativity, and innovation, as well as ensuring higher education is accessible to a broader demographic. Leaders are responsible for creating environments that attract and retain talent, ensuring students are not just recipients of knowledge but active participants in its creation and application (Guthrie & Jenkins, 2018). Moreover, the evolution of the knowledge economy demands that higher education institutions foster partnerships beyond academia. Bafon (2025) affirms that collaborating with industry, government, and communities is essential for creating real-world learning opportunities and driving research that addresses societal needs.

Heads of Departments are increasingly recognised as brokers of these vital connections, facilitating a seamless flow of knowledge and resources between the university and wider society (Mhlanga, Denhere & Moloi, 2022). However, this shift towards a knowledge economy also presents significant challenges for Heads of Departments. Guthrie and Jenkins (2018) argue that the pressure to innovate while maintaining high standards of teaching and research, compounded by constraints on funding and resources, requires a delicate balance. Leaders must be visionary yet pragmatic, driving change while safeguarding the core values of academic freedom and integrity. They must also navigate the complexities of global education trends, ensuring their institutions remain competitive and relevant internationally (Fombad, 2023).

The transition of higher education into the realm of a knowledge economy has reshaped the landscape in which Heads of Departments operate. Bafon (2025) claims that their role has become more dynamic and essential than ever, navigating changing societal expectations, technological advancements, and global challenges. As stewards of knowledge and innovation, Heads of Departments are not just administrators but pioneers, guiding their institutions toward a future where education remains a pivotal force for economic prosperity and societal well-being. Aligning curricula with the evolving demands of the knowledge economy is pivotal (Busch, 2023). In today's digital age, where technology and the economy are intertwined, educational institutions must keep pace with rapid changes.

Sepe (2017) declares that, recognising the evolving demands of the job market, institutions of higher learning have undertaken a comprehensive revision of their academic programmes. Substantial enhancements have been implemented to ensure alignment with both current and future industry needs. As part of these efforts, new courses have been introduced with a strong emphasis on digital literacy, data analytics, and entrepreneurship, equipping students with the skills necessary to thrive in a dynamic professional landscape (Mhlanga, Denhere & Moloi, 2022).

Digital literacy provides students with a foundational understanding of digital technologies, a competency that is essential across virtually every professional field (Busch, 2023). Courses in data analytics equip students with the ability to interpret, analyse, and leverage data—a skill that is becoming increasingly valuable across industries. Fombad (2023) posits that entrepreneurship is emphasised to cultivate innovation, critical thinking, and the initiative needed to succeed in a dynamic, competitive economy. By integrating these key areas into the curriculum, institutions aim to prepare graduates who are not only equipped to meet the challenges of today's job market but also poised to seize emerging opportunities in an ever-evolving global landscape (Bafon, 2025).

In addition to revising the curriculum, institutions of higher learning have placed a strong emphasis on innovation—particularly in the areas of renewable energy and smart technologies—demonstrating a clear commitment to sustainable development (Busch, 2023). These fields are critical in addressing global challenges such as climate change, energy security, and sustainable urban growth. Mhlanga, Denhere, and Moloi (2022) contend that by fostering innovation and strengthening collaboration with industry partners, institutions aim to translate research into practical, real-world solutions that deliver tangible benefits to society. Ongoing engagement with industry experts and organisations ensures that both research and teaching remain relevant, forward-looking, and impactful (Wheelahan & Moodie, 2024).

Padilla, Zarth, Ocampo, and Ramirez (2023) posit that strategic partnerships with leading technology companies are another cornerstone of positioning universities within the knowledge economy. These collaborations are invaluable as they not only provide students with internship opportunities, offering a glimpse into the professional world, but also expose them to real-world problems and the latest technological advancements. Fombad (2023) declares that this hands-on exposure is critical for preparing students who are job-ready and have a competitive edge in the

marketplace. Leaders in academia must maintain a clear and forward-thinking vision for their departments.

Adapting to the knowledge economy requires more than just updating curricula and research agendas; it necessitates fostering a culture of continuous learning and innovation among both staff and students (Hanushek & Woessmann, 2023). Agility is essential in today's rapidly changing world; educational institutions must remain vigilant, continuously monitoring emerging trends and technologies and adapting their approaches and offerings accordingly (Aithal & Maiya, 2023). This proactive stance ensures that institutions stay at the forefront of research and education, making meaningful contributions to the knowledge economy while effectively preparing students for future success. Wheelahan and Moodie (2024) state that the recent initiative by the education department to overhaul its curriculum in response to the demands of the evolving knowledge economy marks a significant step toward comprehensive educational reform. This effort aligns closely with global trends highlighted in current literature, reinforcing the importance of adaptability and innovation in modern education.

Busch (2023) emphasises the burgeoning need for education systems to adapt to digital literacies and data analytics skills to meet the demands of the future job market. Furthermore, the inclusion of entrepreneurship in the curriculum mirrors recommendations by Al-Husseini, Beltagi, and Moizer (2021), who argue that fostering innovative thinking is key to thriving in modern career landscapes. Despite the initiative's forward-looking stance, challenges such as resource updates and staff training resonate with the findings of Hanushek and Woessmann (2023), who identify these as persistent barriers to effectively implementing novel educational frameworks. These issues are paramount as they directly influence the quality of education and the successful integration of the new curriculum, a sentiment echoed across the literature. Thus, the department's steps toward revising its curriculum not only place it at the forefront of educational reform but also showcase the universal challenges faced during such transitions (Fombad, 2023).

The significance of integrating renewable energy and smart technology into the fabric of sustainable development has been well-documented in recent literature. Researchers such as Chankseliani and McCowan (2021) underline the pivotal role of academic research departments in driving the knowledge economy forward by focusing on these key areas. This assertion is further supported by Hanushek and Woessmann (2023), who emphasise the critical nature of collaboration between academic institutions and industry partners in translating theoretical frameworks into practical applications. The challenge of securing sufficient funding, highlighted by Wheelahan and Moodie (2024), is a recurring theme that poses a significant barrier to expanding research scope and enhancing the impact on innovation. They argue that overcoming this financial hurdle is essential for departments wishing to play a transformative role in the rapidly evolving fields of renewable energy and smart technology.

Bridging the gap between academic research and industry needs has become a central theme in discussions on the evolving role of higher education. Smith and Johnson (2018) analyse how joint research projects between universities and tech companies can foster a symbiotic relationship that advances both academic inquiry and practical innovation. This aligns with broader educational strategies aimed at enhancing employability, innovation, and economic relevance. However, the sustainability of these partnerships remains a significant challenge. Manotungvorapun and Gerdtsri (2019) emphasise the importance of continuous evaluation and adaptability in university-industry collaborations, arguing that long-term success hinges on the ability of institutions to evolve alongside industry demands.

Despite the richness of this discourse, much of the literature is situated within Global North contexts, with limited focus on the unique dynamics of such partnerships in African higher education systems. In South Africa, where universities are tasked with addressing historical inequalities while also

aligning with global competitiveness, the integration of industry collaboration poses complex challenges (Ngcwangu, 2019; Cloete, 2015). Studies have highlighted the tension between academic autonomy and market-driven imperatives, as well as the need to reconcile global innovation trends with local socio-economic realities (Bengu, 2020).

This study seeks to fill this gap by exploring management approaches for transforming higher education at the pinnacle of the knowledge economy within a South African university. Specifically, it aims to examine how Heads of Departments navigate the tensions between research, industry relevance, and the developmental mandate of universities in the Global South. By situating the investigation within a South African context, the study contributes to a more nuanced understanding of how university-industry partnerships can be both contextually responsive and globally competitive.

1.1 Problem statement

Hanushek and Woessmann (2023) assert that, amid the global transition towards a knowledge-based economy, higher education institutions are increasingly compelled to adapt to maintain relevance and responsiveness to the exigencies of a rapidly evolving world. Nonetheless, Bafon (2025) highlights that numerous universities, particularly in developing contexts such as South Africa, encounter substantial obstacles in aligning academic programmes, institutional strategies, and graduate outcomes with the competencies requisite for this new economic paradigm. While Heads of Departments play a crucial role in guiding this transformation, there exists a paucity of empirical understanding regarding how their perspectives, decisions, and leadership practices affect the institutions' capacity to innovate, foster critical thinking, and equip students with practical, future-oriented skills. This deficiency obstructs the formulation of targeted strategies aimed at repositioning higher education as a dynamic force within the knowledge economy (Wheelahan & Moodie, 2024). Consequently, this study aims to investigate management approaches for the transformation of higher education at the forefront of the knowledge economy within a South African university. That is, the following objective guided the study:

- *The study explores management approaches for transforming higher education at the pinnacle of the knowledge economy from a South African University*

2. Theoretical Framework

This paper adopts Transformational Leadership Theory as its theoretical foundation. This theory, developed by Burns (1978) and further expanded by Bass (1985), focuses on how leaders inspire and motivate their followers to achieve exceptional outcomes and engage in continuous improvement. Transformational leadership involves leaders who inspire new ideas and perspectives to guide the organisation toward growth and success. By fostering commitment, passion, and loyalty among managers and employees, these leaders motivate the organisation's members to implement fundamental changes. These changes prepare the organisation to acquire the necessary capabilities for pursuing new directions and achieving higher performance levels (Mirkamali et al., 2014).

Transformational leadership fosters an environment where followers are motivated to enhance their creativity and achieve self-actualisation, ultimately promoting the interests of teams, groups, and the organisation. Such leaders inspire organisation-wide change, shaping the vision for both managers and staff (Arabiun et al., 2014, pp. 57-56). Heads of Departments in higher education play a crucial role in shaping institutional strategies and policies that align with the needs of the knowledge economy. Transformational leadership can assist in envisioning and implementing innovative approaches to curriculum development, research, and community engagement. Transformational Leadership Theory is a fitting lens for the topic "Transforming Higher Education at the Pinnacle of the Knowledge Economy: A Management Perspective in a South African University" because it emphasises the role of management in driving change and fostering innovation, which are key

elements necessary for aligning higher education institutions with the demands of the knowledge economy.

In the context of this paper, Transformational Leadership Theory is an appropriate lens as it emphasises the critical role of visionary, adaptive leadership in driving organisational change and innovation. As South African universities navigate the complex demands of the knowledge economy, characterised by rapid technological advancement, global competitiveness, and socio-economic transformation, Heads of Departments must inspire and mobilise staff toward shared goals that promote relevance, quality, and equity in education. Transformational leadership supports this by fostering a culture of innovation, commitment, and continuous improvement, enabling leaders to influence institutional strategies, curricula, and research agendas in ways that respond to both global trends and local developmental needs. In a context marked by historical inequalities and the urgency of transformation, this theory offers a powerful framework for understanding how leadership can catalyse meaningful, sustainable change in higher education.

3. Methodology

The study employed a qualitative research methodology grounded in the interpretative paradigm and informed by construct theory (Cherry, 2020), which posits that individuals construct their own perceptions of the world and utilise these perceptions to interpret their experiences and observations. The interpretivist paradigm was selected due to its emphasis on how individuals make sense of their environment and how their perspectives shape their understanding of it (Maree, 2019). Interpretivists strive to comprehend the meanings that underpin human behaviour. According to Henning et al. (2004), a qualitative research approach permits the natural and unstructured emergence of themes that the researcher aims to explore, as it typically does not involve the control of variables.

The study adopted a participatory research design, which facilitates collaboration between academics and individuals experiencing the issue in order to identify solutions (Leavy, 2017). This approach fosters a dynamic, flexible, and non-hierarchical process in which all voices are heard (Macaulay et al., 1999). Participatory research has been effectively applied across various sectors, including education, health, community development, and environmental protection (Israel et al., 2005; Lewis et al., 2006; Tapp et al., 2013). The advantages of this design include the establishment of rapport and trust with participants, the acquisition of accurate and timely data, and the identification of solutions that are responsive to community needs. Consequently, the study involved five heads of departments from a university in the Eastern Cape, South Africa, who were afforded the opportunity to assess the issue and propose potential solutions.

In participatory research, the depth and quality of engagement are often deemed more significant than the quantity of participants. In terms of inclusion and exclusion criteria, five participants were specifically selected on the basis that they were Heads of Departments (HoDs) with direct managerial responsibilities, strategic insight, and experience in leading academic transformation within the university, rendering them highly relevant to the study's focus on management approaches to higher education reform. The inclusion criteria ensured that only individuals in leadership positions who could actively contribute to identifying and evaluating solutions were involved, while academic staff without managerial roles, administrative personnel, and individuals unwilling to engage in collaborative dialogue were excluded. This targeted selection enabled deep, informed participation, consistent with the aims of participatory research, and provided rich, context-specific insights despite the small sample size (Dyantyi, 2023).

3.1 Selection of participants and instruments

Convenience sampling was employed to select study participants, focusing on individuals who were both willing to participate and readily accessible (Han et al., 2021). This method is esteemed for its

simplicity and efficiency. Throughout the study, the researcher identified participants based on their accessibility and willingness to engage. Data were collected through reflective practices, wherein participants were prompted to consider their experiences in managing instruction within a resource-constrained environment. This approach also encouraged them to explore potential solutions to the challenges and deficiencies of support they encountered. By reflecting on their experiences, participants were able to provide candid and comprehensive insights, while the reflective method facilitated positive interactions, mitigating the imposition of power dynamics between participants and researchers.

3.2 Research Instruments

Data were collected through semi-structured interviews, which were recorded and transcribed for analysis (Aguilar & Solorio, 2019). This method was appropriate as it allowed flexibility in questioning while eliciting detailed information on participants' experiences and perspectives. The interviews were conducted in a comfortable, private setting to ensure participants felt secure and could express themselves freely. Open-ended questions encouraged participants to discuss their experiences and views on fostering an investigative culture in language learning. The interviewer also asked follow-up questions for clarification, even if these were not part of the original interview schedule (Guest, Namey, Taylor, Eley & McKenna, 2017). Regardless of how minor, every response was considered significant and meaningful.

3.3 Method of data analysis

Narrative analysis was employed as the primary method for examining the data. As Baker (2019) explains, narrative analysis is a qualitative research technique used to explore and interpret the stories individuals share. It allows researchers to gain insights into people, cultures, and societies by analysing the structures, patterns, and meanings embedded within these narratives. This method can be applied to a wide range of materials, including interviews, social media posts, films, and both written and spoken accounts. In this study, narrative analysis provided a rich and nuanced understanding of an academic leader's perspectives on positioning higher education within the context of the knowledge economy at a South African university in the Eastern Cape.

3.4 Ethical considerations

According to Maree (2019), researchers have ethical responsibilities, including complying with legal requirements when collecting and reporting data to protect the rights and well-being of participants. This study received ethical approval under protocol number FEDREC15-06-23-3. Addressing ethical issues is crucial as it safeguards participants' rights and well-being throughout the research process. Participants provided informed consent before their involvement, having been informed about the study's purpose, procedures, and potential risks and benefits. They were assured of their right to participate voluntarily or withdraw at any time without any negative repercussions. By respecting participants' rights and autonomy, the study upheld the trust and integrity of the research process. These ethical considerations highlight the researchers' commitment to conducting respectful, responsible, and beneficial research for all involved. Importantly, the researchers protected participants' anonymity by using pseudonyms in the reports, ensuring that their statements and contributions could not be traced back to them.

4. Discussion of Findings

This section presents the findings and relates them to the existing literature, highlighting connections and contrasts with prior research. Participants responded in relation to the research objective, which was to explore management approaches for transforming higher education at the pinnacle of the knowledge economy in a South African university.

"In our department, we recognise that aligning our curriculum with the demands of the knowledge economy is crucial. We have revised our programs to include more courses on digital literacy, data analytics, and entrepreneurship. We believe that equipping students with these skills will enable them to thrive in a rapidly evolving job market. However, we face challenges in updating our resources and training staff to deliver these new courses effectively." (HOD1)

The education department's curriculum overhaul, while aligned with global trends advocating digital literacy, data analytics, and entrepreneurship, reveals critical context-specific complexities that challenge its effectiveness. Scholars such as Busch (2023) and Al-Husseini et al. (2021) support these curricular shifts as essential for thriving in the knowledge economy; however, the Eastern Cape context introduces unique barriers, particularly infrastructural deficits, limited staff readiness, and historical underfunding, which constrain implementation. Unlike institutions in well-resourced environments, this department must innovate not just in what it teaches, but in how it adapts reform strategies within a system marked by deep-rooted inequalities. Thus, the true significance of the initiative lies less in the curricular content and more in the department's struggle to translate global educational models into actionable, context-responsive practice.

Our department is actively engaged in research that directly contributes to the knowledge economy. We focus on innovation in renewable energy and smart technologies, which are essential for sustainable development. By collaborating with industry partners, we aim to translate our research into practical solutions. However, securing funding for research projects remains a significant challenge, which hampers our ability to make a broader impact." (HOD2)

While the department's focus on renewable energy and smart technology positions it within globally endorsed knowledge economy priorities, the real insight lies in how these strategies unfold within the resource-constrained and historically disadvantaged context of the Eastern Cape. Collaboration with industry partners reflects a strategic effort to bridge the gap between theory and application, as supported by Hanushek and Woessmann (2023). However, this model assumes a level of institutional and economic stability that is often absent in South African regional universities. The persistent struggle to secure research funding is not merely a financial barrier; it exposes deeper systemic inequalities, including limited access to national innovation funding, weak regional industrial ecosystems, and underdeveloped infrastructure. While the literature (Chankseliani & McCowan, 2021; Wheelahan & Moodie, 2024) acknowledges the importance of such research foci and partnerships, the Eastern Cape context reveals a more complex reality: the transformative potential of research is severely constrained when embedded in a setting marked by uneven development and historical marginalisation. The department's ongoing efforts to make innovation locally relevant and sustainable highlight the challenges of operating in an environment where structural and institutional support often falls short of global ambitions.

To position our university within the knowledge economy, we have established strong partnerships with leading tech companies. These collaborations allow us to provide our students with internships, exposure to real-world problems, and access to the latest technologies. We are also working on joint research projects that address the needs of the industry. The challenge, however, is maintaining these partnerships and ensuring that they benefit both our students and the companies involved." (HOD3)

The university's strategy of forming alliances with leading technology companies demonstrates a forward-thinking approach to embedding itself within the knowledge economy, particularly through internships, exposure to cutting-edge technologies, and joint research initiatives. However, while these partnerships offer immediate value, their sustainability is more complex—especially in the context of the Eastern Cape, where structural inequalities, limited private sector presence, and regional economic stagnation can undermine long-term collaboration. Unlike in well-resourced

global contexts where industry-academia partnerships are supported by robust innovation ecosystems, the Eastern Cape presents unique challenges: fewer tech companies, limited research infrastructure, and inconsistent policy support. This makes sustaining reciprocal value between academia and industry far more difficult, as corporate partners may not see long-term returns on investment, while universities often lack the resources to continuously adapt to shifting industry demands. Studies by Smith and Johnson (2018), Manotungvorapun and Gerdtsri (2019), and Padilla et al. (2023) rightly underscore the importance of adaptability and mutual benefit in sustaining such collaborations, but often assume a level of institutional capacity and economic maturity that is not characteristic of this region. Thus, the novelty in this case lies not just in forming partnerships but in the department's attempt to continually renegotiate and localise these alliances within a historically marginalised setting. This reflects a more complex, iterative form of transformation—one that is not only strategic but also highly adaptive to the tensions and constraints of a developing regional context.

"One of the biggest hurdles we face in aligning with the knowledge economy is the digital divide among our students. Many come from rural areas with limited access to technology. To address this, we have introduced digital skills training at the foundational level and are advocating for better infrastructure, but the pace of change is slow, and without adequate government support, our efforts might not be enough to bridge this gap." (HOD4)

Although the department's initiative to address digital literacy through foundational training is a commendable step toward inclusion in the knowledge economy, its impact is constrained by entrenched, context-specific barriers that extend beyond the university's control. In rural regions of the Eastern Cape, the digital divide is not merely a gap in access but rather a reflection of deep-seated infrastructural inequality, historical marginalisation, and policy neglect. Unlike in more urbanised or better-resourced global contexts, where digital upskilling can rapidly align with existing infrastructure and economic networks, efforts in the Eastern Cape occur in a vacuum—lacking reliable internet access, device availability, or consistent power supply. Scholars such as Cabero et al. (2019) and Chankseliani & McCowan (2021) rightly emphasise the need for digital literacy and infrastructure but often overlook how these strategies falter without parallel investment in systemic support. The Head of Department's strategy, while well-intentioned, lacks the broader policy and institutional scaffolding required for scale and sustainability. The real insight lies not in the identification of the digital divide itself—an issue widely acknowledged—but in the exposure of how localised constraints in rural South African contexts can neutralise even the most progressive educational interventions. This situation calls for a more integrated, cross-sectoral response, underscoring that universities cannot bear the burden of digital transformation alone in structurally disadvantaged settings.

"As leaders in academia, we must have a clear vision for how our departments contribute to the knowledge economy. This involves not only updating our curricula and research agendas but also fostering a culture of continuous learning and innovation among staff and students. We need to be proactive in identifying emerging trends and adapting accordingly. However, the bureaucratic nature of the university can sometimes slow down our ability to implement necessary changes swiftly." (HOD5)

The response underscores the pivotal role that leaders in academia play in steering their institutions towards a more substantial contribution to the knowledge economy. This entails not only the revision of curricula and research priorities to align with contemporary advancements but also the cultivation of an environment that promotes continuous learning and innovation among faculty and students. Recent scholarly work further substantiates the significance of leadership in academia in initiating transformative processes that enhance the knowledge economy. Research conducted by Altbach, Reisberg, and Rumbley in 2019, along with subsequent studies by De Wit and Altbach in 2021, emphasises the necessity for updates to curricula and research agendas in response to technological

and economic changes. They also highlight the importance of fostering a culture of continuous learning and innovation, which empowers both faculty and students. Furthermore, Heads of Departments are encouraged to promptly identify and adapt to emerging trends. However, the literature also points out a significant barrier: The bureaucratic nature of university structures is a significant issue. Balzer (2020) explores this topic, suggesting the need for strategies that can either streamline or bypass these bureaucratic constraints, thereby allowing for a more dynamic and responsive educational model. Collectively, these studies indicate a clear pathway for enhancing academia's role in the knowledge economy, although this pathway faces structural challenges that require innovative leadership and strategic policymaking to navigate successfully.

5. Conclusion and Recommendations

The insights gathered from discussions with the Heads of Departments (HODs) underline a unanimous agreement on the essential role universities play in adapting to the knowledge-based economic framework. Departments are proactively pursuing projects that incorporate critical components such as digital literacy, data science, entrepreneurship, renewable energy, and advanced technologies into their teaching and research initiatives. These actions align with current international discussions highlighted in academic publications, which stress the necessity of preparing both students and faculty to excel in an ever-changing employment landscape.

Nonetheless, the full implementation of these projects faces obstacles, including limited resources, the digital divide, administrative barriers, and challenges in sustaining collaborations with industry. The findings highlight the importance of developing comprehensive strategies that address these issues while enabling higher education institutions to significantly contribute to the knowledge economy. Building and sustaining strong partnerships with industry stakeholders is crucial for translating academic studies into real-world solutions. It is important for higher education institutions to focus on creating long-term strategies for these collaborations, which should include periodic reviews to ensure both parties benefit and remain in sync with the changing demands of the industry.

There is also a need for universities to advocate for greater government support in improving digital infrastructure. By integrating digital skill-building into the education system at all levels, students can be better prepared to thrive in today's knowledge-driven economy. Educational leaders must foster a culture that promotes ongoing learning and creativity among both educators and learners. This involves being responsive to new developments and integrating them into educational programmes and research initiatives, ensuring the institution remains at the forefront of education and technology. Prioritising the allocation of resources and funding to rejuvenate educational content and support educators' continuous learning is crucial. This should include specialised training in emerging areas such as digital fluency and data analysis.

5.1 Limitations of the study

While this study offers valuable insights into the management approaches for transforming higher education in response to the knowledge economy, it is not without limitations. Firstly, the research was confined to a single South African university in the Eastern Cape, which may restrict the generalisability of the findings to other institutional or regional contexts. Additionally, the perspectives gathered were primarily from Heads of Departments, potentially overlooking the views of other key stakeholders, such as students, administrative staff, and external partners. The use of narrative analysis, while effective in capturing depth and meaning, is inherently interpretive and may be subject to researcher bias. Lastly, the rapidly changing nature of the knowledge economy suggests that some findings may become outdated as new developments arise. These limitations indicate the necessity for broader, multi-institutional studies and the inclusion of diverse stakeholder perspectives in future research.

5.2 Direction for future studies

Future studies could expand on this research by incorporating a comparative analysis across multiple universities in different regions of South Africa to capture a broader spectrum of perspectives and institutional strategies in response to the knowledge economy. Additionally, longitudinal studies could offer insights into how management approaches and institutional responses evolve over time in relation to policy shifts, technological advancements, and changing socio-economic conditions. Research could also explore the perspectives of other key stakeholders, such as students, academic staff, industry partners, and policymakers, to develop a more holistic understanding of the higher education ecosystem. Finally, investigating the impact of specific initiatives or interventions aimed at aligning universities with the knowledge economy could provide practical guidance for academic leaders seeking to implement effective change.

6. Declarations

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Conflicts of Interest: The author declares no conflict of interest.

Data availability: The data are not publicly available due to confidentiality agreements with participants and ethical restrictions imposed by the Institutional Review Board. However, de-identified data can be made available from the corresponding author upon reasonable request, subject to approval by the ethics committee.

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