THE ENTREPRENEURIAL ORIENTATION OF ACADEMIA FOR THE FUTURE OF SOUTH AFRICAN HIGHER EDUCATION INSTITUTIONS

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ABSTRACT

Research on the entrepreneurial orientation of academia in South African higher education institutions (HEIs) is limited. This article explores how entrepreneurial orientation can be embedded within academia to cultivate an enterprising culture, addressing existing deficiencies in current academic practices and preparing both HEIs and graduates for the job market. Adopting a qualitative, interpretivist approach, the study employed a systematic literature review (SLR) methodology, involving the systematic collection, appraisal and integration of secondary data sourced from journal articles focusing on the entrepreneurial orientation of academia in higher education. The findings identified several challenges to embedding entrepreneurial orientation in academia, including limited funding, institutional bureaucracies and insufficient industry-academia collaboration. These challenges were counterbalanced by clear benefits, such as greater adaptability, improved employability of students and contributions to economic growth. The findings suggest that incorporating new educational strategies and strengthening industry partnerships could lead to more relevant and adaptable academic programmes while encouraging an entrepreneurial spirit among students and faculty. Policy recommendations include the introduction of clear incentives for HEIs to engage in entrepreneurial activities, the development of policies to strengthen industry-academia partnerships, and the integration of entrepreneurial thinking into curricula. Future research should incorporate primary data collection methods, including in-depth interviews with HEI stakeholders and case studies within South African universities, to validate and expand on these findings.

Keywords: academia; entrepreneurial orientation; entrepreneurship education; higher education institutions; student-centred teaching

INTRODUCTION

This article debates the critical role of entrepreneurial orientation in preparing South African higher education institutions (HEIs) for the future. Fostering an entrepreneurial mindset in leadership is necessary for developing institutional adaptability and equipping graduates with the relevant skills to navigate a dynamic job market (Kuratko and Morris 2018; Solesvik, Westhead, and Matlay 2014). Despite the presence of entrepreneurship education (EE), critiques highlight a lack of focus on practical skills and interdisciplinary knowledge (Kuratko and Morris 2018; Solesvik et al. 2014). Based on existing research, there is a need to bridge this gap by promoting a future-oriented academic environment with an entrepreneurial mindset. While entrepreneurship education has gained policy focus in South Africa, research on its impact on HEIs remains limited (Nabi et al. 2017). This gap in the literature regarding the current and future state of entrepreneurial orientation within academia hinders the development of effective strategies to prepare academia for the future (Price and Ronnie 2021).

This study aims to address the identified knowledge gap concerning entrepreneurial orientation specifically tailored to the future needs of academia in South African HEIs. It provides a comprehensive understanding of the key elements and strategies required for fostering an entrepreneurial approach, providing valuable insights into the current state and the potential for future development of an entrepreneurial mindset within academia. The study employed a qualitative, interpretivist approach, involving a systematic literature review to analyse existing research on the entrepreneurial orientation of academia in higher education. By examining existing literature, the study aims to identify central themes, frameworks, and potential gaps in knowledge.

The study identified several notable themes and challenges, such as limited funding, institutional bureaucracies, and insufficient industry-academia collaboration. It highlighted the potential benefits of an entrepreneurial orientation, including increased adaptability, improved employability of graduates, and contributions to economic growth. These findings contribute to the existing knowledge by underlining the importance of integrating practical skills and interdisciplinary approaches within entrepreneurship education. The study underscores the need for institutional flexibility and strengthened industry partnerships to facilitate entrepreneurial initiatives.

A significant limitation of this study is its reliance on secondary data, which may not fully capture current changes or in-depth issues. Future primary research is essential to validate and expand upon these findings. Policy recommendations include the introduction of clear incentives for HEIs to engage in entrepreneurial activities and the development of policies to strengthen industry-academia partnerships. Universities are encouraged to integrate entrepreneurial thinking into their curricula and provide staff with opportunities for professional development. The study's findings provide important insights into cultivating an entrepreneurial mindset within South African HEIs.

LITERATURE REVIEW

Cultivating an entrepreneurial orientation within academia is critical for fostering economic growth and producing entrepreneurially-minded graduates. This literature review examines the role of entrepreneurial education, curriculum development, teaching methodologies and industry collaboration in higher education institutions (HEIs) in embedding an entrepreneurial mindset.

Entrepreneurial education

Entrepreneurial education in HEIs refers to developing the knowledge, skills and attitudes required to identify, create and pursue entrepreneurial opportunities (Fejes, Nylund, and Wallin. 2018; Zhang et al. 2019). It aims to impart entrepreneurial competencies such as business planning, financial management, marketing, innovation and risk management (Zhang et al. 2019; Bratianu, Hadad and Bejinaru 2021). The goal is to provide students with the ability to think and act entrepreneurially (Hägg and Gabrielsson 2019). Entrepreneurial education instils critical thinking (Calma and Cotronei-Baird 2021) and has become mandatory across university curricula (Hayes, Subhan and Herzog 2020). It increases the number of entrepreneurs, reduces unemployment and boosts economies (Uddin et al. 2022; Shah, Amjed and Jaboob 2020).

Curriculum development

The development of entrepreneurial curricula in HEIs involves designing and implementing programmes to develop entrepreneurial understanding (Fejes et al. 2018; Zhang et al. 2019; Bratianu et al. 2021). Employers seek graduates with essential entrepreneurial competencies (Shereni 2019; Rakowska and De Juana-Espinosa 2021). However, research on curriculum

content has been overlooked, with inconsistencies across programmes (Prøitz 2021). Periodic curriculum redesigns are necessary to align with evolving needs (Cui, Sun and Bell 2021). General entrepreneurial programmes may not adequately cover specific competencies needed (Akter and Iqbal 2022; Bratianu et al. 2020; Thomas and Wulf 2021).

Collaboration with industry and academic-industry partnership

The value of university-industry collaboration in curriculum development which offers mutual benefits such as improved educational programmes; internships; research opportunities; and smoother transitions for students into the workforce (Dowelani and Dowelani 2020; Tengeh and Rorwana 2017). While these benefits are widely acknowledged, some researchers point out challenges in sustaining long-term partnerships and ensuring mutual benefits (Gorlach 2017; Price and Ronnie 2021). Addressing these challenges requires new strategies and policies to maintain effective collaborations (Bhana and Suknunan 2019). Such foundational understanding is necessary for recognising the challenges in academia's entrepreneurial orientation (Gorlach 2017).

Limited funding

Financial constraints challenge the balance between teaching, research and entrepreneurial activities in academia (Swartz et al. 2018; Scott 2018). These limitations hinder the development of a strong entrepreneurial environment.

Institutional hierarchies

Institutional hierarchies and prescribed top-down changes can potentially restrain entrepreneurial attempts within academia (Chikuni, Makwambeni, and Chigona 2021). These constraints impede the development of entrepreneurial orientation in HEIs.

Traditional entrepreneurial learning

The traditional model in HEIs hinders the development of an entrepreneurial mindset (Cui et al. 2021). A major part of formal education consists of knowledge inputs, with entrepreneurship traditionally taught as a learning tool (Debarliev et al. 2020). Pedagogies block the development of personal entrepreneurial skills and attributes (Hägg and Gabrielsson 2019; Zhong, Muyunda, and Cheng 2022). Much content is an "add-on" (Høgdal et al. 2019). Students cannot develop

tacit knowledge, judgement, intuition and entrepreneurial qualities (Bester 2017; Hägg and Gabrielsson 2019).

The traditional system produces employees rather than self-employed individuals (Yashin et al. 2018). Teaching methods should enhance entrepreneurial skills and attributes (Bester 2017; Hägg and Gabrielsson 2019). Assessments cannot consider unpredictability in innovative thinking and tacit knowledge development (Bester 2017). Consequently, it is unclear if current practices inculcate self-employment mindsets (Bester 2017; Hägg and Gabrielsson 2019).

e-Learning

In contrast, e-learning in entrepreneurial education offers flexibility, personalisation, resource access and collaboration (Kannadhasan et al. 2020; Xie, Siau and Nah 2020; Lee et al. 2020). With technology's role in global knowledge-sharing, incorporating ICT literacy into curricula strengthens student skills and employability (Muluk et al. 2019).

Criticism

Despite their potential benefits, business programmes in HEIs are criticised for being misaligned with industry needs (Hassan 2020). High entrepreneurial educator turnover negatively impacts student perceptions (Faloye and Olatunji 2018). Programmes are dismissed as academic exercises rather than the assessment of business potential (Fejes et al. 2018).

Experience bias

Skills training and general education differ notably; in skills training, fieldwork and mentoring are important to learning (DeIuliis and Saylor 2021). This raises concerns that higher education institutions (HEIs) may not have enough domain-specific expertise to be credible, necessitating the involvement of experienced educators (Seifried et al. 2020). High turnover rates among educators can lead to negative perceptions (Boldureanu et al. 2020).

Both practical and theoretical academics are important as they provide valuable learning experiences (Bell and Bell 2020). The most effective entrepreneurial instructors often merge theory and practical experience (Boldureanu et al. 2020; Higgins et al. 2018). There is a prevalent issue with faculty feeling poorly equipped to handle employability issues outside their areas of expertise, highlighting the need for entrepreneurial education (Dicker et al. 2018; Gravett and Kroon 2021). The situation could be improved by integrating business practices

with industries, creating engaging learning experiences and using the skills of seasoned academics (Boldureanu et al. 2020; Gravett and Kroon 2021).

Previous studies on the entrepreneurial orientation of academia for future higher education institutions

Research on entrepreneurial orientation within academia stresses the importance of cultivating an entrepreneurial mindset to improve adaptability and future readiness in higher education institutions (HEIs). Studies by Kuratko and Morris (2018) and Solesvik et al. (2014) argue that fostering an entrepreneurial orientation is essential for preparing students to acquire essential entrepreneurial skills. Price and Ronnie (2021) draw attention to a gap in the literature regarding the current and future states of academic entrepreneurial orientation, emphasising the urgent need for research to develop comprehensive frameworks.

With the need for an interdisciplinary approach to entrepreneurship education, researchers such as Fejes et al. (2018) and Zhang et al. (2019) advocate frameworks that address both the current condition and the prospects of academic entrepreneurial orientation. HEIs should evolve by integrating new curricula, adopting experience-based teaching methods, collaborating with industry and utilising technology and faculty expertise (Dowelani and Dowelani 2020; Tengeh and Rorwana 2017; Bell and Bell 2020; Lee et al. 2020).

Analysing the challenges and opportunities identified in both the literature and empirical findings provides a foundation for formulating practical recommendations that directly address observed gaps and potential areas for enhancement (Bhana et al. 2019; Dowelani and Dowelani 2020; Tengeh and Rorwana 2017; Bell and Bell 2020; Lee et al. 2020).

PROBLEM STATEMENT AND RESEARCH PURPOSE

While South African higher education institutions (HEIs) emphasise the development of entrepreneurial skills among students, their programmes often lack a strong theoretical and methodological foundation, focusing primarily on practical skills (problem statement). This aligns with research calling for a more comprehensive understanding of entrepreneurship which extends beyond practical skills only (Shane and Venkataraman 2000).

RESEARCH METHODOLOGY

This study employed a systematic literature review (SLR) methodology to examine the existing literature on the entrepreneurial orientation of higher education institutions (HEIs) (Saunders, Lewis, and Thornhill 2016). This approach involved a comprehensive search, selection, appraisal and synthesis of scholarly articles using qualitative, interpretivist methods (Saunders et al. 2016). Interpretivism was employed as the research philosophy. The qualitative approach applied in this study emphasised the understanding of the nuances and complexities present in the literature, achieved through inductive exploration of sources without predetermined frameworks (Saunders et al. 2016). It is acknowledged that some biases may remain due to the nature of secondary data. Future primary research will be essential to validate the findings. Therefore, this study constituted desk research rather than field research.

Sample and data collection

Due to the secondary research nature of the study, existing scholarly works on the topic of HEI entrepreneurial orientation were explored. The researchers identified relevant articles through a systematic search of academic databases, including Web of Science Core Collection, Scopus, ProQuest and Elsevier (Saunders et al. 2016). Inclusion criteria were established to ensure the relevance of the selected articles (Saunders et al. 2016). Keywords such as entrepreneurial orientation, entrepreneurial universities and educational methodology in HEIs were used to find suitable articles.

Data analysis

The researcher utilised computer-assisted qualitative data analysis (CAQDAS) software, specifically ATLAS.ti 9, to effectively manage and document the research process (Xiao and Watson 2017). This software facilitates the coding of data (i.e., themes and indicators representing the codes) and the establishment of links to enhance the reliability of the analysis (Xiao and Watson 2017). The data were post-coded and grouped into themes and categories using ATLAS.ti 9 to enable thematic analysis, evaluation of research propositions and model building (Xiao and Watson 2017).

Trustworthiness of the data

Trustworthiness is established through four key characteristics: credibility, transferability, confirmability and dependability (Bengtson 2016). Credibility entails ensuring that the findings accurately represent the data, achieved by examining the data from various perspectives (Bengtson 2016; Bless, Higson-Smith, and Sithole 2013, 236). Transferability involves demonstrating the applicability of findings to other contexts through rich descriptions (Lipscomb, 2012). Confirmability emphasises minimising researcher bias and ensuring conclusions are drawn solely from the articles' findings, with an audit trail documenting the analysis process (Bengtson 2016; Lipscomb 2012). The researchers were aware of their own biases and therefore ensured that the coding process and theme analysis process were done in an objective manner. Finally, dependability refers to the ability of other researchers to replicate the study, facilitated by detailed descriptions of the methodology and independent review of the research process (Bengtson 2016; Cooper and Schindler 2011; Taherdoost 2016; Quinlan et al. 2015).

Ethical considerations

The researcher adhered to the ethical guidelines established by Tshwane University of Technology's Policy on Research Ethics and approval by the Faculty Research Ethics Committee (FREC).

FINDINGS

Academic research explores factors affecting collaboration and entrepreneurial orientation in academia, including challenges such as conflict, forming industry partnerships, knowledge exchange, limited funding, institutional hierarchies, time pressure, publication demands, institutional policies and workloads. Evaluating these barriers provides insight into obstacles hindering higher education's entrepreneurial goals.

Collaboration challenges

Collaboration challenges impact the entrepreneurial orientation of academia. Conflicting interests and approaches hinder effective collaboration, while limited industry partnerships and knowledge exchange mechanisms impede entrepreneurial activities. Institutional hierarchies, time constraints, publication pressures, technological innovations and adherence to institutional

policies create hurdles for academics in pursuing entrepreneurial research. Overcoming these challenges is essential for fostering an entrepreneurial orientation in academia and promoting successful research initiatives.

Research constraints

Research constraints have a marked effect on the entrepreneurial orientation of academia. Limited funding and institutional hierarchies create bureaucratic challenges, while time constraints hinder the allocation of resources to entrepreneurial projects. Publication pressures can divert attention from entrepreneurship. Overcoming these constraints is necessary for fostering a strong entrepreneurial orientation within academia and promoting innovative and impactful research.

Academic capacitation

This refers to the process of developing the skills, knowledge and capabilities of individuals within academia. It includes activities such as attending workshops, conferences and training programmes; engaging in research; and acquiring expertise to improve academic performance and professional growth.

> "The functions of teaching, learning and research are fundamental to HEI and should spearhead knowledge and skills development." (Dlamini 2016, np)

Teaching, learning and research are essential components of the development of knowledge and skills in higher education. Teaching involves imparting knowledge through various instructional methods to facilitate student learning and critical thinking. Learning is the active acquisition of knowledge and competencies by students, while research contributes to creating new knowledge and challenging existing ideas. Together, these functions form the foundation for quality education in higher education institutions.

Conflict

Disagreements or differences of opinion may arise between individuals or groups within an academic environment due to diverse perspectives, competition for resources, conflicting

priorities or personal differences. Resolving conflicts often involves open communication, negotiation and finding common ground for a productive working environment.

> "Conflict happens when staff is not able to work as a team to achieve the institutional goals and objectives." (Bhana et al. 2019, 315)

Conflict in an academic setting arises when staff members are unable to collaborate as a team to achieve the institution's goals and objectives due to differences in opinions, values or priorities or competing professional and personal interests. This lack of collaboration hampers overall efficiency and productivity, resulting in strained relationships, reduced communication, lack of cooperation and even hostility within the academic community. Unresolved conflict hurts morale, job satisfaction and organisational functioning.

Proactively addressing and handling conflict is essential for academic institutions to uphold a harmonious working environment and accomplish institutional objectives. Effective conflict management strategies involve encouraging open and courteous communication, nurturing a culture of cooperation and teamwork, offering training and assistance in resolving conflicts and establishing transparent procedures for conflict resolution.

By addressing and resolving conflict promptly and positively, organisations can minimise its adverse impacts and turn it into an opportunity for advancement and enhancement. Proficient management of conflicts can result in heightened ingenuity, originality and diversity of viewpoints, benefiting the broader academic sphere. Dealing with conflict is necessary for upholding a favourable and efficient working atmosphere that fosters institutional achievement.

Through proactive handling of conflicts, educational institutions can channel their potential for development and cooperation.

Collaboration with industry and academic-industry partnership

This pertains to the collaborative relationship between educational institutions and industry entities for mutual advantage. This partnership includes sharing information, undertaking joint research initiatives, facilitating internships and transferring technology. The goal is to trade knowledge, encourage practical research and connect academia with the practical requirements of industry. The references underscore the significance of university-industry collaboration in curriculum development.

> "... curriculum development literature argues for strong collaborations between universities and industry." (Dowelani and Dowelani 2020, 1017)

These partnerships benefit the entire institution, with active researchers and innovators highlighting their importance.

> "... it was noted that the most active researchers and innovators were involved in one form of university-industry collaboration or another." (Tengeh and Rorwana 2017, 140)

The primary goal is to establish long-term collaborations to achieve strategic objectives.

> "... the primary aim was identified as follows: to foster a long-term, mutually beneficial collaboration between academia and industry in meeting their (the University) strategic objectives." (Gorlach 2017, 116)

The study demonstrates the role of close industry-university collaboration, which benefits both students and industry by developing the educational process and facilitating knowledge transfer.

> "... this (study) is to demonstrate the importance of close industry-university collaboration which benefits students and industry." (Gorlach 2017:115)

The literature on curriculum development underlines the importance of close partnerships between universities and industry. These partnerships help to connect academia with real-world applications, ensure that educational programmes are in line with industry requirements and achieve strategic goals. Researchers have a part to play in these collaborations by advancing knowledge and implementing research findings in practical contexts.

> "... based on the examples set by the educators, the institution as a whole would benefit from collaboration with members of industry." (Price and Ronnie 2021, 9)

The importance of university-industry partnerships, which facilitate connections between academia and industry, is emphasised.

> "... notably relevant given that the overwhelming majority of the participants reiterated the importance of university-industry partnerships." (Tengeh et al. 2017, 142)

This collaboration leads to benefits such as enhanced educational programmes, internships, research opportunities and smoother transitions for students. The main goal is to establish long-term collaborations that align with university objectives. Close industry-university collaboration benefits both students and the industry. It facilitates knowledge transfer and

practical learning experiences, aligning education with industry demands while providing a skilled talent pool for the industry.

> "... strengthening university-industry partnership in order to enhance the educational process and facilitate the knowledge transfer from academia to industry." (Gorlach 2017, 115)

Collaborative ties between universities and industries enrich the learning experience and support the exchange of knowledge. These partnerships encourage interaction between academic institutions and businesses, resulting in mutual benefits.

> "... it is important that members of academia and members of industry work jointly when focusing on these interactions." (Gorlach 2017, 115)

Strong collaboration between universities and industry in curriculum development and the educational process is necessary. These partnerships bridge the gap between academia and industry, prepare students for future careers and advance research.

Limited funding

Financial limitations or a lack of resources in academic institutions can have an impact on diverse areas such as research, access to advanced technologies, faculty recruitment and retention, student scholarships and infrastructure development. To overcome these constraints and sustain academic pursuits, it is necessary to strategically allocate resources, explore other funding options and submit grant applications. The first source indicates that the institution prioritises teaching and research, but there is concern that inadequate funding could lead to neglect of these vital aspects.

> "The argument here was that teaching and research constituted the main business of the institution with the danger being that these could be neglected in the face of limited funding." (Swartz et al. 2018, 573)

This confirms that limited resources could harm the quality and focus of teaching and research endeavours.

The second source emphasises that the financial system favours student enrolment over the number of graduates.

> "The funding system, which is geared to enrolments rather than graduates." (Scott 2018, 15)

This suggests that funding distribution is determined by the quantity of students enrolled in the institution, without considering the effectiveness or results of the educational programmes. This points to a possible discrepancy between financial priorities and intended goals, such as student retention and graduation rates.

Both references highlight the challenges associated with limited funding and the potential impact on the institution's core activities, including teaching, research and achieving desired educational outcomes. They emphasise the need for careful consideration and allocation of resources to ensure that essential aspects of education are adequately supported and prioritised.

Institutional hierarchies

The term "hierarchies" refers to the formal or informal organisational structure and levels of authority within an academic institution. Institutional hierarchies influence decision-making processes, resource allocation and collaboration dynamics. It is important to understand and navigate these hierarchies for effective communication and collaboration among various stakeholders in academia.

> "The change suggested is therefore top-down and prescriptive. It promotes a hierarchy where educators are marginalised." (Chikuni et al. 2021, 12)

The reference indicates that the proposed change is enforced by higher authorities and diminishes the role of educators by not taking their input into account. Consequently, educators perceive themselves as underappreciated and marginalised within a hierarchical structure. This gives rise to concerns about the inclusiveness of the change process and draws attention to the necessity for a more cooperative approach. It underscores that educators should be engaged in decision-making to benefit from their valuable perspectives and knowledge, fostering a student-focused learning environment.

The reference underlines the importance of empowering and recognising educators in education. Rather than marginalising them, it calls for a culture that values their contributions and encourages collaboration. Creating a supportive and inclusive environment will help educators feel motivated and valued, leading to improved teaching and learning outcomes.

The citation emphasises the risk of marginalising educators through top-down and prescriptive change. To establish a more inclusive and empowering education system, it is necessary to engage educators in decision-making and promote a culture of collaboration. This method not only improves the learning experience but recognises the knowledge and input of educators in shaping education.

Publication pressures and time constraints

Publications play a role in academic careers, promotions and recognition, as scholars are expected to publish their findings in reputable journals. Fulfilling publication expectations involves adhering to strict deadlines, conducting thorough research, meeting specific publishing criteria and consistently delivering high-quality scholarly content, yet these demands come with constraints, such as time limitations, that affect individual's ability to fulfil their academic responsibilities effectively.

> "South African academics are compelled to yield more research outputs, lecture larger classes and supervise more postgraduate students." (Bhana et al. 2019, 316)

Effectively managing time constraints necessitates efficient time management practices and prioritisation of multiple duties while ensuring productive work within the given timeframe.

The expectations for researchers to publish their work hold implications for their academic careers, as publications play a role in achieving academic recognition. Managing these demands is essential when considering the limitations imposed by time constraints.

> "The substantial workloads with inadequate support and fewer resources require more time and vigour." (Bhana et al. 2019, 316)

Effective time management, prioritisation and balancing of multiple responsibilities are necessary to meet publication pressures and fulfil academic duties.

The results emphasise the ongoing challenges that educators encounter in delivering high-quality education within resource constraints.

> "Academics are under constant pressure to fulfil the teaching and learning mandate of quality education, given the limited resources." (Pillay 2020, 14784)

This points to limitations related to financial support, infrastructure and staffing that affect the capacity to provide excellent education. It is essential to ensure sufficient assistance and resources for academics to effectively fulfil these responsibilities.

Academics often face the challenge of prioritising administrative and teaching responsibilities over research, leading to limited time for research endeavours.

> "Academics are also under pressure to perform more administrative and teaching tasks at the expense of research." (Pillay 2020, 14786)

Achieving a balanced workload distribution and providing support and incentives can encourage academics to participate in research activities. The study draws attention to the emphasis institutions place on research publications and institutional reputation, as they impact national and institutional standing.

> "Institutions have emphasised the importance of publications and prestige, which contribute to national and institutional reputation." (Moosa 2018, 38)

Recognising the value of research output in increasing institutional prestige and academic community recognition underscores the importance of offering adequate support, resources and incentives to promote research engagement among academics.

Academics are subject to diverse pressures, such as limited resources and increased administrative and teaching tasks, along with expectations for research output. To overcome these challenges, institutions must provide the necessary support, resources and incentives to enable academics to deliver high-quality education and actively participate in research activities.

Workload

Academic workload refers to the amount of work and number of responsibilities that individuals handle within academia. This includes tasks such as teaching courses, conducting research, publishing scholarly work, managing administrative duties, supervising students and participating in academic committees. Effectively managing this workload requires prioritisation, time management and balancing academic duties while maintaining personal well-being.

The first reference reveals the challenges of academics in South Africa, like increasing research outputs, teaching larger classes and supervising more postgraduate students.

> "South African academics are compelled to yield more research outputs, lecture larger classes and supervise more postgraduate students." (Bhana et al. 2019, 317)

This indicates an expectation for higher productivity in research and teaching duties, possibly due to institutional or national initiatives prioritising research and student enrolment numbers. It suggests that academics in South Africa may experience a heavier workload than counterparts in other countries and therefore require adequate support and resources to manage these demands.

The second source underlines the ongoing challenge for academics to meet the requirement of delivering high-quality education, despite limitations in funding, infrastructure and staffing.

> "Academics are under constant pressure to fulfil the teaching and learning mandate of quality education, given the limited resources." (Pillay 2020, 14786–14787)

This highlights the need for innovative teaching approaches to overcome the constraints. It underscores the significance of addressing resource limitations and offering essential support to enable South African academics to provide quality education.

DISCUSSION

Creating an entrepreneurial orientation within higher education institutions (HEIs) is necessary for economic growth and for developing entrepreneurially-minded graduates. This discussion is based on an extensive literature review, examining the roles of entrepreneurial education, curriculum development, teaching methodologies and industry collaborations in HEIs. These elements are essential for cultivating an entrepreneurial mindset, which is important in today's complex economic environment.

Analysis of entrepreneurial education

Entrepreneurial education has become a key component of university curricula, reflecting a shift towards developing entrepreneurial skills and attitudes (Fejes et al. 2018; Zhang et al. 2019). This educational approach equips students with necessary skills like business planning, financial management and innovation (Bratianu et al. 2021). The focus on critical thinking helps

students navigate the unpredictability of the business world, increasing their employability and entrepreneurial success (Uddin et al. 2022; Shah et al. 2020).

Curriculum development and industry integration

The curriculum is evolving to meet the demands of the labour market for entrepreneurial skills (Shereni 2019; Rakowska and De Juana-Espinosa 2021). There is a disconnect between the theoretical knowledge taught and the practical skills demanded by industries (Prøitz 2021). Addressing this gap involves updating the curriculum based on industry feedback to ensure that outcomes align with practical expectations (Cui 2021; Akter and Iqbal 2022).

Strong partnerships between academia and industry improve the relevance of educational programmes by incorporating real-world challenges and innovations into the curriculum (Dowelani and Dowelani 2020; Gorlach 2017). These collaborations facilitate the transition of students into the workforce, supporting a sustainable entrepreneurial environment.

Challenges in entrepreneurial education

Entrepreneurial education faces several challenges, including financial limitations which impact the ability of institutions to fund entrepreneurial initiatives without neglecting traditional academic responsibilities (Swartz et al. 2018; Scott 2018). Further, rigid institutional structures and bureaucracy can stifle the flexibility necessary for entrepreneurial activities (Chikuni, Makwambeni, and Chigona 2021).

Traditional educational models, which are often inflexible and theoretical, hinder effective entrepreneurship teaching (Debarliev et al. 2020; Hägg et al. 2020). Adopting e-Learning and incorporating information and communications technology (ICT) can help address these issues by providing flexible, personalised and resource-rich educational environments (Kannadhasan et al. 2020; Lee et al. 2020).

Publication pressures and time constraints impose additional strains on academics, compelling them to manage large classes and multiple student supervisions with limited resources, which can detract from research and scholarship activities (Khalid et al. 2019). Effective strategies are needed to alleviate these pressures and support academic staff.

Adopting an entrepreneurial orientation within HEIs involves substantial changes to traditional educational models and curricula. It requires collaboration among educators, industry professionals and policymakers to cultivate an environment that encourages entrepreneurship and innovation. Updating curricula, integrating effective industry partnerships

and using modern educational technologies are important for preparing the next generation of entrepreneurs. HEIs must remain adaptable and responsive to the changing demands of the global economy, ensuring that graduates are equipped not just for employment but to reshape it (Bratianu et al. 2020; Chikuni et al. 2021; Cui 2021; Debarliev et al. 2020; Dowelani and Dowelani 2020; Fejes et al. 2018; Gorlach 2017; Hägg et al. 2020; Kannadhasan et al. 2020; Lee et al. 2020; Shereni 2019; Swartz et al. 2018; Zhang et al. 2019).

RECOMMENDATIONS

Based on the content provided, there are several recommendations to help higher education institutions address challenges in carrying out their key academic functions:

HEIs should prioritise the establishment of a collaborative culture among their staff, accomplished through activities that build teamwork, interdisciplinary projects and the creation of platforms for sharing knowledge. It is important to encourage open communication and provide opportunities for staff to collaborate towards shared objectives.

HEIs should actively pursue collaboration with industry to improve curriculum development, encourage innovation and facilitate the transfer of knowledge. This may include engaging in joint research projects, offering internships and establishing collaborative training programmes. Involving industry can offer relevant perspectives on emerging trends and improve the significance and practicality of academic programmes. The development of policies that facilitate and strengthen collaborations between HEIs and industry partners is recommended. Such policies should aim to create long-term, mutually beneficial partnerships that integrate real-world industry needs into academic programmes. Strengthened industry-academia partnerships will help bridge the gap identified in the findings, providing students with practical experience and aligning academic programmes with industry demands.

HEIs should integrate entrepreneurial thinking and competencies into their curricula across all disciplines. This integration should be supported by the development of specialised entrepreneurial courses and experiential learning opportunities. Incorporating entrepreneurial thinking into the curriculum directly addresses the need for a better understanding of the entrepreneurial orientation of academia for the future.

HEIs should actively communicate with policymakers and stakeholders to underscore the need for sufficient funding for education, research and other institutional objectives. It is important to stress that funding models should be transitioned from prioritising enrolments to valuing the overall excellence and results of education. There should be transparent efforts to

allocate resources so as to adequately support teaching and research activities. To address the challenge of limited funding, the introduction of clear financial and non-financial incentives for HEIs to engage in entrepreneurial activities is recommended. These incentives could include grants, awards, and recognition programmes aimed at encouraging entrepreneurial initiatives within academia. Providing incentives will help overcome the financial constraints identified in the findings, promoting a culture of entrepreneurship that aligns with the needs of both students and the job market.

Educational institutions ought to embrace a more comprehensive and collaborative method of making decisions, allowing educators to actively contribute to shaping the academic agenda. Authoritative approaches alienate educators; what is called for is a fair and all-encompassing strategy that promotes their participation and inclusion. In addition, avenues for professional growth, mentorship and acknowledgement of educators' input should be made available.

To reduce the pressures of publishing and time limitations, higher education institutions should assist academics in handling their workloads and managing both research and teaching commitments. This can involve offering resources and support for research, minimising administrative tasks, assigning teaching assistants or additional faculty support and establishing policies to restrict excessive teaching and administrative responsibilities. It is important to encourage a culture that emphasises the quality rather than the quantity of research outputs.

Implementing these recommendations can help HEIs overcome the challenges of academics and enrich their teaching, learning and research capabilities. This will promote knowledge and skills development, benefiting both the institutions and the wider society.

The following recommendations outline potential areas for future academic research

Given the impact of the Fourth Industrial Revolution (4IR), it is essential to incorporate its advancements into research efforts. This involves investigating the capabilities of 4IR technologies, such as artificial intelligence and big data analytics, in developing various aspects of higher education. Understanding the skills required for the future workforce within the context of 4IR and integrating these competencies into entrepreneurship educational programmes is key. It is important to examine both the opportunities and the challenges presented by digital entrepreneurship, like the role of digital platforms, e-commerce and digital

marketing. An exploration of ethical considerations relating to entrepreneurship amidst 4IR is necessary.

For future research, it is recommended that the study be duplicated for other countries. It is recommended that a questionnaire be developed from the findings of this study and be used to conduct quantitative research to further investigate the entrepreneurial orientation of academia for the future of South African higher education institutions.

A limitation of this study is that it was cross-sectional in nature and cannot be generalised to other countries. Only articles from certain platforms were used and therefore other relevant articles could have been missed.

CONCLUSION

There is a need for a comprehensive approach to entrepreneurial education that combines academic theory with practical experience, incorporates technological advancements, encourages collaboration between academia and industry and focuses on building an enterprising mindset as well as skills development.

REFERENCES

Akter, B. and A. Iqbal. 2022. “The impact of entrepreneurial skills, entrepreneurship education support programmes and environmental factors on entrepreneurial behaviour: A structural equation modelling approach.” *World Journal of Entrepreneurship, Management and Sustainable Development* 18(2): 111–138. https://doi.org/10.1016/j.heliyon.2020.e04922

Bell, R. and H. Bell. 2020. “Applying educational theory to develop a framework to support the delivery of experiential entrepreneurship education.” *Journal of Small Business and Enterprise Development* 27(6): 987–1004. https://doi.org/10.1108/JSBED-01-2020-0012

Bengtsson, M. 2016. “How to plan and perform a qualitative study using content analysis thematic analysis.” *Nursing Plus Open* 2: 8–14. https://doi.org/10.1016/j.npls.2016.01.001

Bester, M. 2017. “Educating entrepreneurial mind-sets at a university of technology: Curriculum enablers and constraints of selected programmes.” *Journal for New Generation Sciences* 15/1: 188–206. https://hdl.handle.net/10520/EJC-c85d52ba4

Bhana, A. and S. Suknunan. 2019. "The impact of ethical leadership on employee engagement within a South African public higher education institution." Problems and Perspectives in Management 17(4): 314–324.

Bless, C., C. Higson-Smith, and S. L. Sithole. 2013. *Fundamentals of social research methods: An African perspective.* 5th Edition. Pretoria: Juta Academic**.**

Boldureanu, G., A. M. Ionescu, A-M. Bercu, M. V. Bedrule-Grigoruță, and D. Boldureanu. 2020. "Entrepreneurship education through successful entrepreneurial models in higher education institutions." Sustainability 12(3): 1267.

Bratianu, C., S. Hadad, and R. Bejinaru. 2020. “Paradigm shift in business education: A competence-based approach.” *Sustainability* 12(4): 1348. https://doi.org/10.3390/su12041348

Calma, A. and V. Cotronei-Baird. 2021. “Assessing critical thinking in business education: Key issues and practical solutions.” *The International Journal of Management Education* 19(3): 100531. https://doi.org/10.1016/j.ijme.2021.100531

Chikuni, P. R., B. Makwambeni, and W. Chigona. 2021. "Dominant discourses informing e-Learning policies in higher education institutions in South Africa." International Journal of Educational Development using Information and Communication Technology 17(4): 5–21.

Cooper, D. R. and P. S. Schindler. 2011. *Business research methods.* 11th Edition. Boston: McGraw-Hill Irwin.

Cui, J., J. Sun, and R. Bell. 2021. “The impact of entrepreneurship education on the entrepreneurial mindset of college students in China: The mediating role of inspiration and the role of educational attributes.” *The International Journal of Management Education* 19(1): 100296. https://doi.org/10.1016/j.ijme.2019.04.001

Debarliev, S., A. Janeska-Iliev, O. Stripeikis, and B. Zupan. 2020. “What can education bring to entrepreneurship? Formal versus non-formal education.” *Journal of Small Business Management* 60(1): 219–252. https://doi.org/10.1080/00472778.2019.1700691

Deiuliis, E. D. and E. Saylor. 2021. “Bridging the gap: Three strategies to optimize professional relationships with generation Y and Z.” *The Open Journal of Occupational Therapy* 9(1): 1–13. http://dx.doi.org/10.15453/2168-6408.1748

Dicker, R., M. Garcia, A. Kelly, and H. Mulrooney. 2018. “What does “quality” in higher education mean? Perceptions of staff, students and employers.” *Studies in Higher Education* 44(8): 1425–1441. https://doi.org/10.1080/03075079.2018.1445987

Dlamini, R. 2016. "The global ranking tournament: A dialectic analysis of higher education in South Africa." South African Journal of Higher Education 30(2): 53–72.

Faloye, D. O. and O. D. Olatunji. 2018. “Entrepreneurship education and self-employment intentions among fresh graduates in Nigeria.” *Journal of Economic Sustainability and Development* 12(1): 146–154. https://doi.org/10.1080/23311975.2021.1938348

Fejes, A., M. Nylund, and J. Wallin. 2018. “How do teachers interpret and transform entrepreneurship education?” *Journal of Curriculum Studies* 51(4): 554–566. https://doi.org/10.1080/00220272.2018.1488998

Gravett, S. and R. Kroon. 2021. “Learning to become a teacher: Student teachers’ experiences and perceptions of a one-year initial teacher education programme.” *Educational Studies* 49(6): 1–16. https://doi.org/10.1080/03055698.2021.1935216

Hägg, G. and J. Gabrielsson. 2019. “A systematic literature review of the evolution of pedagogy in entrepreneurial education research.” *International Journal of Entrepreneurial Behaviour and Research* 26(5): 829–861. https://doi.org/10.1108/IJEBR-04-2018-0272

Hassan, H. M. K. 2020. "Intention towards social entrepreneurship of university students in an emerging economy: the influence of entrepreneurial self-efficacy and entrepreneurship education." On the Horizon 28(3): 33–151.

Hayes, D., Z. Subhan, and L. Herzog. 2020. “Assessing and understanding entrepreneurial profiles of undergraduate students: Implications of heterogeneity for entrepreneurship education.” *Entrepreneurship Education* 3(2): 151–195. https://link.springer.com/article/10.1007/s41959-020-00025-5

Higgins, D., L. Galloway, P. Jones, and P. Mcgowan. 2018. Special focus: Towards entrepreneurship learning practices – Thoughts and insights. *Industry and Higher Education* 33(1): 3–5. https://doi.org/10.1177/0950422218820156

Høgdal, C., A. Rasche, D. Schoeneborn, and L. Scotti. 2019. “Exploring the hidden curriculum in responsible management education.” *Academy of Management Proceedings* 2019(1): 12927. https://doi.org/10.1177/13505076231171371

Kannadhasan, S., M. Shanmugananthan, D. R. Nagarajan, and S. Deepa. 2020. "The role of future e-learning system and higher education." *International Journal of Advanced Research in Science, Communication and Technology* 12(2): 261–266. http://dx.doi.org/10.48175/IJARSCT-673

Khalid, N., U. Ahmed, B. Tundikbayeva, and M. Ahmed. 2019. "Entrepreneurship and organizational performance: Empirical insight into the role of entrepreneurial training, culture and government funding across higher education institutions in Pakistan." *Management Science Letters* 9(5): 755–770. http://dx.doi.org/10.5267/j.msl.2019.1.013

Kuratko, D., F. and M. H. Morris. 2018. "Corporate entrepreneurship: A critical challenge for educators and researchers." *Entrepreneurship Education and Pedagogy* 1(1): 42–60. https://doi.org/10.1177/2515127417737291

Lee, R., K. Hoe Looi, M. Faulkner, and L. Neale. 2020. "The moderating influence of environment factors in an extended community of inquiry model of e-Learning." *Asia Pacific Journal of Education* 41(1): 1–15. https://doi.org/10.1080/02188791.2020.1758032

Lipscomb, M. 2012. "Questioning the use value of qualitative research findings." *Nursing Philosophy* 13(2): 112–125. https://doi.org/10.1111/j.1466-769X.2011.00514.x

Moosa, R. 2018. "World university rankings: reflections on teaching and learning as the Cinderella function in the South African higher education system." African Journal of Business Ethics 12(1): 38–59.

Muluk, S., H. Habiburrahim, T. Zulfikar, J. Orrell, and M. Mujiburrahman. 2019. "Developing generic skills at an Islamic higher education institution curriculum in Aceh, Indonesia." *Higher Education, Skills and Work-Based Learning* 9(3): 445–455. https://doi.org/10.1108/HESWBL-06-2018-0064

Nabi, G., F. Liñán, N. F. Krueger, A. Fayolle, and A. Walmsley. 2017. "The impact of entrepreneurship education in higher education: A systematic review and research agenda." *Academy of Management Learning and Education* 16(2): 277–299. https://doi.org/10.5465/amle.2015.0026

Pillay, P. 2020. Massification at universities of higher learning in South Africa. *Gender & Behaviour*, 18(1):14784-14799. https://hdl.handle.net/10520/ejc-genbeh-v18-n1-a16

Price, K. and L. Ronnie. 2021. "Contextual factors influencing entrepreneurship education at a South African University of Technology." *The Southern African Journal of Entrepreneurship and Small Business Management* 13(1): a394. https://doi.org/10.4102/sajesbm.v13i1.394

Prøitz, T., S. 2021. "Consistency in study programme planning and the complexity of curriculum logics." *Teaching in Higher Education* 1–16. https://doi.org/10.1080/13562517.2021.1931838

Quinlan, C. B., J. Babin, J. C. Carr, M. Griffin, and W. G. Zikmund. 2015. *Business research methods*. Hampshire: Cengage Learning EMEA.

Rakowska, A. and S. De Juana-Espinosa. 2021. "Ready for the future? Employability skills and competencies in the twenty-first century: The view of international experts." *Human Systems Management* 40(5): 669–684. https://doi.org/10.3233/hsm-201118

Saunders, M., P. Lewis, and A. Thornhill. 2016. *Research methods for business students.* 7th Edition. London: Pearson Education.

Scott, I. 2018. "Designing the South African higher education system for student success." Journal of Student Affairs in Africa 6(1): 1–17.

Seifried, J., S. Brandt, K. Kögler, and A. Rausch. 2020. "The computer-based assessment of domain-specific problem-solving competence – A three-step scoring procedure." *Cogent Education* 7(1): 1-11 https://doi.org/10.1080/2331186X.2020.1719571

Shah, I. A., S. Amjed, and S. Jaboob. 2020. "The moderating role of entrepreneurship education in shaping entrepreneurial intentions." *Journal of Economic Structures* 9(1):1–15. https://doi.org/10.1186/s40008-020-00195-4

Shane, S. and S. Venkataraman. 2000. “The promise of entrepreneurship as a field of research.” *The Academy of Management Review* 25(1): 217. https://doi.org/10.2307/259271

Shereni, N., C. 2019. “The role of technical and vocational education and training (TVET) in restoring hospitality sector specific skills in Zimbabwe: A students’ perspective.” *Journal of Hospitality and Tourism Education* 32(3): 133–141. https://doi.org/10.1080/10963758.2019.1655434

Solesvik, M., P. Westhead, and H. Matlay. 2014. “Cultural factors and entrepreneurial intention: The role of entrepreneurship education.” *Education and Training* 56(8/9): 680–696. https://doi.org/10.1108/ET-07-2014-0075

Taherdoost, H. 2016. “Validity and reliability of the research instrument; how to test the validation of a questionnaire/survey in a research.” *International Journal of Academic Research in Management* 5(3): 28–36. https://dx.doi.org/10.2139/ssrn.3205040

Thomas, O., and T Wulf. 2021. “Success factors of academic entrepreneurship education: A new approach.” *International Journal of Entrepreneurship and Small Business* 43(4): 521-547 https://ideas.repec.org/a/ids/ijesbu/v43y2021i4p531-547.html

Uddin, M. R., A. Chowdhury, N. Hoque, A. Ahmad, A. Mamun, and M. N. Uddin. 2022. “Developing entrepreneurial intentions among business graduates of higher educational institutions through entrepreneurship education and entrepreneurial passion: A moderated mediation model.” *The International Journal of Management Education* 20(2): 1–13. https://doi.org/10.1016/j.ijme.2022.100647

Xiao, Y. and M. Watson. 2017. “Guidance on conducting a systematic literature review.” *Journal of Planning Education and Research* 39(1): 93–112. https://doi.org/10.1177/0739456X17723971

Xie, X., K. Siau, and F. F. H. Nah. 2020. “COVID-19 pandemic – Online education in the new normal and the next normal.” *Journal of Information Technology Case and Application Research* 22(3): 175–187. https://doi.org/10.1080/15228053.2020.1824884

Yashin, A., A. Klyuev, and A. Bagirova. 2018. "Designing entrepreneurial education in Russia: hard and soft skills." *Ekonomski Vjesnik: Review of Contemporary Entrepreneurship* 31: 261–274.

Zhang, F., L. Wei, H. Sun, and L. C. Tung. 2019. “How entrepreneurial learning impacts one’s intention towards entrepreneurship.” *Chinese Management Studies* 13(1): 146–170. https://doi.org/10.1108/CMS-06-2018-0556

Zhong, W., G. Muyunda, and J. Cheng. 2022. Zambian mandarin CFL teachers’ professional development in the new normal: Challenges and Innovations. *Research Square* 1–12 http://dx.doi.org/10.21203/rs.3.rs-2147059/v1