


Exploring motivations driving student entrepreneurship: A case study of Innobiz DUT centre for entrepreneurship and innovation

 Anos Chitamba^{1*},  Gift Mugano², Sizwe Mbona³, Norman Chitamba⁴

¹Faculty of Management Sciences, Durban University of Technology, South Africa; anosc@dut.ac.za (A.C.).

²Centre for African Governance and Development, Durban University of Technology, South Africa; giftm1@dut.ac.za (G.M.).

³Faculty of Applied Sciences, Durban University of Technology, South Africa; sizwem@dut.ac.za (S.M.).

⁴Zimbabwe Ezekiel Guti University, Faculty of Education, Governance, Theology and Leadership, Zimbabwe; nchitamba@staff.zegu.ac.zw (N.C.).

Abstract: Entrepreneurship is increasingly recognized as a significant catalyst for economic growth, innovation, and job creation, especially in developing countries such as South Africa, where youth unemployment poses a substantial challenge. Higher education institutions play a crucial role in nurturing entrepreneurial aspirations among students by equipping them with the skills necessary for self-sufficiency and societal contribution. The Durban University of Technology's (DUT) Innobiz Centre for Entrepreneurship and Innovation exemplifies this commitment by promoting entrepreneurial mindsets through experiential learning, mentorship, and resource support. This study investigates the motivations influencing student entrepreneurship within the framework of the Innobiz Centre for Entrepreneurship and Innovation, utilizing a quantitative research design and survey methodology to evaluate factors such as personal fulfillment, societal impact, and career aspirations. Data were collected from 76 students involved in entrepreneurial initiatives at the center, with responses analyzed using descriptive and inferential statistics. Findings indicate key motivators, including opportunities for innovation (mean = 2.89), creative autonomy (mean = 2.88), and financial independence (mean = 2.86). Although students recognize entrepreneurship as a pathway to achieving career objectives and addressing socio-economic challenges, intrinsic motivations, such as self-expression and innovation, are shown to surpass extrinsic influences like role models. Additionally, the results highlight a moderate emphasis on societal contributions and community impact, reflecting the growing importance of social entrepreneurship. Nevertheless, challenges such as limited funding and psychological barriers remain. The study's findings offer actionable insights for enhancing entrepreneurial ecosystems within higher education, underscoring the need for targeted interventions to address motivational drivers and institutional obstacles. Institutions such as DUT can better prepare students to navigate economic challenges and contribute positively to society by strengthening support structures and fostering innovation.

Keywords: *Entrepreneurial motivation, Higher education incubators, Motivation, Student entrepreneurship, Theory of planned behaviour.*

1. Introduction

Entrepreneurship has emerged as a significant catalyst for transformation in contemporary economies, driving innovation, promoting economic growth, and creating job opportunities, particularly in developing countries such as South Africa. The contribution of entrepreneurship to tackling pressing socio-economic issues, including high unemployment rates and income inequality, is well-documented. Ndlovu, et al. [1] indicates that entrepreneurship has become a strategic priority for governments and institutions worldwide, especially in regions where youth unemployment is an urgent challenge. In

higher education, there is an increasing recognition of the importance of cultivating entrepreneurial aspirations among students as a means of equipping the next generation with essential skills for self-reliance, resilience, and economic engagement [2]. This heightened focus on entrepreneurship education is reflected in university-based entrepreneurial hubs and incubators, which endeavor to nurture entrepreneurial talent by providing necessary resources, mentorship, and networking opportunities that facilitate the transformation of innovative ideas into successful business ventures.

The Durban University of Technology (DUT) stands out as a leading institution in South Africa in furthering this agenda through its Innobiz DUT Centre for Entrepreneurship and Innovation. This entrepreneurial hub serves as a vital platform for empowering students by equipping them with entrepreneurial skills and fostering a culture of innovation. The Innobiz DUT Centre for Entrepreneurship and Innovation offers a variety of programs aimed at promoting entrepreneurial mindsets, addressing deficiencies in entrepreneurial education, and creating an environment conducive to experiential learning. These initiatives are aligned with global trends in higher education, where universities increasingly serve as catalysts for entrepreneurship, contributing not only to individual empowerment but also to regional and national economic development [3].

Understanding what motivates students to pursue entrepreneurship is crucial for institutions aiming to establish effective entrepreneurial ecosystems. These motivations are often complex, involving both intrinsic and extrinsic factors. Intrinsic motivations, such as the pursuit of self-fulfillment, creativity, and autonomy, significantly shape entrepreneurial aspirations [4]. Conversely, extrinsic factors, including financial independence, market opportunities, and societal impact, also influence students' decisions to embark on entrepreneurial ventures [5]. For example, within the context of South Africa's socio-economic landscape, entrepreneurship may be perceived by students as a viable means to navigate economic instability, high unemployment rates, and limited career opportunities [6]. Identifying and comprehending these motivations is essential not only for designing targeted interventions but also for ensuring the sustainability of entrepreneurial initiatives within educational institutions.

The Innobiz DUT Centre for Entrepreneurship and Innovation offers a unique context for investigating student entrepreneurship. By integrating academic learning with practical exposure, the center addresses the disconnect that often exists in traditional entrepreneurship education between theory and practice. Programs at the center are crafted to allow students to engage in real-world entrepreneurial experiences, which are critical for building confidence and developing vital entrepreneurial competencies [7]. However, despite these initiatives, there is a notable gap in understanding the specific motivations that drive students to participate in entrepreneurial efforts at the center. This gap presents an opportunity to explore the underlying factors influencing entrepreneurial intentions, enabling DUT and similar institutions to optimize their strategies for promoting student entrepreneurship.

Motivations for entrepreneurship among students are shaped by a variety of personal, social, and contextual influences. Personal factors often involve aspirations for financial success, autonomy, and personal development, while social factors may encompass peer influence, family background, and societal expectations [8]. Contextual influences, such as access to resources, institutional support, and the broader socio-economic environment, are also significant. In South Africa, the high rate of youth unemployment—reported at 61% for individuals aged 15–24 in 2023 [9]—highlights the urgency of encouraging entrepreneurial intentions among students. For many, entrepreneurship is seen not just as a pathway to economic empowerment but also to contribute to community development and address local challenges.

Moreover, the role of entrepreneurial hubs like the Innobiz DUT Centre for Entrepreneurship and Innovation extends beyond resource provision. These hubs cultivate an ecosystem where students can connect with mentors, industry professionals, and peers, fostering collaboration and innovation. Research indicates that such ecosystems are crucial in shaping entrepreneurial mindsets by providing exposure to role models, success stories, and real-world challenges that enhance problem-solving

abilities [10]. At the Innobiz DUT Centre, programs emphasize experiential learning, consistent with Kolb's Experiential Learning Theory, which asserts that effective learning occurs when individuals engage in experiences, reflect on outcomes, and apply new insights to future actions [11]. This approach not only reinforces theoretical knowledge but also cultivates essential skills such as adaptability, resilience, and creativity, which are critical for entrepreneurial success.

Despite the benefits offered by entrepreneurial hubs, challenges remain in fully realizing their potential. Limited access to funding, inadequate mentorship, and insufficient integration of entrepreneurial education within broader academic curricula are barriers identified in previous research [12]. Additionally, students may encounter psychological barriers, such as fear of failure and lack of confidence, that can hinder their pursuit of entrepreneurial ventures. Understanding the motivations that inspire students to overcome these obstacles and engage in entrepreneurship is fundamental for effectively addressing these challenges.

This research aims to explore the motivations driving student entrepreneurship in the context of the Innobiz DUT Centre for Entrepreneurship and Innovation. Utilizing a case study methodology, the study seeks to uncover key factors influencing entrepreneurial intentions among students, highlight the challenges they encounter, and propose strategies for enhancing the support structures available through the center. This investigation contributes to the expanding body of literature on entrepreneurship education and practice, offering practical implications for stakeholders in higher education and entrepreneurial development. Specifically, the findings are anticipated to inform policy decisions, program designs, and resource allocation strategies, thereby enhancing the effectiveness of entrepreneurial hubs in supporting student entrepreneurship.

1.1. Theoretical Perspective -Theory of Planned Behavior (TPB)

According to Ajzen [13] the theory of planned behavior (TPB) presents a robust framework for analysing how individuals' attitudes, subjective norms, and perceived behavioral control impact their intentions to engage in specific behaviours. When evaluating the motivations and intentions of student entrepreneurs at DUT, the TPB provides valuable insights into the factors that influence students' decisions to pursue entrepreneurial endeavours.

1.2. Attitudes toward Entrepreneurship

According to Al-Mamary, et al. [14] as per the TPB, individuals' attitudes toward a behavior, such as entrepreneurship, are shaped by their beliefs about the outcomes associated with that behavior and the subjective value they assign to those outcomes. Researchers can delve into students' perceptions of entrepreneurship, including the desirability of starting a business, the potential benefits (e.g., financial independence, creative freedom), and the perceived risks or challenges (e.g., financial insecurity, fear of failure) by applying this theory to student entrepreneurs [15]. Researchers can uncover the factors that impact their intentions to engage in entrepreneurial activities by examining students' attitudes toward entrepreneurship [16].

1.3. Subjective Norms

According to Santos and Liguori [17] subjective norms pertain to individuals' perceptions of the social pressure or expectations from significant others, like family, friends, and faculty, regarding a specific behavior. In the context of student entrepreneurship, Su, et al. [18] argue that researchers can explore the extent to which students perceive support or encouragement from their social network to pursue entrepreneurial activities. Moreover, Duong [19] postulate that researchers can examine the influence of faculty support, institutional culture, and peer interactions on students' intentions to become entrepreneurs. Karimi, et al. [20] advises that understanding the role of subjective norms can help identify social factors that either facilitate or hinder students' entrepreneurial aspirations.

1.4. *Perceived Behavioral Control*

According to Hagger, et al. [21] perceived behavioral control reflects individuals' beliefs regarding their ability to successfully perform a behavior, considering internal and external factors that may aid or hinder their actions. For student entrepreneurs, perceived behavioral control may encompass factors such as entrepreneurial skills, access to resources (e.g., funding, mentorship), institutional support, and perceived barriers or constraints [22]. According to Cui, et al. [23] by assessing students' perceived control over entrepreneurial activities, researchers can pinpoint areas where interventions or support mechanisms may be necessary to enhance students' confidence and capabilities in pursuing entrepreneurship. The theory of planned behavior (TPB) provides a structured framework for exploring the motivations and intentions of student entrepreneurs at the Durban University of Technology (DUT) in South Africa. Researchers can gain a deeper understanding of the factors that drive or impede students' intentions to start their own businesses by examining students' attitudes, subjective norms, and perceived behavioral control in relation to entrepreneurship. This knowledge can inform the development of targeted interventions and support programs aimed at promoting entrepreneurship and empowering student entrepreneurs at DUT.

1.5. *Motivations Driving Students to Become Entrepreneurs*

Recognizing the factors that drive an individual or student towards embarking on the path of entrepreneurship is of paramount importance for the cultivation of entrepreneurial tendencies [24]. According to Murnieks, et al. [25] the discernment of entrepreneurial motivations also presents an avenue for enhancing policies and initiatives aimed at fostering and advancing entrepreneurship. According to Maziriri, et al. [26] entrepreneurial intention encapsulates the aspirational inclination of individuals to embark on the path of entrepreneurship, driven by a willingness to embrace risks and capitalize on opportunities. Anjum, et al. [27] postulates that entrepreneurial intention can be defined as the inherent predisposition of an individual to actively participate in entrepreneurial endeavours.

Gieure, et al. [28] assert that, ideally, entrepreneurial intention should precede actual entrepreneurial actions. The absence of intention makes it significantly challenging to instil and nurture entrepreneurial behavior in individuals [29]. Furthermore, these authors delineate entrepreneurial intention as being supported by the foundational pillars of perceived feasibility, propensity to act, and perceived desirability. The underlying motivations prompting students to engage in entrepreneurial activities at the Durban University of Technology encompass a myriad of factors that stimulate and propel them towards entrepreneurial endeavours.

1.6. *Personal Fulfilment*

The pursuit of personal fulfilment serves as a significant motivator for students engaging in entrepreneurial activities. Research conducted by Uddin, et al. [30] indicates that students are often attracted to entrepreneurship due to the opportunity it provides to align their professional pursuits with their personal passions and values. This alignment not only enhances their sense of purpose but also contributes to an overall greater satisfaction with their career choices. Schmutzler, et al. [31] further emphasize that the ability to pursue ventures that resonate with personal interests fosters a unique sense of contentment, encouraging students to take decisive steps toward entrepreneurship. Similarly, Peak [32] suggest that entrepreneurship offers students a platform to explore their potential while fulfilling intrinsic needs for growth and self-actualization. This desire for fulfilment is particularly pronounced in educational environments, such as DUT's Innobiz Centre for Entrepreneurship and Innovation, where innovation and creativity are promoted as essential elements of entrepreneurial success.

1.7. *Economic Opportunities*

The potential for financial independence and wealth creation is a strong motivator for student entrepreneurs. According to Saeed, et al. [33] economic opportunities and the capacity to generate

wealth through innovation are central drivers of entrepreneurial intentions among students. Barba-Sánchez and Atienza-Sahuquillo [34] further assert that entrepreneurship is often perceived as a means of escaping financial instability and achieving long-term economic security. Moreover, research by Urban and Kujinga [35] reveals that in regions with high youth unemployment, such as South Africa, entrepreneurship is increasingly recognized as a viable pathway to financial empowerment. The ability to identify market gaps and leverage innovative ideas provides students with opportunities to attain economic prosperity while contributing to local economic development.

1.8. Problem-Solving

Entrepreneurship often resonates with students who are motivated by a desire to address pressing societal and market challenges. Abdullah, et al. [36] notes that the opportunity to meet unmet needs through innovative solutions acts as a catalyst for entrepreneurial activity. Pearce [37] reiterates this idea, highlighting that the tangible impact of solving critical issues energizes students and instills in them a strong sense of purpose. Research conducted by Kier and McMullen [38] suggests that problem-solving is particularly appealing to students who value creativity and critical thinking, as it allows them to apply these skills in significant ways. This focus on problem-solving aligns with the growing interest in social entrepreneurship, where students aim to create ventures that address societal issues while achieving financial sustainability.

1.9. Autonomy and Freedom

The desire for autonomy and freedom is another key motivator for students considering entrepreneurship. Goncalves and Vasquez [39] argue that the independence to make decisions and pursue personal visions empowers students to take ownership of their career paths. Townsend, et al. [40] supports this viewpoint, emphasizing that entrepreneurship provides unmatched freedom to innovate and navigate challenges without the limitations typically associated with traditional employment frameworks. Similarly, research by Napoli [41] highlights that the capacity to shape one's destiny and achieve self-determination strongly resonates with students seeking career paths that align with their personal objectives. This autonomy cultivates resilience and adaptability, both of which are critical for entrepreneurial success.

1.10. Role Models and Inspiration

The impact of role models and inspirational figures is significant in shaping students' entrepreneurial motivations. Al Halbusi, et al. [42] observed that the success stories of accomplished entrepreneurs serve as potent sources of motivation, demonstrating that challenges can be overcome with perseverance. Amofah and Saladrigues [43] adds that role models provide concrete examples of entrepreneurial success, making the pursuit of similar achievements more attainable for students. Furthermore, research by Passavanti, et al. [44] indicates that the presence of relatable and accessible role models can considerably enhance students' confidence in their entrepreneurial capabilities, especially when these figures share similar backgrounds or experiences.

1.11. Career Aspirations

Entrepreneurship is increasingly recognized by students as a viable and rewarding career option. Belchior and Castro-Silva [45] note that entrepreneurial ventures closely align with students' long-term professional aspirations, providing opportunities to establish businesses, innovate, and make a lasting impact in their chosen fields. Hossain [46] further emphasizes that students are attracted to entrepreneurship as a pathway to achieve career milestones that may be inaccessible through traditional employment. Studies by Iyortsuun, et al. [47] also indicate that students engaged in entrepreneurship often report higher levels of career satisfaction, as the autonomy and creativity inherent in entrepreneurial activities align with their personal and professional goals.

1.12. Networking and Collaboration

The potential for networking and collaboration serves as a critical motivator for student entrepreneurs. Sutrisno, et al. [48] indicate that the ability to establish professional networks and collaborate with peers and industry experts enhances students' entrepreneurial experiences. Networking not only provides access to valuable resources and opportunities but also fosters a sense of community and support among like-minded individuals. Research by Zamiri and Esmaeili [49] underscores the role of collaborative networks in promoting innovation and resilience, enabling students to leverage collective knowledge and expertise to overcome challenges. Furthermore, Valencia-Arias, et al. [50] indicate that the collaborative aspect of entrepreneurship provides students with opportunities to learn from a variety of perspectives, thereby improving their adaptability and problem-solving abilities.

2. Methods

The demographic profile of respondents provides valuable insights into the entrepreneurial landscape at DUT's Innobiz Centre for Entrepreneurship and Innovation. The notable presence of Gen Z students indicates that younger individuals are more actively engaged in entrepreneurship, likely due to their technological proficiency and innovative perspectives. In contrast, the lower involvement of Gen X and Baby Boomers may suggest reduced participation in academic entrepreneurial programs. The higher percentage of female respondents (59.2%) reflects a positive trend towards gender inclusivity; however, it highlights the ongoing challenges faced by female entrepreneurs, including limited access to funding and mentorship [51]. The significant representation of African students corresponds with South Africa's demographic realities, but the limited racial diversity could impact the generalizability of the findings. Moreover, the predominance of Management Sciences students points to a concentration of entrepreneurial initiatives within that discipline, indicating a need for greater inclusion of other faculties, such as Applied and Health Sciences. Finally, the strong participation of advanced and final-year students suggests that interest in entrepreneurship increases with academic progression, underscoring the importance of introducing entrepreneurship opportunities earlier in students' academic journeys to cultivate foundational skills and interest.

2.1. Reliability and Validity

To measure the reliability of all items that measured factors motivating students to engage in entrepreneurship, researchers used Cronbach's alpha coefficient (α). Reliability of the test is the measure of internal consistency of the construct(s) and their stability [52]. The Cronbach's alpha coefficient ranges from 0 to 1. According to Bagozzi and Yi [53] $\alpha > 0.6$ shows the consistency and reliable for data analysis. The value of α in this study was 0.759, indicating that all the items that measured factors motivating students to engage in entrepreneurship agreed on each other (Table 1).

Table 1.
Students Reliability Statistics.

Section	N of items	Cronbach's Alpha
Factors motivating students to engage in entrepreneurship	15	0.759

The findings of the study reveal a Cronbach's alpha coefficient of 0.759 for the items assessing the factors that motivate students to pursue entrepreneurship. This value, which is within the acceptable reliability range of 0.7 to 0.8 as recommended by Nawari, et al. [54] indicates that the items in the scale are both internally consistent and stable. This internal consistency further suggests that the set of items effectively captures the construct of entrepreneurial motivation among students.

2.2. Demographic Characteristics

The demographic profile of respondents reveals significant patterns and insights that are essential for understanding the barriers to entrepreneurship faced by students at the DUT Innobiz Centre.

Table 2.
Demographic characteristics of the respondents (n = 76).

Variable		Frequency (%)
Age/Generation	Gen Z (1997-2012) 12 -27 years	48 (63.2)
	Millennials (1981-1996) 28-43 years	23 (30.3)
	Gen X (1965-1980) 44-59 years	4 (5.3)
	Boomers (1955-1964) 60-69 years	1 (1.3)
Gender	Female	45 (59.2)
	Male	31 (40.8)
Race	African	72 (94.7)
	Indian	2 (2.6)
	Other	2 (2.6)
Faculty	Accounting and Informatics	3 (3.9)
	Applied Sciences	1 (1.3)
	Health Sciences	3 (3.9)
	Management Sciences	69 (90.8)
Academic year	Advanced Diploma/Degree	34 (44.7)
	Diploma 1st year	1 (1.3)
	Diploma 2nd year	9 (11.8)
	Diploma 3rd years	25 (32.9)
	Masters	1 (1.3)
	Post-graduate diploma/Honours	6 (7.9)

Table 2 provides an overview of the demographic characteristics of students involved in the study, offering valuable insights into the landscape of student entrepreneurship. Most participants (63.2%) belong to Generation Z, followed by Millennials (30.3%), with limited representation from Generation X (5.3%) and Baby Boomers (1.3%). This demographic composition indicates that younger individuals, particularly those from Generation Z, are more actively engaged in entrepreneurial activities, likely due to their familiarity with technology and innovative perspectives. In contrast, participation from older generations appears to be lower, which may reflect a decrease in involvement in academic entrepreneurial programs.

Additionally, the study found a greater representation of female respondents (59.2%) compared to their male counterparts (40.8%), signifying a positive trend towards gender inclusivity in both entrepreneurship and higher education. However, existing literature suggests that women still encounter significant challenges in securing funding and mentorship opportunities [55]. Racially, the sample was predominantly African (94.7%), which mirrors the demographic realities of South Africa; nevertheless, the limited representation of other racial groups may affect the broader applicability of the findings. Most respondents were enrolled in the Faculty of Management Sciences, indicating that entrepreneurship initiatives at DUT are primarily focused within this discipline. This concentration raises concerns about the inclusivity of such programs for students from other faculties, such as Applied or Health Sciences. Regarding academic progression, nearly 45% of participants were pursuing advanced diplomas or degrees, followed by third-year diploma students, suggesting that engagement in entrepreneurship increases with academic seniority. However, the low participation rate of first-year students underscores the importance of introducing entrepreneurial concepts earlier in the university experience to foster interest and develop foundational skills.

Table 3.
Distribution of responses on factors motivating students to engage in entrepreneurship.

Items		Responses, n (%)					Mean (Std dev.)
		A	SA	N	D	SD	
The pursuit of entrepreneurship resonates with my personal interests and passions.	B1	22 (28.9)	39 (51.3)	11 (14.5)	1 (1.3)	3 (3.9)	2.75 (0.55)
My motivation to venture into entrepreneurship stems from the desire to attain financial independence.	B2	25 (32.9)	43 (56.6)	5 (6.6)	1 (1.3)	2 (2.6)	2.86 (0.45)
Entrepreneurship provides avenues for personal growth and development.	B3	25 (32.9)	44 (27.9)	5 (6.6)	1 (1.3)	1 (1.3)	2.88 (0.40)
Successful entrepreneurs and their positive influence on society serve as a source of inspiration.	B4	16 (21.1)	11 (14.5)	8 (10.5)	5 (6.6)	36 (47.4)	1.82 (0.93)
The yearning for creative autonomy and independence actuates my entrepreneurial aspirations.	B5	37 (48.7)	31 (40.8)	7 (9.2)	-	1 (1.3)	2.88 (0.36)
Entrepreneurship offers me the opportunity to explore innovative ideas and solutions.	B6	29 (38.2)	41 (53.9)	4 (5.3)	-	2 (2.6)	2.89 (0.39)
Recognition and achievements as an entrepreneur serve as driving forces for me.	B7	28 (36.8)	36 (47.4)	8 (10.5)	2 (2.6)	2 (2.6)	2.79 (0.52)
The potential to make a positive impact on my community propels my interest in entrepreneurship.	B8	31 (40.8)	34 (44.7)	8 (10.5)	1 (1.3)	2 (2.6)	2.82 (0.48)
The flexibility and control over my work schedule that entrepreneurship offers are appealing to me.	B9	38 (50.0)	26 (34.2)	10 (13.2)	1 (1.3)	1 (1.3)	2.82 (0.45)
The challenge and excitement of establishing and expanding a business are motivating factors for me.	B10	28 (36.8)	7 (9.2)	6 (7.9)	6 (7.9)	29 (38.2)	2.00 (0.97)
I view entrepreneurship as a means to achieve my long-term career objectives.	B11	26 (34.2)	41 (53.9)	6 (7.9)	-	3 (3.9)	2.84 (0.46)
Contributing to economic development and job creation fuels my interest in entrepreneurship.	B12	30 (39.5)	7 (9.2)	6 (7.9)	3 (3.9)	30 (39.5)	2.05 (0.97)
Entrepreneurship enables me to realize my vision and leave a lasting legacy.	B13	28 (36.8)	36 (47.4)	9 (11.8)	1 (1.3)	2 (2.6)	2.80 (0.49)
I am driven to address societal or environmental challenges through entrepreneurship.	B14	31 (40.8)	27 (35.5)	16 (21.1)	-	2 (2.6)	2.74 (0.50)
The possibility of substantial financial gains motivates my pursuit of entrepreneurship at DUT.	B15	31 (40.8)	33 (43.4)	9 (11.8)	-	3 (3.9)	2.80 (0.49)

Note: A = agree, SA = strongly agree, N = neutral, D = disagree, SD = strongly disagree, Std dev. = standard deviation.

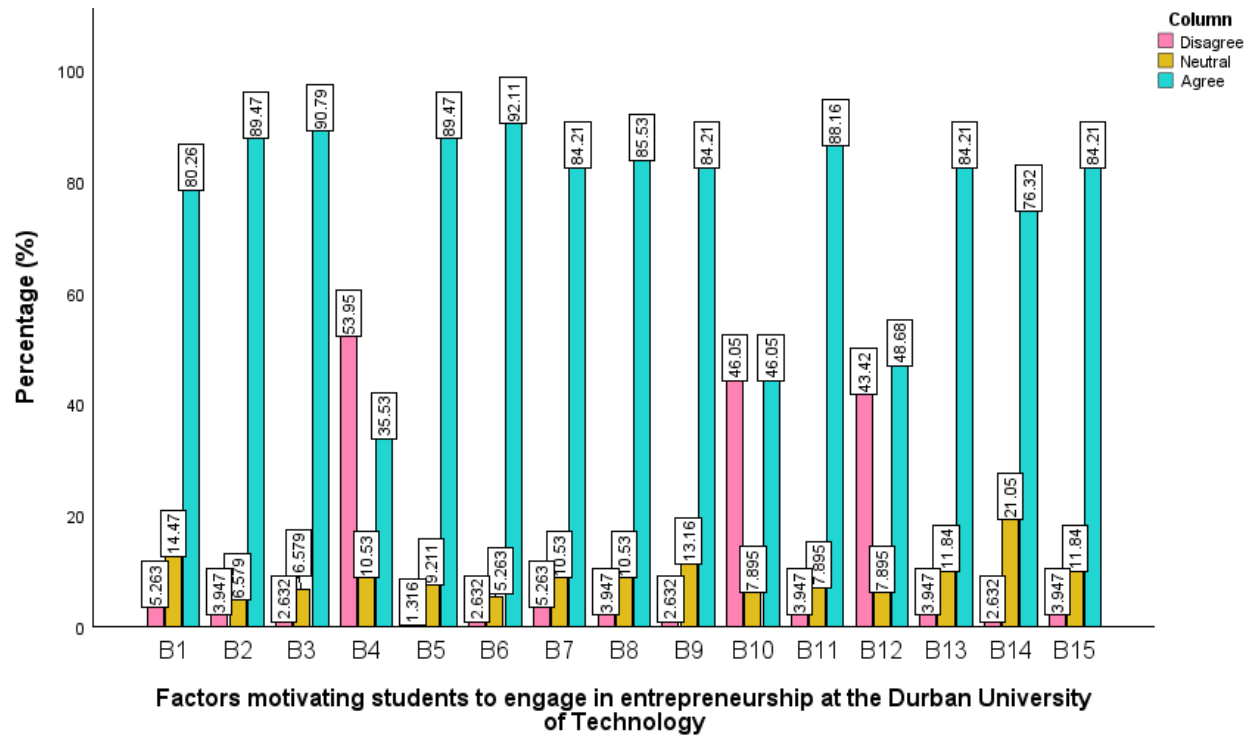


Figure 1.
Factors motivating students to engage in entrepreneurship.

The findings presented in the table offer valuable insights into the motivational factors influencing student entrepreneurship at DUT. The results indicate a diverse array of drivers encompassing personal, societal, and career-oriented incentives. This discussion contextualizes these findings within the broader academic literature and provides insights into the underlying dynamics of student entrepreneurial intentions.

2.3. Personal Motivations

The statement "Entrepreneurship offers me the opportunity to explore innovative ideas and solutions" received the highest mean score (2.89), highlighting innovation as a key motivating factor. This finding aligns with the research conducted by Kwapisz, et al. [56] which underscores that the pursuit of creativity and innovation often drives students to engage in entrepreneurial endeavors. Additionally, the desire for creative autonomy (B5, mean = 2.88) reflects a strong aspiration for independence and self-expression, a sentiment echoed by Jahn and Geissler [57] who found that entrepreneurial intentions frequently arise from the desire for autonomy and the ability to realize ideas. Financial independence also emerged as a significant motivator (B2, mean = 2.86). This aligns with the work of Joensuu-Salo, et al. [58] indicating that financial factors are fundamental in entrepreneurship, particularly among students in developing economies. For students at DUT, entrepreneurship appears to be viewed as a pathway to economic self-sufficiency, which is especially pertinent in the context of South Africa's challenging economic landscape.

2.4. Societal and Community Impact

The data indicate moderate agreement on the potential of entrepreneurship to contribute positively to the community and address societal challenges (B8, mean = 2.82; B14, mean = 2.74). These findings correspond with research by Muralidharan and Pathak [59] highlighting the importance of community-

oriented objectives in shaping entrepreneurial motivations. The emphasis placed by DUT students on societal impact reflects an increasing recognition of social entrepreneurship, where business ventures aim to address societal and environmental challenges. Interestingly, the statement "Successful entrepreneurs and their positive influence on society serve as a source of inspiration" (B4) received a relatively low mean score (1.82). This suggests that, although the concept of societal impact is acknowledged, external role models may not serve as a primary source of motivation for students at DUT. This observation is supported by research indicating that intrinsic factors often take precedence over external influences in motivating student entrepreneurs [60].

2.5. Career Aspirations and Long-Term Goals

The belief that entrepreneurship serves to achieve long-term career objectives (B11, mean = 2.84) and to leave a legacy (B13, mean = 2.80) underscores the alignment of entrepreneurial intentions with personal career aspirations. According to Longva, et al. [61] students are increasingly regarding entrepreneurship as a viable career path and incorporating it into their long-term goals. This perspective is particularly critical in regions such as South Africa, where formal employment opportunities may be limited. The finding that students are motivated by the potential for significant financial rewards (B15, mean = 2.80) is supported by the work of Zhu, et al. [62] which identifies financial incentives as a crucial motivator in entrepreneurship. However, it is essential to balance this motivation with an awareness of the risks and challenges associated with entrepreneurship, as indicated by the comparatively lower agreement on the excitement and challenges posed by business expansion (B10, mean = 2.00).

2.6. Academic and Institutional Influence

The impact of academic institutions, such as DUT's Innobiz Centre, in promoting entrepreneurial intentions is evident in the emphasis on personal growth and development through entrepreneurship (B3, mean = 2.88). This aligns with findings from Khalil, et al. [63] who noted that entrepreneurship education significantly enhances students' confidence and preparedness for embarking on entrepreneurial ventures. The structured programs and resources at DUT likely create a supportive ecosystem that bolsters students' entrepreneurial skills and mindsets.

Table 4.
Tests of Normality.

	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Mean of factors motivating students to engage in entrepreneurship	0.274	76	<0.001	0.796	76	<0.001

Note: a. Lilliefors Significance Correction.

The normality tests, specifically the Kolmogorov-Smirnov and Shapiro-Wilk tests, conducted on the factors influencing students' engagement in entrepreneurship, reveal a significant deviation from normality ($p < 0.001$), leading to the rejection of the null hypothesis. This indicates that non-parametric methods, such as the Mann-Whitney U test, may be more appropriate for analyzing the data. The observed non-normality could stem from skewness, kurtosis, specific sample characteristics, or the ordinal nature of the data. These results support existing recommendations to employ robust or non-parametric methods when data diverges from normality, highlighting the necessity for tailored analytical approaches to effectively assess entrepreneurial motivations.

Table 5.
Hypothesis test summary.

Null Hypothesis	Test	Sig. ^{a,b}	Decision
The distribution of Mean of factors motivating students to engage in entrepreneurship is the same across categories of Gender.	Independent-Samples Mann-Whitney U Test	0.340	Retain the null hypothesis.

Note: a. The significance level is .050.

b. Asymptotic significance is displayed.

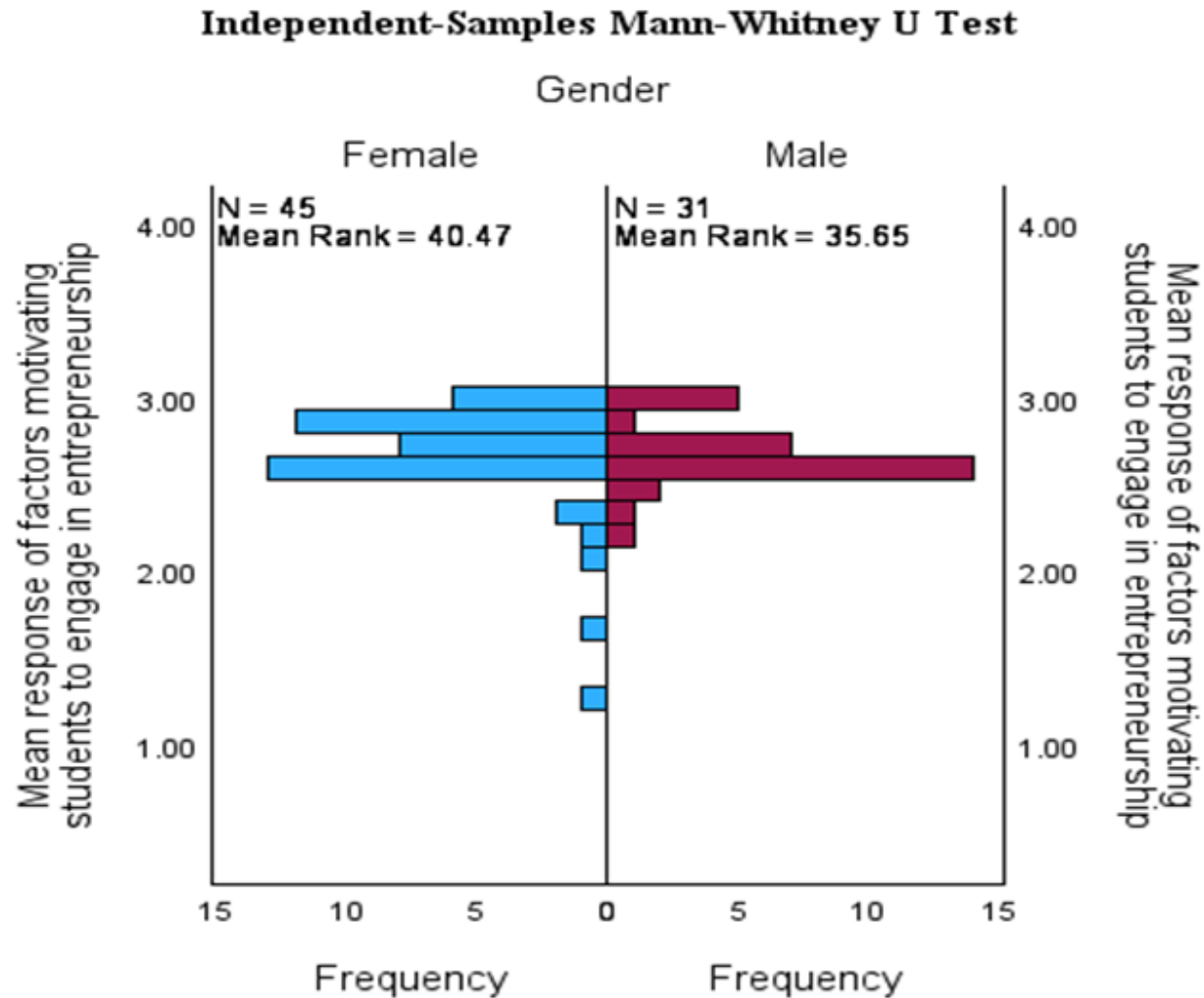


Figure 2.
Independent-Samples Mann-Whitney U Test.

Table 5 displays the results of the Independent-Samples Mann-Whitney U Test, which analyzed whether the distribution of motivational factors influencing students' engagement in entrepreneurship varies by gender. The p-value of 0.340 exceeds the significance threshold of 0.05, leading us to retain the null hypothesis, which indicates no statistically significant differences in motivational factors based on gender. This finding is consistent with previous research that suggests shared intrinsic and extrinsic motivators across genders [64]. However, it is important to note that broader socio-cultural and institutional factors, such as access to resources and mentorship opportunities, may still impact the entrepreneurial experiences of individuals differently. The use of a non-parametric test guarantees

robustness against the non-normality of the dataset [65]. While the results imply gender equality in motivations, further qualitative research is recommended to investigate nuanced gender-specific barriers and perceptions related to entrepreneurship.

3. Conclusion

The findings highlight the diverse motivations that drive student entrepreneurship at DUT. Personal aspirations, such as innovation, creative autonomy, and financial independence, serve as significant motivators, reflecting students' inherent desires for economic self-reliance and self-expression. Additionally, societal and community-focused goals play a notable role, albeit with a relatively moderate influence, underscoring the growing importance of social entrepreneurship among students. Career aspirations, which encompass long-term objectives and financial gains, further reveal the alignment of entrepreneurial intentions with students' broader professional ambitions. Academic institutions, particularly DUT's Innobiz Centre, have a vital impact on entrepreneurial development by providing structured programs that promote personal growth, skill acquisition, and confidence. However, areas such as the limited influence of external role models and the recognition of entrepreneurial challenges present opportunities for improvement. These findings enhance our understanding of the underlying dynamics of student entrepreneurial motivations, offering valuable insights for educational institutions and policymakers to develop more effective support systems tailored to students' needs and aspirations.

4. Recommendations

To strengthen the entrepreneurial ecosystem at DUT and similar institutions, several strategic initiatives are proposed. First, promoting innovation and creativity through programs, workshops, and events such as hackathons can encourage entrepreneurial thinking and collaboration. Additionally, enhancing financial support and awareness through avenues like seed funding, grants, and the integration of financial literacy into the curriculum is vital. Encouraging social entrepreneurship and partnering with community organizations can also promote societal impact initiatives, providing students with meaningful opportunities to address local challenges. Furthermore, strengthening career-oriented support through mentorship programs with successful entrepreneurs and hosting networking events can offer students valuable insights and industry connections. Expanding institutional support by enhancing entrepreneurial hubs, such as the Innobiz Centre, and introducing pre- and post-incubation programs can better serve students at various stages of their ventures. Addressing entrepreneurial challenges through workshops on risk management and resilience, as well as incorporating practical case studies into the curriculum, will better prepare students for real-world situations. Additionally, leveraging external role models through guest lectures, webinars, and alumni success stories can inspire and motivate students. Institutions can cultivate a robust entrepreneurial ecosystem, enabling students to realize their aspirations while fostering economic growth, innovation, and societal development through implementing these measures.

Transparency:

The authors confirm that the manuscript is an honest, accurate, and transparent account of the study; that no vital features of the study have been omitted; and that any discrepancies from the study as planned have been explained. This study followed all ethical practices during writing.

Copyright:

© 2025 by the authors. This open-access article is distributed under the terms and conditions of the Creative Commons Attribution (CC BY) license (<https://creativecommons.org/licenses/by/4.0/>).

References

- [1] S. G. Ndlovu, T. N. Radebe, V. H. Mlambo, and S. D. Nkonde, "Contextualising entrepreneurship as a Panacea to youth unemployment in South Africa," *Prizren Social Science Journal*, vol. 8, no. 1, pp. 48 – 57, 2024. <https://doi.org/10.32936/pssj.v8i1.430>
- [2] O. A. Ajani, "Entrepreneurship education in South Africa's higher education institutions: In pursuit of promoting self-reliance in students," *International Journal of Management, Knowledge and Learning*, vol. 13, no. 1, pp. 29-41, 2024.
- [3] Q. Wang, "Higher education institutions and entrepreneurship in underserved communities," *Higher Education*, vol. 81, no. 6, pp. 1273-1291, 2021.
- [4] S. Kato, "Entrepreneurship as a process of self-fulfillment: Well-being, affect, and behavioral strategies," Doctoral Dissertation, Syracuse University, Syracuse, NY, 2013.
- [5] I. Fosić, J. Kristić, and A. Trusić, "Motivational factors: Drivers behind women entrepreneurs' decision to start an entrepreneurial venture in Croatia," *Scientific Annals of Economics and Business*, vol. 64, no. 3, pp. 339-357, 2017.
- [6] E. Madondo and F. Tinonetsana, "Youth perceptions towards entrepreneurship in South Africa," *Baltic Journal of Economic Studies*, vol. 10, no. 4, pp. 16-25, 2024.
- [7] R. Mandel and E. Noyes, "Survey of experiential entrepreneurship education offerings among top undergraduate entrepreneurship programs," *Education + Training*, vol. 58, no. 2, pp. 164-178, 2016. <https://doi.org/10.1108/ET-06-2014-0067>
- [8] I. C. Mulaudzi, "Factors affecting students' academic performance: A case study of the university context," *Journal of Social Science for Policy Implications*, vol. 11, no. 1, pp. 18-26, 2023.
- [9] A. Mfubu and P. Nsengiyumva, "The factors determining female unemployment in South Africa: Evidence from the 2021 labour force survey," *Journal of African Population Studies*, vol. 37, no. 1, 2024. https://doi.org/10.59147/japs_D8TZ7uPV
- [10] N. Virk and J. Gambhir, *The role of education in fostering entrepreneurial mindset. In New Practices for Entrepreneurship Innovation*. Hershey, PA: IGI Global, 2024.
- [11] A. M. Passarelli and D. A. Kolb, *Using experiential learning theory to promote student learning and development in programs of education abroad. In Student learning abroad*. New York: Routledge, 2023.
- [12] J. Ferreira, A. Paço, M. Raposo, C. Hadjichristodoulou, and D. Marouchou, "International entrepreneurship education: Barriers versus support mechanisms to STEM students," *Journal of International Entrepreneurship*, vol. 19, no. 1, pp. 130-147, 2021.
- [13] I. Ajzen, "The theory of planned behavior: Frequently asked questions," *Human Behavior and Emerging Technologies*, vol. 2, no. 4, pp. 314-324, 2020.
- [14] Y. H. S. Al-Mamary, M. Abdulrab, M. A. Alwaheeb, and N. G. M. Alshammari, "Factors impacting entrepreneurial intentions among university students in Saudi Arabia: testing an integrated model of TPB and EO," *Education+ Training*, vol. 62, no. 7/8, pp. 779-803, 2020.
- [15] S. A. Brieger, A. Bärö, G. Criaco, and S. A. Terjesen, "Entrepreneurs' age, institutions, and social value creation goals: A multi-country study," *Small Business Economics*, vol. 57, no. 1, pp. 425-453, 2021.
- [16] M. P. Lechuga Sancho, A. Martín-Navarro, and A. R. Ramos-Rodríguez, "Will they end up doing what they like? the moderating role of the attitude towards entrepreneurship in the formation of entrepreneurial intentions," *Studies in Higher Education*, vol. 45, no. 2, pp. 416-433, 2020.
- [17] S. C. Santos and E. W. Liguori, "Entrepreneurial self-efficacy and intentions: Outcome expectations as mediator and subjective norms as moderator," *International Journal of Entrepreneurial Behavior & Research*, vol. 26, no. 3, pp. 400-415, 2020.
- [18] Y. Su *et al.*, "Factors influencing entrepreneurial intention of university students in China: Integrating the perceived university support and theory of planned behavior," *Sustainability*, vol. 13, no. 8, p. 4519, 2021. <https://doi.org/10.3390/su13084519>
- [19] C. D. Duong, "Exploring the link between entrepreneurship education and entrepreneurial intentions: the moderating role of educational fields," *Education+ Training*, vol. 64, no. 7, pp. 869-891, 2022.
- [20] S. Karimi, H. J. Biemans, T. Lans, and M. Mulder, "Understanding the role of cultural orientations in the formation of entrepreneurial intentions in Iran," *Journal of Career Development*, vol. 48, no. 5, pp. 619-637, 2021.
- [21] M. S. Hagger, M. W.-L. Cheung, I. Ajzen, and K. Hamilton, "Perceived behavioral control moderating effects in the theory of planned behavior: A meta-analysis," *Health Psychology*, vol. 41, no. 2, p. 155, 2022.
- [22] T. D. Sivotwa, O. Jaiyeoba, M. Roberts-Lombard, and C. Makanyeza, "Perceived access to finance, entrepreneurial self-efficacy, attitude toward entrepreneurship, entrepreneurial ability, and entrepreneurial intentions: A Botswana youth perspective," *SAGE Open*, vol. 12, no. 2, p. 21582440221096437, 2022. <https://doi.org/10.1177/21582440221096437>
- [23] J. Cui, J. Sun, and R. Bell, "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*, vol. 19, no. 1, p. 100296, 2021.
- [24] T. Al-Tekreeti, M. Al Khasawneh, and A. O. Dandis, "Factors affecting entrepreneurial intentions among students in higher education institutions," *International Journal of Educational Management*, vol. 38, no. 1, pp. 115-135, 2024.

- [25] C. Y. Murnieks, A. C. Klotz, and D. A. Shepherd, "Entrepreneurial motivation: A review of the literature and an agenda for future research," *Journal of Organizational Behavior*, vol. 41, no. 2, pp. 115-143, 2020. <https://doi.org/10.1002/job.2374>
- [26] E. T. Maziriri, M. Dzingirai, B. Nyagadza, and B. Mabuyana, "From perceived parental entrepreneurial passion to technopreneurship intention: The moderating role of perseverance and perceived parental entrepreneurial rewards," *Sustainable Technology and Entrepreneurship*, vol. 3, no. 1, p. 100051, 2024. <https://doi.org/10.1016/j.stae.2023.100051>
- [27] T. Anjum, V. Ramani Bai, and N. Nazar, "Mediating role of attitudes to enhance the creativity disposition towards entrepreneurial intention," *International Journal of Psychosocial Rehabilitation*, vol. 24, no. 3, pp. 542-553, 2020.
- [28] C. Gieure, M. del Mar Benavides-Espinosa, and S. Roig-Dobón, "The entrepreneurial process: The link between intentions and behavior," *Journal of Business Research*, vol. 112, pp. 541-548, 2020.
- [29] C. Bazan *et al.*, "A systematic literature review of the influence of entrepreneurial intention on student start-up behaviour," *Journal of Entrepreneurship Education*, vol. 23, no. 5, pp. 1-12, 2020.
- [30] M. Uddin, R. A. Chowdhury, N. Hoque, A. Ahmad, A. Mamun, and M. N. Uddin, "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*, vol. 20, no. 2, p. 100647, 2022. <https://doi.org/10.1016/j.ijme.2022.100647>
- [31] J. Schmutzler, V. Andonova, and L. Diaz-Serrano, "How context shapes entrepreneurial self-efficacy as a driver of entrepreneurial intentions: A multilevel approach," *Entrepreneurship theory and practice*, vol. 43, no. 5, pp. 880-920, 2019.
- [32] E. S. Peak, "The role of self-assessment in the facilitation of entrepreneurial competencies in learners who are studying on entrepreneurial learning courses in England," Doctoral Dissertation, University of Leicester, 2022.
- [33] S. Saeed, S. Yousafzai, M. Yani-De-Soriano, and M. Muffatto, *The role of perceived university support in the formation of students' entrepreneurial intention. In Sustainable entrepreneurship*. London: Routledge, 2018.
- [34] V. Barba-Sánchez and C. Atienza-Sahuquillo, "Entrepreneurial intention among engineering students: The role of entrepreneurship education," *European Research on Management and Business Economics*, vol. 24, no. 1, pp. 53-61, 2018.
- [35] B. Urban and L. Kujinga, "The institutional environment and social entrepreneurship intentions," *International Journal of Entrepreneurial Behavior & Research*, vol. 23, no. 4, pp. 638-655, 2017.
- [36] M. A. Abdullah, M. A. B. A. Kadir, and B. E. Ahmad, "Sustainable entrepreneurship: A review and proposed model," *Academic Journal of Business and Social Sciences*, vol. 7, no. 1, pp. 1-17, 2023.
- [37] S. E. Pearce, "Principal leadership competencies that sustain the PLC process in a virtual setting: A qualitative study," Doctoral Dissertation, Concordia University Chicago, 2024.
- [38] A. S. Kier and J. S. McMullen, "Entrepreneurial imaginativeness in new venture ideation," *Academy of Management Journal*, vol. 61, no. 6, pp. 2265-2295, 2018.
- [39] M. Goncalves and K. G. Vasquez, "Leadership and entrepreneurial choices: Understanding the motivational dynamics of women entrepreneurs in Mexico," *International Journal of Export Marketing*, vol. 6, no. 2, pp. 161-205, 2024. <https://doi.org/10.1504/ijexportm.2024.138454>
- [40] D. M. Townsend, R. A. Hunt, J. S. McMullen, and S. D. Sarasvathy, "Uncertainty, knowledge problems, and entrepreneurial action," *Academy of Management Annals*, vol. 12, no. 2, pp. 659-687, 2018.
- [41] B. E. Napoli, "Attracting entrepreneurs to community college through self determination theory informed educational practice," Doctoral Dissertation, University of Wisconsin-Stout, 2023.
- [42] H. Al Halbusi, F. AbdelFattah, M. Ferasso, M. Alshallaqi, and A. Hassani, "Fear of failure for entrepreneurs in emerging economies: stress, risk, finances, hard work, and social support," *Journal of Small Business and Enterprise Development*, vol. 31, no. 1, pp. 95-125, 2024.
- [43] K. Amofah and R. Saladrighes, "Impact of attitude towards entrepreneurship education and role models on entrepreneurial intention," *Journal of Innovation and Entrepreneurship*, vol. 11, no. 1, p. 36, 2022.
- [44] C. Passavanti, S. Primario, and P. Rippa, "How entrepreneurial role models impact on entrepreneurial outcomes: A gender perspective," *The International Journal of Management Education*, vol. 22, no. 3, p. 101011, 2024. <https://doi.org/10.1016/j.ijme.2024.101011>
- [45] R. F. Belchior and H. Castro-Silva, "The virtuous cycle of entrepreneurial identity and experience—a longitudinal analysis," *International Entrepreneurship and Management Journal*, vol. 19, no. 4, pp. 1739-1770, 2023.
- [46] K. Hossain, "Evaluation of technological breakthrough in global education and future employment opportunity," *Journal of Liberal Arts and Humanities*, vol. 4, no. 8, pp. 1-62, 2023.
- [47] A. S. Iyortsuun, M. G. Goyit, and R. J. Dakung, "Entrepreneurship education programme, passion and attitude towards self-employment," *Journal of Entrepreneurship in Emerging Economies*, vol. 13, no. 1, pp. 64-85, 2021.
- [48] S. Sutrisno, A. M. Ausat, P. Diawati, and S. Suherlan, "Do entrepreneurship education and peer groups promote students' entrepreneurial intention during Covid-19 pandemic? The mediating role of entrepreneurial mindset," *Calitatea*, vol. 25, no. 201, pp. 181-195, 2024.
- [49] M. Zamiri and A. Esmaeili, "Strategies, methods, and supports for developing skills within learning communities: A systematic review of the literature," *Administrative Sciences*, vol. 14, no. 9, p. 231, 2024. <https://doi.org/10.3390/admsci14090231>

- [50] A. Valencia-Arias, D. Arango-Botero, and J. A. Sánchez-Torres, "Promoting entrepreneurship based on university students' perceptions of entrepreneurial attitude, university environment, entrepreneurial culture and entrepreneurial training," *Higher Education, Skills and Work-Based Learning*, vol. 12, no. 2, pp. 328-345, 2022.
- [51] C. G. Brush, A. de Bruin, and F. Welter, "A gender-aware framework for women's entrepreneurship," *International Journal of Gender and Entrepreneurship*, vol. 1, no. 1, pp. 8-24, 2009.
- [52] J. Nunnally and I. Bernstein, *Psychometric theory*, 3rd ed. New York: MacGraw-Hill, 1994.
- [53] R. P. Bagozzi and Y. Yi, "On the evaluation of structural equation models," *Journal of the Academy of Marketing Science*, vol. 16, no. 1, pp. 74-94, 1988. <https://doi.org/10.1007/BF02723327>
- [54] F. A. M. Nawi, A. M. A. Tambi, M. F. Samat, and W. M. W. Mustapha, "A review on the internal consistency of a scale: The empirical example of the influence of human capital investment on Malcom Baldrige quality principles in TVET institutions," *Asian People Journal*, vol. 3, no. 1, pp. 19-29, 2020.
- [55] E. Berg, T. Brink, and E. Comstedt, "The invisible barriers of female entrepreneurship: exploring the impact of internal barriers on female entrepreneurs' access to funding," ed, 2024.
- [56] A. Kwapisz, K. Aytes, S. Bryant, and B. J. LaMeris, "Entrepreneurial mindset and intentions for entrepreneurship and intrapreneurship in engineering and business students," *Entrepreneurship Education and Pedagogy*, vol. 0, no. 0, p. 25151274241256313, 2024. <https://doi.org/10.1177/25151274241256313>
- [57] S. Jahn and M. Geissler, "The motivational readiness model of entrepreneurship," in *Academy of Management Proceedings (Vol. 2016, No. 1, p. 16556)*. Briarcliff Manor, NY 10510: Academy of Management, 2016.
- [58] S. Joensuu-Salo, K. Peltonen, and M. Hämäläinen, "The importance of HEI managerial practices in teachers' competence in implementing entrepreneurship education: Evidence from Finland," *The International Journal of Management Education*, vol. 21, no. 2, p. 100767, 2023. <https://doi.org/10.1016/j.ijme.2023.100767>
- [59] E. Muralidharan and S. Pathak, "Consequences of cultural leadership styles for social entrepreneurship: A theoretical framework," *Sustainability*, vol. 11, no. 4, p. 965, 2019. <https://doi.org/10.3390/su11040965>
- [60] M. Solórzano-García, J. Navio-Marco, and A. Laguía, "The influence of intrinsic motivation and contextual factors on MOOC students' social entrepreneurial intentions," *Interactive Learning Environments*, vol. 30, no. 9, pp. 1768-1780, 2022.
- [61] K. K. Longva, Ø. Strand, and M. Pasquine, "Entrepreneurship education as an arena for career reflection: the shift of students' career preferences after a business planning course," *Education+ Training*, vol. 62, no. 7/8, pp. 877-896, 2020.
- [62] L. Zhu, O. Kara, and X. Zhu, "A comparative study of women entrepreneurship in transitional economies: The case of China and Vietnam," *Journal of Entrepreneurship in Emerging Economies*, vol. 11, no. 1, pp. 66-80, 2019.
- [63] H. Khalil, K. F. Hashim, M. Rababa, and S. Atallah, "Shaping the entrepreneurial mindset: Exploring the impact of entrepreneurship education on entrepreneurial intentions among university students in the UAE: The mediating role of individual entrepreneurial orientation," *International Journal of Educational Research*, vol. 127, p. 102430, 2024.
- [64] M. C. Zaccone and M. Pedrini, "The effects of intrinsic and extrinsic motivation on students learning effectiveness. Exploring the moderating role of gender," *International Journal of Educational Management*, vol. 33, no. 6, pp. 1381-1394, 2019.
- [65] A. Field, *Discovering statistics using IBM SPSS statistics*, 5th ed. London, UK: SAGE Publications, 2018.