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From classroom to career: How graduate attributes shape employability and entrepreneurial intentions in the UAE

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Abstract

This study aims to investigate how specific graduate attributes relate to university students' employability and entrepreneurial intentions, with a focus on higher education institutions in the United Arab Emirates (UAE). The research distinguishes between traditional and emerging attributes and examines their predictive value for distinct post-graduation pathways. A quantitative, cross-sectional survey design was adopted. Data were collected from 524 undergraduate students and analysed using multivariate multiple regression to assess the simultaneous effects of nine graduate attributes. The findings reveal that employability intention is significantly are associated with goal-directed behaviour, continuous learning, problem-solving, and the ability to present and apply information. Entrepreneurial intention, on the other hand, is more strongly predicted by enterprising behaviour, analytical thinking, and artificial intelligence literacy. Some attributes, such as ethical responsibility and interactive communication, were not significant predictors. University prestige had a minor but significant effect on employability intention, while the presence of a university incubator showed no significant relation. This study contributes to the theoretical development of graduate attribute frameworks by validating digital-era competencies and empirically distinguishing between employability and entrepreneurial orientations. It offers practical insights for higher education institutions seeking to develop curricula that better prepare graduates for diverse career outcomes.

Keywords

graduate attributes, entrepreneurial intention, employability intention, AI literacy, multivariate multiple regression

Introduction

In today's rapidly evolving knowledge economy, the transition from university to professional life demands more than academic knowledge. Graduates are expected to demonstrate a combination of cognitive, behavioural, and technical competencies to navigate complex work environments (Monteiro et al., 2021). Employers now prioritise attributes such as problem-solving, adaptability, ethical reasoning, and digital literacy—particularly in response to technological advancements and the growing influence of artificial intelligence (AI) in the workplace (Chalmers et al., 2020; Moon et al., 2024). At the same time, governments and academic institutions, especially in the United Arab Emirates (UAE), are investing in entrepreneurial ecosystems to promote youth innovation and reduce dependence on public-sector employment (The National, 2023).

This dual emphasis on employability and entrepreneurship has drawn scholarly attention to the role of universities in fostering graduate readiness. Employability intention reflects students' perceived capability and motivation to secure and maintain formal employment (Monteiro et al., 2021), while entrepreneurial intention refers to their deliberate inclination to establish new business ventures (Liñán and Chen, 2009). Although these paths differ in orientation—employment versus self-employment—they are underpinned by common enablers, particularly the development of key personal and professional capabilities.

Central to these enablers are graduate attributes, defined here as the integrated set of cognitive, interpersonal, and behavioural competencies nurtured through higher

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education. While distinctions are sometimes made between graduate skills (practical capabilities) and graduate attributes (personal dispositions), Coetzee (2014) conceptualises them as interrelated, capturing both dimensions under a unified framework. These attributes span domains such as scholarship, lifelong learning, and moral citizenship, and include analytical thinking, ethical reasoning, problem-solving, communication, and continuous learning (Coetzee, 2014). In this study, Coetzee's model is refined to reflect current labour market needs by incorporating digital competence and AI literacy as essential components (Pinski and Benlian, 2024). AI literacy should be understood not only as a technical or functional competence, but also as a strategic graduate capability in the digital economy. As AI increasingly shapes workplace practices, recruitment processes and new venture opportunities, students who are better able to understand, evaluate and engage with AI-related tools may be more competitive in employment contexts and more prepared to identify and pursue technology-enabled opportunities. In this sense, AI literacy is relevant not only to digital competence development, but also to employability competitiveness and technology acceptance in rapidly evolving career environments (Duong, 2026; Nyale et al., 2026).

Although increasing policy and academic emphasis has been placed on graduate employability and entrepreneurship, few empirical studies have examined how a structured and validated set of graduate attributes associateswithboth employability and entrepreneurial intentions within a single, integrated framework. Additionally, limited research exists in the UAE context, despite the national push for talent development under Vision 2031, which aims to position the country as a global hub for innovation and knowledge-based growth (WAM – Emirates News Agency, 2022).

The UAE offers a distinctive socio-economic and cultural context for investigating graduate employability and entrepreneurial intentions. With expatriates comprising approximately 90% of the country's population (Statista, 2023), the UAE presents a uniquely diverse labour market shaped by multiculturalism, global workforce mobility, and accelerated economic transformation (Hutchings et al., 2020). This demographic profile introduces distinct dynamics in how graduates perceive career opportunities and develop transferable skills. As such, exploring graduate attributes within this context not only deepens understanding of employability intention in a non-Western setting, but also contributes insights of comparative value to globally mobile and culturally heterogeneous societies.

Despite growing interest in graduate employability and entrepreneurship, existing research remains insufficient in several important respects. First, these outcomes are still frequently examined separately, even though higher education institutions are increasingly expected to prepare students for both employment and entrepreneurial pathways as part of a broader employability agenda (Maleki et al., 2026; Whalen and Zimmerman, 2026). Second, recent work has highlighted continuing misalignment between academic provision, industry demands and graduates' digital competencies, suggesting that universities still lack sufficiently integrated evidence on which capabilities matter most for different post-graduation trajectories (Nyale et al., 2026). Third, although AI-related capabilities are becoming more salient in higher education and student career development, limited empirical attention has been given to how AI literacy and broader graduate attributes may jointly shape employability intention and entrepreneurial intention within a single framework (Duong, 2026). This gap matters because, without clearer evidence, universities may continue to design graduate development initiatives in broad terms without knowing which attributes are most relevant for distinct career outcomes, particularly in digitally evolving labour markets (Nyale et al., 2026).

To address the research identified gaps, this study investigates how various graduate attributes—covering cognitive, behavioural, interpersonal, and digital domains—affect students' intentions to either seek employment or pursue entrepreneurship. Drawing on the Theory of Planned Behaviour (Ajzen, 1991), the study explores the extent to which individual attributes shape intentional behaviour in career decisions. The refinement of Coetzee's (2014) model to include AI literacy responds to the evolving expectations of both employers and national education policy.

Accordingly, the research is guided by the following questions:

RQ1: How do graduate attributes relate touniversity students' employability intention?

RQ2: How do graduate attributes associate withuniversity students' entrepreneurial intention?

RQ3: Which specific attributes—such as problem-solving, goal-directed attribute, and AI literacy—are most predictive of employability and entrepreneurial intentions?

By answering these questions, the study provides empirical insights that can inform curriculum development, graduate training programmes, and national strategies aimed at enhancing workforce readiness and entrepreneurial capacity. In addition, the study makes several contributions to the literature. First, it extends prior research by examining employability intention and entrepreneurial intention simultaneously within a single framework, rather than treating them as separate graduate outcomes. Second, it applies a structured set of graduate attributes to explain variation in both pathways, thereby offering a more integrated account of how student capabilities may shape post-graduation intentions. Third, the study incorporates AI

literacy as a contemporary graduate capability, responding to growing calls to recognise the role of digital and AI-related competencies in students' career development (Duong, 2026; Nyale et al., 2026). Finally, the study offers evidence from the UAE higher education context, where universities are increasingly expected to support workforce readiness, innovation and entrepreneurship at the same time.

Literature review and hypothesis development

Graduate attributes and employability intention

Employability intention reflects a student's volitional readiness and motivation to seek traditional employment upon graduation. According to the Theory of Planned Behaviour (Ajzen, 1991), such intentions are driven by internal evaluations of one's capability, external social expectations, and perceived behavioural control. Within this framework, graduate attributes serve as foundational competencies that influence a student's belief in their employability potential. The Theory of Planned Behaviour provides a useful behavioural lens for understanding intention formation towards future career pathways. In the present study, TPB is not treated as a fully operationalised model with direct measurement of attitude, subjective norms and perceived behavioural control. Rather, it is used as a guiding framework to explain how graduate attributes may influence intention formation by shaping students' evaluative readiness and perceived capability to pursue employment or entrepreneurial opportunities. In this respect, attributes such as initiative and enterprise, problem-solving and decision-making, continuous learning and AI literacy can be understood as relevant personal resources associated with intention development. However, subjective norms were not directly measured in this study and are therefore not modelled as an explicit component.

Beyond TPB, Social Cognitive Career Theory (Lent et al., 1994) further enriches this perspective by highlighting the role of self-efficacy beliefs, outcome expectations, and goal-setting in shaping career-related behaviours. Accordingly, a student who perceives strong mastery of graduate attributes is more likely to develop higher self-efficacy, which in turn enhances confidence in their capacity to secure employment. In parallel, Human Capital Theory (Becker, 1993) positions these attributes as investments in knowledge, skills, and abilities that increase labour market value and competitiveness, thus reinforcing employability intentions.

Taken together, these theoretical perspectives provide a coherent foundation for the present study. Human Capital Theory explains why graduate attributes may be understood as valuable educational resources that enhance students' future labour-market and career potential. SCT adds a behavioural-developmental perspective by suggesting that such attributes can strengthen students' confidence, adaptability and agency in relation to future opportunities. TPB then provides the immediate intention-based lens through which these resources and self-perceptions are linked to employability intention and entrepreneurial intention. In this way, the theories are used in a complementary manner to explain how graduate attributes may shape post-graduation intentions.

The UAE provides a particularly relevant context for examining the relationship between graduate attributes and post-graduation intentions. Higher education institutions in the country are increasingly expected to support not only labour-market readiness, but also innovation, entrepreneurship and future-oriented capability development within a knowledge-based economy (MOHESR, 2025; UAE Government, 2025). In parallel, recent evidence has highlighted the growing importance of employability skills and digital capability development in UAE higher education, alongside broader national emphasis on entrepreneurship and competitiveness (Carter et al., 2025). In such a context, attributes such as initiative and enterprise, continuous learning, problem-solving and decision-making, and AI literacy become especially relevant because they may shape how students evaluate and pursue both employment and entrepreneurial pathways. The UAE context is therefore not treated merely as a geographical setting, but as a higher education environment in which employability intention and entrepreneurial intention are both highly salient outcomes.

Empirical studies suggest that attributes such as problem-solving, goal-directed attribute, ethical reasoning, and digital competence are positively associated with perceived employability and career decision-making (Coetzee, 2014; Monteiro et al., 2021; Rosenberg et al., 2023). Analytical thinking and continuous learning, in particular, have been shown to increase students' confidence in adapting to workplace changes, while interactive skills enhance communication and collaboration readiness—traits often prioritised by employers (Rahmat et al., 2012; Jackson and Tomlinson, 2022).

Despite the extensive literature on perceived employability, fewer studies directly examine employability intention—the proactive decision to pursue employment—as a function of a validated set of graduate attributes. This study addresses this gap by applying a structured model of graduate readiness based on Coetzee (2014), refined to include AI literacy and digital competence. Within the present study, AI literacy is positioned as a strategic capability that may strengthen students' readiness to navigate digitally mediated career environments. It may therefore contribute to employability intention by enhancing confidence and competitiveness in technology-rich labour markets, while also supporting entrepreneurial intention by increasing students' openness

to technology-enabled innovation and opportunity recognition (Duong, 2026).

Against this background, the hypotheses were developed to test whether the selected graduate attributes are significantly associated with employability intentionH1A: Interactive attributes are significantly related to employability intention.

H2A: Problem-solving and decision-making attributes are significantly related to employability intention.

H3A: Continuous learning attributes are significantly related to employability intention.

H4A: Enterprising attributes are significantly related to employability intention.

H5A: Presenting and applying information attributes are significantly related to employability intention.

H6A: Goal-directed attributes are significantly related to employability intention.

H7A: Ethical and responsible attributes are significantly related to employability intention.

H8A: Analytical thinking attributes are significantly related to employability intention.

H9A: Artificial intelligence literacy attributes are significantly related to employability intention.

Graduate attributes and entrepreneurial intention

Entrepreneurial intention is defined as the deliberate mindset to start a new business venture (Liñán and Chen, 2009). Within the TPB framework, this intention is similarly shaped by one's attitudes, perceived social support, and self-efficacy. Research has repeatedly confirmed that self-confidence, creativity, and resilience are positively associated with entrepreneurial intention (Anjum et al., 2020; Garaika et al., 2019; Renko et al., 2021). However, few studies test how a validated and multidimensional set of graduate attributes relate tothis intention in a systematic and integrated model.

The relevance of this question is magnified in regions like the UAE, where youth entrepreneurship is both a policy priority and a societal challenge. Shetty et al. (2023) show that social norms and confidence significantly shape entrepreneurial career aspirations among Emirati women. Similarly, Munir et al. (2024) highlight that attitudes toward entrepreneurship education, when coupled with self-efficacy and social comparison, drive entrepreneurial motivation.

This study extends the literature by assessing whether cognitive, interpersonal, and digital attributes—rooted in a validated graduate readiness framework—are predictive of students' entrepreneurial intentions. The model includes traditional skills such as problem-solving and goal-directedness, alongside more contemporary demands such as AI literacy and digital fluency. The following hypotheses are proposed:

H1B: Interactive attributes are significantly related to entrepreneurial intention.

H2B: Problem-solving and decision-making attributes are significantly related to entrepreneurial intention.

H3B: Continuous learning attributes are significantly related to entrepreneurial intention.

H4B: Enterprising attributes are significantly related to entrepreneurial intention.

H5B: Presenting and applying information attributes are significantly related to entrepreneurial intention.

H6B: Goal-directed attributes are significantly related to entrepreneurial intention.

H7B: Ethical and responsible attributes are significantly related to entrepreneurial intention.

H8B: Analytical thinking attributes are significantly related to entrepreneurial intention.

H9B: Artificial intelligence literacy attributes are significantly related to entrepreneurial intention.

To account for institutional influences, the study included two control variables: Business incubator availability that captured institutional support for entrepreneurship and perceived university prestige (Sung and Yang, 2008). Including these controls helped isolate the effects of graduate attributes on employability and entrepreneurial intentions by addressing contextual variability.

These hypotheses are visually summarised in the conceptual framework (Figure 1), which illustrates the dual-path model linking graduate attributes to both employability and entrepreneurial intention.

Methodology

Conceptual framework

This study is grounded primarily by Theory of Planned Behaviour (TPB), which posits that individuals' intentions are the most immediate predictors of their behaviour and are

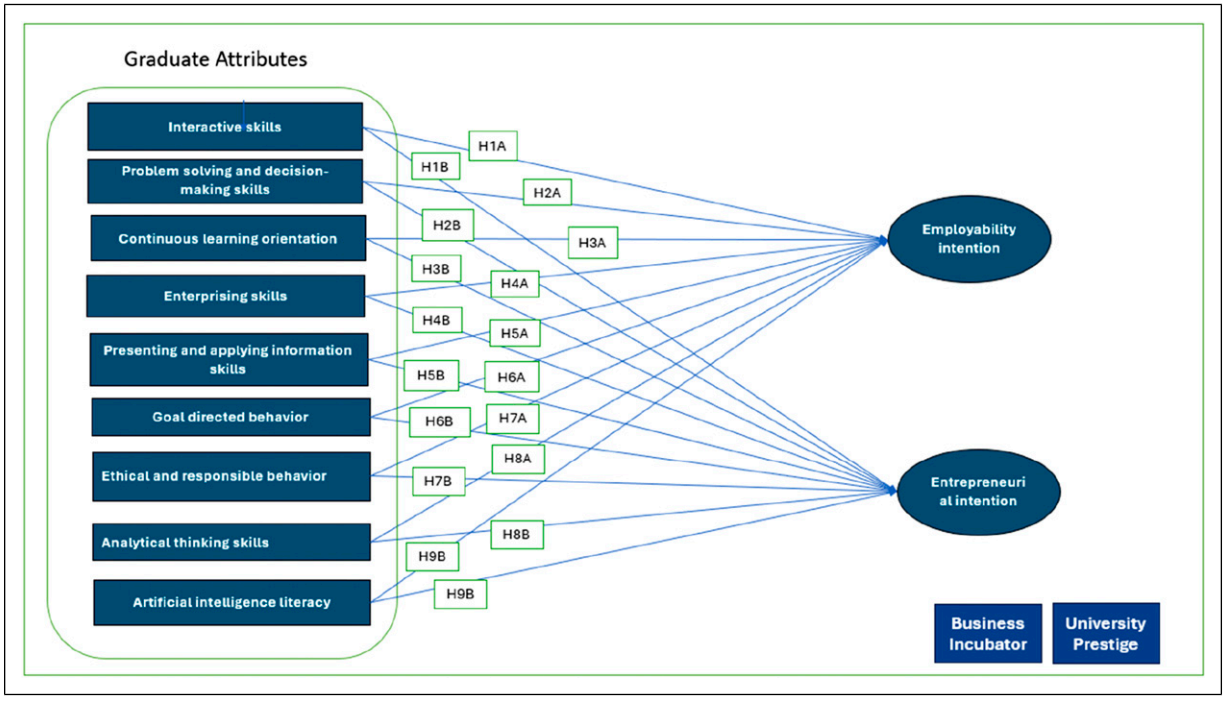

Figure 1. Conceptual framework and Hypothesis.

influenced by three components: attitude towards the behaviour, subjective norms, and perceived behavioural control (Ajzen, 1991). TPB has been widely applied to both employability and entrepreneurial intention research (Heuer and Kolvereid, 2014; Liñán and Chen, 2009; Thompson, 2009), offering a robust framework for examining how internal attributes associate withintentional career choices among graduates. However, the conceptual framework is not informed by TPB alone. Human Capital Theory and Social Cognitive Theory are also used as complementary perspectives to clarify the role of graduate attributes in shaping post-graduation intentions. Human Capital Theory supports the view that graduate attributes represent valuable capabilities developed through higher education that may enhance students' future career potential. Social Cognitive Theory complements this perspective by explaining how such attributes may strengthen students' confidence, adaptability and sense of agency in evaluating employment and entrepreneurial pathways. Within this integrated framing, TPB is used as the primary framework for understanding intention formation, while Human Capital Theory and Social Cognitive Theory help explain why graduate attributes matter and how they may predict students' perceived capability to pursue future opportunities. In this context, attributes such as problem-solving and decision-making, initiative and enterprise, continuous learning and AI literacy may shape how graduates evaluate career options and their readiness to act on them. Subjective norms are acknowledged as part of TPB, although they are not directly operationalised as a separate construct in the present model.

This combined theoretical perspective provides a more coherent basis for examining employability intention and entrepreneurial intention, particularly in a higher education context where graduate capabilities, self-beliefs and career intentions are closely interconnected.

Beyond its conceptual clarity, TPB provides an integrative approach that helps explain why some graduates actively pursue entrepreneurial or professional opportunities while others remain hesitant despite possessing similar qualifications. Attitude towards the behaviour reflects an individual's evaluation of whether engaging in a particular career path, such as entrepreneurship or entering the corporate workforce, will be personally rewarding and socially valuable. Graduates with positive attitudes towards innovation and risk-taking, for instance, are more likely to translate these dispositions into entrepreneurial intentions (Nunez et al., 2025).

Subjective norms, on the other hand, highlight the powerful role of social influence in shaping decisions. Graduates often look to peers, family, mentors, or professional networks for validation. When significant others express confidence in a graduate's potential or encourage specific career directions, the perceived legitimacy of those choices increases, thus strengthening intentions (Chang et al., 2021). Conversely, lack of support or social pressure to follow more "secure" paths can suppress entrepreneurial ambition, even in highly capable individuals.

Table 1. Participants' profile summary.

Variable	Item	Frequency	Percentage
Gender	Male	337	64.3
	Female	187	35.7
Age	18–20	221	42.2
	21–24	222	42.4
	25–30	28	5.3
	Above 31	53	10.1
Nationality	Emirati	130	24.8
	Expat	394	75.2
University	Abu Dhabi University	258	49.2
	Sharjah University	133	25.4
	UAE University	58	11.1
	University of Dubai	38	7.3
	Canadian University in Dubai	37	7.1

Finally, perceived behavioural control, often operationalized as self-efficacy, captures the extent to which individuals feel capable of overcoming barriers and successfully performing the behaviour in question. In the graduate context, this translates into confidence in navigating labour markets, managing uncertainty, or acquiring the resources needed for entrepreneurship. As posed by Shahriar et al. (2024), high levels of perceived control not only influence the strength of intentions but also increase the likelihood of actual behaviour, as individuals feel more resilient in the face of setbacks.

Sampling and data collection

To investigate the proposed hypotheses, the study adopted a cross-sectional survey design and utilised a structured questionnaire as the primary data collection instrument. The target population consisted of undergraduate students enrolled in business-related programmes at universities across the United Arab Emirates. This group was selected as it represents a key demographic in both national employability and entrepreneurship development strategies.

A non-probability purposive sampling technique was applied (Hair et al., 2019), focusing on students who were nearing graduation and thus more likely to be considering their immediate career paths. To enhance the generalisability of findings across the diverse UAE educational landscape, the survey was administered in multiple waves between February and May 2025.

Data collection was conducted online through a digital questionnaire distributed via university email networks and student platforms. This method enabled wide geographic reach while maintaining respondent anonymity and ease of access. To ensure data integrity, the survey began with a screening question confirming that respondents were currently enrolled in a university programme and expected to graduate within 1 year. A total of 1156 responses were received; however, only 524 were found to be complete and usable for analysis, resulting in an effective response rate of approximately 45.3%. This exceeds the minimum threshold of 200 responses recommended by Hair et al. (2019) for models of moderate complexity, thereby ensuring adequate statistical power and the robustness of the analysis. Table 1 provides an overview of the research participants' profiles.

The study's sample comprised of 64.3% male ($n = 337$), while 35.7% female ($n = 187$), The gender distribution indicates a male-dominated respondent base, which may reflect enrolment patterns in business and related programmes within UAE universities, where male participation has historically been higher in certain disciplines and campuses. Regarding age, the participants were relatively young: The largest age groups were those aged 21–24 (42.4%) and 18–20 (42.2%), Followed by smaller proportions aged above 31 (10.1%) and 25–30 (5.3%). This reflects a typical undergraduate demographic, with a minority of older or returning students. In terms of nationality, Emirati students formed the minority 24.8%, while expatriate students accounted for 75.2%, reflecting the local-national mix within UAE universities.

Participants were drawn from a range of academic institutions located in major UAE cities, including Abu Dhabi, Sharjah, and Dubai. Abu Dhabi University (258 responses), University of Sharjah (133 responses), UAE University (58 responses), University of Dubai (38 responses), and Canadian University in Dubai (37 responses).

Questionnaire design and measurement items

All items in the questionnaire were measured using a 5-point Likert scale ranging from 1 ("strongly disagree") to 5 ("strongly agree"). This scale was chosen to enhance clarity and ease of response, particularly given the multicultural composition of the sample. The use of a 5-point scale is

supported by Joshi et al. (2015), who emphasise its effectiveness in balancing reliability, validity, and respondent engagement in diverse population surveys.

Graduate attributes in this study were assessed using a comprehensive set of nine dimensions, reflecting both traditional and future-facing competencies expected of university graduates. Eight of these dimensions were adopted from the validated Graduate Skills and Attributes Scale developed by Coetzee (2014), and each was measured using multiple items tailored to the undergraduate student context. To extend the scale's relevance to the demands of the contemporary workplace, an additional attribute—AI literacy—was incorporated using a scale adapted from Wang et al. (2023). This attribute assessed students' perceived competence in understanding, interacting with, and applying artificial intelligence concepts in both academic and professional contexts. A total of eight items were used to measure this construct, covering the four core dimensions proposed by Wang et al. (2023): AI awareness, AI usage, AI evaluation, and AI ethics. The detailed items used are provided in the Appendix A.

Entrepreneurial intention was measured using a 6-item scale adopted from Liñán and Chen (2009), widely recognised for its theoretical grounding in the TPB. This scale captures the degree to which students express deliberate and planned intentions to create a new business venture. The items evaluate aspects such as desire, commitment, and self-belief in launching an entrepreneurial activity.

While much of the existing literature focuses on the concept of perceived employability—that is, individuals' beliefs about their ability to obtain and retain employment—there remains a notable gap when it comes to directly measuring employability intention as a distinct construct. Perceived employability typically reflects one's assessment of internal and external employability factors (Rothwell et al., 2008), whereas employability intention relates to an individual's explicit motivation and behavioural orientation towards securing employment. Given this conceptual distinction, and the lack of established scales that directly capture intentionality, a new set of items was developed for this study by the authors.

The employability intention construct was operationalised through six items developed by the authors to capture students' intentional orientation towards pursuing employment after graduation. The item development was guided by the conceptual distinction between employability intention and perceived employability, as well as by the broader literature on graduate employability and career intention. In particular, perceived employability has commonly been defined as individuals' perceptions of their ability to obtain and maintain employment (Rothwell et al., 2008), whereas the present study focuses more directly on students' motivational and intentional orientation towards seeking employment after graduation, consistent with intention-based approaches in behavioural and career-related research (Ajzen, 1991; Liñán and Chen, 2009).

Initially, a pool of 10 items was generated based on relevant literature and the authors' academic and professional experience in higher education and graduate development. To strengthen content relevance and clarity, these items were then evaluated through a focus group comprising academics and industry practitioners. Based on their feedback, six items were recommended for inclusion in the final instrument. Before the main data collection, a pilot survey involving 30 respondents was conducted for this newly developed scale. The scale was then assessed through validity and reliability tests, all of which indicated an acceptable level of measurement quality. The final items reflected key aspects of employability intention relevant to the present study, including prioritisation of employment, job-search behaviour, career planning and preference for structured employment pathways. The detailed items used are provided in Appendix A.

In addition to the primary constructs, the study incorporated a set of control variables to account for contextual influences that may affect students' employability and entrepreneurial intentions. These variables were included to improve the explanatory power of the model and ensure that observed relationships are not confounded by institutional or environmental factors. One control variable was incubator availability, captured through a binary item indicating whether the student's university offers access to a business incubator or start-up support centre. Another key control variable was perceived university prestige, which has been shown to influence students' self-perceptions, career confidence, and the credibility of their qualifications in the labour market (Duggal et al., 2024). This construct was measured using a 4-item scale adapted from Sung and Yang (2008), who explored university image through the dimensions of brand personality, prestige, and reputation.

Including these control variables allowed the study to more precisely isolate the effects of graduate attributes on employability and entrepreneurial intentions by accounting for differences in institutional context and perceived external reputation.

Data analysis

Data analysis was performed via SPSS v23.0 and Amos v23.0 programs.

Common method bias. Assessing common method bias is particularly important in studies relying on self-reported survey data (Fuller et al., 2016). To address this, the current study applied Harman's single-factor test, a widely used diagnostic tool for detecting potential bias in survey-based research (Podsakoff and Organ, 1986). The results revealed that a single factor accounted for only 25.105% of the total variance, which is well below the commonly accepted threshold of 50%. This indicates that common method bias is unlikely to pose a significant threat to the validity of the study's findings. In addition, a full-collinearity variance

inflation factor (VIF) assessment was conducted at the construct level as a supplementary check. Following Kock (2015), the resulting VIF values ranged from 1.054 to 2.519, remaining below the commonly recommended threshold, thereby providing additional evidence that common method bias is unlikely to be a serious concern in the present study.

Reliability and validity. The study evaluated the reliability, consistency, and suitability of the constructs through a series of established statistical tests. To ensure internal consistency, both Cronbach's Alpha and Composite Reliability (CR) were examined. All constructs exceeded the 0.70 threshold, confirming strong internal consistency (Hair et al., 2019). The Kaiser-Meyer-Olkin (KMO) test produced a value of 0.869, indicating excellent sampling adequacy (Morgan et al., 2004). Additionally, the Bartlett Test of Sphericity was significant ($p < 0.001$), confirming the appropriateness of the data for factor analysis (Hair et al., 2013). These results align with previous studies and support the robustness of the measurement model. Summary statistics and are presented in Table 2.

Although several constructs were drawn from existing literature, EFA was conducted as an initial assessment of dimensional structure because the study combined multiple measures within a unified model and included a newly developed employability-intention scale. This step was considered appropriate to examine the behaviour of the items in the present dataset before proceeding to CFA as a confirmatory assessment of the measurement model.An Exploratory Factor Analysis (EFA) was first conducted, using principal component extraction and varimax rotation. The EFA results confirmed that questionnaire items loaded appropriately onto their respective constructs, with all factor loadings exceeding the recommended threshold of 0.45 (Field, 2024). Subsequently, a Confirmatory Factor Analysis (CFA) was performed to evaluate the overall model fit. The model demonstrated strong goodness-of-fit indicators, with a χ^2/df ratio of 2.285. The Comparative Fit Index (CFI = 0.928) and Incremental Fit Index (IFI = 0.919) both exceeded the recommended cut-off of 0.90, indicating excellent fit (Kline, 2023). Additionally, the Tucker-Lewis Index (TLI = 0.914) and Root Mean Square Error of Approximation (RMSEA = 0.048) further supported the adequacy of the model (Field, 2024).

Results

Correlation analysis

To assess the preliminary relationships among the study variables, a Pearson correlation analysis was conducted. The application of Pearson's correlation in this study serves multiple purposes. Firstly, it provides an initial understanding of the associations between graduate attributes and the outcome variables: employability intention and entrepreneurial intention. Secondly, it aids in identifying potential multicollinearity issues among independent variables, which is crucial before proceeding to multivariate analyses such as multiple regression (Dormann et al., 2013). The results of the correlation analysis are presented in Table 3:

The correlation analysis revealed several statistically significant relationships. Employability intention exhibited moderate positive correlations with goal-directed behaviour ($r = .439$, $p < .01$), problem-solving and decision-making ($r = .378$, $p < .01$), interactive attributes ($r = .323$, $p < .01$), continuous learning ($r = .262$, $p < .01$), and university prestige ($r = .275$, $p < .01$). Entrepreneurial intention showed strong positive correlations with enterprising attributes ($r = .532$, $p < .01$), analytical thinking ($r = .468$, $p < .01$), and continuous learning ($r = .454$, $p < .01$), among others. Furthermore, the inter-correlations among the independent variables were examined to assess multicollinearity. While some attributes demonstrated moderate correlations—for instance, interactive attributes and problem-solving and decision-making ($r = .587$, $p < .01$)—none exceeded the threshold of 0.80, suggesting that multicollinearity is unlikely to pose a significant issue in subsequent regression analyses (Dormann et al., 2013).

Table 2. Reliability and validity.

	# Items	Mean	Std. deviation	Composite reliability	Cronbach's alpha
Employability intention	6	4.08	.847	0.941	.908
Entrepreneurial intention	6	3.56	1.041	0.970	.955
Interactive attribute	16	4.12	.837	0.986	.978
Problem solving and decision making	8	3.81	.914	0.969	953
Continuous learning	7	3.90	.886	0.967	.941
Enterprising attribute	7	3.60	1.021	0.964	954
Presenting and applying information	5	3.85	.931	0.956	937
Goal directed attribute	10	3.88	.874	0.974	.961
Ethical and responsible	5	3.76	1.143	0.971	.962
Analytical thinking	4	3.75	1.042	0.954	.935
AI literacy attribute	8	3.82	1.144	0.980	967

Table 3. Correlation analysis results.

	1	2	3	4	5	6	7	8	9	10
Employability intention	1									
Entrepreneurial intention	.188**	1								
Interactive attribute	.323**	.379**	1							
Problem solving and decision making	.378**	.353**	.587**	1						
Continuous learning	.262**	.454**	.540**	.583**	1					
Enterprising attribute	.133**	.532**	.261**	.137**	.315**	1				
Presenting and applying information	.250**	.233**	.387**	.304**	.333**	.176**	1			
Goal directed attribute	.439**	.262**	.539**	.603**	.574**	.162**	.318**	1		
Ethical and responsible	.108*	.122**	.173**	.103*	.131**	.129**	.178**	.122**	1	
Analytical thinking	.190**	.468**	.271**	.376**	.298**	.064	.213**	.314**	.067	1
AI literacy attribute	.095*	.237**	.129**	−.013	.095*	.105*	.162**	.106*	−.025	.152**

Note: *$p < .05$, **$p < .01$, ***$p < 0.001$.

These findings provide preliminary support for the hypothesised relationships and justify the use of multivariate multiple regression analysis to further investigate the unique contributions of each predictor variable while controlling for others.

Hypothesis results

To test the hypothesised relationships between graduate attributes and the two dependent variables—employability intention and entrepreneurial intention—a Multivariate Multiple Regression (MMR) analysis was conducted using SPSS v23.0. MMR is an appropriate method when the goal is to evaluate the effect of multiple independent variables on more than one dependent variable simultaneously. It is particularly useful when the dependent variables are theoretically related but conceptually distinct, as it accounts for their intercorrelations and enhances statistical power by reducing Type I error (Meyers et al., 2016).

Prior to analysis, key assumptions of MMR—normality, linearity, homoscedasticity, and the absence of multicollinearity—were evaluated and met. Correlation values among the independent variables were below 0.80, suggesting no multicollinearity risk (Dormann et al., 2013), and Levene's test confirmed homogeneity of variances.

The multivariate test results illustrated in Table 4 indicated that several graduate attributes had statistically significant effects on the combined dependent variables. Problem-solving and decision-making, continuous learning, goal-directed behaviour, analytical thinking, and AI literacy yielded significant multivariate results (Wilks' Lambda $p < .05$), with partial eta squared values ranging from .029 to .181, indicating small to strong effect sizes (Meyers et al., 2016).

The tests of between-subjects effects revealed distinct graduate attributes as significant predictors for each outcome variable, as presented in Table 5. In the case of employability intention, the most influential predictor was the goal-directed attribute ($F = 36.44$, $p < .001$, $\eta^2 = .066$), followed by problem-solving and decision-making ($F = 10.77$, $p = .001$, $\eta^2 = .021$). Additionally, both the continuous learning attribute ($F = 4.11$, $p = .043$, $\eta^2 = .008$) and presenting and applying information ($F = 4.12$, $p = .043$, $\eta^2 = .008$) demonstrated smaller yet statistically significant effects. Other attributes, however, did not contribute significantly to employability intention. These include the

Table 4. Multivariate test results.

Variable	Sig. (p)	Partial Eta η^2	Power	Interpretation
Interactive attribute	0.162	0.007	0.381	Not significant
Problem solving and decision making	0.001***	0.029	0.945	Significant, small-medium effect
Continuous learning attribute	0***	0.045	0.995	Significant, small-medium effect
Enterprising attribute	0***	0.254	1	Significant, strong effect
Presenting and applying information	0.109	0.009	0.453	Not significant
Goal directed attribute	0***	0.084	1	Significant, medium effect
Ethical and responsible attribute	0.55	0.002	0.15	Not significant
Analytical thinking attribute	0***	0.181	1	Significant, strong effect
AI literacy attribute	0***	0.035	0.976	Significant, small-medium effect

Note. ***$p < 0.001$, **$p < 0.05$. Eta (η^2) in the tables stands for effect size.

Table 5. Between-subjects effects results.

Variable	EMPI p	EMPI η^2	EMPI power	EMPI interpretation	ENTI p	ENTI η^2	ENTI power	ENTI interpretation
Interactive attribute	0.483	0.001	0.108	Not significant	0.075	0.006	0.428	Not significant
Problem solving and decision making	0.001***	0.021	0.906	Significant, small effect	0.034**	0.009	0.563	Significant, small effect
Continuous learning attribute	0.043**	0.008	0.525	Significant, small effect	0.0***	0.037	0.993	Significant, small effect
Enterprising attribute	0.192	0.003	0.256	Not significant	0.0***	0.252	1.0	Significant, strong effect
Presenting and applying information	0.043**	0.008	0.526	Significant, small effect	0.57	0.001	0.088	Not significant
Goal directed attribute	0.0***	0.066	1.0	Significant, medium effect	0.001***	0.019	0.89	Significant, small effect
Ethical and responsible attribute	0.365	0.002	0.148	Not significant	0.536	0.001	0.095	Not significant
Analytical thinking attribute	0.825	0.0	0.056	Not significant	0.0***	0.181	1.0	Significant, strong effect
AI literacy attribute	0.233	0.003	0.222	Not significant	0.0***	0.032	0.985	Significant, small effect

Note: *$p < .05$, **$p < .01$, ***$p < 0.001$.

enterprising attribute ($F = 1.71$, $p = .192$, $\eta^2 = .003$), AI literacy attribute ($F = 1.42$, $p = .233$, $\eta^2 = .003$), ethical and responsible attribute ($F = .82$, $p = .365$, $\eta^2 = .002$), interactive attribute ($F = .49$, $p = .483$, $\eta^2 = .001$), and analytical thinking ($F = .05$, $p = .825$, $\eta^2 < .001$), all of which had non-significant effects with negligible predictive power.

For entrepreneurial intention, the enterprising attribute emerged as the most dominant predictor ($F = 173.60$, $p < .001$, $\eta^2 = .252$), indicating a very strong and statistically significant effect. This was followed by analytical thinking ($F = 113.47$, $p < .001$, $\eta^2 = .181$), which also demonstrated a strong and significant effect. The continuous learning attribute ($F = 19.79$, $p < .001$, $\eta^2 = .037$) and AI literacy attribute ($F = 17.07$, $p < .001$, $\eta^2 = .032$) further contributed significantly, with moderate effect sizes. The goal-directed attribute ($F = 10.20$, $p = .001$, $\eta^2 = .019$) and problem-solving and decision-making ($F = 4.51$, $p = .034$, $\eta^2 = .009$) also showed statistically significant effects, although with smaller effect sizes. By contrast, the interactive attribute ($F = 3.18$, $p = .075$, $\eta^2 = .006$), presenting and applying information ($F = .32$, $p = .570$, $\eta^2 = .001$), and ethical and responsible attribute ($F = .38$, $p = .536$, $\eta^2 = .001$) were not significant predictors of entrepreneurial intention.

These rankings provide a comprehensive understanding of which graduate attributes most strongly predict students' career intentions, offering actionable insights for educators and curriculum designers seeking to promote employability and entrepreneurial outcomes.

In addition to the primary predictors, two control variables—university prestige and the existence of a university-based business incubator—were included in the multivariate model to account for contextual influences on students' career intentions. Including control variables in such models is a recommended practice to mitigate omitted variable bias and improve the internal validity of causal interpretations (Becker et al., 2016). These control variables were entered into the model alongside the graduate attributes within the tests of between-subjects effects. As shown in Table 5, university prestige showed a small but statistically significant effect on employability intention ($F = 4.30$, $p = .039$, $\eta^2 = .008$), suggesting that perceived institutional reputation may play a minor role in shaping students' employment outlooks. However, the effect on entrepreneurial intention was not statistically significant ($F = .12$, $p = .732$, $\eta^2 < .001$).

Similarly, the presence of a business incubator within the university was not a significant predictor of either outcome. Specifically, no statistically significant effect was observed for employability intention ($F = .003$, $p = .953$, $\eta^2 < .001$) or entrepreneurial intention ($F = 1.72$, $p = .190$, $\eta^2 = .003$). These results suggest that simply having an incubator on campus, without considering its visibility, accessibility, or quality, may not substantially shape students' entrepreneurial or employability-related intentions.

Overall, the multivariate model demonstrated a meaningful explanatory capacity, accounting for 23.4% of the variance in employability intention (Adjusted $R^2 = .221$) and a notably higher 53.3% in entrepreneurial intention (Adjusted $R^2 = .525$). These findings indicate that the selected graduate attributes collectively offer a substantive contribution to understanding students' behavioural intentions post-graduation. According to Cohen's (2013) guidelines for interpreting effect sizes in behavioural sciences, an R^2 value of around 0.13 is considered medium, while values above 0.26 are considered large—thus

supporting the interpretation that the model provides a moderate to strong explanatory power, particularly for entrepreneurial intention.

Finally, the results of the research hypotheses are presented in Table 6. These results underline the utility of using graduate attributes as predictors in educational and career development research. They also highlight the importance of targeted skill development initiatives in universities aiming to prepare students for both employment and entrepreneurial ventures.

Discussion

This study explored the relation of graduate attributes on employability and entrepreneurial intentions among university students in the UAE. The findings provide a more differentiated picture of how graduate attributes relate to post-graduation intentions. Rather than affecting all career outcomes uniformly, the results suggest that specific attributes may operate differently depending on whether students are oriented towards employment or entrepreneurship. This pattern indicates that graduate development should not be viewed as a single, undifferentiated process, but as one in which particular capabilities become more salient under different career intentions.

Graduate attributes and employability intention

The results confirm that goal-directed behaviour, problem-solving and decision-making, continuous learning, and presenting and applying information are significant predictors of employability intention. This pattern suggests that employability intention is shaped more strongly by attributes that support purposeful career action, adaptive learning and practical readiness, rather than by general capability alone, indicating that students may form stronger employment-oriented intentions when they feel able to translate their skills into concrete career pathways. These findings align with prior research that highlights the role of cognitive-behavioural attributes in shaping students' employment readiness. For instance, Monteiro et al. (2021) found that students with strong self-regulation and decision-making abilities were more likely to express proactive employment goals. Similarly, Coetzee (2014) emphasised continuous learning as a hallmark of employable graduates, enabling them to adapt to changing job demands. Beyond confirming earlier work, this finding also indicates that employability intention is not merely a reflection of possessing graduate attributes, but of how far these attributes support students' sense of direction and preparedness to pursue employment after graduation.

Interestingly, interactive attributes and analytical thinking—often assumed to be foundational for employability—did not emerge as significant predictors in this study. This contrasts with earlier works (e.g. Rosenberg et al., 2023; Succi and Canovi, 2020), which identified communication and reasoning skills as central to graduate employability. A possible explanation lies in the conceptual distinction between perceived employability and employability intention. While previous studies have focused on students' confidence in being employable, our study targeted their intentional drive to pursue employment, which may be shaped by more motivational traits such as goal orientation. This distinction is theoretically important because it suggests that attributes valued in general

Table 6. Between-subjects effects results.

Hypothesis	Result
H1A: Interactive attributes significantly related to employability intention.	Rejected
H1B: Interactive attributes significantly related to entrepreneurial intention.	Rejected
H2A: Problem-solving and decision-making attributes significantly related to employability intention.	Accepted
H2B: Problem-solving and decision-making attributes significantly related to entrepreneurial intention.	Accepted
H3A: Continuous learning attributes significantly related to employability intention.	Accepted
H3B: Continuous learning attributes significantly related to entrepreneurial intention.	Accepted
H4A: Enterprising attributes significantly related to employability intention.	Rejected
H4B: Enterprising attributes significantly related to entrepreneurial intention.	Accepted
H5A: Presenting and applying information attributes significantly related to employability intention.	Accepted
H5B: Presenting and applying information attributes significantly related to entrepreneurial intention.	Rejected
H6A: Goal-directed attributes significantly related to employability intention.	Accepted
H6B: Goal-directed attributes significantly related to entrepreneurial intention.	Accepted
H7A: Ethical and responsible attributes significantly related to employability intention.	Rejected
H7B: Ethical and responsible attributes significantly related to entrepreneurial intention.	Rejected
H8A: Analytical thinking attributes significantly related to employability intention.	Rejected
H8B: Analytical thinking attributes significantly related to entrepreneurial intention.	Accepted
H9A: Artificial intelligence literacy attributes significantly related to employability intention.	Rejected
H9B: Artificial intelligence literacy attributes significantly related to entrepreneurial intention.	Accepted

employability discourse do not necessarily translate directly into employability intention, which appears to depend more on motivational and action-oriented readiness than on broad academic or interpersonal competence alone.

Furthermore, artificial intelligence literacy was not significantly associated with employability intention. This result suggests that, at present, students may not yet consistently perceive AI literacy as a core employability signal, even though labour-market expectations are increasingly moving in that direction. Also it suggests that students may not yet view AI competencies as critical for securing traditional employment—perhaps due to limited exposure to AI-intensive workplaces. However, as AI becomes more integrated across sectors, future cohorts may exhibit different patterns. As noted by Pinski and Benlian (2024), awareness and ethical use of AI are becoming baseline expectations in many industries, implying a lag between institutional curricula and students' perceptions. This gap highlights a critical misalignment between the rapid pace of technological innovation and the slower adaptation of educational systems. In interpretive terms, the finding implies that the strategic value of AI literacy may already be emerging in the labour market before it is fully recognised by students as part of their own employability preparation. While employers are increasingly embedding AI-driven tools in decision-making processes as recognized by Soori et al. (2024), students may underestimate the relevance of AI literacy because it is not yet consistently framed as a core employability skill within higher education. Moreover, there is a cultural and generational dimension to consider. For many students, AI remains associated with specialized roles in data science or computer engineering, rather than being understood as a transversal competency relevant across professions in the fields of management and social sciences. This limited perception could explain why AI literacy does not currently translate into stronger employability intentions. At the same time, Ojan et al. (2025) note that employers' expectations are evolving rapidly, with soft skills and digital adaptability increasingly valued in conjunction with technical proficiency. Consequently, graduates lacking even a basic understanding of AI risks facing a competitive disadvantage in the medium term. Taken together, this finding positions AI literacy as an emerging rather than fully internalised employability capability, which may explain why its present statistical effect remains weak despite its growing relevance in digitally evolving career environments.

Graduate attributes and entrepreneurial intention

In contrast, entrepreneurial intention was most strongly predicted by the enterprising attribute, followed by analytical thinking, continuous learning, AI literacy, goal-directed behaviour, and, to a lesser extent, problem-solving and decision-making. This pattern suggests that entrepreneurial intention is shaped more strongly by attributes associated with initiative, opportunity-oriented thinking and adaptive capability, reflecting the greater uncertainty and autonomy embedded in entrepreneurial pathways. These findings reinforce the notion that entrepreneurial aspiration is driven by traits aligned with innovation, risk-taking, and autonomous decision-making (Anjum et al., 2020; Renko et al., 2021). Beyond confirming prior work, the result also indicates that entrepreneurial intention may depend on a more self-directed and opportunity-sensitive capability profile than employability intention, which helps explain the differing attribute patterns across the two outcomes. The strong impact of enterprising attributes resonates with Shetty et al. (2023), who found that proactivity and resourcefulness were key predictors of entrepreneurial intention in UAE-based studies.

The significant role of AI literacy in predicting entrepreneurial intention, despite its non-significant effect on employability, is particularly noteworthy. This contrast is theoretically informative because it suggests that students may perceive AI literacy less as a requirement for conventional employment and more as a strategic resource for innovation, differentiation and opportunity creation in entrepreneurial settings. This supports recent work by Chalmers et al. (2020) and Moon et al. (2024), which suggest that entrepreneurs, more so than jobseekers, perceive AI capabilities as competitive differentiators in the ideation and business creation process. This finding may also indicate that AI literacy functions as a strategic capability by supporting students' readiness to engage with technology-rich environments and adapt to the changing expectations of the digital economy (Duong, 2026; Nyale et al., 2026). In this sense, AI literacy appears to operate not simply as a technical skill, but as an enabler of entrepreneurial confidence in digitally mediated environments where technology awareness may support both idea development and venture competitiveness. Moreover, analytical thinking has been shown to bolster opportunity recognition and innovative problem-solving—two cognitive mechanisms central to entrepreneurship (Nabi et al., 2018). Its significance in the present study therefore suggests that students with stronger analytical capability may be better positioned to evaluate uncertainty, identify viable opportunities and convert abstract ideas into potential entrepreneurial action.

Interestingly, interactive communication, ethical responsibility, and presenting information did not significantly predict entrepreneurial intention. This result implies that, at the intention stage, students may prioritise attributes linked to initiative and opportunity evaluation over those that become more critical during later stages of venture development and stakeholder engagement. While these attributes are often highlighted in traditional entrepreneurship education, their lack of predictive value in this study may stem from students' limited engagement with

entrepreneurial ecosystems that demand such competencies in practice. This may suggest a disconnect between curricula and experiential learning opportunities, such as start-up incubators or business competitions, which tend to foster applied communication and ethical reasoning skills (Munir et al., 2024). Accordingly, the non-significant effects of these attributes may reflect not their lack of importance for entrepreneurship itself, but their weaker salience in shaping early entrepreneurial intention among students who have not yet engaged deeply with entrepreneurial practice.

Perceived university prestige and university-based business incubator

The analysis also considered two control variables—perceived university prestige and the existence of a university-based business incubator. University prestige was found to have a small yet statistically significant effect on employability intention, consistent with Duggal et al. (2024), who argue that institutional reputation can boost students' self-efficacy and perceived credibility in the job market. This suggests that institutional reputation may still play a signalling role in shaping students' employment-oriented intentions, particularly where perceived prestige enhances confidence in labour-market acceptance and career prospects. However, prestige did not significantly relateentrepreneurial intention, suggesting that entrepreneurial aspirations are less tied to institutional branding and more to individual motivation and opportunity perception (Martínez-Cañas et al., 2023). This contrast is informative because it indicates that employability intention may be more sensitive to external legitimacy cues, whereas entrepreneurial intention appears to depend more strongly on internally driven and opportunity-focused considerations.

Meanwhile, the presence of a university-based incubator had no significant effect on either employability or entrepreneurial intention. This finding suggests that the mere existence of institutional support mechanisms may be insufficient to influence students' intentions unless these are actively experienced, understood and embedded within their educational journey. This result aligns with recent critiques by Mensah et al. (2021), who argue that mere access to incubators does not necessarily translate to student engagement or impact. The visibility, quality, and integration of these incubators within the academic experience may be more critical than their existence alone. In interpretive terms, this implies that institutional resources may shape student intentions not through formal availability, but through the extent to which they are translated into meaningful participation, mentorship and opportunity exposure. Future studies should explore students' actual participation in incubator programmes as a more nuanced indicator of institutional support. Such an approach would help distinguish between symbolic institutional provision and genuinely experienced entrepreneurial support, thereby offering a more precise explanation of how universities influence students' post-graduation intentions.

Conclusion

This study aimed to explore how specific graduate attributes are associated withstudents' employability and entrepreneurial intentions within a UAE higher education context. Drawing on data collected from over 500 university students, and analysed through multivariate multiple regression, the study uncovered a nuanced profile of how attributes such as goal-directed behaviour, continuous learning, and enterprising traits shape distinct career trajectories.

Theoretical contribution

From a theoretical perspective, this research extends existing graduate attribute frameworks by incorporating emerging competencies such as artificial intelligence literacy. Unlike earlier models that primarily focused on traditional cognitive and interpersonal skills (e.g., Coetzee, 2014), this study integrates technologically relevant attributes to reflect current demands in the digital economy. Furthermore, the study distinguishes between employability and entrepreneurial intentions—rather than perceptions—thus offering a behavioural lens aligned with the TPB. Moreover, the results demonstrate that predictors of these two intentions differ considerably, reinforcing the conceptual separation of employability and entrepreneurship as unique developmental outcomes.

Empirical implications

Empirically, the findings generate actionable guidance for both universities and policymakers by identifying the specific levers that shape students' career trajectories. Higher education institutions should prioritise the cultivation of graduate attributes that exert the strongest relationon career intentions rather than relying solely on traditional academic markers. For employability, competencies such as goal-directedness, advanced problem-solving, and the capacity to transfer theoretical knowledge into practical, real-world contexts emerge as particularly decisive, highlighting the value of embedding work-integrated learning and industry collaborations into the curriculum. For entrepreneurial readiness, enterprising behaviour and AI literacy stand out as powerful drivers, suggesting that entrepreneurship education must extend beyond business plan writing to incorporate digital fluency, innovation challenges, and structured exposure to start-up

ecosystems. These findings support curriculum reform that integrates attribute development across disciplines, the expansion of co-curricular opportunities such as hackathons and mentoring schemes, and the strengthening of targeted career services and incubator initiatives designed around measurable skill outcomes. Moreover, the modest effect of university prestige on employability intentions, coupled with the absence of significant influence from institutional incubator presence, underscores that reputation and structural resources alone do not guarantee future-oriented behaviours. Instead, it is the intensity of experiential engagement and the intentional development of transferable attributes that serve as the true catalysts for shaping graduates' employability and entrepreneurial mindsets.

Limitations and future research

Several limitations must be acknowledged. First, the cross-sectional design prevents causal inferences, meaning that we can only observe associations, not directionality or change over time. Second, all measures relied on self-reported data, which may introduce social desirability or recall biases. Third, the study was conducted in a single national context (UAE), which may limit the generalisability of results to other cultural or educational systems.

Future research should employ longitudinal designs to track the development and outcomes of graduate attributes over time. Expanding the model to include mediating factors (e.g., self-efficacy, perceived behavioural control) or moderating variables (e.g., industry type, gender, field of study) could provide deeper explanatory power. Comparative studies across countries or between public and private institutions would also be valuable in validating the robustness of the findings. Finally, as digital and entrepreneurial competencies continue to evolve, future research should explore how students acquire these skills both inside and outside formal education settings. Because the data are cross-sectional, causal inferences cannot be made with certainty. Future longitudinal research could provide stronger evidence regarding the temporal ordering of graduate attributes and post-graduation intentions.

In summary, this study contributes to the growing body of literature on graduate readiness by identifying which personal attributes significantly relate tostudents' intentions to pursue employment or entrepreneurship. By validating the distinct roles of traditional and emerging attributes—particularly in a UAE context—it highlights the need for targeted educational strategies that prepare graduates not just for employment, but for self-driven innovation in an evolving labour market.

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Appendix A: Measurement items

Constructs	Items	Source
Employability intention	EMPI01: Securing a job after graduation is a top priority for me. EMPI02: I am trying my best to become a professional employee. EMPI03: My ultimate goal is to find a good job. EMPI04: The idea of a fixed income monthly is appealing to me. EMPI05: I always search for job opportunities in newspapers and social media. EMPI06: I have no plans to launch my own business.	Authors creation
Entrepreneurial intention	ENPI01: I am ready to do anything to be an entrepreneur. ENPI02: My professional goal is to become an entrepreneur. ENPI03: I will make every effort to start and run my own firm. ENPI04: I am determined to create a firm in the future. ENPI05: I have very seriously thought of starting a firm. ENPI06: I have the firm intention to start a firm someday.	Liñán and Chen (2009).
Interactive attribute	AIA01: I can communicate my viewpoints with clarity and fluency in English. AIA02: I find it easy to listen to and understand what others are saying. AIA03: I find it easy to confront people's problems to resolve conflicts. AIA04: I can use technology effectively to communicate with others. AIA05: I take care to use appropriate vocabulary and grammar when communicating with others. AIA06: I can gain support from others for recommendations and ideas. AIA07: I find it easy to persuade, convince or influence others. AIA08: I find it easy to quickly gain respect from others. AIA09: I usually show respect for the views and contributions of other team members. AIA10: I usually make a favourable first impression. AIA11: I find it easy to make clear, concise presentations to others. AIA12: I find it easy to communicate effectively with people from different cultures backgrounds and authority levels. AIA13: I find it easy to get cooperation and support from others when working in a team. AIA14: I consult others and share my expertise and information. AIA15: I am able to build wide and effective networks of contacts to achieve my goals. AIA16: I seek to progress to roles of increased responsibility and influence.	(Coetzee, 2014).
Problem solving and decision-making attribute	PSDMA01: I make quick but clear decisions that spur others on towards action PSDMA02: I can probe for further information to enhance my understanding of a problem PSDMA03: I can structure information in a way that meets the needs of my audience PSDMA04: I can initiate changes to make my work or life more satisfying and developmental PSDMA05: I consider the complexities of the larger cultural, business and economic reality when approaching a problem or situation PSDMA06: I offer unique and novel ideas that add new knowledge and insights to a problem or situation PSDMA07: I am creative in achieving my goals by anticipating problems before they happen PSDMA08: I usually set priorities with a proper sense of urgency and importance	(Coetzee, 2014).

(continued)

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Constructs	Items	Source
Continuous learning attribute	CLA01: I follow up on goals, tasks and assignments to ensure successful completion CLA02: I monitor my performance against deadlines and milestones CLA03: I make sure that I keep myself up to date on technical knowledge and new developments in my field CLA04: I am always on the lookout for ways to improve my knowledge and skills, and develop myself as a person CLA05: I know how to ask the right questions to get needed information and to properly size up a situation CLA06: I accept and tackle demanding goals with enthusiasm CLA07: I make use of developmental or training opportunities to enhance my competencies, knowledge and skills	(Coetzee, 2014).
Enterprising attribute	ENTPA01: I prefer to work under my own direction ENTPA02: I can think in a disciplined and logical manner when approaching problems or situations ENTPA03: I consider the consequences of solutions by examining their feasibility and weighing their impact within the larger cultural, business or economic reality ENTPA04: My arguments for solutions are grounded in both subject-/discipline-specific and general knowledge about global and local affairs ENTPA05: I am aware of and adept at dealing with organisational or team politics ENTPA06: I keep up to date with competitor information and market trends ENTPA07: I have sound financial awareness	(Coetzee, 2014).
Presenting and applying information attribute	PAIA01: I can write my ideas and opinions clearly to convince my audience PAIA02: I avoid using unnecessary jargon or complicated language when presenting my ideas or insights PAIA03: I find it easy to commit information to memory quickly PAIA04: I consider a wide range of alternatives prior to making a decision PAIA05: The solutions I offer make a positive difference in my personal life, community or workplace	(Coetzee, 2014).
Goal directed attribute	GDA01: I spend a lot of time surfing the internet to find new information on search engines GDA02: I find it easy to access the information I need to solve problems or make decisions GDA03: I avoid jumping to premature conclusions GDA04: I try to find the real cause of problems before taking action GDA05: I usually set realistic goals GDA06: I take action to achieve my goals GDA07: I develop plans for specific goals and tasks GDA08: I use time efficiently GDA09: I find it easy to meet deadlines GDA010: I can identify the resources needed to accomplish tasks	(Coetzee, 2014).
Ethical and responsible attribute	ERA01: I accept responsibility for the results of my decisions and actions ERA02: I personally take the credit or blame for the results of my work ERA03: I uphold the ethics and values of my profession, community or workplace in all I do ERA04: I encourage responsible behaviour towards the community and the environment ERA05: I find it easy to provide direction to others, and to motivate and empower them	(Coetzee, 2014).
Analytical thinking attribute	ATA01: I feel confident in my ability to draw insightful conclusions from numerical data ATA02: I can break information into component parts to see relationships and patterns ATA03: I can make a rational judgment from analysing information and data ATA04: I can give accurate explanations of information and data presented to me	(Coetzee, 2014).

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Constructs	Items	Source
AI literacy attribute	AIL01: I can distinguish between smart devices and non-smart devices AIL02: I can identify the AI technology employed in the applications and products I use. AIL03: I can skillfully use AI applications or products to help me with my daily work. AIL04: I can use AI applications or products to improve my work efficiency. AIL05: I can evaluate the capabilities and limitations of an AI application or product after using it for a while. AIL06: I can choose the most appropriate AI application or product from a variety for a particular task. AIL07: I always comply with ethical principles when using AI applications or products. AIL08: I am always alert to the abuse of AI technology.	Wang et al., 2023
University prestige	UP01: My university is looked upon as a prestigious school in society overall UP02: I think my acquaintances think highly of my university UP03: My university successfully retains a prestigious place in various university ranking systems. UP04: Media coverage about my university is very positive.	Sung and Yang (2008).

Items were measured on a 5-ponint Likert scale.