



Stakeholder Engagement and Entrepreneurship Education among Business Graduates of Chartered Universities in Western Uganda

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ABSTRACT

This study examined the relationship between stakeholder engagement and entrepreneurship education among business graduates of chartered universities in Western Uganda. The study was motivated by the growing recognition that effective entrepreneurship education extends beyond classroom instruction and may benefit from universities' engagement with external stakeholders who provide networks, expertise, mentorship, and resources that enrich entrepreneurial learning. Stakeholder engagement was examined through networking opportunities and leveraging resources, while entrepreneurship education comprised curriculum engagement and pedagogical approaches. A positivist research philosophy and quantitative cross-sectional survey design were adopted. Data were collected electronically through Qualtrics from 776 business graduates recruited through quota-based convenience sampling from four chartered universities in Western Uganda. Data were analysed using IBM SPSS Statistics Version 27 and AMOS through descriptive statistics, Pearson correlations, hierarchical regression, Confirmatory Factor Analysis, and covariance-based Structural Equation Modeling. The findings revealed a positive and statistically significant relationship between stakeholder engagement and entrepreneurship education ($r = .575$, $p < .01$). After controlling for age, gender, and graduation cohort, stakeholder engagement explained an additional 32.9% of the variance in entrepreneurship education ($\Delta R^2 = .329$) and remained positively and significantly associated with entrepreneurship education ($\beta = .575$, $t = 19.556$, $p < .01$). Dimension-level analysis further revealed positive relationships between networking opportunities and leveraging resources and both curriculum engagement and pedagogical approaches. The self-reported findings indicate the relevance of stakeholder engagement to the design and delivery of entrepreneurship education in higher education. Universities should therefore strengthen linkages with entrepreneurs, mentors, alumni, industry actors, and professional networks and systematically integrate stakeholder expertise, networks, and resources into entrepreneurship curricula and experiential pedagogical activities to enrich graduates' entrepreneurial learning experiences.

Keywords: Stakeholder engagement; entrepreneurship education; networking opportunities; leveraging resources; curriculum engagement; pedagogical approaches

INTRODUCTION

Entrepreneurship education has become an important component of higher education as universities respond to changing labor markets, graduate unemployment, and growing expectations that graduates should be capable of identifying and pursuing entrepreneurial opportunities. Contemporary entrepreneurship education increasingly extends beyond classroom instruction to practical learning activities through which students engage with



business problems, entrepreneurial actors, and market environments (Fayolle & Gailly, 2015; Overwien, Jahnke and Leker, 2024). Such learning frequently requires interaction with entrepreneurs, employers, alumni, innovation hubs, financial institutions and other actors who can provide expertise, professional connections and practical exposure that may be difficult to reproduce within the classroom alone.

Stakeholder engagement is therefore relevant to entrepreneurship education because external actors can make resources and relationships available to students. Guest lecturers can introduce current business practices, mentors can provide guidance, firms can create internship opportunities, and entrepreneurship events can connect students with entrepreneurs and potential collaborators (Galvao *et al.*, 2020; Clarysse, Mustar and Dedeyne, 2022). However, stakeholder engagement should not be treated as a single undifferentiated activity. Access to stakeholder resources and opportunities to establish networks represent related but distinct experiences, and they may not relate to curriculum participation and pedagogical practices in the same way.

This distinction is particularly relevant in universities operating in resource-constrained environments. External stakeholders may complement internal university capabilities by providing expertise, practical settings and professional relationships that support entrepreneurship teaching. The value of these external inputs, however, depends on whether they become visible in students' learning experiences. A university may possess partnerships that do not substantially reach the curriculum, while students may participate in networking activities without those activities being connected to formal entrepreneurship teaching.

Previous studies have linked stakeholder engagement to entrepreneurship education, entrepreneurial ecosystems, graduate employability, and university performance (Galvao *et al.*, 2020; Audretsch, Belitski and Cherkas, 2021; Politis *et al.*, 2024). Other studies have emphasized the importance of experiential and practice-oriented entrepreneurship education (Mei and Symaco, 2022; Chang, Alam and Taylor, 2025). Studies frequently rely on broad composite measures, making it difficult to establish whether networking opportunities and stakeholder-provided resources are differently related to curriculum engagement and pedagogical approaches.

The study therefore examined the relationship between stakeholder engagement and entrepreneurship education among business graduates of four chartered universities in Western Uganda. Because both constructs were measured from individual graduates, the evidence is interpreted as graduates' reported experiences of stakeholder engagement and entrepreneurship education rather than as direct measures of university-level strategy. The study retained the global relationship between Stakeholder Engagement and Entrepreneurship Education as the principal test and used the dimensions to explain the internal structure of that relationship.

LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

2.1 Entrepreneurship Education

Entrepreneurship education refers to organized learning experiences intended to develop entrepreneurial knowledge, skills, opportunity recognition and the capacity to apply entrepreneurial thinking in practice. Higher education institutions increasingly combine formal entrepreneurship content with practical learning approaches that encourage students to apply concepts to business cases, projects and entrepreneurial settings (Fayolle and Gailly, 2015; Chang, Alam and Taylor, 2025). In this study, entrepreneurship education was examined through curriculum engagement and pedagogical approaches.

Curriculum engagement captures graduates' participation in entrepreneurship courses and related academic activities together with the practical relevance of the curriculum. Pedagogical approaches capture the methods used to deliver entrepreneurship content, including lectures, case analysis, teamwork and activities that encourage application of entrepreneurial ideas. The distinction is important because the presence of entrepreneurship courses does not necessarily mean that the teaching approach provides practical engagement, while practical pedagogy is unlikely to be effective when curriculum content is weak or disconnected from entrepreneurial realities.

2.2 Stakeholder Engagement

Stakeholder engagement refers to interaction with individuals and organizations whose knowledge, resources, and interests are relevant to university activities and student development (Freeman, 1984). Within higher education, external stakeholders may include entrepreneurs, employers, alumni, financial institutions, innovation hubs, government agencies and community organizations. Their contribution may involve knowledge exchange, mentoring, internships, professional contacts, entrepreneurship events and other forms of support that complement university-based learning (Aversano *et al.*, 2022; Politis *et al.*, 2024). In this study, stakeholder engagement was represented by leveraging resources and networking opportunities. Leveraging resources captures graduates' reported access to stakeholder-provided expertise, mentoring, internship opportunities, and other practical support. Networking opportunities capture graduates' exposure to business networking forums, industry events, entrepreneurs, and collaborative projects. The two dimensions complement one another but are conceptually different: leveraging resources concerns access to useful inputs and support, whereas networking opportunities concern relationships and professional connections.

2.3 Stakeholder Theory

Stakeholder Theory provides the principal theoretical foundation for this paper. Freeman (1984) argues that organizations operate through relationships with actors who possess resources, interests, and capabilities relevant to organizational objectives. Applied to entrepreneurship education, the theory suggests that external stakeholders can complement internal university capabilities by contributing current business knowledge, practical exposure, professional relationships, and access to entrepreneurial settings.

The study uses Stakeholder Theory as an explanatory lens rather than claiming to extend the theory. The theoretical expectation is that stakeholder-provided resources and stakeholder-enabled networks should be associated with the curricular and pedagogical components of entrepreneurship education when those external inputs become connected to students' learning experiences. An institutional partnership that does not reach students' curriculum or pedagogy may have limited relevance to the graduate-reported educational experience.

2.4 Empirical Relationship between Stakeholder Engagement and Entrepreneurship Education

External stakeholders can provide information, professional contacts, mentoring, and practical opportunities that broaden the environment within which students encounter entrepreneurship. Galvao *et al.* (2020) reported that stakeholders contribute to entrepreneurship education and training programs through relationships that connect learning with regional and entrepreneurial practice. Mei and Symaco (2022) emphasized the importance of wider institutional participation in strengthening entrepreneurship education, while Politis *et al.* (2024) highlighted the value of alumni engagement within entrepreneurial university settings.

These studies indicate that stakeholder relationships can be relevant to entrepreneurship education, but do not necessarily establish that all forms of engagement operate in the same way. Resource access may provide concrete inputs that strengthen teaching and practical learning, while networking may broaden students' exposure to entrepreneurs and professional communities. Examining these dimensions separately can therefore provide a more informative account than relying only on an aggregate relationship.

2.5 Conceptual Framework

The conceptual framework proposes positive associations between graduates' reported stakeholder engagement and entrepreneurship education experiences. Leveraging resources captures access to external expertise, mentorship, internships and practical support, while networking opportunities captures exposure to entrepreneurs, industry events and collaborative projects. Curriculum engagement and pedagogical approaches represent reported curricular participation and teaching experiences. The framework concerns individual graduate perceptions; it does not directly measure university partnerships, resource availability or objectively assessed learning outcomes, and its arrows indicate hypothesized associations rather than causal effects.

Figure 1. Conceptual Framework



Source: Adapted from (Freeman, 1984, Fayolle & Gailly, 2015; Aversano et al., 2022).

2.6 Hypothesis Development

Stakeholder Theory suggests that organizations can benefit from relationships with actors who possess complementary resources, knowledge, and expertise. In higher education, graduates with access to stakeholder resources and networking opportunities may also encounter entrepreneurship curricula and teaching approaches more closely connected to practical entrepreneurial settings. Accordingly, the study tested the following hypotheses:

H_{1a}: Leveraging resources is positively associated with curriculum engagement among business graduates.

H_{1b}: Leveraging resources is positively associated with pedagogical approaches among business graduates.

H_{2a}: Networking opportunities are positively associated with curriculum engagement among business graduates.

H_{2b}: Networking opportunities are positively associated with pedagogical approaches among business graduates.

H₃: Stakeholder engagement is positively associated with entrepreneurship education among business graduates of chartered universities in Western Uganda.

METHODOLOGY

3.1 Research Approach and Design

The study adopted a quantitative cross-sectional survey design to examine the relationship between stakeholder engagement and entrepreneurship education among business graduates of chartered universities in Western Uganda. The design was appropriate because the study sought to measure relationships among clearly specified variables using data collected at one point in time (Kumar, 2019). Because the design was observational and cross-sectional, the analyses were interpreted as associations rather than causal effects.

3.2 Study Population and Sampling

The study population comprised 4,558 business graduates who completed their studies between 2021 and 2024 at Mbarara University of Science and Technology, Kabale University, Mountains of the Moon University, and Bishop Stuart University. The study used quota-based convenience sampling, with university and graduation cohort defining the quota categories. Accessible graduates were recruited within these categories to include graduates from the four universities and the 2021–2024 cohorts. The planned sample was 802 graduates, representing 17.6% of the study population. The design provided broad coverage of the selected categories, although recruitment within quotas was non-random and did not establish probability-based population representativeness.

A total of 776 usable questionnaires were retained, representing 96.8% of the planned sample of 802. This percentage describes sample completion relative to the recruitment target rather than a response rate among all graduates contacted. The achieved sample provided 776 observations for the multivariate analyses. Its size supported model estimation but did not eliminate the selection bias associated with convenience recruitment.

3.3 Data Collection and Measurement

Data was collected through a structured questionnaire administered electronically using Qualtrics. Stakeholder Engagement comprised 10 retained indicators: six measuring Leveraging Resources and four measuring Networking Opportunities. These items used a four-point frequency scale ranging from 1 = Never to 4 = Regularly. Entrepreneurship Education comprised 11 retained indicators: six measuring Curriculum Engagement and five measuring Pedagogical Approaches. These items used a five-point agreement scale ranging from 1 = Strongly Disagree to 5 = Strongly Agree. The indicators measure graduates' retrospective perceptions, including perceived benefits of courses and mentorship; they do not directly assess partnership quality, actual resource transfers or entrepreneurial competence.

The measurement items were adapted from established literature and contextualized for business graduates in Ugandan universities. Stakeholder-engagement indicators reflected stakeholder participation, alumni and ecosystem engagement (Aversano et al., 2022; Politis et al., 2024), while entrepreneurship-education indicators reflected curriculum and pedagogical approaches (Fayolle and Gailly, 2015; Chang, Alam and Taylor, 2025). Saved model-based scores were used for the principal correlation and regression analyses, while the retained questionnaire indicators were used for measurement assessment. Descriptive statistics for the saved scores summarize their distributions rather than raw questionnaire response categories. The two constructs used different response scales and were interpreted separately.

3.4 Ethical Approval and Informed Consent

Ethical approval was obtained from the Mbarara University of Science and Technology Research Ethics Committee (MUST-REC), Mbarara, Uganda (Ref. MUST-2025-455). The study was approved by the Committee on 3 July 2025, with formal approval granted for the period 16 September 2025 to 16 September 2026. The Uganda National Council for Science and Technology (UNCST) subsequently approved and registered the research on 1 December 2025 (Registration No. SS4425ES). Electronic informed consent was obtained from all participants before participation. Participants were provided with information about the study and were required to select "Agree" to proceed to the questionnaire or "Disagree" to decline participation.

3.5 Validity and Reliability

The questionnaire was pilot tested among 80 business graduates who were excluded from the main study. Construct suitability was assessed using the Kaiser–Meyer–Olkin measure and Bartlett's Test of Sphericity, while internal consistency was assessed using Cronbach's alpha. The results are presented in Table 1.

Table 1: Pilot Validity and Reliability Results

Construct	Items	KMO	Bartlett χ^2	df	Sig.	Cronbach α
Stakeholder Engagement	10	.923	428.423	45	< .001	.919
Entrepreneurship Education	11	.893	354.184	55	< .001	.892

Source: Pilot Study Data, 2026

Both constructs recorded KMO values above .80, while Bartlett's Test was statistically significant, indicating that the pilot data were suitable for factor analysis. Cronbach's alpha exceeded .70 for both Stakeholder Engagement and Entrepreneurship Education, supporting satisfactory internal consistency.

3.6 Data Analysis

Data were coded, cleaned and analyzed using IBM SPSS Statistics Version 27, while Confirmatory Factor Analysis and covariance-based Structural Equation Modeling were conducted using AMOS. Descriptive statistics summarized respondent characteristics and study variables. Measurement assessment comprised standardized factor loadings, composite reliability (CR), average variance extracted (AVE), HTMT ratios and comparisons of alternative measurement models. Common-method variance was assessed using the first unrotated principal component and a one-factor CFA comparison. Correlation and hierarchical regression



analyses used the saved model-based scores, while CFA and SEM used the retained individual questionnaire indicators.

Pearson correlation analysis examined the bivariate relationships among the global variables and their dimensions. Hierarchical regression tested whether the global Stakeholder Engagement-Entrepreneurship Education relationship remained after age, gender, and graduation cohort were entered as controls. University fixed effects were subsequently introduced as a robustness check. Structural Equation Modeling then examined the differentiated paths from Leveraging Resources and Networking Opportunities to Curriculum Engagement and Pedagogical Approaches. Statistical significance was evaluated at $p < .05$, with principal hypothesis results reported at $p < .01$ where applicable.

RESULTS

Data were collected from 776 business graduates from four chartered universities in Western Uganda and analyzed using descriptive statistics, Confirmatory Factor Analysis, correlation analysis, hierarchical regression, and Structural Equation Modeling.

4.1 Respondent Profile

Table 2: Respondent Profile (N = 776)

Characteristic	Category	Frequency	Percentage (%)
Gender	Male	352	45.4
	Female	424	54.6
Age	20–29 Years	671	86.5
	30–39 Years	97	12.5
	40–49 Years	8	1.0
University	MUST	237	30.5
	MMU	137	17.7
	BSU	285	36.7
	KAB	117	15.1
Employment Status	Employed	407	52.4
	Self-employed	143	18.4
	Employed & Self-employed	44	5.7
	Unemployed	182	23.5

Source: Primary Data, 2026

Respondents were drawn from all four chartered universities. Female graduates constituted 54.6% of the sample, while 86.5% were aged between 20 and 29 years. Bishop Stuart University contributed the largest proportion of respondents (36.7%), followed by MUST (30.5%). More than half of the graduates were employed (52.4%), while 23.5% were unemployed.

4.2 Measurement Model Assessment

4.2.1 Confirmatory Factor Analysis for Stakeholder Engagement

Stakeholder Engagement was represented by Leveraging Resources and Networking Opportunities. The CFA retained six Leveraging Resources indicators and four Networking Opportunities indicators. The results are presented in Table 3 and Figure 2.

Table 3: Confirmatory Factor Analysis Results for Stakeholder Engagement

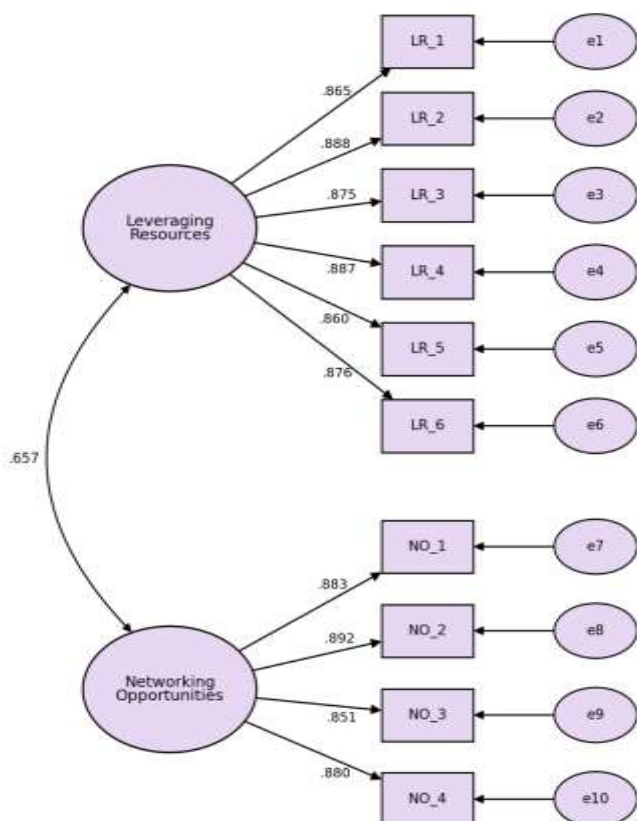
Construct	Indicator	Standardized Loading
Leveraging Resources	LR_1	.865
	LR_2	.888

Construct	Indicator	Standardized Loading
	LR 3	.875
	LR 4	.887
	LR 5	.860
	LR 6	.876
Networking Opportunities	NO 1	.883
	NO 2	.892
	NO 3	.851
	NO 4	.880
Model Fit	$\chi^2 = 43.005$; $df = 34$; $p = .138$; $CMIN/DF = 1.265$; $CFI = .999$; $TLI = .998$; $NFI = .994$; $RMSEA = .018$; $SRMR = .012$	

Source: Primary Data, 2026

The standardized factor loadings ranged from .851 to .892. The stakeholder-engagement CFA yielded $\chi^2(34) = 43.005$, $p = .138$, $CFI = .999$, $TLI = .998$, $NFI = .994$, $RMSEA = .018$ and $SRMR = .012$. The 10 individual indicators provided 55 distinct covariance moments. The reported 34 degrees of freedom correspond to a two-factor simple-structure model with 21 free covariance parameters: eight freely estimated loadings, two factor variances, 10 indicator residual variances and one factor covariance, with one loading per factor fixed for scale identification. The loadings and fit indices supported the two-dimensional representation of Stakeholder Engagement.

Figure 2: Confirmatory Factor Analysis for Stakeholder Engagement



Source: Primary Data, 2026; CFA model

4.2.2 Confirmatory Factor Analysis for Entrepreneurship Education

Entrepreneurship Education was represented by Curriculum Engagement and Pedagogical Approaches. Six Curriculum Engagement indicators and five Pedagogical Approaches indicators were retained. The results are presented in Table 4 and Figure 3.

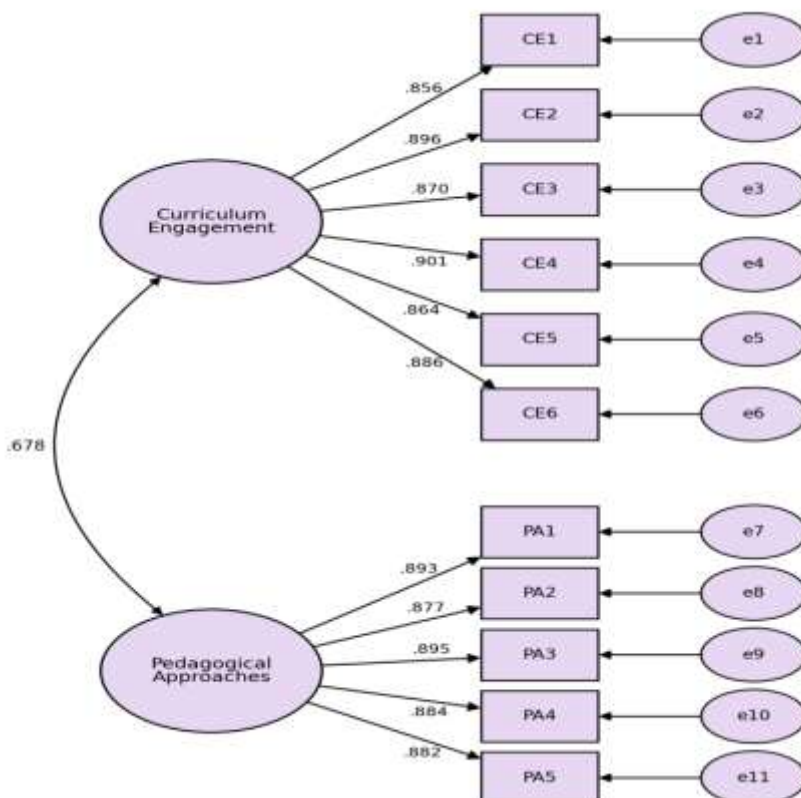
Table 4: Confirmatory Factor Analysis Results for Entrepreneurship Education

Construct	Indicator	Standardized Loading
Curriculum Engagement	CE1	.856
	CE2	.896
	CE3	.870
	CE4	.901
	CE5	.864
	CE6	.886
Pedagogical Approaches	PA1	.893
	PA2	.877
	PA3	.895
	PA4	.884
	PA5	.882
Model Fit	$\chi^2 = 20.867$; $df = 43$; $p = .998$; $CMIN/DF = .485$; $CFI = 1.000$; $TLI = 1.003$; $NFI = .998$; $RMSEA = .000$; $SRMR = .010$	

Source: Primary Data, 2026

The standardized factor loadings ranged from .856 to .901. The 11 individual indicators provided 66 distinct covariance moments. The reported 43 degrees of freedom correspond to a two-factor simple-structure model with 23 free covariance parameters: nine freely estimated loadings, two factor variances, 11 indicator residual variances and one factor covariance, with one loading per factor fixed for scale identification. The model yielded $\chi^2(43) = 20.867$. Because chi-square was below its degrees of freedom, the RMSEA calculation was truncated at zero, while the non-normed TLI marginally exceeded 1.00. Consequently, $CFI = 1.000$, $TLI = 1.003$ and $RMSEA = .000$ were interpreted alongside the factor loadings, CR, AVE, HTMT and alternative-model comparisons rather than as evidence of perfect population fit.

Figure 3: Confirmatory Factor Analysis for Entrepreneurship Education



Source: Primary Data, 2026



4.2.3 Convergent Validity and Composite Reliability

Table 5: Convergent Validity and Composite Reliability

Construct	Items	Loading Range	CR	AVE
Leveraging Resources	6	.860–.888	.952	.766
Networking Opportunities	4	.851–.892	.930	.769
Curriculum Engagement	6	.856–.901	.953	.773
Pedagogical Approaches	5	.877–.895	.948	.786

Source: Primary Data, 2026

Composite reliability ranged from .930 to .953, and AVE ranged from .766 to .786. All CR values exceeded .70, and all AVE values exceeded .50, providing evidence that the retained indicators consistently represented their respective constructs and that the constructs captured substantial variance from their indicators.

4.2.4 Discriminant Validity

Table 6: HTMT Discriminant Validity Results

Construct	LR	NO	CE	PA
Leveraging Resources (LR)				
Networking Opportunities (NO)	.657			
Curriculum Engagement (CE)	.389	.387		
Pedagogical Approaches (PA)	.385	.376	.678	

Source: Primary Data, 2026

All HTMT ratios were below .85. The highest ratio occurred between Curriculum Engagement and Pedagogical Approaches (.678), followed by Leveraging Resources and Networking Opportunities (.657). The findings therefore supported discriminant validity and indicated that the four dimensions were empirically distinguishable despite their positive relationships.

4.2.5 Alternative Measurement Models

Table 7: Comparison of Alternative Measurement Models

Model	χ^2	df	CMIN/DF	CFI	TLI	NFI	RMSEA	SRMR
Four-factor model	135.305	183	.739	1.000	1.003	.992	< .001	.012
Two-factor model	3776.300	188	20.087	.776	.750	.767	.157	.100
One-factor model	8231.935	189	43.555	.497	.442	.492	.234	.205

Source: Primary Data, 2026

The four-factor measurement model fitted the data better than the two-factor and one-factor alternatives. The 21 individual indicators provided 231 distinct covariance moments. The four-factor model's 183 degrees of freedom correspond to 48 free covariance parameters: 17 freely estimated loadings, four factor variances, 21 indicator residual variances and six factor covariances. The corresponding two-factor and one-factor specifications had 43 and 42 free parameters, yielding 188 and 189 degrees of freedom. These parameter counts describe individual-item simple-structure models with one loading fixed per factor, without item parceling, cross-loadings or additional correlated indicator residuals. The unusually favorable four-factor fit was interpreted jointly with the loadings, reliability estimates, convergent validity and discriminant validity results.

4.2.6 Common-Method Bias Assessment

Stakeholder Engagement and Entrepreneurship Education were measured through the same graduate questionnaire, creating a risk of common-method variance from shared response styles, retrospective recall, social desirability and general evaluations of university experience. The first unrotated principal component accounted for 48.5% of variance across the 21 retained indicators. Although this was below the commonly used 50% screening threshold, it did not establish the absence of method bias. The one-factor CFA fitted poorly (CFI = .497, TLI = .442, RMSEA = .234, SRMR = .205), indicating that a single factor did not adequately explain the item covariance structure. Method effects may nevertheless coexist with distinct substantive constructs and inflate their associations. The results were therefore interpreted as associations between graduate perceptions, with same-source measurement retained as a study limitation.

4.3 Descriptive Statistics

Table 8: Descriptive Statistics for Study Variables

Variable	N	Mean	Std. Deviation
Networking Opportunities	776	2.850	.340
Leveraging Resources	776	2.900	.340
Stakeholder Engagement	776	2.900	.340
Curriculum Engagement	776	3.350	.430
Pedagogical Approaches	776	3.400	.420
Entrepreneurship Education	776	3.414	.429

Source: Primary Data, 2026

Stakeholder Engagement recorded a saved-score mean of 2.900 (SD = .340), while Entrepreneurship Education recorded a mean of 3.414 (SD = .429). Leveraging Resources had a slightly higher mean than Networking Opportunities, and Pedagogical Approaches had a slightly higher mean than Curriculum Engagement. These statistics describe the model-based score distributions. Because the global constructs used different questionnaire scales, their means were interpreted separately and did not directly measure institutional resource availability or objectively assessed entrepreneurial competence.

4.4 Correlation Analysis

Table 9: Correlation Matrix for Stakeholder Engagement and Entrepreneurship Education

Variable	1	2	3	4	5	6
Networking Opportunities-1	1					
Leveraging Resources-2	.680**	1				
Stakeholder Engagement-3	.813**	.837**	1			
Curriculum Engagement-4	.382**	.393**	.470**	1		
Pedagogical Approaches-5	.391**	.402**	.481**	.683**	1	
Entrepreneurship Education-6	.467**	.481**	.575**	.817**	.836**	1

** Correlation is significant at the 0.01 level (1-tailed), (N = 776)

Source: Primary Data, 2026

Table 9 shows that Stakeholder Engagement had a positive and statistically significant relationship with Entrepreneurship Education ($r = .575$, $p < .01$). This indicates that graduates who reported higher levels of stakeholder engagement also tended to report stronger experiences in entrepreneurship education. The direction and significance of the global relationship supported H3. The dimension-level correlations were also positive and provide additional detail on the structure of the relationship.

4.5 Hierarchical Regression Analysis

Hierarchical regression analysis was conducted to determine whether the relationship between Stakeholder Engagement and Entrepreneurship Education remained after accounting for age, gender, and graduation cohort. The three controls were entered into Model 1, followed by Stakeholder Engagement in Model 2.

Table 10: Hierarchical Regression Coefficients

Model	Predictor or statistic	B	SE B	β	t or F	p
1	Constant	-55.114	28.111	—	-1.961	.050
1	Age group	-.024	.040	-.022	-.607	.544
1	Gender	-.039	.031	-.046	-1.279	.201
1	Graduation cohort	.029	.014	.075	2.085	.037
2	Constant	-27.058	23.042	—	-1.174	.241
2	Age group	-.033	.033	-.029	-1.002	.317
2	Gender	-.055	.025	-.064	-2.185	.029
2	Graduation cohort	.014	.011	.036	1.236	.217
2	Stakeholder engagement	.725	.037	.575	19.556	< .001
1	R / R ² / adjusted R ²	.091 / .008 / .004				
1	Residual SE	.428				
1	Overall F (3, 772)	2.139; p = .094				
1	ΔR^2 / ΔF	.008 / 2.139; p = .094				
2	R / R ² / adjusted R ²	.581 / .337 / .334				
2	Residual SE	.350				
2	Overall F (4, 771)	98.003; p < .001				
2	ΔR^2 / ΔF (1, 771)	.329 / 382.424; p < .001				

Dependent variable: Entrepreneurship Education saved score. N = 776. Age group and gender were coded numerically; graduation cohort uses calendar year. SE B = coefficient standard error. Coefficient p-values are two-sided. The control-only model is Model 1; Model 2 adds Stakeholder Engagement. Model summary values are rounded to three decimals.

Source: Primary Data, 2026

Table 10 shows that age, gender, and graduation cohort jointly explained only 0.8% of the variation in Entrepreneurship Education in Model 1 ($R^2 = .008$, $F = 2.139$, $p = .094$), indicating that the control block was not statistically significant overall. Age and gender were not individually significant in Model 1, although the graduation cohort showed a small but significant coefficient ($\beta = .075$, $p = .037$). When Stakeholder Engagement was introduced in Model 2, the explained variation increased to 33.7% ($R^2 = .337$), representing an additional 32.9% of explained variation ($\Delta R^2 = .329$, $F\text{-change} = 382.424$, $p < .01$). Stakeholder Engagement remained positive and statistically significant ($B = .725$, $\beta = .575$, $t = 19.556$, $p < .01$). In the final model, age and graduation cohort were not significant, while gender showed a small negative coefficient ($\beta = -.064$, $p = .029$). The model left 66.3% of the variation in Entrepreneurship Education unexplained, indicating that other educational, institutional and individual factors not included in the model also account for differences in graduates' entrepreneurship education experiences.

4.6 University Fixed-Effects Robustness Check

Because respondents were drawn from four universities, university fixed effects were added as a supplementary robustness check. Their inclusion increased R^2 from .337 to .345 ($\Delta R^2 = .008$), and the university block produced $F\text{-change} = 3.297$ ($p = .020$), indicating modest institutional variation in reported entrepreneurship education.

Stakeholder Engagement nevertheless remained positive and statistically significant ($B = .726, p < .01$). The principal relationship was therefore not explained away by differences among the four universities.

4.7 Structural Equation Modeling

The structural model specified four paths from Leveraging Resources and Networking Opportunities to Curriculum Engagement and Pedagogical Approaches, a covariance between the two predictor factors and a covariance between the two outcome disturbances. Measurement comprised the 21 individual indicators. This structural arrangement reparameterized the freely correlated four-factor covariance structure: four regression paths, one predictor covariance and one outcome-disturbance covariance replaced six factor covariances, while outcome disturbance variances replaced outcome factor variances. The model therefore retained 48 free covariance parameters and 183 degrees of freedom. Its identical fit to the measurement model was expected from this specification and did not independently confirm the directional hypotheses. Model fit was $\chi^2(183) = 135.305$, CFI = 1.000, TLI = 1.003, NFI = .992, RMSEA = .000 and SRMR = .012. Hypothesis interpretation was based on the individual path coefficients and their significance.

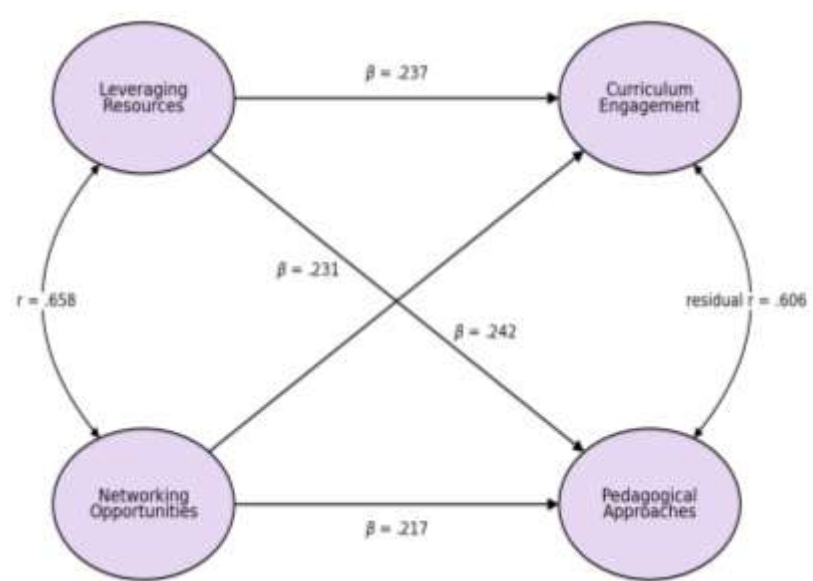
Table 11: Dimension-Level Structural Relationships

Structural Path	Standardized β	Sig.
Leveraging Resources $\rightarrow$ Curriculum Engagement	.237	< .001
Networking Opportunities $\rightarrow$ Curriculum Engagement	.231	< .001
Leveraging Resources $\rightarrow$ Pedagogical Approaches	.242	< .001
Networking Opportunities $\rightarrow$ Pedagogical Approaches	.217	< .001

Source: Primary Data, 2026

All four dimension-level structural paths were positive and statistically significant. Leveraging Resources recorded slightly larger standardized coefficients than Networking Opportunities for both Curriculum Engagement and Pedagogical Approaches, although the differences between the coefficients were not formally tested. The findings indicate that both access to stakeholder-supported resources and opportunities for networking were related to the curriculum and pedagogical experiences reported by graduates. These dimension-level findings complement rather than replace the principal global relationship between Stakeholder Engagement and Entrepreneurship Education.

Figure 4: Structural Equation Model for the Dimension-Level Relationships



Source: Primary Data, 2026; Structural model

Leveraging Resources had the largest standardized coefficient for Pedagogical Approaches ($\beta = .242$). For Curriculum Engagement, the coefficient for Leveraging Resources ($\beta = .237$) was slightly larger than that for Networking Opportunities ($\beta = .231$). Networking Opportunities was also positively associated with Pedagogical Approaches ($\beta = .217$). These differences were descriptive because equality of the path coefficients was not formally tested. Leveraging Resources and Networking Opportunities were positively correlated ($r = .658$). The outcome-disturbance correlation of .606 indicated remaining shared variation between Curriculum Engagement and Pedagogical Approaches after accounting for the two stakeholder-engagement dimensions.

DISCUSSION

The study established a positive and statistically significant relationship between Stakeholder Engagement and Entrepreneurship Education among business graduates of chartered universities in Western Uganda. The global correlation ($r = .575$) and hierarchical regression result ($\beta = .575$) showed that graduates who reported stronger stakeholder engagement also tended to report stronger experiences in entrepreneurship education. The relationship remained evident after accounting for the selected controls and after introducing university fixed effects as a robustness check. The finding is therefore interpreted as a stable association within the observed data rather than evidence that stakeholder engagement caused improvements in entrepreneurship education.

The global relationship is consistent with Stakeholder Theory, which emphasizes the relevance of relationships with actors who possess complementary knowledge, resources, and interests (Freeman, 1984). In a university setting, entrepreneurs, employers, alumni, innovation actors, and other stakeholders can provide practical exposure, current business information, and professional connections that complement formal instruction. The present study does not claim to extend Stakeholder Theory. Instead, it shows that the theory provides an appropriate lens for understanding why graduates who report greater access to stakeholder resources and networks also report stronger experiences in entrepreneurship education.

The dimension-level results provide greater explanatory detail than a single composite-to-composite model. Leveraging Resources was positively related to both Curriculum Engagement and Pedagogical Approaches. This means that graduates who reported greater access to stakeholder-provided support, expertise, and practical opportunities also tended to report stronger curriculum and pedagogy. Networking Opportunities were similarly related to both educational dimensions, suggesting that exposure to business forums, industry events, and entrepreneurs was associated with stronger engagement with entrepreneurship learning. These findings correspond with Galvao *et al.* (2020) and Mei and Symaco (2022), who emphasize the relevance of external participation and practical exposure in entrepreneurship education.

The slightly larger coefficients for Leveraging Resources than Networking Opportunities suggest that access to concrete stakeholder inputs may be particularly relevant to entrepreneurship education, although the coefficient differences were not formally tested. Networking may create exposure and relationships, but its educational value may depend on whether those relationships provide usable expertise, mentoring, industry information, or practical opportunities that become connected to teaching and learning. This interpretation helps clarify the process that was previously left implicit in the direct global relationship.

The Western Ugandan setting adds contextual value because universities in environments with limited internal entrepreneurial resources may rely on external actors to complement what formal teaching can provide. The study did not directly measure institutional resource scarcity or universities' capacity to absorb and integrate external inputs, so this explanation remains theoretically informed rather than directly tested. Future research should examine those organizational processes and determine when external stakeholder engagement is most effectively translated into curriculum and pedagogy.

CONCLUSION

This study examined the relationship between Stakeholder Engagement and Entrepreneurship Education among 776 business graduates from four chartered universities in Western Uganda. Stakeholder Engagement was positively and statistically significantly associated with Entrepreneurship Education, and this relationship remained evident after accounting for selected respondent characteristics and university differences. The study



therefore concludes that graduates who report stronger stakeholder engagement experiences also tend to report stronger experiences with the entrepreneurship curriculum and pedagogy.

The dimension-level analysis further showed that both Leveraging Resources and Networking Opportunities were positively associated with Curriculum Engagement and Pedagogical Approaches. These findings demonstrate the value of retaining the global constructs while also examining their internal dimensions. Because the study was cross-sectional, the findings do not establish that stakeholder engagement causes changes in entrepreneurship education.

PRACTICAL IMPLICATIONS

Universities should develop structured mechanisms to connect external stakeholders with entrepreneurship programs. Entrepreneurs, alumni, employers, financial institutions, and innovation-support organizations can contribute guest sessions, mentoring, industry cases, internship opportunities, and practical feedback on student business ideas. The value of such engagement is likely to be greater when these inputs are deliberately connected to curriculum objectives rather than occurring in isolation.

Curriculum developers and entrepreneurship educators should identify where stakeholder resources and networks can add value to specific learning activities. Industry cases can be integrated into case analyses, mentors can provide feedback on student projects, entrepreneurs can contribute to opportunity-recognition exercises, and networking events can be linked to reflective assignments or business development tasks. Such arrangements can create a clearer connection between external stakeholder exposure and educational experience.

Higher-education policymakers can support university–ecosystem collaboration through incentives and platforms that encourage sustained engagement between universities and entrepreneurial actors. Policy should, however, recognize that the existence of partnerships does not automatically mean that students experience stronger learning. Attention should also be given to how external inputs are coordinated and integrated into entrepreneurship curricula and pedagogy.

LIMITATIONS AND FUTURE RESEARCH

The study has several limitations. The cross-sectional design captured graduates' perceptions at one point in time and therefore cannot establish causal direction. Graduates with particularly positive university experiences may have evaluated both Stakeholder Engagement and Entrepreneurship Education more favorably, while retrospective recall may also affect responses. The same-source questionnaire design further increases the likelihood of common-method bias. Although the statistical diagnostics did not support a single-factor explanation of the data, they cannot eliminate all same-source effects.

The quota-based convenience design included graduates from each university and graduation cohort but did not establish probability-based population representativeness. Non-random access and voluntary participation may have introduced selection bias. The 96.8% figure represented completion relative to the planned sample rather than a response rate among all graduates contacted. Generalization beyond the participating graduates should therefore remain cautious. The inclusion of only four universities also limited institutional-level analysis; university fixed effects accounted for observed differences among those universities but did not remove recruitment bias or all within-university dependence.

Stakeholder Engagement and Entrepreneurship Education were measured as individual graduate perceptions. The study did not directly measure institutional partnership activity, actual university resources or objectively assessed entrepreneurship-learning outcomes. Further studies should combine graduate questionnaires with university partnership records, program-manager evidence, external stakeholder accounts and direct learning assessments. Longitudinal research could examine whether changes in stakeholder exposure precede changes in curricular participation, pedagogical experiences and entrepreneurial learning outcomes.

Further research should investigate whether universities' capacity to integrate external resources into their curricula and pedagogy helps explain when stakeholder engagement is most useful. Studies involving larger

numbers of universities could examine institutional variation through multilevel modelling, while additional research could distinguish stakeholder categories to determine whether entrepreneurs, alumni, employers, financial institutions and innovation hubs relate differently to particular components of entrepreneurship education.

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Declaration of Conflicting Interests

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Ethical Approval and Informed Consent Statement

Ethical approval for this study was obtained from the Mbarara University of Science and Technology Research Ethics Committee (MUST-REC), Mbarara, Uganda (Ref. MUST-2025-455), and the study was approved and registered by the Uganda National Council for Science and Technology (UNCST; Registration No. SS4425ES). Permission to conduct the study was also obtained from the participating chartered universities. Electronic informed consent was obtained from all participants before participation; respondents were required to indicate their agreement to participate before proceeding to the online questionnaire.

Data Availability Statement

The data supporting the findings of this study are available from the corresponding author upon reasonable request.

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