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Modeling the Transformation in University Mission and Entrepreneurial Culture on Entrepreneurial Orientation with the Mediating Role of Entrepreneurial Education (Case Study: Islamic Azad University, Region 2)

ABSTRACT

This study was conducted with the aim of modeling the impact of the transformation in the university mission and entrepreneurial culture on entrepreneurial orientation, with the mediating role of entrepreneurial education (Case Study: Islamic Azad University, Region 2). From the perspective of purpose, this research is applied, and methodologically, it is descriptive-correlational, specifically under the category of structural equation modeling. The statistical population included all faculty members of Islamic Azad University (Region 2), totaling 1,200 individuals. Out of this population, 280 individuals were selected as the research sample through stratified random sampling. A researcher-made questionnaire was used to collect the data. The reliability of the questionnaire components, calculated using Cronbach's alpha, was 0.75 for entrepreneurial education, 0.82 for entrepreneurial culture, 0.74 for university mission, and 0.84 for entrepreneurial orientation. To validate the proposed model, the structural equation modeling technique with the maximum likelihood estimation method was applied. The results indicated that the structural model of the research fit well with the empirical data. Entrepreneurial culture had a direct effect on entrepreneurial education (β = 0.507) and entrepreneurial orientation (β = 0.333) ($p < .05$). The direct effect of the university mission on entrepreneurial education (β = 0.415) and entrepreneurial orientation (β = 0.188) was also statistically significant ($p < .05$). Furthermore, entrepreneurial education had a direct effect on entrepreneurial orientation (β = 0.413). The indirect effect of entrepreneurial culture on entrepreneurial orientation through the mediating variable of entrepreneurial education was statistically significant (β = 0.209). However, the indirect effect of the university mission on entrepreneurial orientation through the mediating variable of entrepreneurial education was not statistically significant (β = 0.171). Therefore, policymakers and planners at Islamic Azad University and other educational institutions can utilize the findings of this study to formulate strategies and solutions aimed at enhancing entrepreneurial activities among faculty members.

Keywords: Entrepreneurial education, Entrepreneurial culture, Entrepreneurial orientation, University mission

Introduction

In the evolving landscape of higher education, the role of universities has transcended traditional academic functions, pivoting toward innovation, entrepreneurship, and the commercialization of knowledge. The shift from first- and second-generation universities to entrepreneurial universities—also known as third-generation universities—has emerged as a strategic necessity, particularly in knowledge-driven economies [1, 2]. These institutions are no longer confined to teaching

and research but are now expected to actively contribute to economic development, societal innovation, and sustainable progress [3, 4]. This paradigmatic transformation necessitates the internalization of entrepreneurial orientation as a cultural and operational core within academic systems [5, 6].

In this context, entrepreneurial education serves as a critical conduit for developing entrepreneurial competencies among students and academic staff alike. By embedding entrepreneurship into curricula and extracurricular activities, universities not only shape entrepreneurial mindsets but also foster intentions and behaviors conducive to venture creation and innovation [7, 8]. This educational transformation is particularly vital in countries undergoing economic transitions or seeking to diversify their knowledge economies, such as Iran. The experience of third-generation universities in leading economies demonstrates that entrepreneurial education is a pivotal pillar for nurturing entrepreneurial orientation among academic communities [2, 9].

However, institutional efforts to enhance entrepreneurial orientation are not solely determined by pedagogical reforms. The culture of entrepreneurship within universities, encompassing shared values, beliefs, and support systems for innovation and risk-taking, significantly influences the development of entrepreneurial intention and behavior among faculty and students [10, 11]. Entrepreneurial culture enables a climate where experimentation is encouraged, failure is tolerated, and interdisciplinary collaboration is promoted. Without such a culture, even the most robust educational strategies may fall short of their transformative potential [12, 13].

Simultaneously, the university's mission—whether formally articulated or informally practiced—plays an instrumental role in orienting institutional behavior toward entrepreneurship. A mission grounded in knowledge commercialization, community engagement, and innovation provides a framework through which entrepreneurial objectives are institutionalized [14, 15]. As noted in recent studies, aligning university missions with entrepreneurial goals reinforces the coherence of strategic planning, resource allocation, and academic performance evaluation in ways that encourage entrepreneurial outcomes [16, 17].

This study examines the relationship between three key constructs—entrepreneurial education, entrepreneurial culture, and the university mission—and their impact on entrepreneurial orientation, using Islamic Azad University (Region 2) as a case study. Entrepreneurial orientation, in this research, is understood as a multidimensional construct encompassing innovation, risk-taking, proactiveness, autonomy, and competitive aggressiveness, as conceptualized in contemporary entrepreneurship literature [18, 19]. The research aims to explore both the direct effects of entrepreneurial culture and university mission on entrepreneurial orientation and the mediating role of entrepreneurial education in these relationships.

The need for such research is underscored by the growing attention to sustainable higher education development and the operationalization of entrepreneurial models in Iranian universities [20, 21]. While various conceptual and applied models of third-generation universities have been proposed, there remains a gap in empirically grounded frameworks that test the interplay of educational, cultural, and mission-oriented variables within the Iranian academic ecosystem. Notably, Iranian scholars have emphasized the importance of entrepreneurial capacity-building and the alignment of structural and cultural variables to enable such transformation [22, 23].

As recent research suggests, entrepreneurial education has a powerful influence not only on individual competencies but also on organizational transformation. Studies have found that when integrated with institutional strategy, entrepreneurial training programs enhance the entrepreneurial self-efficacy of students and staff, increase start-up initiatives, and improve

institutional responsiveness to external opportunities [24, 25]. In the Iranian context, where public universities often face constraints in funding and governance autonomy, entrepreneurial education can serve as a lever for adaptive reform and institutional resilience [26, 27].

Moreover, entrepreneurial culture has been associated with enhanced learning outcomes, knowledge transfer, and value creation within university environments. A culture that rewards initiative and supports entrepreneurial ventures can contribute to the development of dynamic capabilities among academic actors, enabling them to recognize and exploit market opportunities [28, 29]. Entrepreneurial universities, therefore, not only deliver educational content but also act as entrepreneurial ecosystems that support spin-offs, incubators, and industry partnerships [30, 31].

Equally important is the role of the university's mission in driving entrepreneurial engagement. As shown in the literature, mission statements that emphasize innovation, societal impact, and entrepreneurial development are more likely to foster institutional support mechanisms for entrepreneurship [32, 33]. Mission alignment facilitates coherence across academic units and helps in establishing performance metrics that reward entrepreneurial activity rather than penalizing deviation from traditional academic norms [7, 15].

Taken together, the integration of entrepreneurial education, culture, and mission orientation forms the backbone of a successful transition toward entrepreneurial universities. However, it remains unclear how these factors interact in shaping the entrepreneurial orientation of faculty members, particularly within the administrative and policy structures of Iranian universities. This study fills this gap by employing a structural equation modeling (SEM) approach to assess both the direct and mediated pathways through which these constructs influence entrepreneurial orientation.

Methods and Materials

The present study is applied in terms of its objective, and methodologically, it is a correlational study within the domain of structural equation modeling (SEM). Given that the data collected were quantitative in nature, the research is classified as non-experimental in terms of variable control. The statistical population of this study consisted of all faculty members at Islamic Azad University (Region 2), totaling 1,200 individuals. The sampling method employed was stratified random sampling. Faculty members from the cities of Urmia, Khoy, and Mahabad were selected proportionally across different subgroups.

Since the methodology of structural equation modeling closely resembles certain aspects of multivariate regression, the principles of sample size determination in multivariate regression were applied to determine the sample size for SEM. Using stratified random sampling, 280 individuals were selected as the research sample. Data were collected using a researcher-made questionnaire. The questionnaire contained 64 items measured on a five-point Likert scale and consisted of four components: entrepreneurial education, entrepreneurial culture, entrepreneurial leadership, and entrepreneurial orientation.

To assess the validity of the questionnaire, content validity was employed. The questionnaire was reviewed and approved by university professors and subject matter experts, and necessary modifications were made. The results of the reliability analysis using Cronbach's alpha indicated values of 0.75 for entrepreneurial education, 0.82 for entrepreneurial culture, 0.74 for university mission, and 0.84 for entrepreneurial orientation.

For descriptive data analysis, measures of central tendency and dispersion were used. To test the research hypotheses, structural equation modeling with the maximum likelihood estimation method was applied. Data analysis was conducted using SPSS version 26 and AMOS version 24 software.

Findings and Results

Table 1 presents the descriptive statistics of the research variables.

Table 1

Descriptive Statistics of Research Variables

Latent Variable	Factor	Mean	Std. Deviation	Skewness	Kurtosis	Min	Max
Entrepreneurial Orientation	Autonomy	2.03	0.70	1.75	1.16	1.17	5.00
	Competitive Aggressiveness	2.25	0.65	0.68	0.11	1.00	2.25
	Proactiveness	2.21	0.68	1.04	0.88	1.25	4.50
	Innovation	2.21	0.67	1.06	1.27	1.00	5.00
	Risk-Taking	2.14	0.65	1.00	1.04	1.00	4.00
Entrepreneurial Education	Entrepreneurial Intent	12.58	4.15	-0.66	-0.66	1.00	19.00
	Economic Structure	14.09	5.19	-0.11	-0.51	3.00	25.00
	Entrepreneurial Attitude	16.08	5.52	-0.21	-0.68	4.00	26.00
	Entrepreneurial Thinking	11.89	4.32	-0.22	-0.42	1.00	20.00
Entrepreneurial Culture	Flexibility	15.87	4.40	-0.35	-0.19	4.00	24.00
University Mission	Mission-Oriented	14.19	5.21	-0.34	-0.58	1.00	24.00
	Participatory	18.23	5.52	-0.23	-0.85	5.00	27.00
	First Generation	17.04	4.42	1.32	1.05	10.00	33.00
	Second Generation	15.31	4.42	1.26	1.43	8.00	29.00
	Third Generation	15.01	3.93	1.10	1.54	8.00	30.00

According to the results reported in Table 1, the means of the variables autonomy, competitive aggressiveness, proactiveness, innovation, and risk-taking were 2.03, 2.25, 2.21, 2.21, and 2.14, respectively. The standard deviations for these variables were 0.70, 0.65, 0.68, 0.67, and 0.65, respectively.

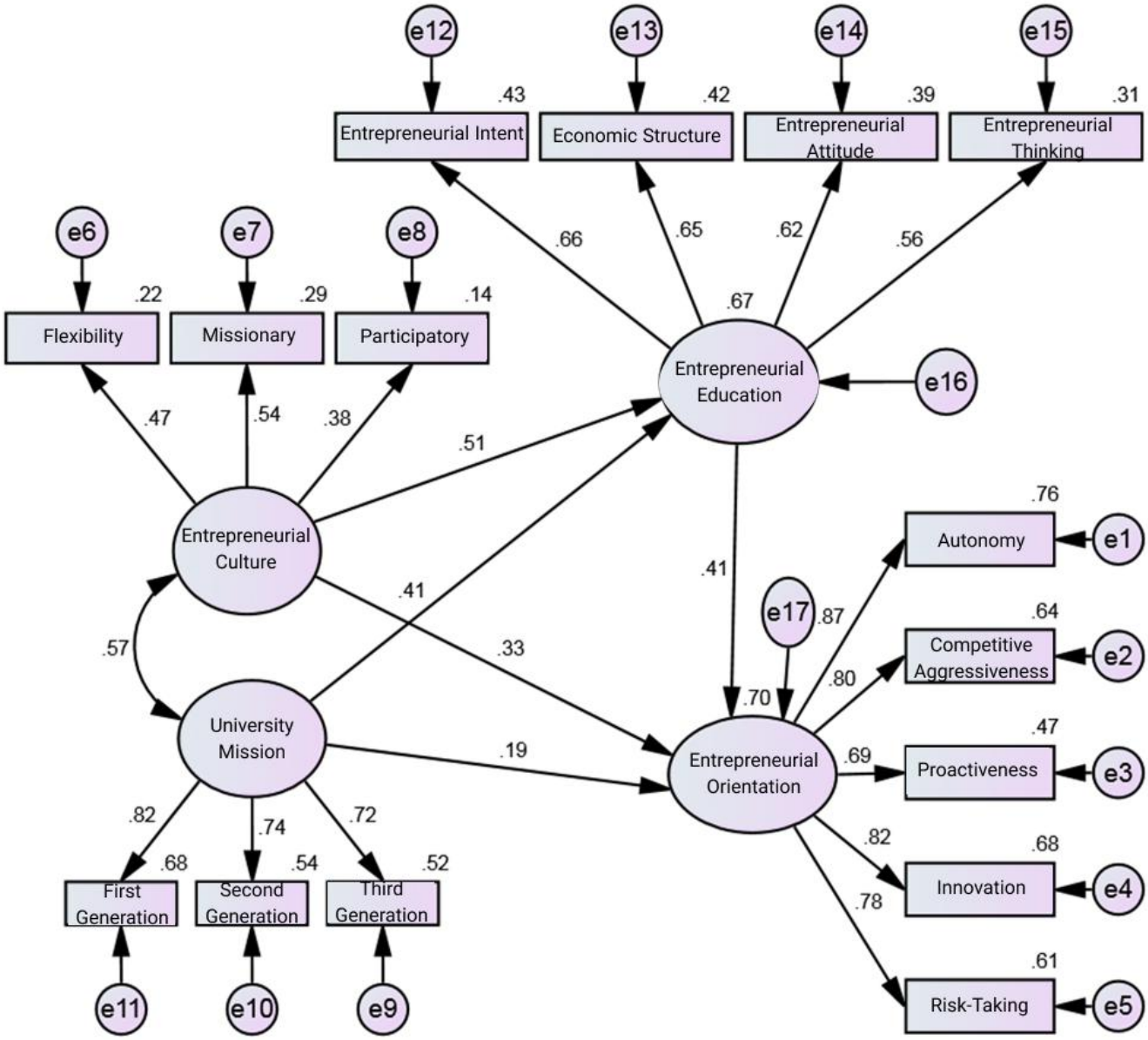
To assess the normality of variable distributions, skewness and kurtosis indices were used. The skewness values for autonomy, competitive aggressiveness, proactiveness, innovation, and risk-taking were 1.75, 0.68, 1.04, 1.06, and 1.00, respectively, and their corresponding kurtosis values were 1.16, 0.11, 0.88, 1.27, and 1.04.

As observed, the skewness and kurtosis indices fall within the range of ±2, indicating that the distributions of the variables are approximately normal. The minimum scores obtained for autonomy, competitive aggressiveness, proactiveness, innovation, and risk-taking were 1.17, 1.25, 1.00, 1.00, and 1.00, respectively. The maximum scores obtained were 5.00, 2.25, 4.50, 5.00, and 4.00, respectively.

The conceptual model presented in this study, developed based on theoretical foundations, was analyzed using structural equation modeling. The figure below presents the structural model of the study.

Figure 1

Structural Model of the Study (Standardized Beta Coefficients)



The following table presents the model fit indices:

Table 2

Model Fit Indices

Fit Indices	χ^2	df	χ^2/df	RMSEA	GFI	AGFI	IFI	TLI	CFI
Research Model	163.83	84	1.95	0.058	0.925	0.893	0.954	0.941	0.953
Acceptable Value	Close to 0	–	<3	<0.08	>0.90	>0.80	>0.90	>0.90	>0.90

The model fit indices of the proposed research model shown in Table 2 indicate that all fit indices fall within the acceptable range, confirming the adequacy of the model fit.

The following table presents the unstandardized and standardized path coefficients for the main dependent and mediating variables:

Table 3

Path Coefficients for Variables in the Model

Path	Standardized Coefficient (β)	Unstandardized Coefficient	Standard Error	t-value	sig
Entrepreneurial Culture → Entrepreneurial Education	0.507	0.246	0.078	3.152	.002
Entrepreneurial Culture → Entrepreneurial Orientation	0.333	0.442	0.215	2.058	.040
University Mission → Entrepreneurial Education	0.415	0.122	0.034	3.580	.001
University Mission → Entrepreneurial Orientation	0.188	0.151	0.073	2.082	.037
Entrepreneurial Education → Entrepreneurial Orientation	0.413	1.132	0.427	2.653	.008

According to Table 3, the standardized direct effect of entrepreneurial culture on entrepreneurial education and entrepreneurial orientation is 0.507 and 0.333, respectively. The corresponding t-values are 3.152 and 2.058, with significance levels below 0.05, indicating that both effects are statistically significant. Therefore, entrepreneurial culture has a significant direct effect on both entrepreneurial education and entrepreneurial orientation.

Similarly, the standardized direct effect of the university mission on entrepreneurial education and entrepreneurial orientation is 0.415 and 0.188, respectively, and both are statistically significant at the 0.05 level. Thus, the university mission also exerts a significant direct effect on entrepreneurial education and entrepreneurial orientation.

Finally, the direct effect of the mediating variable—entrepreneurial education—on entrepreneurial orientation is 0.413, with a significance level of 0.008, which is below the 0.05 threshold. Therefore, entrepreneurial education has a significant direct effect on entrepreneurial orientation.

To assess the mediating role of entrepreneurial education, indirect effects between the predictor and criterion variables were evaluated. The bootstrap method with 500 iterations was used. The table below presents standardized indirect effects, 95% confidence intervals, and the significance of indirect paths:

Table 4

Standardized Indirect Effects of Entrepreneurial Education as a Mediator on Entrepreneurial Orientation

From Latent Variable	Via Mediator	To Criterion Variable	Indirect Effect	sig	95% CI Lower	95% CI Upper
Entrepreneurial Culture	Entrepreneurial Education	Entrepreneurial Orientation	0.209	.034	0.047	0.901
University Mission	Entrepreneurial Education	Entrepreneurial Orientation	0.171	.079	-0.009	0.412

Based on the data in Table 4, the indirect effect between entrepreneurial culture and entrepreneurial orientation through the mediating variable of entrepreneurial education is statistically significant. Therefore, the mediating role of entrepreneurial education in the relationship between these two variables is confirmed.

However, the indirect effect between university mission and entrepreneurial orientation through the mediating variable of entrepreneurial education is not statistically significant (sig = .079). Therefore, the mediating role of entrepreneurial education in this relationship is not supported.

Discussion and Conclusion

The primary objective of this study was to investigate the effect of university mission and entrepreneurial culture on entrepreneurial orientation, with the mediating role of entrepreneurial education, in the context of Islamic Azad University, Region 2. The findings confirmed that the structural model had an acceptable level of fit, as indicated by the goodness-of-fit indices. More importantly, the results demonstrated that both entrepreneurial culture and university mission had statistically

significant direct effects on entrepreneurial orientation. Additionally, entrepreneurial education played a partial mediating role between these institutional factors and entrepreneurial orientation.

The results showed that entrepreneurial culture had a significant and positive direct effect on entrepreneurial orientation. This finding aligns with prior research that highlights the role of cultural transformation in academic institutions as a key enabler of entrepreneurial behavior. As universities evolve into third-generation institutions, the internal culture must support values such as innovation, risk-taking, autonomy, and proactive engagement with external opportunities [10, 12]. The present study reinforces this by demonstrating that entrepreneurial culture influences not only entrepreneurial orientation directly but also indirectly through entrepreneurial education. This suggests that cultural support for entrepreneurship enables a learning environment where entrepreneurial competencies can be effectively nurtured [11, 29].

Similarly, the direct effect of the university's mission on entrepreneurial orientation was statistically significant, although weaker than the effect of culture. This supports the assertion that mission-driven strategies emphasizing entrepreneurship and innovation serve as strategic anchors for aligning institutional activities with entrepreneurial outcomes [14, 15]. When an academic institution defines its mission in entrepreneurial terms—such as emphasizing knowledge commercialization, industry collaboration, and societal impact—faculty members are more likely to engage in entrepreneurial activities. However, the relatively lower strength of the direct effect of the university mission on entrepreneurial orientation, compared to that of entrepreneurial culture, suggests that mission statements alone may not suffice unless embedded within the organizational culture and translated into everyday academic practices [6, 20].

Importantly, the study revealed that entrepreneurial education had a significant direct effect on entrepreneurial orientation. This finding supports the argument that formal education programs focused on entrepreneurship can shape the mindset and behavior of university staff and faculty members. Entrepreneurship education enhances competencies such as opportunity recognition, innovation, leadership, and strategic thinking, which are critical for fostering entrepreneurial orientation [7, 8]. In line with prior studies, this research highlights the importance of entrepreneurial education as a mechanism for reinforcing the influence of both culture and mission on entrepreneurial outcomes [24, 25]. Furthermore, the mediating role of entrepreneurial education between entrepreneurial culture and entrepreneurial orientation was statistically significant, indicating that the culture within a university indirectly shapes entrepreneurial orientation through educational channels. This reinforces the importance of synergizing cultural and educational strategies to foster entrepreneurship within academic settings [13, 30].

In contrast, the mediating role of entrepreneurial education in the relationship between university mission and entrepreneurial orientation was not statistically significant. This outcome suggests that while the mission statement provides an overarching framework for entrepreneurship, it may not automatically lead to effective entrepreneurial education unless supported by operational structures and resource allocation. This finding echoes the conclusions of studies that caution against relying solely on institutional mission statements to drive organizational change [26, 33]. Without tangible educational policies, dedicated funding, and motivated faculty, mission-based aspirations may not translate into real educational or behavioral outcomes [1, 31].

These findings underscore the complex and multidimensional nature of fostering entrepreneurial orientation within universities. The convergence of mission alignment, entrepreneurial culture, and educational infrastructure appears to be essential. Culture plays a foundational role by shaping shared beliefs, norms, and expectations about entrepreneurship.

Education, in turn, translates those cultural values into competencies and actionable behaviors. While mission alignment sets the strategic direction, it must be continuously supported by policies, incentives, and academic programming to yield measurable results [19, 21].

Another key insight from this study is the prioritization of entrepreneurial culture over mission in terms of influence. This emphasizes that institutional transformation is more likely to succeed when change is bottom-up and culturally embedded, rather than top-down and merely strategic. Universities that cultivate a proactive, risk-tolerant, and innovation-driven culture are more likely to foster entrepreneurial orientation across their academic communities [16, 18]. This cultural transformation often precedes, or at least reinforces, any strategic shift articulated in formal mission statements.

Finally, the study contributes to the emerging discourse on entrepreneurial universities in the Iranian context. As prior research has indicated, Iranian universities face systemic barriers such as bureaucratic inertia, limited autonomy, and insufficient funding for innovation initiatives [5, 28]. However, this study suggests that despite these challenges, institutional variables such as culture and education remain effective levers for fostering entrepreneurial behavior. The mediating role of education, in particular, offers a practical avenue for institutional reform, especially in contexts where cultural change and mission realignment may take longer to materialize.

While this study provides valuable insights, it is not without limitations. First, the data were collected from faculty members of Islamic Azad University, Region 2, which may limit the generalizability of the findings to other universities with different governance structures or institutional cultures. Second, the study relied on self-report measures, which may be subject to social desirability bias and may not capture actual entrepreneurial behavior. Third, the cross-sectional design of the study precludes any causal inferences, meaning that observed relationships should be interpreted as associations rather than definitive cause-and-effect dynamics. Finally, the measurement of entrepreneurial orientation was confined to a specific operational definition, and other dimensions, such as social or environmental entrepreneurship, were not explored.

Future studies should consider adopting a longitudinal design to examine how changes in university culture, mission, and education systems influence entrepreneurial orientation over time. Expanding the research to include students, administrative staff, and external stakeholders would provide a more holistic view of the entrepreneurial ecosystem within universities. Researchers could also explore the moderating effects of other variables such as institutional autonomy, funding structures, and leadership styles on the proposed model. Furthermore, incorporating qualitative methods, such as interviews or case studies, could enrich the interpretation of findings by capturing context-specific nuances in how entrepreneurial values are perceived and practiced.

University administrators should prioritize developing a supportive entrepreneurial culture by recognizing and rewarding innovative initiatives and encouraging interdisciplinary collaboration. Investments in faculty development programs focused on entrepreneurship education can strengthen the mediating mechanisms that drive entrepreneurial orientation. Moreover, aligning the university mission with entrepreneurship must be accompanied by actionable policies, resource allocation, and monitoring systems to ensure that strategic aspirations are translated into daily academic practices. A multi-level strategy that integrates culture, mission, and education can serve as a robust framework for transforming universities into entrepreneurial institutions capable of adapting to rapid societal and economic changes.

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Authors' Contributions

All authors equally contributed to this study.

Declaration of Interest

The authors of this article declared no conflict of interest.

Ethical Considerations

The study protocol adhered to the principles outlined in the Helsinki Declaration, which provides guidelines for ethical research involving human participants. Written consent was obtained from all participants in the study.

Transparency of Data

In accordance with the principles of transparency and open research, we declare that all data and materials used in this study are available upon request.

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