

ADMINISTRATIVE FACTORS AFFECTING THE EFFECTIVE ENTREPRENEURSHIP EDUCATION FOR UNIVERSITIES IN JIANGSU PROVINCE*

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Abstract

The objectives of this research were to: 1) study the level of factors affecting entrepreneurship education in universities of Jiangsu Province; 2) study the level of entrepreneurship education outcomes in universities of Jiangsu Province; 3) study the relationship between factors and entrepreneurship education in universities of Jiangsu Province; 4) study the factors affecting entrepreneurship education in universities of Jiangsu Province; and 5) propose the guideline for developing an effective entrepreneurship education in universities of Jiangsu Province. The research employed a mixed-methods approach, with an emphasis on quantitative analysis. Quantitative data were collected from a sample of 500 undergraduate students who had completed at least one entrepreneurship course during the 2023–2024 academic year, using a structured questionnaire. The quantitative data were analyzed using percentages, means, standard deviations, Pearson product–moment correlation,

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and stepwise multiple regression to examine the levels, relationships, and predictive power of influencing factors. In addition, qualitative data were obtained through in-depth interviews with nine experts in educational administration, guided by a semi-structured interview protocol. The qualitative data were analyzed using content analysis to explore institutional perspectives and validate the quantitative findings.

The findings revealed that all eight influencing factors were rated at a high level, with Teacher Quality and Government Policy Support receiving the highest ratings. Entrepreneurship education outcomes were also rated at a high level overall, although Entrepreneurial Intentions scored the lowest among the three outcome dimensions. Strong positive correlations were found between all eight factors and overall outcomes, with the strongest associations observed for Cultural and Societal Factors and Government Policy Support. Stepwise multiple regression indicated outcome-specific predictors: Cultural and Societal Factors significantly predicted Educational Outcomes; Entrepreneurial Competencies were primarily influenced by Cultural and Societal Factors and Student Background; and Entrepreneurial Intentions were mainly driven by Student Background. These results highlight the importance of an ecosystem-based approach in strengthening entrepreneurship education, emphasizing the roles of cultural legitimacy, effective policy implementation, student readiness, and experiential learning opportunities. The eight key factors identified as influencing the effectiveness of entrepreneurship education in this study are: (1) Curriculum Design, (2) Teaching Methods, (3) Teacher Quality, (4) Student Background, (5) Industry Collaboration, (6) Digital Technology Integration, (7) Cultural and Societal Factors, and (8) Government Policy Support. These factors operate in an interconnected manner, shaping learning outcomes, competencies, and intentions, and collectively reinforcing the need for a holistic, system-level reform strategy in entrepreneurship education.

Keywords: entrepreneurship education, entrepreneurial ecosystem, entrepreneurial intention, higher education, Jiangsu Province

Introduction

Entrepreneurship education has become a strategic priority for universities in innovation-driven economies because it develops students' opportunity recognition, innovation capability, and venture creation competence. In China, the "Mass Entrepreneurship and Innovation" agenda has strengthened the expectation that higher education institutions contribute directly to regional economic transformation. In Jiangsu Province, entrepreneurship programs have expanded rapidly; however, differences in institutional governance, curriculum implementation, faculty readiness, and policy execution continue to produce uneven educational effectiveness. These conditions establish the practical necessity of this study. Recent evidence from Chinese higher education also shows persistent implementation challenges and uneven institutional capacity across universities (Chen et al., 2022; Zhou et al., 2024).

Existing studies have examined both individual and institutional determinants of entrepreneurship education, including teaching models, university–industry collaboration, and policy support (e.g., Kuratko, 2005; Fayolle & Gailly, 2015; Etzkowitz & Leydesdorff, 2000), as well as cognitive-affective pathways linking university support and students' entrepreneurial intention (Li et al., 2022; Zhao et al., 2022). In China, related evidence has been reported across different provincial and institutional contexts, but systematic research focused specifically on Jiangsu universities remains limited, especially regarding the combined effects of multiple administrative factors on educational outcomes, entrepreneurial competencies, and entrepreneurial intentions. At the same time, sustainability-oriented evaluation studies suggest that institutional effectiveness depends on coordinated multi-factor systems rather than isolated interventions

(Cai et al., 2022). Therefore, this study asks: which administrative factors most strongly affect the effectiveness of entrepreneurship education management in Jiangsu universities, and how are these factors associated with educational outcomes, entrepreneurial competencies, and entrepreneurial intentions?

This study focuses on universities in Jiangsu Province and adopts an administrative perspective. The analytical framework includes eight administrative factors (curriculum design, teaching methods, teacher quality, student background, industry collaboration, digital technology integration, cultural and societal factors, and government policy support) and three outcome dimensions (educational outcomes, entrepreneurial competencies, and entrepreneurial intentions). A mixed-methods design is used, combining questionnaire-based quantitative analysis with expert interviews for qualitative validation, with the aim of providing an integrated framework and evidence-based recommendations for university leaders and policymakers.

Research Objectives

1. To study the levels of administrative factors of universities in Jiangsu Province.
2. To study the levels of entrepreneurship education management of universities in Jiangsu Province.
3. To study the relationship between administrative factors and entrepreneurship education management of universities in Jiangsu Province.
4. To study the administrative factors affecting the entrepreneurship education management of universities in Jiangsu province.
5. To propose the guideline for the development of an administrative factors affecting the effective entrepreneurship education management of universities in Jiangsu province

Literature Review

1. Concepts, Principles, and Related Theories

Entrepreneurship education management in higher education institutions is grounded in several foundational theories that explain how administrative systems influence educational effectiveness. The concept of the entrepreneurial university, as proposed by Clark (1998), emphasizes strengthened steering core leadership, diversified funding sources, and a stimulated academic heartland as essential components of institutional transformation. Similarly, the Triple Helix theory highlights the dynamic interaction between universities, industry, and government in fostering innovation ecosystems (Etzkowitz & Leydesdorff, 2000). These frameworks suggest that administrative leadership, governance structures, and strategic collaboration mechanisms are critical determinants of successful entrepreneurship education. From the perspective of human capital theory, education enhances individuals' productive capabilities and entrepreneurial competencies (Becker, 1993), reinforcing the importance of systematic curriculum planning and institutional support.

In addition, the Resource-Based View (RBV) and Dynamic Capability Theory provide strong theoretical justification for examining administrative factors within universities. The RBV argues that organizational effectiveness depends on valuable, rare, inimitable, and non-substitutable resources, including human capital, institutional knowledge, and technological infrastructure (Barney, 1991). Dynamic capability theory further explains how institutions adapt, integrate, and reconfigure internal and external competencies to respond to changing environments (Teece, 2018). Applied to entrepreneurship education management, these theories underscore the importance of curriculum design, faculty quality, digital technology integration, industry collaboration, and supportive government policies as strategic administrative resources. Therefore, effective entrepreneurship education in Jiangsu universities can be theoretically

framed as the outcome of well-managed institutional capabilities aligned with regional economic development strategies.

2. Related Research in Domestic and International Contexts

International research consistently demonstrates that administrative and organizational factors significantly influence the effectiveness of entrepreneurship education. Kuratko (2005) noted that leadership commitment, institutional vision, and structured program design are central to sustainable entrepreneurship education development. Fayolle and Gailly (2015) found that well-designed entrepreneurship programs positively affect entrepreneurial attitudes and intentions, particularly when experiential learning methods are supported by institutional policy. Moreover, Wright et al. (2017) emphasized the role of university-based ecosystems, including incubators, mentorship programs, and industry networks, in strengthening entrepreneurial competencies and venture creation outcomes. These studies collectively indicate that administrative governance, collaboration systems, and resource allocation mechanisms are critical predictors of entrepreneurship education success.

Within the Chinese context, recent studies highlight the growing importance of entrepreneurship education as part of national innovation strategies. Research has shown that government policy support, university–enterprise cooperation, and digital platform integration significantly enhance the quality and outcomes of entrepreneurship education programs (Li & Wu, 2019; Zhou & Xu, 2012). In economically developed provinces such as Jiangsu, universities are expected to align entrepreneurship curricula with regional industrial transformation and innovation-driven development policies. However, empirical research specifically examining the combined impact of multiple administrative factors on entrepreneurship education management effectiveness in Jiangsu universities remains limited. This gap indicates the necessity of systematic investigation into how curriculum design, teaching methods, faculty capability, student background, industry collaboration, digital integration, cultural

influences, and government policies interact to shape educational outcomes and entrepreneurial intentions.

Research Methodology

1. Research Methodology

This study employed a mixed-method research design, integrating quantitative and qualitative approaches to obtain comprehensive and in-depth findings. The quantitative phase utilized a survey method to examine the levels of administrative factors and entrepreneurship education management, as well as to analyze the relationships and predictive effects among variables using Multiple Regression Analysis (MRA). The qualitative phase involved in-depth interviews with key informants to further explore contextual insights and to propose development guidelines. The integration of both methods enhanced the validity, reliability, and interpretative strength of the research findings.

2. Research Steps

The population consisted of undergraduate students enrolled in universities in Jiangsu Province. The sample size was determined based on Comrey and Lee's (1992) criteria, with 500 respondents considered very good for multivariate statistical analysis. The sampling method was applied in accordance with Krejcie and Morgan's (1970) guidelines for institutional selection. Data were collected through a structured questionnaire using a five-point Likert scale. In addition, qualitative data were gathered from nine key informants, including senior administrators and experienced entrepreneurship educators, selected through purposive sampling based on expertise and professional experience.

3. Data Collection

The population consisted of undergraduate students enrolled in universities in Jiangsu Province. The sample size was determined based on Comrey and Lee's (1992) criteria, with 500 respondents considered very good for

multivariate statistical analysis. The sampling method was applied in accordance with Krejcie and Morgan's (1970) guidelines for institutional selection. Data were collected through a structured questionnaire using a five-point Likert scale. In addition, qualitative data were gathered from nine key informants, including senior administrators and experienced entrepreneurship educators, selected through purposive sampling based on expertise and professional experience.

4. Data Analysis

Quantitative data were analyzed using descriptive statistics, including mean and standard deviation, to determine the levels of variables. Inferential statistics were employed using Multiple Regression Analysis (MRA) to examine the effects of administrative factors on entrepreneurship education management outcomes. Reliability was assessed using Cronbach's alpha coefficient. Qualitative data were analyzed through content analysis to identify themes, patterns, and strategic development recommendations. The integration of quantitative and qualitative findings provided comprehensive conclusions and evidence-based guidelines for improving effective entrepreneurship education management in universities in Jiangsu Province.

Research Results

Part 1 Results of Demographic data of the Respondents

The study analyzed data from 500 undergraduate students in Jiangsu Province (female 73.40%, male 26.60%; most aged 19-21 years). Most respondents were business and management majors (74.20%), followed by natural sciences (14.60%), arts and humanities (7.40%), engineering and technology (0.80%), and other disciplines (3.00%).

Part 2 Results of the level of objective 1

All eight administrative factors were rated at a high level. Teacher Quality Factor recorded the highest mean ($\bar{x}$ = 3.81, S.D. = 0.85), while Student Background

Factor showed the lowest mean ($\bar{x} = 3.64$, S.D. = 0.88), indicating variability in students' preparedness despite

Part 3 Results of the level of objective 2

Effective entrepreneurship education outcomes were also rated at a high level overall ($\bar{x} = 3.69$, S.D. = 0.75). Educational Outcomes had the highest mean ($\bar{x} = 3.74$, S.D. = 0.88), followed by Entrepreneurial Competencies ($\bar{x} = 3.70$, S.D. = 0.73). Entrepreneurial Intentions were the lowest ($\bar{x} = 3.63$, S.D. = 0.63).

Part 4 Results of the analysis of the Pearson Product Moment Correlation coefficient between X and Y (objective 3)

Pearson correlation analysis showed that all eight factors were positively and significantly associated with overall outcomes ($p < .01$). The strongest correlations were Cultural and Societal Factor ($r = 0.938$), Government Policies Factor ($r = 0.912$), and Digital Technology Integration Factor ($r = 0.897$).

Part 5 Results of stepwise multiple regression analysis (objective 4)

Stepwise multiple regression for overall outcomes yielded a strong model ($R = 0.952$, $R^2 = 0.907$, Adj. $R^2 = 0.905$, SEE = 0.222). The most influential predictors were Cultural and Societal Factor ($\beta = 0.472$, $p < .001$), Government Policies Factor ($\beta = 0.284$, $p < .001$), and Student Background Factor ($\beta = 0.219$, $p < .001$). Teacher Quality Factor showed a small negative coefficient ($\beta = -0.124$, $p = .001$), while other factors were not significant in the final model.

Part 6: Results of objective 5

Qualitative interviews with nine experts converged on five strategic pillars for improvement: curriculum-practice integration, faculty mentoring and industry exposure, deeper industry collaboration and ecosystem resources, digital platforms with data feedback, and evaluation with incentives to strengthen an entrepreneurial culture.

Discussion

Based on the five research objectives, the findings are interpreted to clarify their theoretical relevance and policy-practice implications for entrepreneurship education management in Jiangsu Province.

For Objective 1, all eight administrative factors were assessed at a high level. This suggests that universities in Jiangsu have built a relatively supportive management foundation for entrepreneurship education. A plausible explanation is the joint effect of institutional governance capacity and policy pressure from innovation-driven regional development. This interpretation is consistent with the entrepreneurial university perspective, which views organizational steering and strategic coordination as central to educational transformation.

For Objective 2, overall effective entrepreneurship education management outcomes were high, but Entrepreneurial Intentions remained comparatively weaker than Educational Outcomes and Entrepreneurial Competencies. This indicates that university systems can improve learning and skills, yet intention formation is more sensitive to students' perceived risk, opportunity exposure, and personal readiness. In other words, instructional effectiveness does not automatically convert into entrepreneurial intention without stronger real-world engagement conditions. This pattern is consistent with evidence that the education–intention pathway is contingent on mediating psychological mechanisms and contextual conditions (Li et al., 2022).

For Objective 3, all administrative factors were significantly and positively related to effective entrepreneurship education management outcomes ($p < .01$), with the strongest pattern concentrated in cultural-societal support, policy support, and digital integration. This means outcome quality is better explained by ecosystem alignment than by any single isolated reform. The finding aligns with prior work emphasizing multi-actor and multi-level coordination in entrepreneurship education. This interpretation aligns with studies showing that

university entrepreneurship support influences intention through cognitive-affective channels and ecosystem-level support structures (Zhao et al., 2022; Cai et al., 2022).

For Objective 4, the regression model showed strong explanatory power ($R^2 = 0.907$), and the most influential predictors were Cultural and Societal Factors, Government Policy Support, and Student Background. This suggests that contextual legitimacy, policy implementation quality, and learner readiness are decisive boundary conditions for effectiveness. The negative coefficient for Teacher Quality should be interpreted cautiously: it is more likely a structural overlap effect in the multivariable model than evidence that teaching quality is unimportant. Substantively, it indicates that traditional teaching strength alone is insufficient without practice-based mentoring and stronger industry-linked learning.

For Objective 5, the development guideline should prioritize integrated governance: competency-oriented curriculum design, active and experiential pedagogy, faculty capability development for entrepreneurship practice, structured university-industry collaboration, deeper digital platform use, and stronger policy execution at institutional level. Differentiated support for students with different readiness levels is also necessary, especially to improve Entrepreneurial Intentions.

Overall, the findings indicate that effective entrepreneurship education management in Jiangsu should be advanced through an ecosystem-based strategy in which cultural legitimacy, policy support, and student readiness are treated as core drivers, while curriculum and teaching reforms are implemented as coordinated components rather than stand-alone interventions. These implications are also consistent with recent analyses of structural challenges and reform priorities in Chinese higher institutions (Zhou et al., 2024).

Recommendations

1. Recommendations for the Application of Research Results

Universities in Jiangsu Province should apply the findings to strengthen curriculum design, teaching innovation, faculty development, industry collaboration, and digital technology integration in order to enhance effective entrepreneurship education management. Policymakers should also refine supportive policies and funding mechanisms to ensure sustainable program development.

2. Recommendations for Future Research

Future research should broaden the sample beyond Jiangsu Province and include different types of universities to enhance generalizability. It is also recommended to adopt longitudinal designs and incorporate objective outcome indicators (e.g., startup activity, employment outcomes) to capture long-term effects. Methodologically, advanced techniques such as SEM or mediated/moderated regression should be applied to test more complex relationships among administrative factors and entrepreneurship education outcomes, thereby validating and refining the proposed framework.

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