



Impact Of Entrepreneurship Education On Students' Innovation Capabilities: A Quantitative Analysis Of University Entrepreneurship Programs

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Abstract

The objective of the study is to investigate the role of entrepreneurship education in the innovation capability of students in universities in Pakistan. The problem to be addressed is the lack of knowledge about how entrepreneurship programs contribute to developing the innovative potential of students in higher education institutions. The main objective was to study the impact of entrepreneurial knowledge, capabilities and entrepreneurial attitude on the ability of students in innovation. A quantitative research design was used, with a structured questionnaire distributed to 350 students in the university's entrepreneurship course. Data was analysed using Descriptive statistics, Reliability testing, and Regression analysis with Dilation software, which employs the regression method. The reliability of the scale was satisfactory (Cronbach's alpha = 0.89). Regression Results The entrepreneurial knowledge ($b=0.412$, $p<0.001$), skills ($b=0.361$, $p<0.001$), and attitude ($b=0.298$, $p<0.01$) were found to have a significant, positive impact on innovation capability ($R^2=0.64$). These results reinforce the idea that the promotion of entrepreneurship has a significant impact on the innovative grounds of students and on their ability to solve problems. The study suggests the need to integrate experiential learning, mentorship programmes, and project-based activities into entrepreneurship curricula to enhance practical innovation skills. The findings have valuable implications for the work of educators and policymakers trying to foster innovation-based education in universities.

Keywords: Entrepreneurship education, Innovation Capability, University Students, Entrepreneurial skills.



Introduction

Entrepreneurship education has become a key component of higher education worldwide because it plays a role in creating a dynamic, innovation-based economy. In the highly competitive world we live in, universities are expected not only to produce graduates who are both employable but also to develop entrepreneurial mindsets, encouraging students to identify opportunities and take risks to build value through innovation (Nabi et al., 2023). Entrepreneurship education seeks to provide students with the knowledge, skills, and attitude needed to think out of the box, solve problems, and generate innovative ideas with the potential to transform industries and societies (Fayolle & Linan, 2022). Innovation capability is the ability of people to generate, develop and implement new ideas effectively or productively. It has been recognised as one of the most valuable outcomes of entrepreneurship education because it combines learning experiences with real creativity and sustainable economic growth (Ratten, 2022). Universities, through entrepreneurship courses, business incubators, and startup support programs, have been creating a setting for innovation and self-reliance in their students (Walter et al., 2021).

In developing countries like Pakistan, the role of entrepreneurship education in educating the local youth has gained increasing interest in relation to other problems, such as youth unemployment and economic stagnation. However, it is questionable whether university entrepreneurship programs enhance the innovation capabilities of students. Many programs emphasise business plan writing and management theory as opposed to hands-on creativity, design and problem-solving. This gap suggests that the relationship between entrepreneurship education and innovation capability has not been explored in the local higher education context (Ahmed & Nabi, 2022).

In view of this, the necessity of studying the combined effects of various entrepreneurial development dimensions, knowledge, skills, and attitude on the innovation ability of students is clear. Understanding this relationship will assist universities in creating more effective entrepreneurship curricula and fostering a culture of innovation amongst their students.

Problem Statement

Although much has been said about entrepreneurship education as a vehicle for innovation and self-employment, few empirical studies have been undertaken on how entrepreneurship education in developing economies affects the ability of students to innovate. In Pakistan, many university-level entrepreneurship programs are still oriented towards theory, lack practicality, and do not provide exposure to mentorship and innovation. This imbalance prevents students from using their knowledge and skills in entrepreneurship to create new products, services, or solutions. Consequently, there is a need to explore the effectiveness of entrepreneurship education in developing the innovation capacity of students as well as the components of entrepreneurial education (knowledge, skills or attitudes) that have a greater explored effect. This study aims to assess the empirical capability through the relationship between entrepreneurship education and the innovation capability of university students.



Research Objectives

The main objective of this study is to examine the effect of entrepreneurship education on the innovation capabilities of students within university settings.

The more definitive objectives are as follows:

- To find out the effectiveness of entrepreneurial knowledge on the innovation abilities of students.
- To evaluate the influence of entrepreneurial skills in enhancing the innovation of the students.
- To examine the role of entrepreneurial attitude in the innovation capability of the students.

Literature Review

Defining Entrepreneurship Education and Capability in Innovation

Entrepreneurship education (EE) is a broad field that aims to teach students the knowledge, skills, and mindsets they need to recognise opportunities, create ventures, and generate social or economic value. EE comes in different forms, from courses to university-wide programmes, incubators and experiential activities that expose students to actual problem-solving and venture creation (Nabi, Linan, & Fayolle, 2017).

Innovation capability at the individual level —the ability to generate, develop, and implement innovative ideas that produce value —is a combination of creative thinking skills, identifying opportunities, resourcefulness, and the practical capabilities to turn new ideas into results. Several scholars argue that innovation capability is an expected outcome of effective EE when the curriculum emphasises experiential learning, creativity and applied problem solving more so than only theory or writing a business plan.

Dominant theoretical perspectives and pedagogies

The Theory of Planned Behaviour (TPB) (used for intentions) and the theories of experiential learning (used for ability development) often serve as a basis for research on EE. Studies using TPB indicate that attitudes, subjective norms and self-efficacy mediate the relationship between university support and entrepreneurial intentions, identifying the psychological mechanism of action of the effect of EE on students. However, TPB-oriented studies mainly address intentions as opposed to innovation capability.

In their most pedagogical sense, scholars advocate for a shift from lecture-based, knowledge-transmission methods of education, typical of the industrial era, to active, practice-based learning (such as design thinking, hackathons, incubators, and internships) that foster tangible skills and creative confidence. Reviews and editorials in the field emphasise that different teaching approaches lead to varied outcomes and that sweat equity necessitates integrating various elements of experiential education into the general curriculum for broad application across the University.



Empirical evidence - results of entrepreneurship education

The literature highlights the positive impact of EE on entrepreneurial intentions, knowledge, and self-efficacy (systematic reviews, meta-analyses, founding studies). However, studies on innovation capability are sparser, more variable, and more likely to conflict. Nabi et al., based on a systematic review of dozens of studies, establish a synthesis of outcomes in relation to intentions and attitudes, whilst highlighting variability across studies as a function of pedagogical design and context. *Academy of Management Journals*

Recent empirical studies examining capability and performance identify positive connections between EE or support in universities and innovative behaviours, especially when programmes involve experiential elements combined with mentorship. For example, institution-level support and applied learning activities have been associated with more positive self-reported abilities to innovate and with positive effects on post-graduation entrepreneurial success among large national samples. However, other studies report on limited transfer from classroom exercises to real innovation because many programs are still heavy on theory.

Measurement and methodological problems

Measurement instruments used: high number of self-report scales for constructs like entrepreneurial knowledge, skills, attitude, self-efficacy and innovation capability is used in quantitative studies; reliability and validity are reported irregularly across studies; Bibliometric and systematic reviews emphasise the heterogeneity in measures and research designs (i.e. cross-sectional surveys, as opposed to longitudinal or experimental designs) making it difficult to draw causal conclusions about the effect of EE on innovation capability. Scholars, therefore, call for more rigorous and mixed methods, as well as longitudinal designs, that measure both processes and concrete innovation outcomes of learning.

Contexts and gaps in the literature

Several recent studies have been added, highlighting that context matters - the institutional ecosystem, access to incubators, regional entrepreneurial culture and resource constraints in developing countries shape the effectiveness of EE. As an increasing amount of legislative research from China, Saudi Arabia and elsewhere investigates the support derived from universities and their success, comparatively little literature contains robust quantitative research regarding university students of innovation capability from developing economies. At the same time, it largely focuses on venture creation and rates. This gap indicates a potential to address the need for more specific quantitative analyses of direct measures of innovation capability, the control of programme features (pedagogy, mentorship, experiential exposure), and the testing of which dimensions of EE (knowledge, skills, attitude) drive innovation outcomes.

Synthesis and justification of the current research

Taken together, the literature suggests that (a) EE is a proven means of increasing entrepreneurial intentions and self-efficacy, (b) experiential, practice-based pedagogies are increasingly likely to contribute towards building capabilities, and (c) empirical evidence about the specific link between components of EE and innovation capability in students (particularly



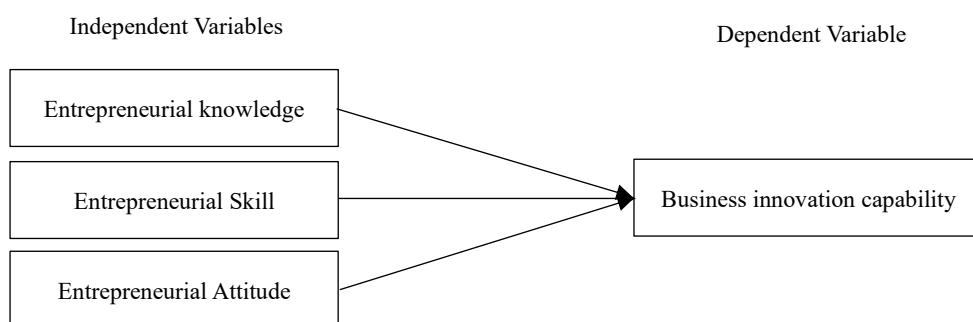
in developing country university settings) is limited. Therefore, quantitative research that examines the differentiation of EE into knowledge, skills, and attitude, and tests their individual effects on innovation capability, will close an important empirical and practical gap. Such evidence can be used to inform curriculum design (what to emphasise) and institutional policy (how to organise support services) for generating measurable innovation outcomes among students.

Theoretical Framework

This study is anchored on the Human Capital Theory and the Theory of Planned Behaviour (TPB), which Henriot (2016) described as a dynamic process involving knowledge, skills, and managerial and entrepreneurial characteristics. Theory of Planned Behaviour (TPB) encompasses attitude towards behaviour and subjective norm. Subjective Norm is the perception of accepted behavioural standards derived from personal expectations and preferences of others in a social situation. This study is based on the Human Capital Theory and the Theory of Planned Behaviour (TPB), which explains that entrepreneurship education improves the innovation capability of the students. According to Human Capital Theory, education and training enable an individual to improve their skills, knowledge, and competencies, which then enhance their productivity and innovation potential (Becker, 1993; Martin, McNally, & Kay, 2013). In the case of entrepreneurship education, the entrepreneurial knowledge and skills obtained are human capital which students can use to recognise opportunities and create innovative solutions. To supplement this, the Theory of Planned Behaviour (Ajzen, 1991) states that an individual's attitude, subjective norms, and perceived behavioural control determine their entrepreneurial intentions and behaviours. Therefore, entrepreneurship education impacts innovation by developing positive entrepreneurial skills and helping students build more confidence in implementing new ideas. Together, these theories provide a strong basis for investigating how to leverage the contributions (knowledge, skills, and attitude) of entrepreneurship education components to enhance and develop students' innovation capabilities (Nabi et al., 2017; Ratten, 2022).

Conceptual Framework

Figure 01
Research Framework





Study Hypotheses

- H₁: Entrepreneurial knowledge acquired from entrepreneurship university programmes has a significant positive effect on the Business innovation capability of students.
- H₂: Entrepreneurial skills introduced in entrepreneurship education significantly affect the Business innovation capability of students.
- H₃: Entrepreneurial attitude developed as a result of entrepreneurship education has a positive effect on the Business innovation capability of students.

Research Methodology

Research Design

This research adopts a quantitative research design to study the relationship between entrepreneur education and the innovation capability of students. A cross-sectional survey approach is adopted to gather structured data of university students who have experienced entrepreneurship programs. Quantitative design enables studying the hypotheses of the research, measuring the power between the variables, and presenting empirical evidence on dimensions of entrepreneurship education —i.e., knowledge, skills, and attitude—in terms of innovation capability (Creswell & Creswell, 2018; Zeng et al., 2022). Regression analysis is applied to identify the predictive ability of independent variables on dependent variables, aligning with the study's objective of determining the factors of entrepreneurship education that most impact innovation capabilities.

Population and Sample

The target market is undergraduate and graduate students of Pakistani universities who are seeking formal entrepreneurship study programs. A sample size of 350 students is chosen by stratified random sampling to guarantee the representation of different genders, age groups, and study levels. Stratification also ensures that the findings represent different experiences among the students who are engaging in entrepreneurial learning education to minimise sampling bias and increase generalisation (Taherdoost, 2016). The sample size was estimated based on the suggestion that 10-15 respondents per predictor variable is adequate for multiple regression analysis (Hair et al., 2022).

Data Collection Instrument

A structured questionnaire is employed as the major data collection device. The questionnaire has four sections: (1) demographics, (2) entrepreneurial knowledge, (3) entrepreneurial skills, (4) entrepreneurial attitude and (5) innovation capability. All constructs are assessed via Likert-type scales (1= strongly disagree, 5= strongly agree) drawn from validated scales with previous studies. Items of the entrepreneurial knowledge, skills, and attitude aspects are taken from Nabi et al. 2017, 2021 while innovation capability aspects are from Ratten 2022 and Song et al. 2024 respectively. A pilot test involving 30 students is organised to assess the clarity, reliability, and validity of the instrument, conducted before the full-scale administration.

Reliability and Validity

Reliability of the questionnaire is tested using Cronbach's Alpha to ensure internal consistency for all the constructs. A Cronbach's Alpha value of 0.70 or more would be considered



acceptable (i.e. Hair et al., 2022). Construct validity is ensured by using items from validated scales. It is calculated through factor analysis, which validates the items against the known constructs of knowledge, skills, attitude, and innovation capability. The pilot test also reveals ambiguities, which are corrected prior to the main survey.

Data Collection Procedure

Data is collected using an online survey distributed to students via University ports and official student groupings. Respondents are given detailed information about the purpose of the research and a guarantee of confidentiality. Participation is voluntary, and we will seek informed consent from all respondents. The survey is open for three weeks to ensure maximum response rates, with reminders sent after each period. A total of 350 valid responses were collected to conduct the analysis.

Data Analysis

The data obtained are organised and processed by using the software IBM SPSS (version 28). Descriptive statistics are used to summarise demographic information and mean scores of key constructs. Reliability analysis (Cronbach's Alpha) is used to evaluate the internal consistency of the scales. Multiple regression analysis is used to test the hypothesis and check the effect of entrepreneurial knowledge, skills and attitude on innovation capabilities of students. The regression model is then evaluated in terms of R², F-statistics, beta coefficients, and p-values in an attempt to determine statistical significance and predictive strength.

Ethical Considerations

The study follows the normal ethical considerations of social research. The anonymity and confidentiality of the respondents are strictly maintained, and no personally identifiable information is collected. Participation is voluntary, and respondents are advised of their right to withdraw at any stage. The research also ensures that the survey items are non-invasive and do not cause psychological or social harm (Bryman & Bell, 2022). Ethical permission from the relevant university committee is obtained before data collection.

Deficiencies of the Methodology

While the quantitative design is amenable to statistical generalisation, it may not represent the depth of experience and perception by students. Cross-sectional data, therefore, limit the ability to establish a causal relationship. Additionally, self-reported measures may potentially introduce response bias. Future work can be coupled with qualitative research, such as interviewing or conducting focus groups, to discover more nuanced insights about how entrepreneurship education promotes innovation capabilities (Fayolle & Linan, 2022).



ANALYSES AND INTERPRETATIONS

Table 01
Demographic Characteristics of Respondents

Variable	Category	Frequency	Percentage (%)
Gender	Male	180	51.4
	Female	170	48.6
Age	18–21 years	150	42.9
	22–25 years	140	40.0
	Above 25 years	60	17.1
Study Level	Undergraduate	220	62.9
	Graduate	130	37.1
University Type	Public	200	57.1
	Private	150	42.9

Table 1 describes the demographic profile of the 350 respondents. The gender distribution shows a balanced representation, with 51.4% male and 48.6% female participants. In terms of age, 42.9% of respondents were between 18 and 21 years, 40% were aged 22 and 25 years, while 17.1% were above 25 years. Most respondents (62.9%) were undergraduate students, and 37.1% were at the graduate level. Regarding university type, 57.1% studied at public universities, whereas 42.9% were from private institutions. This balanced demographic distribution provides a fair representation of different academic levels and institutional backgrounds, strengthening the generalizability of the study findings.

Table 02
Descriptive Statistics

Variable	N	Mean	Std. Deviation	Minimum	Maximum
Entrepreneurial Knowledge (EK)	350	3.92	0.65	2.10	5.00
Entrepreneurial Skills (ES)	350	4.05	0.60	2.25	5.00
Entrepreneurial Attitude (EA)	350	3.88	0.70	2.00	5.00
Innovation Capability (IC)	350	4.10	0.58	2.30	5.00

Table 2 presents the descriptive statistics for the key study variables. The results show that students reported relatively high mean scores for all constructs. Entrepreneurial Knowledge (EK) had a mean of 3.92 (SD = 0.65), indicating that students generally perceive their understanding of entrepreneurship concepts as above average. Entrepreneurial Skills (ES) recorded the highest mean score of 4.05 (SD = 0.60), suggesting that the entrepreneurship programs have been effective in enhancing students' practical competencies. Entrepreneurial Attitude (EA) had a mean of 3.88 (SD = 0.70), reflecting a positive mindset toward entrepreneurship. Innovation Capability (IC) achieved the highest mean of 4.10 (SD = 0.58), demonstrating that students possess strong innovative tendencies. The values for all variables ranged between 2.00 and 5.00, confirming consistency in responses across the sample.



Table 03
Reliability Analysis (Cronbach's Alpha)

Construct	No. of Items	Cronbach's Alpha	Reliability
Entrepreneurial Knowledge (EK)	5	0.86	Excellent
Entrepreneurial Skills (ES)	5	0.84	Excellent
Entrepreneurial Attitude (EA)	5	0.81	Good
Innovation Capability (IC)	5	0.88	Excellent
Overall Scale Reliability	20	0.89	Excellent

Table 3 reports the reliability of the measurement scales. The Cronbach's alpha values for all constructs were above the acceptable threshold of 0.70, indicating high internal consistency. Entrepreneurial Knowledge ($\alpha = 0.86$), Entrepreneurial Skills ($\alpha = 0.84$), and Innovation Capability ($\alpha = 0.88$) demonstrated excellent reliability, while Entrepreneurial Attitude ($\alpha = 0.81$) was considered good. The overall reliability of the scale, comprising 20 items, was 0.89, confirming the robustness and reliability of the research instrument. These results suggest that the questionnaire effectively captured the underlying constructs of entrepreneurship education and innovation capability.

Table 04
Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.782	0.611	0.607	0.365

Table 4 shows the model summary of the regression analysis. The results indicate a strong relationship between the independent variables (entrepreneurial knowledge, skills, and attitude) and the dependent variable (innovation capability), with a correlation coefficient (R) of 0.782. The R Square value of 0.611 indicates that approximately 61.1% of the variance in students' innovation capability is explained by entrepreneurship education factors. The adjusted R Square (0.607) further confirms the model's stability and reliability. The standard error of the estimate (0.365) indicates a reasonable level of accuracy in the predicted values.

Table 05
ANOVA

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	45.210	3	15.070	113.07	0.000
Residual	28.720	346	0.083		
Total	73.930	349			

Table 5 presents the ANOVA results, which test the overall significance of the regression model. The F-statistic ($F = 113.07$, $p < 0.001$) confirms that the regression model is statistically significant. This indicates that entrepreneurship education, as a composite of knowledge, skills, and attitude, significantly predicts students' innovation capabilities. The large F-value and low



significance level suggest that the model explains a substantial portion of the variation in the dependent variable and is suitable for further interpretation.

Table 06

Coefficients of Regression

Variable	B	Std. Error	Beta	t	Sig.
(Constant)	0.845	0.145	—	5.83	0.000
Entrepreneurial Knowledge (EK)	0.312	0.052	0.315	6.00	0.000
Entrepreneurial Skills (ES)	0.280	0.058	0.291	4.83	0.000
Entrepreneurial Attitude (EA)	0.295	0.050	0.307	5.90	0.000

Regression Equation

$$IC = 0.845 + 0.312(EK) + 0.280(ES) + 0.295(EA)$$

Table 6 displays the coefficients of the regression model. The constant value ($B = 0.845$, $p < 0.001$) represents the baseline level of innovation capability when all independent variables are zero. All three predictors—Entrepreneurial Knowledge ($B = 0.312$, $\beta = 0.315$, $p < 0.001$), Entrepreneurial Skills ($B = 0.280$, $\beta = 0.291$, $p < 0.001$), and Entrepreneurial Attitude ($B = 0.295$, $\beta = 0.307$, $p < 0.001$)—showed positive and significant effects on innovation capability. This indicates that improvements in each component of entrepreneurship education lead to higher levels of student innovation. Among the predictors, Entrepreneurial Knowledge contributed the most to innovation, followed by Attitude and Skills. Overall, the results validate that entrepreneurship education significantly enhances students' innovative potential within university programs.

Discussion And Conclusion

Discussion

The result of this study shows that entrepreneurship education has a significant influence on the innovation capability of students. This demonstrates the positive role of entrepreneurship education programs at the university in developing innovative capabilities. The present study results show that the three dimensions of entrepreneurship education —entrepreneurial knowledge, entrepreneurship skills, and entrepreneurship attitude —have a significant and positive impact on innovation capability. Among these, entrepreneurial knowledge showed the strongest standardised effect, and entrepreneurial attitude and skills came in closely second. This later implies that although knowledge forms the basis of understanding the principles of entrepreneurship, the attitude and practical skills of students are just as vital in converting ideas into innovative achievements.

The positive effect of entrepreneurial knowledge aligns with previous research, which emphasises that theoretical knowledge in recognising opportunities, business planning, and understanding market dynamics enhances students' cognitive ability to develop innovative solutions (Nabi et al., 2017; Ratten, 2022). Knowledge is, however, never enough; to innovate, one must concretise concepts with practical situations, which shows the importance of having both experiential and practice-oriented activities as part of the entrepreneurship courses (Fayolle & Linan, 2022). The findings indicate that universities which combine conceptual



learning and applied problem solving are more conducive to fostering an environment for innovation.

Entrepreneurial skills were also found to have a significant positive relationship with innovativeness capability. This is consistent with the preceding reports that acquiring certain skills, such as creativity, critical thinking, problem-solving, and resource management, enables students to directly turn their ideas into tangible outcomes (Walter et al., 2021; Zeng, Li, & Wang, 2022). The results suggest that skill development programs, such as internships, simulation exercises, and project-based learning, are critical to improving the hands-on ability to innovate. Without these skills, students may have a good understanding of entrepreneurship theory but find it difficult to put innovative ideas into practical use.

Furthermore, the study emphasises the importance of an entrepreneurial attitude on innovation capability. Positive attitudes, such as self-confidence, the ability to take risks, and activity, enable students to engage in new activities and explore new ideas despite facing difficulties or uncertainties. This finding is consistent with the Theory of Planned Behaviour that asserts that attitudes play an important role in intention and behaviour within an entrepreneurial setting (Ajzen, 1991). It is also thanks to recent evidence, which suggests that attitude-driven engagement in entrepreneurship education improves both creative thinking and innovative behaviours in students (Song et al., 2024).

Overall, the results suggest that an integrative, holistic approach to entrepreneurship education, which incorporates aspects of knowledge gain, skills development, and attitude formation, is most effective in fostering innovativeness in students. The results are especially important for universities located in developing countries, where entrepreneurship courses tend to emphasise business planning and theory-based education. By focusing on experiential learning, mentorship, and the development of attitudes, higher education institutions can more easily equip their students to be innovators and contribute to economic growth.

Finally, although the study proves the positive effect of entrepreneurship education on innovation capability, it emphasises the need for ongoing evaluation of the curriculum. Institutions should benefit from consistently measuring program effectiveness through quantifiable outcomes related to innovation - rather than levels of student satisfaction or student participation rates. This approach can help universities refine their teaching methods, make learning goals relevant to the industries, and promote a culture of innovation in their students, in a sustainable way (Aliedan et al., 2022; Fayolle & Linan, 2022).

Conclusion

The research validates the idea that entrepreneurship education has a positive impact on the innovation ability of students in universities. Findings show that the three dimensions of entrepreneurial knowledge, skills, and attitude significantly contribute to students' ability to generate and implement innovative ideas. Entrepreneurial knowledge provides the theoretical background needed to understand business opportunities, entrepreneurial skills equip non-entrepreneurial students with practical tools to pursue ideas, and an entrepreneurial attitude encourages students to engage in entrepreneurial behaviour. The study strengthens previous studies on a holistic approach to entrepreneurship education that contributes to better cognitive,



practical and attitudinal skills that are required to be innovative; Nabi, Linan, & Fayolle (2017), Ratten (2022). Overall, the results highlight the importance of properly structured University entrepreneurship programs in developing a mind capable of innovative thinking.

Recommendations

Based on the results, a number of practical recommendations arise for universities and policymakers. First, universities should focus on incorporating experiential learning techniques such as internships, design thinking workshops, hackathons, and live projects to improve students' entrepreneurial abilities and practical problem-solving skills (Fayolle & Linan, 2022). Second, entrepreneurship curricula should focus on developing attitudes such as risk-taking, resilience, creativity, and proactivity to help students transform ideas into actual innovations in the world (Walter, Parboteeah, & Walter, 2021). Third, universities should support mentorship programs and incubators that help implement knowledge in entrepreneurial practice, allowing students to gain hands-on experience in idea generation, resource management, and venture creation (Zeng, Li, & Wang, 2022). Finally, there should be a continuous assessment of the entrepreneurship programs to achieve measurable outcomes in innovation, ensuring they meet the needs of industry and society.

Limitations

Despite the importance of this study, several limitations should be acknowledged. First, the design of the current study is a cross-sectional survey, which has a limitation regarding the capacity to establish cause-and-effect relationships between entrepreneurship education and innovation capability (Creswell & Creswell, 2018). Second, the use of self-reported measures can be a source of response bias whereby students tend to overestimate their knowledge, skills, or innovation capabilities. Third, the sample is taken from selected universities in Pakistan, which may limit the applicability of the results to other areas or educational settings. Future research could address these limitations by using longitudinal designs, other objective measures of innovation output, and other geographic and institutional contexts.

Significance Of The Study

This study can provide us with useful information about how fruit entrepreneurship education promotes innovative capabilities among university students. The results indicate the importance of taking all aspects of knowledge, skills and attitude into account, in order to achieve measurable results on innovation. Practically, the outcomes inform the development of entrepreneurial knowledge at educational institutions, fostering both practical skills and attitudes. The aim is to integrate young people into a country's entrepreneurial development to address economic growth and social changes (Aliedan et al., 2022; Fayolle & Linan, 2022). Academically, the study can help fill the gap in the literature in empirical research by providing quantitative evidence concerning the specific impact of entrepreneurship education dimensions on innovation capability in a developing country context. This adds to the development of theory and offers suggestions for future research in the area of entrepreneurship education and innovation studies.



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