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Policies and Practices for Facilitating Innovation in the Universities of Arunachal Pradesh, India

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Abstract:

Innovation is a critical driver of progress in higher education, with universities serving as hubs for the generation and dissemination of new ideas. This study delves into the innovation practices and policies within universities in Arunachal Pradesh, India, employing a comprehensive analysis rooted in the Triple Helix Model. The primary objectives are to explore the factors influencing innovation adoption, assess their impact, and identify relationships among these factors. Through mixed research methods, including qualitative interviews and quantitative surveys, insights were gained from academic, industry, and government stakeholders. The findings indicate that collaborative partnerships, research and development efforts, and the safeguarding of intellectual property rights positively impact innovation adoption within educational institutions. Conversely, perceived entrepreneurial development exhibited a weaker connection to innovation adoption. These results underscore the importance of fostering an environment that encourages collaboration, supports research endeavors, and respects intellectual property rights. This research contributes to a deeper understanding of the innovation landscape in Arunachal Pradesh's universities, providing insights for policymakers, educational institutions, and industry partners. By recognizing the pivotal role of universities in driving innovation, this study seeks to advance the innovation ecosystem in the region, fostering economic and societal growth.

Keywords: Innovation Practices, Innovation Policy, Higher Education, Innovation Adoption in Universities

Introduction

Universities nowadays are under increasing pressure from society and students to integrate technology into all areas of study. While defenders point to the advantages of technology for accessibility, affordability, and efficacy, critics question its influence on education **(Rhoads & Torres, 2006).** According to experts, the US has invested $40 billion on educational technology over the past ten years. Instead of arguing, institutions should concentrate on skillfully implementing and disseminating technology to improve education **(Abrahams, 2010).**

Different views from professors regarding the incorporation of information technology into education have been prompted by the rapid arrival of the Internet and personal computers to campuses. Budgetary constraints, student and community requirements, and maintaining high academic standards are all priorities for

universities **(MacDonald et al.,2001).** Despite efforts to integrate technology into education, research like the Moser study reveals considerable opposition in the US and Europe. Faculty integration has also been gradual. For integration to be successful, it is essential to look into the elements that influence faculty acceptance or opposition. Institutions can better understand selective technology adoption thanks to this, which also emphasises proactive management for successful deployment **(Powell, 2015).** While building an innovation management framework equips universities to negotiate implications strategically, diffusion theory gives a logical strategy to managing innovation acceptance or rejection **(Waters, 2009).**

Although Arunachal Pradesh's educational system has made noteworthy strides since becoming a state in 1987, problems including educational inequality, poor infrastructure, and low local population knowledge continue to exist **(Bajpai & Biberman, 2020).** Effective knowledge management strategies and the promotion of knowledge-oriented leadership within higher education institutions (HEIs) must be prioritised in order to overcome these problems.

Paudel (2019) intended to close significant gaps in the literature and advance our understanding of how knowledge-based management affects KM processes & innovation**.** It also contributes to the scientific understanding of how KM might improve organisational performance at HEIs. Policymakers, administrators, and educational stakeholders will be given evidence-based methods by this study's findings to enhance education, promote innovation, and advance overall economic and societal development in Arunachal Pradesh **(Rafi, Jian Ming& Ahmad, 2022).**

Higher education institutions (HEIs) have a significant influence in encouraging innovation and organisational growth as important knowledge-intensive organisations. But HEIs continue to underutilize priceless information-based resources, especially in poor countries like Arunachal Pradesh. This is largely because there aren't enough supporting leadership practises and efficient knowledge management (KM) methods **(Al Amiri, Rahima & Ahmed, 2020).**

Therefore, it is crucial to close this gap in research. This study will make a substantial contribution to the scientific literature by methodically evaluating the factors that promote KM activities in HEIs and analysing the impact of knowledge-oriented leadership on innovation and KM processes **(saleh Darweesh alJassem, 2022).**

This study will also improve the theoretical rigour and robustness of the scientific literature. The results will enable decision-makers in policy, administration, and the educational community to adopt evidence-based approaches that support effective KM practises, encourage innovation, and eventually increase the overall efficacy of HEIs **(Oborn, Barrett & Racko, 2013).**

Formulated on the knowledge-based view (KBV), the body of research now in existence has revealed a strong correlation between effective knowledge management (KM) and innovation, which improves organisational performance **(Al-Hakim & Hassan, 2013).** Prioritising innovation in both products and processes is essential given the escalating competition and the require for higher education institutions (HEIs) to succeed. Although earlier research has clarified the link between innovation and transformational leadership in HEIs, the influence of knowledge-oriented leadership on innovation is still largely unexplored **(Baharun, Awang & Padlee, 2011).**

Additionally, there is an urgent need for research that fully explores the complex relationships involving KM practises, knowledge-oriented leadership, organisational performance, andinnovation, particularly in the context of HEIs in developing countries like Arunachal Pradesh. Filling in these gaps will improve the study's arguments as well as its scientific validity and application **(Mahajan & Kumar, 2019).**

Our research endeavour seeks to fully address the identified research gaps while ensuring rigorous scientific inquiry through the intentional integration of the knowledge-oriented leadership model, the KBV theory, and the knowledge management (KM) capabilities framework **(Donate &de Pablo, 2015).** In the context of HEIs in Arunachal Pradesh, the main scientific goal of this study is to empirically investigate the mediating role played by innovation and KM processes in the complex relationship between knowledge-oriented leadership and organisational performance **(Iqbal et al., 2018).**

By conducting this study, we hope to produce evidence-based insights that will not only improve knowledge management practises and foster innovation, but also result in significant improvements to the efficiency and general performance of HEIs in the state **(Siong, Yew & Lin, 2006).** A more rigorous scientific investigation is encouraged by the integration of these frameworks, which increase the theoretical underpinnings and methodological robustness of our research.

We significantly add to the body of research about innovation, organisational performance, knowledge leadership and knowledge-oriented leadershipprocesses in the particular context of higher education institutions (HEIs) in Arunachal Pradesh through our thorough research.

Policymakers, administrators, and other stakeholders in education will be able to implement evidence-based strategies aimed at not only raising educational standards but also fostering a dynamic environment of innovation with the help of the thorough findings and insights gleaned from our study **(Hénard & Roseveare, 2012).** As a result, these initiatives will establish a strong basis for the growth of the state's general economic and societal development.

As a result, we are able to offer practical recommendations for important stakeholders in the education sector because of the scientific rigour and validity of our research design and methodology **(Heeks & Bailur, 2007).**

The need for HEIs to promote an atmosphere that is focused on innovation is the driving force behind the study. This requirement stems from how important it is to foster societal development, technological innovation, and regional economic prosperity. The study aims to identify and address areas requiring improvement, address obstacles, and capitalise on possibilities by carefully reviewing innovative policies and practises. In the conclusion, the study seeks to strengthen Arunachal Pradesh's universities' potential for innovation as a whole, the innovation ecosystem, and research and development initiatives. This study will advance academic knowledge of and practical application of successful innovation methods inside HEIs.

Litreature review:

Serdyukov (2017) examined educational innovation in the USA, encompassing classification, challenges, and strategies. It emphasized the need for scalable, high-quality learning outcomes through technology-supported teaching. Practical implications included fostering large-scale innovation, enhancing online learning effectiveness, and improving educational efficiency.

Beaudry, Helmchen, and Cohendet (2021) conducted a comprehensive analysis of the progressing scholarly discourse on innovation ecosystems, including definitions, innovation policy significance, and future possibilities. While skillfully managing the concept's intricacies, the article could have delved further into legal challenges and practical implementation barriers for a heightened impact.

The interaction between service innovation, student satisfaction, and institutional image in higher education was the focus of **Cheng et al. (2019)** research. The study would have benefited from a deeper investigation of the intermediary role of institutional image and potential moderating factors, despite the fact that it offered insightful information. The study's main emphasis was on the analysis of student data.

McPhillips and Licznerska, (2021)focused on how digital change affected open innovation and the sharing of information. In order to create an Open Innovation Competence Profile, the research had the chance to look more deeply into difficulties and environmental factors. The study provided a thorough technique for enhancing skill sets among the potential workforce through the merging of managerial practise, open innovation, and entrepreneurial education.

Martn-Hernández et al. (2021) highlighted higher education's role in skill development during the pandemic but could have delved deeper into pandemic challenges and controversial aspects of Game-Based Learning (GBL) in higher education, while also showing GBL's effectiveness in boosting intrinsic motivation, teamwork, and creativity.**Sun (2020)** discussed "Internet + Maker Education" for college students, but a deeper look into psychology, survey methods, and real-world application could have enhanced the study's impact on entrepreneurship.

Rahma, Leng, and Mashudi (2020) stressed the importance of effective instructional strategies in modern education, particularly in teaching non-graded subjects. They successfully used the Scaffolding approach to integrate grooming and professional etiquette but could have provided more detailed information about lectures and discussions, which seemed somewhat peripheral to the study's main focus.

Cecchinato and Foschi (2020) work, social annotation and machine learning using Perusall were combined to propose a fresh approach to university instruction. While effectively examining student participation evaluation, a closer examination of Perusall's reasoning, the complexities of the algorithms, techniques for analysing qualitative data, and potential biases in students' perceptions would have increased the

study's extensive breadth and scholarly rigour.**Ellis, Souto-Manning, and Turvey (2019)** initiated a vital reevaluation of innovation in teacher education, differentiating between socially mobile-driven and social justice-driven innovation. To enhance the article's impact, specific examples of economic and justice-related innovations, along with real-world applications of the proposed imperatives, could be provided.

Abrahams (2010) offered a structured framework for grasping the challenges of technology integration in higher education. The study effectively applied diffusion theory to illuminate key issues, merging practical data with theoretical insights. **Arkorful and Abaidoo (2015)** extensively investigated the effectiveness of e-learning implementation in higher education, drawing from a diverse range of academic sources. The study yielded valuable insights into the pros and cons of integrating modern information technologies into educational instruction.

Johnson et al. (2012) proposed "Bootcamps" aligned with adult learning principles to address faculty members' technology apprehension and improve online teaching integration. While commendable, the initiative could benefit from a deeper analysis of its components, participant perspectives, and the integration of educational principles, thereby potentially addressing faculty technology concerns more effectively and advancing online instruction.

In **Lazar, Panisoara, and Panisoara's (2020)** research, they aimed to create and validate an expanded Technology Acceptance Model (TAM) tailored to digital tool adoption in higher education's blended learning. The study comprehensively covered aspects like digital tool familiarity, anxiety, barriers, and response variables, providing meticulous details on scale construction and validation involving various phases and student participants.

Tarhini, Tarhini, and Tarhini's (2019) research centered on the adoption of information technology in Lebanese higher education. Their objective was to construct a comprehensive framework addressing the complexities influenced by financial, cultural, political, and social factors in integrating technology in educational institutions. The study's uniqueness lies in its examination of IT integration in the region, shedding light on diverse factors affecting technology adoption within higher education.

In **Nyirongo's (2009)** study, the investigation centered on incorporating electronic technology into Malawi's Mzuzu University. While the study revealed challenges in integrating these technologies into the educational system, it lacked comprehensive solutions. The research could have been strengthened by a deeper exploration of faculty perspectives and cultural influences.

The limitations observed in these studies encompass a range of factors. Certain studies face challenges due to their relatively small sample sizes of faculty, administrators, or validation samples, which could impact the applicability of their results to a broader context. Other studies are constrained by their narrow focus on particular institutions or ecosystems. Moreover, variations in the terminology related to electronic technologies might sway respondents' perceptions, potentially impacting result accuracy. In some cases, studies lack specific empirical data or only provide surface-level examinations of critical matters, leading to limited analytical depth. Nonetheless, notwithstanding these limitations, the research outcomes effectively underscore the potential for enhancing e-learning, offer practical innovation recommendations, and underscore the importance of comprehending Open Innovation competence among students in diverse countries.

Theoretical framework:

The Triple Helix Model (**Etzkowitz & Leydesdorff, 1995**) is a conceptual framework that elucidates the collaborative interplay among universities, industries, and government bodies in fostering innovation. This model envisions a dynamic synergy where these three helices coalesce to drive regional innovation and economic development. In the context of proposed research on "Innovation Policy and Practice in the universities of Arunachal Pradesh, India," the Triple Helix Model serves as a guiding lens to explore how the interactions between universities, industries, and government influence the innovation landscape within the state's higher education institutions, providing critical insights into policy formulation and practice implementation.

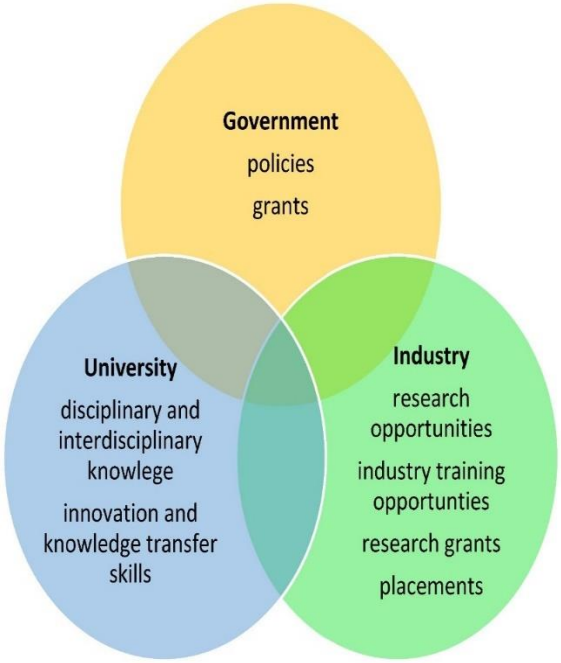


Figure 1: Triple Helix Model

Gachie (2020) aimed to enhance understanding of the Triple Helix Model in the National System of Innovation. The study explored collaboration among HEIs, the industrial sector, and the government for innovation. Recommendations included defining the government's role, strengthening HEI-private sector collaboration, and prioritizing research commercialization, emphasizing the need for adaptable strategies to meet evolving network actor needs.**Ramirez-Salazar et al. (2019)** presented an open collaborative innovation model grounded in the Triple Helix framework, comprising seven components and six principles, with a specific emphasis on Component 5. Their research highlighted the critical role of collaboration among academia, government, and industry in fortifying regional innovation systems, leading to improved national competitiveness and productivity in Colombia. **Cvetković et al. (2017)** proposed the Triple Helix model for Universities-Industry-Government collaboration in developing countries, with a focus on higher education for future knowledge workers. The model highlighted clear roles, benefits, and correlations among the parties, offering an innovative approach to address deficiencies in traditional education.

Objectives / rationale of the study:

This research is undertaken to comprehensively investigate the innovation practices and policies within universities in Arunachal Pradesh, India. The study is motivated by the need to understand the factors driving innovation adoption, assess their impact, and uncover the interrelationships among these factors. By doing so, this research aims to contribute valuable insights to enhance innovation culture, promote academic growth, and foster economic and societal development within the region.

1. To explore the factors driving innovation adoption in universities in Arunachal Pradesh, India.
2. To analyse the impact of innovation practices and policies in universities in Arunachal Pradesh, India.
3. To identify the overall relationship between different factors driving innovation adoption in universities in Arunachal Pradesh, India.

Methodology

Mixed research method integrates both qualitative and quantitative approaches to provide a comprehensive and balanced exploration of research topics. In this study, it enabled a nuanced understanding of innovation policy and practice in Arunachal Pradesh's universities by initially capturing rich qualitative insights through interviews and subsequently quantifying key themes using a Likert scale survey, ensuring a holistic analysis.

Qualitative phase:

Data Analysis

Thematic analysis was used to examine the qualitative information gathered from the interviews. This process involved the identification of recurring themes and patterns within the dataset, which allowed for a deeper exploration of key issues related to innovation policy and practice in the region. Based on a thorough review of the provided responses, the following themes related to innovation policy and practices in universities in Arunachal Pradesh can be identified:

Theme 1: Collaboration and Partnerships:

- Response 1: Memorandum of Understanding between Arunachal University of Studies and National Productivity Council to enhance innovation practices.

- Response 4: Collaboration with industry through workshops, hackathons, and induction programs to encourage startup establishment.
- Response 7: Workshops, seminars, and conferences organized by Rajiv Gandhi University to promote entrepreneurship.

Theme 2: Startup Support and Incubation:

- Response 2: Innovation and startup policy at NIT Arunachal Pradesh, including pre-incubation and incubation facilities.
- Response 4: Financial assistance and resources provided by NIT Arunachal Pradesh to support student startups.
- Response 8: Arunachal Pradesh Innovation & Investment Park offering training, mentorship, incubation, and pre-incubation support to startups.

Theme 3: Entrepreneurship Development Programs:

- Response 3: Entrepreneurship Development Programme organized by Rajiv Gandhi University and National Science & Technology Entrepreneurship Development Board to train and inspire youths.
- Response 7: Centre for Entrepreneurship at Rajiv Gandhi University organizing workshops, seminars, and conferences for skill enhancement.

Theme 4: Policy Framework and Vision:

- Response 5: Implementation of the National Innovation and Startup Policy 2020 at NIT Arunachal Pradesh, emphasizing an entrepreneurial vision and mission-driven approaches.
- Response 9: Central government initiatives transforming farmers into proud entrepreneurs, contributing to the agricultural and horticultural sectors.

Theme 5: Research and Development:

- Response 12: Involvement of Rajiv Gandhi University in real-time research projects focused on tribal development, hydro power projects, and social intake assessment.

Theme 6: Intellectual Property Rights (IPR) Awareness:

- Response 13: Awareness workshop on Intellectual Property Rights organized by Dera Natung Government College in collaboration with various organizations.

These themes provide an overview of the policies and practices implemented in universities in Arunachal Pradesh to facilitate innovation, entrepreneurship, and collaboration with industry and government.

Quantitative phase:

Data collection:

Following the thematic analysis, a quantitative survey was administered to a broader sample group of 50 respondents. This survey was designed to measure specific variables related to the identified themes from the qualitative phase. Respondents included individuals with expertise in the areas of universities, government, and industry.

Proposed model:

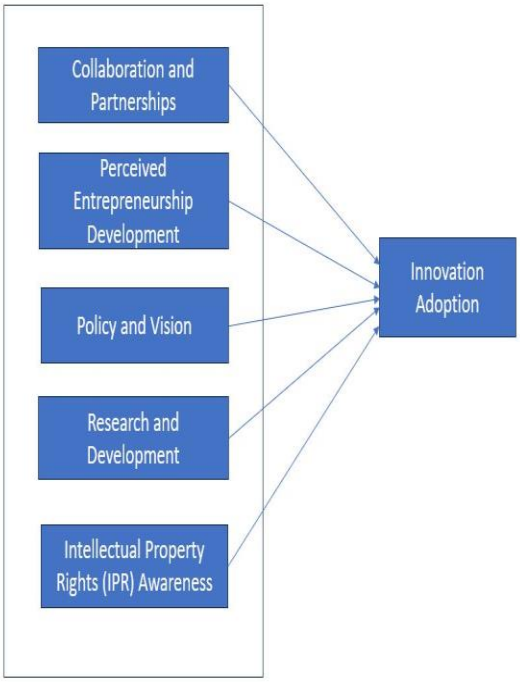


Figure 2: Proposed Research Model

Empirical Model

Empirical Model for Innovation Adoption

A multiple linear regression analysis was used to examine the factors impacting "Innovation Adoption" within the setting of this study. The empirical model looks like this:

Innovation Adoption = $\beta_0 + \beta_1$ * Collaboration and Partnerships + β_2 * Startup Support and Incubation + β_3 * Entrepreneurship Development Programs + β_4 * Policy Framework and Vision + β_5 * Research and Development + ε

Where:

- "Innovation Adoption" represents the dependent variable, measuring the level of innovation adoption.
- β_o is the intercept term, signifying the baseline level of innovation adoption when all independent variables are zero.
- β_1, β_2, β_3, β_4, and β_5 correspond to the coefficients for the independent variables: Collaboration and Partnerships, Startup Support and Incubation, Entrepreneurship Development Programs, Policy Framework and Vision, and Research and Development, respectively.
- ε stands for the error term, encapsulating unexplained variability in innovation adoption.

This model enables the assessment of how each independent variable contributes to the prediction of "Innovation Adoption" within the study's context. The estimation of the coefficients and their statistical significance will facilitate a comprehensive analysis of the factors influencing innovation adoption and their respective impact levels.

Data analysis

Descriptive statistics

Demographic variables

Table 1 Gender statistics

Gender	Frequency	%
Male	24	48.0
Female	26	52.0
Total	50	100.0
Mean	1.52	

The gender table desribes the prequency and percentage. In that we can observed that In a sample of 50 individuals, the gender distribution was approximately equal, with 24 individuals identified as male and 26 individuals identified as female. And the mean of the gender is the 1.52. The graphical representation in percentage also shows below.

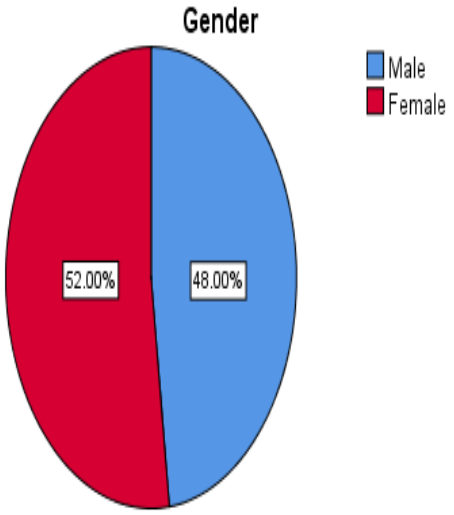


Table 2 Age Statistics

Age	Frequency	%
Below 25 years	10	20.0
25 years – 35 years	5	10.0
35 years – 45 years	11	22.0
45 years – 55 years	15	30.0
55 years and above	9	18.0
Total	50	100.0
Mean	3.160	

According to the data, out of 50 samples, 10 people were below 25 years old, 5 people were between 25 and 35 years old, 11 people fell within the 35 to 45 years age range, 15 people were aged 45 to 55 years, and 9 people were 55 years and above. The calculated mean age value is 3.160. The graphical representation below displays the data in percentage format.

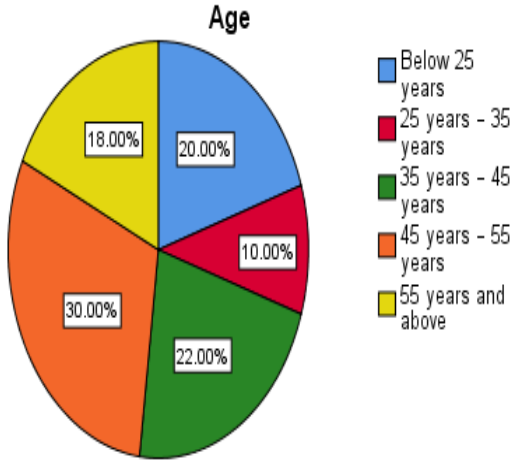


Table 3 Form of Institution

	Frequency	**%**
Private Institution	17	34.0
Government Institution	33	66.0
Total	50	100.0
Mean	1.660	

According to the data, out of 50 samples, 17 people are from private institution, and 33 people from government institution. The calculated mean age value is 1.660. The graphical representation below displays the data in percentage format.

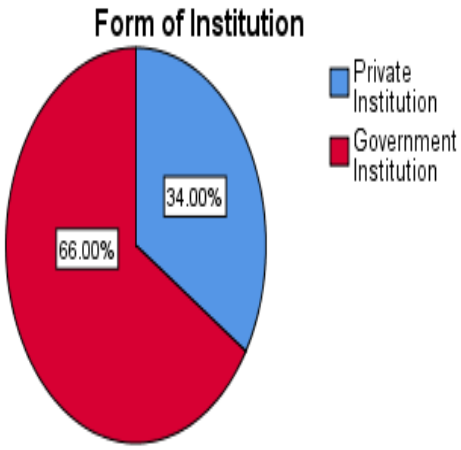


Table 4 Department

	Frequency	%
Medical	10	20.0
Engineering	7	14.0
Law	4	8.0
Arts	5	10.0
Science	9	18.0
Commerce	9	18.0
Others	6	12.0
Total	50	100.0
Mean	3.940	

According to the data, out of 50 samples, 10 people were medical department, 7 people were engineering department, 4 people were law department, 5 people were arts department, 9 people were science department, 9 people were commerce department and 6 people were other department. The calculated mean age value is 3.940. The graphical representation below displays the data in percentage format.

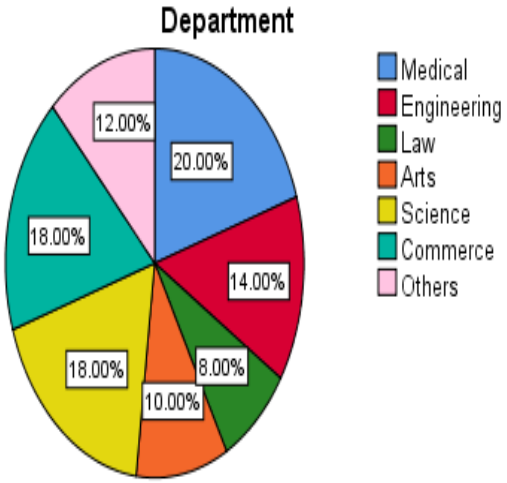


Table 5 Location of Institution

	Frequency	%
Rural	24	48.0
Urban	26	52.0
Total	50	100.0
Mean	1.520	

The location of institution table desribes the prequency and percentage of the data. In that we can observed that In a sample of 50 individuals, the distribution was approximately equal, with 24 individuals identified as male and 26 individuals identified as female. And the mean of the gender is the 1.52. The graphical representation in percentage also shows below.

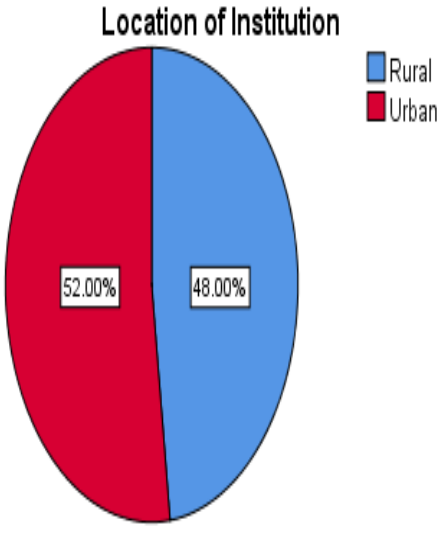
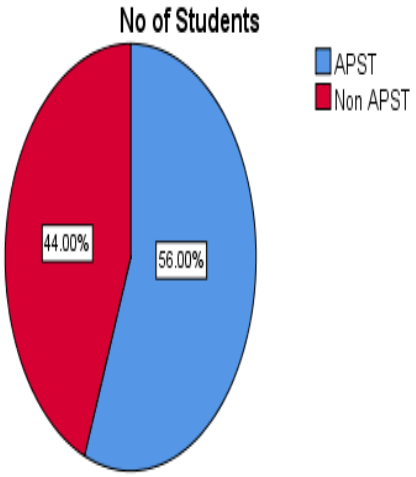


Table 6 No of Students

	Frequency	%
APST	28	56.0
Non APST	22	44.0

Total	50	100.0
Mean	1.440	

The no. of students table desribes the prequency and percentage of the data. In that we can observed that In a sample of 50 individuals, with 28 individuals identified as APST students and 22 individuals identified as non-APST students. And the mean of the gender is the 1.44. The graphical representation in percentage also shows below.



Regression Analysis

H1: There is a significant impact of collaboration partnershipon Innovation adoption in universities.

Table 7 Model Summary

Model	R		R^2	AR^2	Std. Err of the Estimate
1	.638[a]		.407	.394	.94723
	a. Predictors: (C), Collaboration Partnership				

Where, C is Constant;

Std. is Standardized;

Err is Error

A is Adjusted;

R is coefficient, commonly known as the multiple correlation coefficient

R is a metric utilized to fix upon the accuracy of the dependent variable (DV) prediction. In this situation, the model has a R value of 0.638, indicating that it is excellent at predicting the independent variable i.e.,Collaboration Partnership, considering Innovation Adoption in Universities as the dependent variable. According to the R^2 value of 0.407, the independent variable can account for about 40.7% of the variation in the DV. The 0.394 adjusted R-squared value showsthat there is still a meaningful relationship between the two variables, although it is slightly stronger compared to previous findings. The small standard error of the estimate (0.94723) indicates that the model is likely to be a good fit for the data.

Table 8ANOVAa

Model		SS	df	Mean Square	F	Sig.
1	Regression	29.501	1	29.501	32.880	.000[b]
	Residual	43.068	48	.897		
	Total	72.569	49			
a. DV: Innovation Adoption in Universities						
b. Predictors: (C), Collaboration Partnership						

where SS - Sum of Squares;

In this particular scenario, the results of the ANOVA test reveal that the significance of the fit is indicated by the values F (1, 48)= 32.880 and P<0.05 (i.e. 0.000).. It is plausible to infer that the model is quite good at upholding the relationship between the relevant variables.

Table 9 Coefficientsa

Model		Unstandardized Coefficients		Std. Coefficients	t	Sig.
		B	Std. Error	Beta		
1	C	7.723	.821		9.410	.000
	Collaboration Partnership	1.325	.231	.638	-5.734	.000
a. Dependent Variable: Innovation Adoption in Universities						

When the independent variables are held constant, the amount of variation between the dependent and independent variables is shown by their unstandardized coefficients. According to the table, the unstandardized coefficient B, Collaboration Partnership, is equal to 1.325, which implies that for each increase in Collaboration Partnership there is an increase in Innovation Adoption in Universities by 1.325, and the statement's significance is validated by the p-value (0.000 < 0.05). Based on

coefficient value, we can conclude that collaboration partnership impacts the Innovation Adoption in Universities positively.

H2: There is a significant impact of perceived entrepreneurship developmenton Innovation adoption in universities.

Table 10Model Summary

Model	R	R^2	A R^2	Std. Err of the Estimate
1	.256[a]	.066	.046	1.18856
a. Predictors: (C), Perceived Entrepreneurship Development				

The coefficient Ris a metric utilized to determine the accuracy of the dependent variable prediction. The model's R value in this instance is 0.256, indicating that it is weak at predicting the independent variable i.e. Perceived Entrepreneurship Development, considering Innovation Adoption in Universities as the DV. According to the R^2 value of 0.066, the independent variable can account for around 6.6% of the variation in the DV. The adjusted R^2 value of 0.046 suggests that there is still a meaningful relationship between the two variables, although it is slightly weaker compared to previous findings. The small standard error of the estimate (1.18856) shows that the model is likely to be a good fit for the data.

Table 11 ANOVAa

Model		SS	df	Mean Square	F	Sig.
1	Regression	4.760	1	4.760	3.370	.073[b]
	Residual	67.809	48	1.413		
	Total	72.569	49			
a. DV: Innovation Adoption in Universities						
b. Predictors: (C), Perceived Entrepreneurship Development						

In this particular scenario, the results of the ANOVA test reveal that the significance of the fit is indicated by the values F(1, 48)= 3.370 and P>0.05 (i.e. 0.073). Therefore, it is plausible to draw the conclusion that the model is not very good at maintaining the relationship between the relevant variables.

Table 12Coefficientsa

Model		Unstandardized Coefficients		Std. Coefficients	t	Sig.
		B	Std. Err	Beta		
1	C	5.685	1.429		3.978	.000
	Perceived Entrepreneurship Development	.930	.507	.256	-1.836	.073
a. DV: Innovation Adoption in Universities						

Unstandardized coefficients show how much the DV varies with an independent variable when the independent variables are held constant. According to the table, the unstandardized coefficient B, Perceived Entrepreneurship Development, is equal to -.930, which implies that for each increase in Perceived Entrepreneurship Development there is an decrease in Innovation Adoption in Universities by .930, and the statement's significance is validated by the p-value (0.073 > 0.05). Based on coefficient value, we can concluded that Perceived Entrepreneurship Development does not impacts the Innovation Adoption in Universities positively.

H3: There is a significant impact of policy visiondevelopmenton Innovation adoption in universities.

Table 13 Model Summary

Model	R	R^2	A R^2	Std. Err of the Estimate
1	.053[a]	.003	-.018	1.22786
a. Predictors: (C), Policy Vision				

The coefficient Ris a metric utilized to determine the accuracy of the dependent variable prediction. The model's R value in this instance is 0.053, indicating that it is weak at predicting the independent variable i.e. Perceived Entrepreneurship Development, considering Innovation Adoption in Universities as the DV. According to the R^2 value of 0.003, the independent variable can account for around 0.3% of the variation in the DV. The adjusted R^2 value of -.018 suggests that there is still a meaningful relationship between the two variables, although it is slightly weaker compared to previous

findings. The small standard error of the estimate (1.22786) shows that the model is likely to be a not good fit for the data.

Table 14 ANOVAa

Model		SS	df	Mean Square	F	Sig.
1	Regression	.202	1	.202	.134	.716[b]
	Residual	72.367	48	1.508		
	Total	72.569	49			
a. DV: Innovation Adoption in Universities						
b. Predictors: (C), Policy Vision						

In this particular scenario, the results of the ANOVA test reveal that the significance of the fit is indicated by the values F(1, 48)= .134 and P>0.05 (i.e. 0.716). Therefore, it is plausible to draw the conclusion that the model is not very good at maintaining the relationship between the relevant variables.

Table 15 Coefficientsa

Model		Unstandardized Coefficients		Std. Coefficients	t	Sig.
		B	Std. Error	Beta		
1	C	2.751	.915		3.005	.004
	Policy Vision	.120	.327	.053	.366	.716
a. Dependent Variable: Innovation Adoption in Universities						

Unstandardized coefficients show how much the DV varies with an independent variable when the independent variables are held constant. According to the table, the unstandardized coefficient B, Policy Vision, is equal to .120, which implies that for each increase in Policy Vision there is an decrease in Innovation Adoption in Universities by .120, and the statement's significance is validated by the p-value (0.716 > 0.05). Based on coefficient value, we can conclude that Policy Vision does not impacts the Innovation Adoption in Universities positively.

H4: There is a significant impact of research developmenton Innovation adoption in universities.

Table 16 Model Summary

Model	R	R^2	A R^2	Std. Err of the Estimate
1	.620[a]	.514	.552	0.22933
a. Predictors: (C), Research Development				

The coefficient Ris a metric utilized to determine the accuracy of the dependent variable prediction.The model's R value in this case is 0.620, indicating that it is excellent at predicting the independent variable i.e. Research Development, considering Innovation Adoption in Universities as the DV. According to the R-squared value of 0.514, the independent variable can account for around 51.4% of the variation in the DV. The corrected R^2 value of.552 indicates that the two variables continue to have a significant association, although it is slightly weaker compared to previous findings. The small standard error of the estimate (0.22933) indicates that the model is likely to be a good fit for the data.

Table 17 ANOVAa

Model		SS	df	Mean Square	F	Sig.
1	Regression	32.029	1	32.029	38.019	.030[b]
	Residual	40.540	48	1.511		
	Total	72.569	49			
a. DV: Innovation Adoption in Universities						
b. Predictors: (C), Research Development						

In this particular scenario, the results of the ANOVA test reveal that the significance of the fit is indicated by the values F(1, 48)= 38.019 and P>0.05 (i.e. 0.030). As a result, it is reasonable to conclude that the model is considerably effective at maintaining the relationship among the variables of interest.

Table 18 Coefficientsa

Model		Unstandardized Coefficients		Std Coefficients	t	Sig.
		B	Std. Err	Beta		
1	C	3.279	1.449		2.263	.028
	Research Development	.865	.469	.354	-2.139	.030
a. DV: Innovation Adoption in Universities						

When the independent variables are held constant, the dependent variable's variation with the independent variable is shown by the unstandardized coefficients. According to the table, The unstandardized coefficient B, Research Development, is equal to .865, which implies that

for each increase in Research Development there is an increase in Innovation Adoption in Universities by .865, and the statement's significance is validated by the p-value (0.030 < 0.05). Based on coefficient value, we can concluded that Research Development significant impacts the Innovation Adoption in Universities positively.

H5: There is a significant impact of intellectual property rightson Innovation adoption in universities

Table 19 Model Summary

Model	R	R^2	A R^2	Std. Err of the Estimate
1	.907[a]	.823	.820	.51695
a. Predictors: (C), Intellectual Property Rights				

The coefficient R is a metric utilized to determine the accuracy of the dependent variable prediction. In this situation, the model has a R value of 0.970, indicating that it is excellent at predicting the independent variable i.e. Intellectual Property Rights, considering Innovation Adoption in Universities as the DV. According to the R^2 value of 0.823, the independent variable may account for about 82.3% of the variation in the dependent variable. The A R^2 value of .552 suggests that there is still a meaningful relationship between the two variables, although it is slightly stronger compared to previous findings. The small standard error of the estimate (0.51695) indicates that the model is likely to be a good fit for the data.

Table 20 ANOVAa

Model		SS	df	Mean Square	F	Sig.
1	Regression	59.742	1	59.742	223.557	.000[b]
	Residual	12.827	48	.267		
	Total	72.569	49			
a. DV: Innovation Adoption in Universities						
b. Predictors: (C), Intellectual Property Rights						

In this particular scenario, the results of the ANOVA test reveal that the significance of the fit is indicated by the values F(1, 48)= 223.557 and P>0.05 (i.e. 0.030). As a result, it is reasonable to conclude that the model is considerably effective at maintaining the relationship among the variables of interest.

Table 21 Coefficientsa

Model		Unstandardized Coefficients		Std. Coefficients	t	Sig.
		B	Std. Error	Beta		
1	C	.571	.183		3.123	.003
	Intellectual Property Rights	.856	.057	.907	14.952	.000
a. DV: Innovation Adoption in Universities						

When the independent variables are held constant, the dependent variable's variation with the independent variable is shown by the unstandardized coefficients. According to the table, the unstandardized coefficient B, Intellectual Property Rights, is equal to .856, which implies that for each increase in Intellectual Property Rights there is an increase in Innovation Adoption in Universities by .856, and the statement's significance is validated by the p-value (0.000 < 0.05). Based on coefficient value, we can conclude that Intellectual Property Rights does significant impacts the Innovation Adoption in Universities positively.

Conclusion

In conclusion, the motive of this research was to investigate the effect that a variety of characteristics have on the rate of innovation acceptance within university environments. Through the examination of a variety of independent factors related to the dependent variable of Innovation Adoption, significant insights into the dynamics that shape this process were achieved. The results of the study shows that collaborative partnerships, the growth of research, and the protection of intellectual property rights are all positively connected with universities' adoption of innovative practises. This indicates that educational institutions that have strong cooperative relationships with trade, a strong emphasis on research and development, and a culture that respects the rights of intellectual property are more likely to be successful in implementing innovations.On the other hand, the research came to the conclusion that perceived

entrepreneurial development did not have a substantial influence on the uptake of innovation in educational institutions. This would seem to indicate that it is not sufficient to only provide education and training in entrepreneurship in order to foster creativity. Additionally, colleges and universities have a responsibility to foster an atmosphere that values creativity and risk-taking and to give students with opportunity to earn experience relevant to these fields in the real world.The results of this study reveal, on the whole, that educational institutions may contribute significantly to the promotion of innovation by improving their cooperation relationships, investing in research and development, and developing a culture of respecting intellectual property rights.

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