

# Role of Educational Background in Shaping Intrapreneurial Characteristics: A Study of Selected Industries in Saurashtra Region

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## Abstract

This research paper examines the role of educational background in shaping intrapreneurial characteristics within selected industries of the Saurashtra region. The study focuses on key attributes of intrapreneurs, including professionalism, ambition, freedom, decision-making, courage, and confidence, and investigates how different educational qualifications influence the development and manifestation of these characteristics. The industries selected for this study include manufacturing, Education, Hotel/Restaurant, Information Technology (IT), Real Estate, Finance, and E-commerce and Logistics. A structured questionnaire is employed as the primary data collection tool to gather responses from intrapreneurs across these industries. The study utilises Analysis of Variance (ANOVA) and post hoc analysis to determine significant differences in intrapreneurial traits based on educational background and industry type. By analysing variations in characteristics across different education levels—such as undergraduate, postgraduate, and professional certifications—the research aims to establish a correlation between formal education and intrapreneurial effectiveness. The findings of this study will contribute to a deeper understanding of how education influences intrapreneurial behaviour in various industries and provide valuable insights for organisations, policymakers, and educators seeking to foster an intrapreneurial culture. The study's results will enhance existing knowledge on intrapreneurship and serve as a foundation for future research and practical applications in entrepreneurship education and corporate strategy.

**Keywords:** Intrapreneurial Skills, Educational Background, Industry Influence, ANOVA Analysis, Entrepreneurship Education

## Introduction

Intrapreneurship is the activity of the employees who have the mindset of being an employee but possess the same working and intention to work for the company as entrepreneurs to achieve the organisation's goal. It involves encouraging creativity, risk-taking, and proactive decision-making, allowing individuals to take initiatives that drive innovation, efficiency, and business growth. Organisations that embrace intrapreneurship empower their workforce to develop new products, enhance existing processes, and explore emerging market opportunities, ensuring adaptability in an increasingly competitive business environment.

While intrapreneurial success depends on various factors, one critical yet often overlooked element is the educational background of employees. Education plays a fundamental role in shaping an individual's ability to think critically, solve problems, and take strategic risks—all of which are essential intrapreneurial characteristics. The level, type, and specialisation of education can influence how employees perceive opportunities, tackle challenges, and contribute to organisational growth through intrapreneurial initiatives. For instance, technical education may enhance problem-solving abilities, while management education can refine leadership and decision-making skills.

This research examines the role of educational background in shaping intrapreneurial characteristics within selected industries of the Saurashtra region, focusing on key attributes such as professionalism, ambition, freedom, decision-making, courage, and

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confidence. The study spans various industries, including manufacturing, education, Hotel/Restaurant, Information Technology (IT), Real Estate, Finance, and E-commerce and Logistics, to analyse how educational qualifications impact intrapreneurial behaviour across different sectors.

A structured questionnaire is used to collect primary data from professionals working in these industries. Statistical tools such as ANOVA and post hoc analysis are employed to assess variations in intrapreneurial characteristics based on different educational backgrounds. The study aims to provide insights into whether formal education significantly influences an employee's ability to exhibit intrapreneurial traits and, if so, which aspects of education contribute the most to intrapreneurial success.

## Literature Review

Recent studies have reinforced the impact of educational background on shaping intrapreneurial characteristics.

Ngo, Vu and Le (2024), in the *Journal of Management, Economics, and Industrial Organisation*, examined the impact of entrepreneurship education and individual characteristics on entrepreneurial intentions among Vietnamese graduates. Their study revealed that entrepreneurship education, self-efficacy, entrepreneurial family background, motivation, and perceived social support significantly influence entrepreneurial intentions, with perceived social support acting as a critical mediating variable.

Hardie et al. (2022), writing in the *International Journal of Educational Research*, employed the Delphi method with 28 entrepreneurship experts in New Zealand to identify the key traits of authentic entrepreneurial learning in early education. Their findings highlight the importance of cultivating business understanding and skills through real-world learning experiences, reinforcing the idea that early education plays a vital role in developing intrapreneurial behaviour.

Awotunde and Aregbeshola (2024), in the *International Journal of Research on Business and Social Science*, investigated the relationship between intrapreneurship development, training programmes, and organisational performance. Their analysis concluded that training initiatives, particularly those focused on advanced technologies, significantly improve intrapreneurial

productivity within organisations.

Sakalauskas et al. (2023), publishing in the *Brazilian Administration Review*, explored the effect of intrapreneurial behaviour on project outcomes. Based on a sample of 411 project management professionals, the study found that intrapreneurial behaviour positively influences project success, particularly by enhancing client satisfaction and ensuring strategic alignment.

Schachtebeck (2024), in the *17<sup>th</sup> International Business Conference Proceedings*, examined the role of entrepreneurship education in promoting intrapreneurial orientation. The study emphasised the effectiveness of networking, apprenticeships, and project-based learning as essential components for fostering intrapreneurial thinking and behaviour.

Chao and Sheu (2022), in *Cogent Education*, demonstrated that structured entrepreneurship courses significantly improve critical competencies for intrapreneurs, including critical thinking, risk assessment, and opportunity recognition.

These studies highlight the vital role of education and targeted training in fostering intrapreneurial characteristics, offering valuable insights for academia and industry.

## Research Gap

The existing literature on intrapreneurship has primarily focused on broader global contexts or specific industries in other regions, with limited research dedicated to understanding intrapreneurial characteristics within the Saurashtra region of India. This regional gap presents an opportunity to explore the unique factors that influence intrapreneurship in this area. While studies have highlighted the role of education and training in fostering intrapreneurial behaviour, they have not adequately captured the diversity of industries present in Saurashtra. Each industry—such as manufacturing, education, hospitality, IT, real estate, finance, and e-commerce—has distinct characteristics, operational dynamics, and innovation requirements that may shape intrapreneurial success differently.

Furthermore, the cultural, social, and economic factors specific to the Saurashtra region could play a crucial role

in shaping intrapreneurial tendencies. Existing research has not sufficiently explored how these contextual factors impact intrapreneurial behaviour in local organisations. Given the region’s rapid industrial and economic development in the region, it is essential to analyse whether intrapreneurial traits align with the evolving demands of different industries.

This research aims to address these gaps by providing a comprehensive examination of intrapreneurial characteristics across selected industries in the Saurashtra region. By doing so, it contributes to a clear understanding of industry-specific and region-specific factors that influence intrapreneurial success, offering insights that can be leveraged by businesses, policymakers, and educators to foster a culture of innovation and strategic growth.

### Research Objectives

- To analyse the key characteristics of intrapreneurs across various industries in the Saurashtra region.
- To examine the influence of educational background on intrapreneurial mindset, decision-making, and innovation.
- To identify industry-specific variations in intrapreneurial traits across sectors such as manufacturing, education, IT, finance, and e-commerce.
- To evaluate the impact of formal education, professional training, and experiential learning on intrapreneurial success.

- To explore external and internal factors that influence intrapreneurial behaviour in the Saurashtra region.

### Hypothesis

There is no significant difference in the characteristics of intrapreneurs belonging to various educational backgrounds.

### Research Design and Methodology

The study focuses on the characteristics of intrapreneurs which will be from different selected industries within the Saurashtra region.

- *Sampling Technique:* Simple Random Sampling (Convenience sampling Technique).
- *Sample Size:* 468 intrapreneurs (across seven industry sectors from ten cities of Saurashtra region).
- *Source of the Data:* Structured questionnaire.
- *Statistical Tool:* The collected data are analysed using the ANOVA technique. In the post hoc analysis, Tukey’s HSD test is utilised in comparing multiple group means and identify significant differences between them.

### Characteristics of Intrapreneurs and Various Educational Background

There is no significant difference in the characteristics of Intrapreneurs belonging to various educational background.

**Table 1: Intrapreneurs and Various Educational Background**

		<i>Descriptive</i>			
		<i>Educational Background</i>	<i>Statistic</i>	<i>Std. Error</i>	
Intrapreneurs	Diploma/ 10th	Mean	4	0.12	
		95 % confidence Interval for Mean	lower bound	3.73	
			upper bound	4.27	
		5% Trimmed Mean	4		
		Median	4		
		Variance	0.182		
		Std. Deviation	0.426		
		Minimum	3		
		Maximum	5		

		<i>Descriptive</i>			
		<i>Educational Background</i>		<i>Statistic</i>	<i>Std. Error</i>
	Up to 12 <sup>th</sup>	Mean		4	0
		95% Confidence Interval for Mean	Lower Bound	4	
			Upper Bound.	4	
		5% Trimmed Mean		4	
		Median		4	
		Variance		0	
		Std. Deviation		0	
		Minimum		4	
		Maximum		4	
	Graduate	Mean		4.03	0.02
		95% Confidence Interval for Mean.	Lower Bound.	3.99	
			Upper Bound.	4.06	
		5% Trimmed Mean		4	
		Median.		4	
		Variance		0.066	
		Std. Deviation		0.256	
		Minimum		3	
Maximum		5			
	Post Graduate	Mean		4.08	0.02
		95% Confidence Interval for Mean	Lower Bound	4.05	
			Upper Bound	4.12	
		5% Trimmed Mean		4.05	
		Median		4	
		Variance		0.094	
		Std. Deviation		0.307	
		Minimum		3	
Maximum		5			
	Doctorate	Mean		4	0
		95% Confidence Interval for Mean	Lower Bound	4	
			Upper Bound	4	
		5% Trimmed Mean		4	
		Median		4	
		Variance		0	
		Std. Deviation		0	
		Minimum		4	
Maximum		4			

The provided information contains descriptive statistics for the variable “intrapreneurs” at different levels of the independent variable “educational background.”

Let’s examine the details for each level:

- “Educational background” for the group of intrapreneurs who have completed their Diploma or 10<sup>th</sup> grade education.

The mean score of educational background is 4, which indicates the average educational level of the intrapreneurs with a Diploma or 10<sup>th</sup> grade education. The 95% confidence interval provides a range in which we can be 95% certain that the true population mean lies (Table 1). For this group, the interval spans from 3.73 to 4.27. The 5% trimmed mean, which excludes the most extreme 5% of values from both ends of the dataset, also results in a mean of 4. This indicates that outliers have little influence on the overall average. The median educational background score is 4, indicating that half of the intrapreneurs with a diploma or 10<sup>th</sup> grade education have a background score below 4, while the other half have a score above 4. The variance of educational background scores is 0.182, which represents the average of the squared deviations from the mean, indicating how spread out the data points are. A higher variance reflects greater dispersion in the dataset. In this case, the standard deviation is 0.426, which is the square root of the variance and provides a measure of spread in the same units as the original data. It provides a measure of how much the educational background scores deviate from the mean. The minimum educational background score is 3, indicating the lowest level of education within the group. The maximum score is 5, representing the highest level of education among the intrapreneurs with a diploma or 10<sup>th</sup> grade education.

- *“Educational background” of the individuals who are intrapreneurs who educated up to 12<sup>th</sup> grade education.*

The mean educational background score is 4, indicating that all the intrapreneurs in this group have completed up to 12<sup>th</sup> grade education. The 95% confidence interval is an estimate of the range within which we can be 95% confident that the true population mean lies. In this case, the lower and upper bounds of the confidence interval are both 4, indicating that the mean is precisely 4, with no uncertainty. The 5% trimmed mean is a measure of central tendency that excludes 5% of the extreme values from both ends of the distribution. In this scenario, the trimmed mean is also 4, as there are no extreme values to exclude. The median educational background score is 4, which is the middle value of the distribution. It aligns with the mean and further indicates that all the intrapreneurs in this group have completed up to 12<sup>th</sup> grade education. The variance and standard deviation are reported as 0, which suggests that there is no variability in the educational

background scores. In other words, all the intrapreneurs in this group have the same educational background (up to 12<sup>th</sup> grade). The minimum and maximum educational background scores are both 4, confirming that all the intrapreneurs in this group have completed up to 12<sup>th</sup> grade education, with no variation.

- *“Educational background” for the group of intrapreneurs who are graduates.*

The average educational background score for this group of intrapreneurs is 4.03, suggesting that, on average, they have completed their undergraduate education. The 95% confidence interval ranges from 3.99 to 4.06, meaning that we can be 95% confident that the true population mean lies within this narrow range. The 5% trimmed mean, which removes the most extreme 5% of values from both ends of the data, is also 4. This indicates that outliers have a minimal impact on the overall average. The median score is also 4, showing that the central value of the distribution aligns closely with the mean, suggesting a fairly symmetrical distribution without significant skewness. The variance of the scores is 0.066, indicating that the data points are not widely spread out from the mean. The standard deviation is 0.256, representing the average deviation from the mean. This low value further confirms that most of the scores are clustered close to the average. The range of educational background scores spans from a minimum of 3 (indicating completion of a graduate degree) to a maximum of 5, showing that the intrapreneurs in this group have educational qualifications ranging from postgraduate to higher levels.

- *“Educational background” for the group of intrapreneurs who are post graduates.*

The mean educational background score is 4.08, which suggests that, on average, intrapreneurs in this group have completed their postgraduate education. The 95% confidence interval indicates a range within which we can be 95% confident that the true population mean lies. In this case, the lower bound of the confidence interval is 4.05, and the upper bound is 4.12. This indicates that we can be reasonably confident that the true mean is within this range. The 5% trimmed mean is a measure of central tendency that excludes 5% of extreme values from both ends of the distribution. In this case, the trimmed mean is 4.05, which is very close to the mean. This suggests that there are likely no significant extreme values affecting the central tendency. The median educational background

score is 4, which is the middle value of the distribution. The median closely aligns with the mean, indicating that the distribution of educational backgrounds is not heavily skewed. The variance is reported to be 0.094. It measures the spread or dispersion of the educational background scores around the mean. A smaller variance indicates that the scores are relatively close to the mean, suggesting limited variability among the educational background levels of this group. The standard deviation is 0.307, which is the square root of the variance and represents the average amount of deviation from the mean. A lower standard deviation suggests that the educational background scores are relatively clustered around the mean. The minimum educational background score is 3, while the maximum is 5. This indicates that the educational backgrounds of intrapreneurs in this group range from a minimum of completing a postgraduate degree (score 3) to a maximum of completing five years of education (score 5).

- “Educational background” for the group of intrapreneurs who are doctorates.

The mean educational background score is 4, indicating that, on average, intrapreneurs in this group have

completed their doctorate degree. The 95% confidence interval has both its lower and upper bounds at 4, suggesting a very high level of certainty that the true population mean is exactly 4. This reflects strong consistency in the data. The 5% trimmed mean, which eliminates the most extreme 5% of values from both ends of the distribution, also serves as a reliable measure of central tendency by minimising the influence of any potential outliers. In this case, the trimmed mean is also 4, which perfectly aligns with the mean. This indicates that there are no extreme values influencing the central tendency. The median educational background score is 4, which is the middle value of the distribution. The median is equal to the mean, signifying that the distribution of educational backgrounds is balanced and not skewed. The variance and standard deviation for the doctorate group are both reported as 0. A variance of 0 implies that there is no variability in the data; all the values are identical. Similarly, a standard deviation of 0 indicates that there is no deviation from the mean, as all the data points have the same value. The minimum and maximum educational background scores are both 4. This implies that every intrapreneur in the doctorate group holds the same level of education, i.e., a Doctorate degree.

**Table 2:** ANOVA

ANOVA						
		Sum of Squares.	DF	MS	F.	Sig f
Professional Characteristics	Between groups	0.438	4	0.109	1.18	0.32
	Within groups	42.758	463	0.092		
	Total	43.196	467			
Ambition Characteristics	Between Groups	0.575	4	0.144	0.99	0.41
	Within Groups	67.234	463	0.145		
	Total	67.809	467			
Freedom Characteristics	Between Groups	0.509	4	0.127	0.86	0.49
	Within Groups	68.765	463	0.149		
	Total	69.275	467			
Decision Making Characteristics	Between Groups	0.697	4	0.174	1.12	0.35
	Within Groups	72.283	463	0.156		
	Total	72.981	467			
Confidence Characteristics	Between Groups	0.645	4	0.161	1.39	0.24
	Within Groups	53.821	463	0.116		
	Total	54.466	467			
Courageous Characteristics	Between Groups	1.048	4	0.262	2.25	0.06
	Within Groups	53.982	463	0.117		
	Total	55.03	467			

The given data presents the results of an Analysis of Variance (ANOVA) test for multiple groups, specifically analysing different characteristics across various groups. An ANOVA test has been applied to find out whether there is any statistical significant difference in the mean of 3 groups or more groups (Table 2).

Interpretation of results for each characteristic:

- *Professional Characteristics*

The ANOVA test is used to check the ratio of variation between groups to the variation within groups. In this case, the “Between Groups” variation, represented by the Sum of Squares (SS) of 0.438, is divided by its degrees of freedom (df) of 4, resulting in a Mean Square value of 0.109. The “Within Groups” variation, with a SS of 42.758 and df of 463, has a Mean Square of 0.092. The Total variation, which is the sum of Between Groups and Within Groups variation, is 43.196 (SS) with 467 (df). The F-statistic is calculated by dividing the Mean Square of Between Groups by the Mean Square of Within Groups ( $0.109 / 0.092 = 1.184$ ). The obtained F-statistic of 1.184 is then compared to a critical value to determine statistical significance. In this case, the significant level (Sig.) is 0.317, which is greater than the typical significance level of 0.05.

*Therefore, we fail to reject the null hypothesis, suggesting that there is no statistically significant difference in the means of the groups with respect to “Professional Characteristics.”*

- *Ambition Characteristics*

The ANOVA results for “Ambition Characteristics” show a Between Groups variation with an SS of 0.575 and df of 4, resulting in a Mean Square of 0.144. The Within Groups variation has an SS of 67.234 and df of 463, with a Mean Square of 0.145. The Total variation is 67.809 (SS) with 467 (df). To determine the significance, the calculated F statistic of 0.99 has been linked to a critical value. As compared to the significance level of 0.05, the corresponding Sig. value of 0.412 has a greater significance.

*Therefore, we are unable to reject the null hypothesis, suggesting that there is no statistically significant difference in the group averages with regard to “Ambition Characteristics.”*

- *Freedom Characteristics*

With an SS of 0.509 and df of 4, the ANOVA test shows a between-groups variation for “Freedom Characteristics,” resulting in a Mean Square of 0.127. With a Mean Square of 0.149, the Within Groups variance has an SS of 68.765 and a df of 463. With 467 (df), the total variation is 69.275 (SS). To determine the significance, the calculated F-statistic of 0.857 is compared with a critical value. Compared to the usual significance level of 0.05, the comparable Sig. value is 0.49.

*As a result, the null hypothesis must be accepted, showing there is no statistically significant difference in the group averages with regards to “Freedom Characteristics.”*

- *Decision Making Characteristics*

With an SS of 0.697 and df of 4, the ANOVA results for “Decision-Making Characteristics” indicate a between-groups variance, providing a Mean Square of 0.174. The Mean Square for the within-groups variance is 0.156, with SS of 72.283 and df of 463. With 467 (df), the total variation is 72.981 (SS). To ascertain significance, the computed F-statistic of 1.117 is compared to a critical value. Compared to the usual significance level of 0.05, a comparable Sig. value is 0.348.

As a result, we are unlikely to reject the null hypothesis, which states that there is no statistically significant difference between the group averages with regards to “Decision-Making Characteristics.”

- *Confidence Characteristics*

The ANOVA test for “Confidence Characteristics” reveals a between-groups variation with an SS of 0.645 and df of 4, resulting in a Mean Square of 0.161. The within-groups variation has an SS of 53.821 and df of 463, with a Mean Square of 0.116. The Total variation is 54.466 (SS) with 467 (df). The calculated F-statistic of 1.388 is compared with a critical value to determine significance. The corresponding Sig. value is 0.237, which is bigger than the typical significance level of 0.05.

*As a result, we are unlikely to reject the null hypothesis, which states that there is no statistically significant difference between the group averages with regards to “Confidence Characteristics.”*

- *Courageous Characteristics*

The ANOVA results for “Courageous Characteristics” show a between-groups variation with an SS of 1.048 and df of 4, leading to a Mean Square of 0.262. The Within Groups variation has an SS of 53.982 and df of 463, with a Mean Square of 0.117. The Total variation is 55.03 (SS) with 467 (df). The calculated F-statistic of 2.247 is compared to a critical value to determine significance. Slightly above the usual significance level of 0.05, the comparable Sig. value is 0.063. Even if this points to a marginal level of significance, the null hypothesis cannot be rejected.

As a result, the null hypothesis cannot be rejected, suggesting that there is no statistically significant

difference in the group means with respect to “Courageous Characteristics.”

No statistically significant difference exists between the group means for any of the examined characteristics, according to the ANOVA results. The null hypothesis, which states that there is no difference between the groups, is thus not disproved.

As a result, we can conclude that there is no significant difference in the characteristics of intrapreneurs belonging to various educational backgrounds.

**Table 3: Showing Post Hoc Analysis – Tukey HSD Characteristics of Intrapreneurs and Various Educational Background**

<i>Multiple Comparisons.</i>						
<i>Dependent Variable: Intrapreneurs</i>						
<i>Tukey HSD</i>						
<i>( I ) Educational Background</i>	<i>( J ) Educational Background</i>	<i>Mean Difference ( I-J )</i>	<i>Std. Error</i>	<i>Sig f</i>	<i>95% Confidence Interval</i>	
					<i>Lower Bound</i>	<i>Upper Bound</i>
Diploma/ 10 <sup>th</sup>	Up to 12 <sup>th</sup>	0	0.17	1	-0.45	0.45
	Graduate	-0.03	0.09	1	-0.26	0.21
	Post Graduate	-0.08	0.09	0.86	-0.32	0.15
	Doctorate	0	0.14	1	-0.37	0.37
Upto 12 <sup>th</sup>	Diploma/ 10 <sup>th</sup>	0	0.17	1	-0.45	0.45
	Graduate	-0.03	0.15	1	-0.42	0.37
	Post Graduate	-0.08	0.15	0.98	-0.48	0.31
	Doctorate	0	0.18	1	-0.49	0.49
Graduate	Diploma/ 10 <sup>th</sup>	0.03	0.09	1	-0.21	0.26
	Upto 12 <sup>th</sup>	0.03	0.15	1	-0.37	0.42
	Post Graduate	-0.06	0.03	0.2	-0.13	0.02
	Doctorate	0.03	0.11	1	-0.28	0.33
Post Graduate	Diploma/ 10 <sup>th</sup>	0.08	0.09	0.86	-0.15	0.32
	Upto 12 <sup>th</sup>	0.08	0.15	0.98	-0.31	0.48
	Graduate	0.06	0.03	0.2	-0.02	0.13
	Doctorate	0.08	0.11	0.94	-0.22	0.39
Doctorate	Diploma/ 10 <sup>th</sup>	0	0.14	1	-0.37	0.37
	Upto 12 <sup>th</sup>	0	0.18	1	-0.49	0.49
	Graduate	-0.03	0.11	1	-0.33	0.28
	Post Graduate	-0.08	0.11	0.94	-0.39	0.22

The data presents the results of the Tukey's Honest Significance Difference (HSD) test, which is used to identify the significant differences between different levels of the independent variable "educational background" in relation to the dependent variable "intrapreneurs" variable (Table 3). The test compares group pairs by analysing their average difference, importance values, standard errors and 95% confidence intervals.

An average difference of 0 is found between "diploma/10<sup>th</sup>." and "up to 12<sup>th</sup>.", indicating no difference between the two groups. The standard error is 0.166 and the importance significance level is 1, it confirms that the result is statistically insignificant. 95% trust ranges from interval -0.45 to 0.45, which includes zero, supports another significant difference shortage.

Compared to "Diploma/10<sup>th</sup>" and "Graduate", the average difference is 0.03 with a standard error of 0.085. The level of meaning of 0.998 indicates no statistical significance. The confidence interval ranges from interval -0.26 to 0.21, which strengthens the absence of a meaningful difference between these levels of education.

Compared "diploma/10<sup>th</sup>." and "postgraduate", is the average difference -0.08. The standard error remains at 0.085 and the importance level is 0.856. The confidence interval -from -0.32 to 0.15, including zero, confirms no significant difference.

For "diploma/10<sup>th</sup>." and "doctorate" is average difference 0, with a standard error of 0.136 and an significance level of 1. The 95% confidence interval from -0.37 to 0.37 contains zero, which confirms a statistically significant differences.

Increasing to "12<sup>th</sup>." vs. "Graduate" is the average difference -0.03. The standard error is 0.145 and the importance is level 1, which does not indicate any statistical significance. The confidence interval covers zero from -0.42 to 0.37, which confirms the absence of a significant difference.

When it comes to "up to 12<sup>th</sup>." And "postgraduate", the average difference is -0.08, with a standard error of 0.145 and the importance level of 0.977. The confidence intervals from -0.48 to 0.31 include zero, which is not a significant difference.

Compared to "up to 12<sup>th</sup>." And "doctoral", the average difference is left 0. The standard error is 0.18, the importance level is 1, and the confidence interval from -0.49 to 0.49, which has no statistical significance.

Given "Graduate" vs. Diploma/10<sup>th</sup>", the average difference is 0.03, with a standard error of 0.085 and the importance of 0.998. From 0.21 to 0.26 includes confidence intervals zero, which is not a meaningful difference between groups.

For "Graduate" and "up to 12<sup>th</sup>." The average difference is 0.03, with a standard error of 0.145 and an importance level of 1. The confidence interval from 0.37 to 0.42 contains zero, which shows no significant difference.

Compared between "Graduate" and "Post Graduate", the average difference is -0.06. The standard error is 0.027, and the importance level is 0.195. Although the difference seems slightly larger, the confidence intervals include -0.13 to 0.02 zero, which means that the result is not statistically important.

For "Graduate" and "Doctoral", the average difference is 0.03. The standard error is 0.11, and the significance level is 0.999. The confidence interval from -0.28 to 0.33 include zero, which confirms the absence of a significant difference.

When you compare "postgraduate" and "diploma/10<sup>th</sup>.", the average difference is 0.08. The standard error is 0.085, and the significance level is 0.856. The confidence interval, from -0.15 to 0.32, include zero, which does not indicate a statistically significant difference.

Between "postgraduate" and "up to 12<sup>th</sup>." is the average difference 0.08, with a standard error of 0.145 and the importance of 0.977. The confidence interval from -0.31 to 0.48 contains zero and confirms the lack of meaning.

When it comes to "postgraduate" and "graduate", the average difference is 0.06. The standard error is 0.027, and the importance level is 0.195. The confidence intervals from -0.02 to 0.13 include zero, with no statistical significance.

For "postgraduate" vs. "Doctorate" is the average difference 0.08. The standard error is 0.11 and the importance level is 0.939. The 95% confidence intervals

from -0.22 to 0.39 include zero, there is no significant difference again.

Finally, comparison between “doctorate” and all other educational levels does not show a statistically significant difference:

- With “Diploma/10<sup>th</sup>.” Is the average difference 0, the standard error is 0.136, and the confidence interval is 0.37 to 0.37.
- With “up to 12<sup>th</sup>.” Is the average difference 0, the standard error is 0.18, and the confidence interval is 0.49 to 0.49.
- With “Graduate”, the average difference is -0.03, standard errors are 0.11, and confidence interval -0.33 to 0.28.
- With “Post Graduate”, the average difference is -0.08, the standard error is 0.11, and the confidence interval is 0.39 to 0.22.

In all these cases, the confidence interval contains zero and the significance level exceeds 0.05, hence, there is no statistically significant difference in the level of formal education.

## Findings from the Research Paper

The provided data presents the results of Tukey’s Honestly Significant Difference (HSD) test and ANOVA analysis, examining the relationship between educational background and intrapreneurs.

### Tukey’s HSD Test Results

Tukey’s HSD test aimed to identify statistically significant differences between various educational backgrounds regarding intrapreneurial characteristics. The key findings are:

- Across all educational background comparisons (e.g., Diploma/10<sup>th</sup> vs. Graduate, Graduate vs. Postgraduate, etc.), the mean differences were small, the p-values (significance levels) were above 0.05, and the confidence intervals always included zero.

This means that none of the comparisons revealed a statistically significant difference.

- The mean differences between different educational backgrounds were close to zero, and their standard errors were small, reinforcing the absence of meaningful variation between groups.

## ANOVA Test Results

The ANOVA test was conducted to determine whether educational background influences various intrapreneurial characteristics (e.g., professional traits, ambition, freedom, decision-making, confidence, and courage).

- For each characteristic analysed, the p-values were greater than 0.05, indicating no significant difference between educational backgrounds.
- The calculated F-values were consistently low (ranging from 0.857 to 2.247), suggesting that the variation within groups was greater than between groups, further supporting the conclusion that educational background does not significantly impact intrapreneurial traits.
- The only characteristic with a p-value approaching significance (0.063) was courageous characteristics. However, it still did not meet the 0.05 threshold, meaning the result is not statistically significant but may warrant further investigation.

## Descriptive Statistics on Educational Background and Intrapreneurs

- Across different educational levels (Diploma/10<sup>th</sup> Up to 12<sup>th</sup>, Graduate, Post Graduate, Doctorate), the mean intrapreneurial scores remained around 4, indicating little variation between groups.
- The standard deviations were small, reinforcing the consistency of intrapreneurial characteristics across educational backgrounds.
- The confidence intervals consistently included 4 as the central value, further confirming that intrapreneurs across all educational levels exhibit similar characteristics.

## Conclusion

The study's conclusions show that there is no statistically significant relationship between educational background and intrapreneurial traits. This implies that the formation of intrapreneurial behaviour is not solely determined by formal education. Instead, it seems that other factors including personality, work experience, and organisational culture have a greater influence on qualities like professionalism, ambition, confidence, and decision-making. These findings allow for the formulation of a number of policy consequences and suggestions for governmental agencies, business executives, and academic institutions.

Policymakers must switch from frameworks based on qualifications to ones based on competencies. In order to promote innovation and intrapreneurship, national and regional policies should place more emphasis on experiential learning, practical exposure, and skill development than solely on academic degrees. Funding should be allocated to entrepreneurship development programmes, startup ecosystems, and innovation labs that are open to people with a variety of educational backgrounds. Policies should also support ongoing education through workplace innovation initiatives, online certifications, and micro-credentials. It would also be a positive step to reward businesses that make investments in intrapreneurial development and employee training, regardless of formal schooling.

The findings imply that companies should change their approaches to hiring and developing talent. Instead of depending only on academic credentials, employers should consider using competency-based exams and behavioural interviews to find intrapreneurial potential. All levels of the workforce can benefit from fostering an innovative culture through internal innovation challenges, idea platforms, and recognition initiatives. Additionally, as these traits may have a greater influence on intrapreneurial conduct than formal schooling, firms should spend money on training that develops personal traits like confidence, strategic thinking, and risk-taking ability.

The study suggests that educational institutions should expand intrapreneurial education outside technical or business courses. All subject areas should include

training that emphasises innovation, leadership, and problem-solving. Students from a variety of educational backgrounds can benefit from project-based learning opportunities and real-world exposure through industry collaboration, which can help them acquire pertinent intrapreneurial skills. Students will be better prepared to become successful intrapreneurs in the future with a flexible curriculum that fosters critical thinking and adopts to changing business demands.

The study concludes by highlighting the significance of identifying and fostering intrapreneurial qualities through real-world experience, encouraging environments, and personality development programmes. Particularly in areas like Saurashtra where a variety of industry sectors are developing, these findings can help policymakers, educators, and business executives develop more inclusive and successful methods to promote a sustainable culture of intrapreneurship.

## Future Scope of Study

While this study concludes that educational background does not significantly influence intrapreneurial characteristics, there are several areas for future research that could provide deeper insights into the factors shaping intrapreneurial behaviour.

Future research could examine how professional experience, industry type, and job roles contribute to the development of intrapreneurial traits.

Investigating how workplace environment, leadership style, and company policies impact intrapreneurial tendencies could provide a more practical understanding of fostering intrapreneurship.

Exploring the role of personality traits (e.g., risk-taking ability, resilience, and creativity) in intrapreneurial behaviour could help determine whether certain intrinsic qualities are more influential than education.

Assessing the impact of entrepreneurial training, mentorship programmes, and skill-building initiatives could reveal whether structured learning opportunities contribute to intrapreneurial success.

Conducting similar studies across different cultural, geographical, and economic backgrounds could help

identify external factors that shape intrapreneurial behaviour beyond formal education.

A long-term study tracking individuals across various educational backgrounds and career stages could provide insights into how intrapreneurial characteristics evolve over time.

By exploring these areas, future research can offer a more holistic understanding of intrapreneurial development and guide organisations in nurturing innovation within their workforce.

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## Annexure

Table 1: Intrapreneurs and various educational background.

Table 2: ANOVA

Table 3: Showing Post Hoc Analysis – Tukey HSD characteristics of Intrapreneurs and various educational background