



Understanding Entrepreneurial Behaviour of Rural Youth in Agriculture and Allied Sectors

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HIGHLIGHTS

- Rural youth prioritise the adoption of new agricultural ideas over profit maximization, indicating intrinsic motivation for farm modernisation.
- Youth exhibit 73.12% (medium-level) entrepreneurship, indicating broad but underdeveloped capacity requiring activation through appropriate support mechanisms.
- Agricultural-intensive occupations ($r = 0.353$) and larger landholdings ($r = 0.310$) positively correlate with entrepreneurship, indicating enterprise capacity increases with agricultural engagement depth.

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ABSTRACT

The study examined the entrepreneurial behaviour of 160 rural youth during 2024-25, through a cross-sectional survey design. Using Ordinary Least Squares (OLS) multiple regression analysis, assessed the influence of socioeconomic, informational, and behavioural factors on entrepreneurial tendencies. Entrepreneurial behaviour was conceptualized as a composite of innovativeness (mean = 26.87), achievement motivation (mean = 20.53), and risk orientation (mean = 21.49). The regression model explained 36.14% of the variance in entrepreneurial behavior. Age emerged as a significant negative predictor ($\beta = -0.32$, $p = 0.001$), indicating that younger youth were more entrepreneurial. Annual income was the strongest positive predictor ($\beta = 1.7 \times 10^{-5}$, $p < 0.001$), highlighting the critical role of economic capacity. Knowledge level showed a marginally positive association ($p = 0.055$), while education and mass media exposure were non-significant. Notably, 73.12% of respondents exhibited medium-level entrepreneurship, suggesting substantial untapped potential. The findings underscore that rural youth entrepreneurship is fundamentally conditioned by economic resources and age-cohort effects, with implications for extension programmes and policy targeting resource constraints rather than motivation alone. Tailored interventions addressing capital access, practical skill development, and risk-reduction mechanisms are essential for converting latent entrepreneurial potential into active enterprise creation among rural youth.

INTRODUCTION

Rural India stands at a critical juncture where traditional agricultural practices must respond to the pressures of a rapidly

modernizing and market-driven economy. With nearly 65% of India's population residing in rural areas and about 86% of farmers categorized as small and marginal landholders, agriculture continues to shoulder the dual responsibility of ensuring food security and

sustaining rural livelihoods (Verma et al., 2024). Despite employing close to half of the national workforce, the sector contributes only about 18–20% to India's gross domestic product, highlighting structural inefficiencies and limited value addition within rural economies (George, 2023).

One of the most pressing challenges confronting rural India is the declining engagement of youth in agriculture. Rural youth (18–35 years) constitute nearly 40% of the rural population, representing a significant demographic dividend (Bharti et al., 2022). However, agriculture is increasingly perceived as economically unviable, socially unrewarding, and risk-prone. Inadequate access to quality education, skill development, institutional credit, and entrepreneurial support systems has resulted in large-scale rural-urban migration (Prasad & Chandrasekhar, 2018). This migration drains rural areas of energetic and innovative human capital, adversely affecting agricultural productivity, rural entrepreneurship, and social cohesion (Raina et al., 2016).

In this context, entrepreneurship in agriculture and allied sectors has emerged as a strategic pathway for revitalizing rural economies. Agripreneurship involves the application of entrepreneurial principles innovation, opportunity recognition, and risk-taking to agricultural and allied activities such as precision farming, organic agriculture, value addition, agro-processing, and digital agricultural services (Bhati et al., 2014). These ventures contribute not only to employment generation but also to income diversification, resilience building, and inclusive rural growth.

Entrepreneurial behaviour is conceptually defined in this study as the composite expression of innovativeness, achievement motivation, and risk orientation demonstrated by individuals in identifying opportunities, mobilizing resources, and managing enterprises under conditions of uncertainty. Research shows that in the farm sector, entrepreneurial success was determined by family size, land size, turnover and annual income whereas in the non-farm sectors, five determinants of entrepreneurial success were long-term involvement, initiative, number of employees, entrepreneurial experience and annual income (Kobba et al., 2021). Innovativeness reflects the ability to generate and adopt new ideas or practices; achievement motivation denotes the inner drive to excel and attain set goals; and risk orientation represents the readiness to take calculated risks inherent in entrepreneurial ventures (Rai et al., 2020). Recognizing the role of entrepreneurship in rural transformation, the Government of India has introduced several initiatives such as the Pradhan Mantri Kaushal Vikas Yojana (PMKVY), Agricultural Technology Management Agency (ATMA), and Rashtriya Krishi Vikas Yojana (RKVY) to promote skill development, technology dissemination, and enterprise creation (Samrit et al., 2023).

Ghazipur district of eastern Uttar Pradesh presents a representative agrarian setting to address this gap. Situated in the Varanasi division, the district is characterized by traditional farming systems alongside emerging opportunities in allied sectors such as animal husbandry, fisheries, and agro-processing. Its favorable agro-climatic conditions, proximity to major markets, and rich socio-cultural base make it an appropriate location for examining entrepreneurial behavior among rural youth (Amaran & Krishnamoorthy, 2023). The findings are expected to contribute to

the broader discourse on rural development and youth empowerment while offering practical recommendations for fostering an entrepreneurial ecosystem in rural India.

METHODOLOGY

The study was carried out in Ghazipur district of Uttar Pradesh during 2024–25, an agriculturally intensive region where farming and allied enterprises constitute the primary livelihood of rural households. A descriptive research design was adopted to examine the socio-economic, informational, and psychological determinants of entrepreneurial behaviour among rural youth engaged in agriculture and allied sector. A multi-stage sampling technique ensured comprehensive demographic representation. In the first stage, four blocks were randomly selected from the district. Subsequently, four villages were randomly chosen from each block. From every selected village, 10 rural youth involved in agriculture and allied activities were identified through simple random sampling, yielding a final sample size of 160 respondents.

Primary data were collected using a structured interview schedule administered face-to-face by trained investigators. This method minimised bias and enhanced the accuracy of responses. The instrument captured socio-personal variables (age, education), economic attributes (landholding, annual income), informational variables (knowledge), and a standardised measure of entrepreneurial behaviour. Entrepreneurial behaviour was conceptualised as a multidimensional construct comprising innovativeness, achievement motivation, and risk orientation. Three dimensions widely recognised in extension and behavioural research. Each dimension was measured through validated Likert-type items that were pretested for clarity and reliability with the Content Validity Method. Content validity was ensured through expert review from subject specialists, while internal consistency measures during pilot testing exceeded recommended thresholds, ensuring dependable scale scores for analysis.

Before statistical analysis, data were screened for completeness, coding accuracy, and outliers. Descriptive statistics were used to summarize respondent characteristics and variable distributions. Bivariate assessments were conducted to understand zero-order relationships and to inform model specification. The dependent variable, entrepreneurial behaviour, was computed as a composite score formed by aggregating and standardizing the three-dimensional scores so that higher values represented stronger entrepreneurial tendencies.

To examine the determinants of entrepreneurial behaviour, an Ordinary Least Squares (OLS) multiple regression model was employed because it determinants of entrepreneurial behaviour, while acknowledging the ordinal origin of individual items as a methodological consideration.

$$Y_i = \beta_0 + \beta_1 (\text{Age } i) + \beta_2 (\text{Education } i) + \beta_3 (\text{Income } i) + \beta_4 (\text{Media } i) + \beta_5 (\text{Knowledge } i) + \varepsilon_i$$

Where, Y_i is the entrepreneurship score for farmer i , β_0 is the intercept, β_{1-5} are the partial regression coefficients, and ε_i is the error term.

Statistical significance was set at $\alpha = 0.05$, and all analyses were conducted using Python (version 3.12) with the *stats models*

and *scipy* libraries. This comprehensive and statistically grounded methodology facilitated the identification of distinct factors affecting rural youth, thereby enabling targeted policy formulation and effective intervention strategies.

RESULTS

The data presented in Table 1 revealed that the entrepreneurial profiling of rural youth revealed notable variation across four key attributes. Among these, Innovativeness received the highest average score (22.86), securing the top rank, indicating that youth had a strong focus on increasing yield and optimising cultivation practices. Risk orientation (22.16) and Achievement (21.83) followed as the second and third highest-ranked attributes, respectively. These results suggest that rural youths are relatively proactive in facing risk and driven by personal accomplishment with performance goals. On the other hand, attributes such as Economic motivation (17.80) were ranked lower, implying comparatively weaker financial or profit-driven impulses relative to other behavioural traits

Table 1. Entrepreneurial attribute scores and rankings across the rural youth

S.No.	Entrepreneurial attribute	Mean Score	Rank
1	Innovativeness	26.86	I
2	Risk Orientation	21.49	II
3	Achievement	20.52	III
4	Economic motivation	18.46	IV

Table 2 showed the overall level of entrepreneurial behaviour among rural youth engaged in agriculture. The majority of respondents fell into the medium entrepreneurship behaviour category, representing 73.12%. A smaller proportion exhibited low levels of entrepreneurship (16.25%) while only 10.63% demonstrated high entrepreneurial behaviour.

Table 2. Overall entrepreneurship level in rural youth regarding agriculture

Categories	Frequency	Percentage
Low <81	26	16.25
Medium 81-93	117	73.12
High >93	17	10.63
Total	160	100

Mean=87.44 S.D. 5.73

Table 3 presented the bivariate correlations between the independent variables and entrepreneurial behaviour among rural youth. Age showed a significant negative association with entrepreneurial behaviour ($r = -0.323, p < 0.001$), indicating that entrepreneurial behaviour as age increases within the youth category, potentially due to increased risk aversion, family responsibilities, or preference for income stability among relatively older youth. In contrast, occupation ($r = 0.353, p < 0.001$), landholding size ($r = 0.310, p < 0.001$), and annual income ($r = 0.425, p < 0.001$) each displayed significant positive correlations, suggesting that youths engaged in more agriculture-related occupations, possessing greater land resources, or having higher income were more likely to demonstrate elevated entrepreneurial

Table 3. Relationship between independent variables with entrepreneurship in rural youth

Variables (Unit)	Entrepreneurship level 'r'	P-Value
Age (Years)	-0.323**	<0.001
Education	-0.140	0.078
Size of family (Numbers)	0.039	0.620
Caste	-0.071	0.374
Occupation	0.353**	<0.001
Land holding (ha)	0.310**	<0.001
Annual Income (Rs.)	0.425**	<0.001
Media Exposure	-0.169*	0.033
Knowledge Level	0.241**	0.002

behaviour. Media exposure exhibited a small but significant negative correlation with entrepreneurship ($r = -0.169, p = 0.033$), implying that higher exposure did not necessarily translate into stronger entrepreneurial engagement. Knowledge level showed a significant positive relationship ($r = 0.241, p = 0.002$), indicating that better-informed respondents displayed higher entrepreneurial behaviour. Education and caste did not show statistically significant associations with entrepreneurial behaviour ($p > 0.05$), and family size also exhibited no meaningful correlation. Collectively, these results indicated that economic and occupational factors were more strongly related to entrepreneurship than demographic variables among rural youth.

The overall regression model demonstrated moderate explanatory power for entrepreneurial behaviour among rural youth, as shown in Table 4. The model accounted for 36.14% of the total variance ($R^2 = 0.3614$), while the adjusted R^2 of 0.3256 indicated a stable level of explanatory power after accounting for the number of predictors. The F-statistic confirmed that the model was statistically significant ($F = 10.08, p = 1.15 \times 10^{-7}$), demonstrating that the set of predictors collectively explained entrepreneurial behaviour better than a null model. The residual standard error (RSE = 4.65) suggested a reasonable degree of dispersion of observed values around the predicted scores.

Table 4. Model fit statistics

Statistic	Value	F-statistic	Residual Std. Error	Prob (F-statistic)
R^2	0.3614	10.075	4.6496	1.15×10^{-7}
Adjusted R^2	0.3256			

Table 5 revealed significant variation in entrepreneurial behaviour among rural youth in Ghazipur. The model intercept was positive and statistically significant ($\beta = 82.28, SE = 9.76, t = 8.43, p < 0.001$), indicating a high baseline entrepreneurial behaviour score when all predictors were held constant. Age exhibited a negative and significant association with entrepreneurial behaviour ($\beta = -0.32, SE = 0.10, t = -3.30, p = 0.001$), suggesting that entrepreneurial tendencies declined slightly with increasing age. Annual income showed a positive and highly significant effect ($\beta = 1.7 \times 10^{-5}, SE = 4.0 \times 10^{-5}, t = 4.68, p < 0.001$), indicating that financially better-off youth demonstrated stronger entrepreneurial behaviour. Education did not significantly predict

Table 5. Regression Coefficients (OLS Estimates) of entrepreneurship behaviour in rural youth

Predictor	β (Coefficient)	Std. Error	t- value	p-value	95% CI
Intercept	82.2786	9.7612	8.43	<0.001	[62.88, 101.67]
Age	-0.3225	0.0976	-3.30	0.001	[-0.516, -0.129]
Education	0.4297	0.4258	1.01	0.316	[-0.416, 1.276]
Annual Income	1.7×10^{-5}	4.0×10^{-6}	4.68	<0.001	$[1.0 \times 10^{-5}, 2.4 \times 10^{-5}]$
Mass Media Exposure	-0.1856	0.2287	-0.81	0.419	[-0.640, 0.269]
Knowledge	0.1128	0.0581	1.94	0.055	[-0.003, 0.228]

entrepreneurial behaviour ($\beta = 0.43$, $SE = 0.43$, $t = 1.01$, $p = 0.316$), and mass media exposure also showed no meaningful effect ($\beta = -0.19$, $SE = 0.23$, $t = -0.81$, $p = 0.419$). Knowledge exhibited a marginally positive influence ($\beta = 0.11$, $SE = 0.06$, $t = 1.94$, $p = 0.055$), with its confidence interval narrowly crossing zero, indicating a trend-level association.

DISCUSSION

The present study delineates the entrepreneurial behaviour of rural youth engaged in agriculture in Ghazipur district, highlighting a distinct pattern of behavioural attributes and determinants. The finding that innovativeness emerged as the most prominent attribute suggests a growing inclination among rural youth towards adopting novel agricultural technologies and practices. This aligns with youth who are increasingly seen as agents of technological change. This result resonates with the findings of Sonu and Jha (2025), who also identified innovativeness as a critical component of entrepreneurial behaviour in rural settings, though our study places it at the very forefront of behavioural traits. The moderate scores for risk orientation and achievement motivation indicate a cautious ambition; while youth are willing to innovate, their capacity to absorb risk remains tempered, likely due to the inherent uncertainties of the agricultural sector in eastern Uttar Pradesh.

The distribution of overall entrepreneurial behaviour, with the majority falling into the medium category, reflects a typical bell-curve distribution often observed in developmental studies. This finding is consistent with Shivacharan (2014); Gupta et al. (2014); Mukharjee and Ghosh (2025) and Kademini et al. (2026) similarly reported a predominance of medium-level entrepreneurial behaviour among rural youth in their respective studies on agri-entrepreneurship and secondary agriculture.

The correlation and regression analyses provide deeper insights into the drivers of this entrepreneurial behaviour of youth. A striking finding is the significant negative association between age and entrepreneurial behaviour. This indicates that younger respondents are more entrepreneurially inclined than their slightly older counterparts. This inverse relationship challenges some traditional views where experience is seen as a prerequisite for business acumen. However, in the context of modernising agriculture, younger individuals are often more adaptable, tech-savvy, and open to risk, which are key entrepreneurial traits. This result corroborates the findings of Okello (2020) and Gowda et al. (2023), who also observed that younger agripreneurs tended to display stronger behavioural characteristics, likely due to their greater openness to new ideas and less entrenchment in traditional, risk-averse farming methods.

Economic factors, specifically annual income and landholding size, emerged as powerful positive correlates. The regression model

further solidified annual income as a highly significant predictor. This highlights the resource-dependence of entrepreneurship; financial security provides a safety net that allows youth to take the risks associated with entrepreneurial ventures, which consistently identify economic status as a foundational driver for entrepreneurial capacity in rural India (Tariq et al., 2022). Without a baseline of economic stability, the cognitive bandwidth for innovation and risk-taking is severely constrained. The major contributors of behavioural dimensions to entrepreneurial climate, such as work commitment, social norms, social capital, contact with extension cosmopolite channels, achievement motivation, risk-taking, and innovativeness, have contributed significantly to the prediction of the creation of a favourable entrepreneurial climate Gupta et al. (2023).

Conversely, the role of education and mass media appeared less influential in this specific context. The non-significant relationship with education suggests that formal schooling levels may not directly translate into agricultural business acumen, perhaps due to a disconnect between general academic curricula and practical vocational skills needed for agri-business. Similarly, the non-significant and even negatively trending coefficient for mass media exposure is intriguing. It implies that mere exposure to media does not guarantee entrepreneurial conversion. Mukharjee and Ghosh (2025) found the quality and relevance of information matter more than just the frequency of contact. It is possible that the media consumed was entertainment-oriented rather than educational, or that generic agricultural broadcasts failed to address the specific, localized needs of these youth. The marginal positive influence of knowledge reinforces the idea that specific, actionable technical knowledge is more valuable than general media exposure. Informed youth are better positioned to recognise opportunities and mitigate risks. This nuance suggests that extension efforts should focus less on broad media campaigns and more on targeted knowledge transfer and capacity building.

CONCLUSION

The entrepreneurial landscape of rural youth in Ghazipur district is characterised by substantial but latent potential, with 73.12% of respondents exhibiting medium-level entrepreneurial behaviour. This widespread yet moderate capacity suggests that current policy frameworks have successfully ignited interest but failed to fully activate high-level enterprise creation. The study identifies a distinct entrepreneurial behaviour of youth. The significant negative association with age confirms that younger cohorts possess greater adaptability and risk tolerance, highlighting a critical window for intervention in early adulthood before migration or alternative livelihoods take precedence. Concurrently, the

dominant positive influence of annual income underscores that economic security is a foundational prerequisite for entrepreneurship; motivation alone cannot overcome financial resource constraints. Policy interventions must therefore move beyond a “one-size-fits-all” approach toward stratified support. Ultimately, enabling rural youth entrepreneurship requires shifting focus from purely motivational campaigns to structural reforms that address capital access and specific skill gaps, thereby leveraging India’s demographic dividend for sustainable agricultural growth.

DECLARATION

Ethical approval and consent to participate: Our study did not require ethical approval, and all the authors agree. However, the informed consent was sought from the respondents

Consent of publication: Participants provided consent for publication.

Availability of supporting data: Supporting data are available upon request.

Competing interests/Author contributions: No competing interests were declared. Conceptualization of research (SS, RKD); Designing of the experiments (SS, RRD, SS); Contribution of experimental materials (SS, RKD, SS); Execution of field survey and data collection (SS, SS); Analysis of data and interpretation (KS); Preparation of manuscript (KS).

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