

“Entrepreneurial Characteristics and Their Influence on Growth and Performance of Agri-Startups”

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Abstract:

Agricultural startups in India are at a nascent stage, yet they have the potential to solve numerous problems faced by the agribusiness ecosystem. The rise of agricultural startups in India helps give this sector a much-needed boost and promotes productivity, sustainability, and profitability. This study aims to explore the influence of entrepreneurial traits on the growth and performance of Agri- startups taking into consideration primary data from 60 agri-entrepreneurs belonging to the region of North Karnataka. This study explores the demographic, educational, and professional landscape of the entrepreneurs along with the lifecycle of these agri-startups. The study showcased a major imbalance in the gender, with a majority of male of male entrepreneurs along with an education level of graduate or higher education; most of whom had an experience of over a decade. The chi-square analysis indicated a significant variation in the stages of agri-startups and the impact of formal training. Correlation analysis showcased a positive and statistically significant relationship between the stage of agri-startups and turnover (Spearman's $\rho = .341$, $p < .01$). Further, factor analysis identified three core components which include Maturity & Experience, Educational Orientation, and Socio-Demographic Exposure as the key entrepreneurial characteristics. The findings of the study emphasized the significant need of formal training, educational background, and startup maturity in the success of an agri-startup.

Keywords: Entrepreneurial Characteristics, Agri-Startups, Startup Growth, Startup Performance.

INTRODUCTION

The rise of the startup ecosystem specifically in the agricultural sector highlights the transformation shift in the current scenario replacing the old and obsolete modes with modern technologically driven solutions. Entrepreneurship in this sector is not only driven by innovation but is also influenced by the personal and professional traits of the entrepreneur. This paper aims to explore the effect of demographic and professional attributes such as education, experience, business background, and formal training on the growth and performance of the Agri-startups. The study also highlights the entrepreneurial competencies that are involved in determining the scalability of an agri-startup, its market fit, and eventually the annual turnover. The study employs numerous statistical tools like descriptive statistics, chi-square tests, correlation and factor analysis to identify the traits that have a significant impact on startup outcomes for the better growth and success of startups in the agricultural domain.

LITERATURE REVIEW

The characteristics of an entrepreneur are a major driving force that affects agri-startups. Investigation into these traits and their role on the success of a startup is essential for better innovation and developments in the agricultural landscape. The study conducted by Jayasudha and Shantha Sheela (2021) highlighted that entrepreneurial traits such as experience, confidence, motivation, and credit orientation highly impact the success of a business venture. Teixeira et al. (2021) found that dynamic service innovation capabilities are crucial for the development of startups. Orientation to startups, risk-taking capabilities, innovation, and proactiveness are found to have a positive influence on performance and adaptability (Zaker Ul Oman, Das,

& Srivastava, 2022). Studies have further shown that education also enhances foresight, communication, and problem-solving skills essential for the growth of an enterprise. (Crespo et al., 2022). Rusu & Roman (2018) identified that entrepreneurs with high internal locus of control and individuals who believe in their ability to influence outcomes demonstrate greater entrepreneurial intensity and resilience. Adaptability and resilience are crucial for entrepreneurs to return from failures, and inculcate a mindset for learning and skill development (Isabelle et al., 2020). Isabelle et.al., (2020) pointed out that networking and strategic collaborations can improve the access to resources and enhance market visibility while family's with business background are often associated with better entrepreneurial performance (Crespo et al., 2022). The role of government initiatives is another major enabler in the growth and success of startups (Zaker Ul Oman et al., 2022; Salamzadeh et al., 2015). Technological adoption is observed to help prolong the survival of a startup (Kalyar et al., 2020), but few stakeholders face constraints pertaining to resources, education, and market barriers (Hassanein et al., 2024). The existing literature also showcases the effect of behavioral factors; Rani et al. (2023) found that entrepreneurial behavior is also influenced by their risk-taking ability, access to technology and market knowledge. Nagaraju (2019) observed that there is still a long way to go for the growth of agricultural startups in India with numerous other obstacles in the existing ecosystem. Despite the growth and potential, startups need to pass through the vulnerable "valley of death" in their lifecycle (Salamzadeh et al., 2015), emphasizing the need for strong entrepreneurial traits. In the current scenario, numerous modern tools like machine learning are being explored to analyze entrepreneurial inclination and traits among the budding entrepreneurs, with promising outcomes that require a deeper validation (Srinivasa Rao et al., 2023).

OBJECTIVES

1. To identify the key entrepreneurial characteristics among agri-startup founders.
2. To examine the relationship between entrepreneurial characteristics and the growth of the business.
3. To assess the role of founder characteristics on the overall performance of an agri-startup.

NEED FOR THE STUDY

The Indian agricultural sector is the backbone sector of the country and is currently undergoing a transformative phase led by agri-entrepreneurs that incorporate technological innovations to enhance the current ecosystem. Agri-startups, either in the form of a product or service have the potential to address numerous challenges that hold back this sector's freedom of performing to its full potential. While external factors have a significant influence on the success of an agri-startup, the influence of entrepreneurial characteristics also plays a pivotal role on the growth and performance of the organization and is not adequately researched, particularly in developing economies like India. Numerous founder attributes such as education, experience greatly influence decision-making and innovation in agri-startups. Detailed investigation into entrepreneurial traits can improve decision making, enhance mentorship programs as well as capacity-building initiatives, and funding strategies in accordance with the agri-startup founder needs. This study provides empirical evidence on the role of founder characteristics and their influence on the success of the agri-startups.

SCOPE OF THE STUDY

This study is geographically limited to North Karnataka, India with a sample comprising 60 agri-entrepreneurs across different regions of the state and stages of the startups. Key variables under the study include Demographics (Gender, Age, Education); Professional Factors (Experience, Business Background, Formal Training); Startup Metrics (Lifecycle Stage, Annual Turnover). The study employs empirical tests i.e. quantitative methods to analyze the data.

RESEARCH METHODOLOGY

Sample Size: 60 agri-startup and their founders

Sampling Method: Convenience Sampling

Data Collection: Primary data was gathered through a structured questionnaire from agri-startup entrepreneurs from North Karnataka covering variables such as Demographics Factors, Entrepreneurial Characteristics as well as Profile of the Startups.

Data Analysis Techniques: The statistical tests employed in the study are Descriptive Statistics, Chi-Square Tests, Correlation Analysis [Pearson's correlation coefficient], Kaiser-Meyer-Olkin (KMO) Test & Bartlett's Test of Sphericity, Exploratory Factor Analysis (EFA) using MS Excel and SPSS.

RESULTS AND DISCUSSION

1. Descriptive Statistics

Table 1: Demographic and Professional Profile of Agri-Startup Entrepreneurs			
Variable	Category	Frequency (n)	Percentage (%)
Gender	Male	52	86.67
	Female	08	13.33
Age Group	18–30	14	23.33
	31–40	19	31.67
	41–50	17	28.33
	51–60	04	06.67
	>60	06	10.00
Highest Education	SSLC or Below	01	01.67
	PUC/ Diploma	01	01.67
	Graduation	32	53.33
	Post Graduation	18	30.00
	Doctorate	07	11.67
	Post Doctoral	01	01.67
Professional Experience	Less than 1 year	02	3.33
	1 to 5 years	09	15.00
	5 to 10 years	11	18.33
	More than 10 years	38	63.33
Business Background	Yes	25	41.67
	No	35	58.33
Formal Training	Yes	20	33.33
	No	40	66.67
Stage of the Startup	Ideation	03	05.00
	Minimum Viable Product (MVP)	16	26.67
	Product-Market Fit	08	13.33

	Go-to-Market	11	18.33
	Growth	13	21.67
	Exit Stage	04	06.67
	Renewal Stage	05	08.33

From the above table1, it can be observed that the majority of the respondents were male i.e. 86.67% possessing a graduation or higher education level. Most startups were found to be in the MVP or growth stages. Furthermore, the sample largely consisted of middle-aged founders (31-50 years) with a professional experience of over 10 years.

2. Chi-Square Test

Table 2: Chi-Square Test Results				
Variable	χ^2 Value	df	p-value	Interpretation
Gender	32.267	1	0	Significant male dominance in sample
Stage of Startup	17	6	0.009	Significant variation in startup stages
Business Background	1.667	1	0.197	No significant difference
Category of Agri-startup	18.034	8	0.021	Significant variation across categories
Formal Training	6.667	1	0.01	Significant difference in training
Agricultural Background	0	1	1	No difference

Table 2 shows the chi-square test results which highlights that gender distribution and stage of agri-startup show statistically significant differences, indicating that gender and stage of the startup are related.. The presence of formal training and type of agri-startup also significantly varied among the respondents.

3. Correlation

Table 3: Correlation Between Key Variables			
Variables	Pearson r	p-value	Significance
Experience ↔ Turnover	0.19	0.145	Not significant
Startup Stage ↔ Turnover	.257*	0.047	Significant positive correlation
p < .05			

Table 3 highlights the correlation between key variables wherein there exists a significant positive correlation ($r = 0.257$, $p < .05$) between the stage of the startup and annual turnover of the firm indicates that more advanced startups are likely to demonstrate better financial performance.

4. Sample Adequacy and Factor Analysis

Table 4: KMO and Bartlett Test	
Kaiser-Meyer-Olkin (KMO) Measure	0.672
Bartlett's Test of Sphericity:	$\chi^2(28) = 85.595$, $p < .001$

Table 5: Factor Analysis on Entrepreneurial Characteristics		
Component	Key Variables (Loadings)	Interpretation
Component 1	Age (.823), Experience (.816)	Maturity and Experience
Component 2	Education (.811), , Formal Training (.705)	Educational Orientation
Component 3	Business Background (.792), Gender (.692)	Socio-demographic and exposure factors

Table 4 depicts sample adequacy and the suitability of data for factor analysis. The KMO and Bartlett value of 0.672 highlights that the data was adequate for factor analysis. The factor analysis further highlighted that three major components influenced entrepreneurial capabilities and include Age and Experience (Age, Experience), Educational Orientation (Education, Formal Training), and Socio-demographic and Exposure Factors (Business Background, Gender).

CONCLUSION

The study revealed that entrepreneurial characteristics play a pivotal role in the growth and performance of an agri-startup. Factors such as age, experience, educational background, and formal training emerged as key variables highlighting that the majority of the startup founders were male, especially in the 31-50 age group. The study also depicted a statistically significant relation between the stage of the startup and turnover of the firm as well as formal training and entrepreneurial development. Also, there existed a statistically significant relationship between startup stage and annual turnover of the firm. The factor analysis results further showcased key traits such as Maturity and Experience, Educational Orientation, and Socio-demographic factors. The study also revealed that experience alone did not have a significant correlation with the annual turnover of the firm. Overall, the study emphasized the need for enhanced mentorship, and training programs tailored to different stages of agri-startups. Enhancement in access to formal training and entrepreneurial education can notably empower agri-startup founders promoting improved innovation and scalability in the agricultural ecosystem.

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