



Behavioural pattern of farmer entrepreneurs and success factors for establishment of agribusiness ventures under ACABC scheme

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ABSTRACT

The study aimed at specifying the entrepreneurial behaviour and delineating the critical success factors of the farmer entrepreneurs for establishment of agribusiness ventures under ACABC scheme. There is need of a well-structured training module which would not only inculcate the right entrepreneurial behaviour at training stage but can be used at later stages of enterprise expansion. Training about profitable enterprise selection, cognizance of loan procedure from institutional credit sources can be really helpful factors for successful enterprise creation. The study has been conducted with a sample of 30 trained farmer entrepreneurs, 15 each from Uttar Pradesh and Maharashtra from randomly selected 13 and 15 blocks of respective states, who underwent training under ACABC scheme. The data was collected through semi-structured interview schedule consisting of two parts: Entrepreneurial behaviour of farmers and factors for successful establishment of agribusiness ventures. The entrepreneurial behaviour of farmer-entrepreneurs was measured with the help of a scale developed by Technonet Asia (1981) in terms of four dimensions namely, Risk taking behaviour, Hope of success, Manageability and Persuasive ability. Against each dimension, responses were obtained in terms of Strongly Agree, Agree, Undecided, Disagree and Strongly disagree in frequency and percentage. Three factors namely Motivational factors, Social factors and Economic factors were studied for their contribution in successful establishment of agribusiness ventures. Against each Critical success factor, responses were obtained as frequency and percentage in terms of Strongly Agree, Agree, Undecided, Disagree and Strongly disagree. It was found that the farmer entrepreneurs of Uttar Pradesh had medium risk taking behaviour while Maharashtra farmers had high risk taking behaviour because of the abundance of the resources that the state had which supported them to take risk beyond capacity. Similarly, both the states had medium hope of success, high manageability and high persuasive ability that made these two states entrepreneurial hub for agriculture. Farmer entrepreneurs of Uttar Pradesh considered motivational factors to be moderately affecting while social and economic factors to be highly affecting the success of the agri-enterprise while respondents of Maharashtra perceived all the factors to be equally and highly affecting the success of the agri-enterprises.

Key words: Entrepreneurial behaviour, Impact, PCA analysis, Success factor

Agriculture has provided a significant contribution to GDP and more than 60% of population depends on agriculture. Indian agriculture has witnessed a series of fluctuations with rising and falling contribution of agriculture in national income (PIB 2017). The focus on agriculture is warranted by its long run economic performance. Real agricultural growth since 1960 has averaged about 2.8% in India. The period before the Green Revolution saw growth of less than 2%; the following period until 2004 yielded growth of 3%; in the period after the global agricultural commodity surge, growth increased to 3.6%. China's annual agricultural growth over the long run has exceeded that of India by a substantial 1.5 percentage points on average.

Currently growth rate of agriculture in India is 4.1% (Economic Survey 2017) but it needs to be increased more and more. Indian agriculture suffers from low productivity, low product quality and rising imports. In order to improve the condition, agriculture must be profit oriented and value addition sector should be given priority as an agricultural enterprise. Entrepreneurial behaviour can be highlighted as a major contributing factor for the development of entrepreneurs and has an impact on an individual's profit making. The term entrepreneurial behaviour includes several dimensions like innovativeness, achievement motivation, decision making ability, economic motivation, risk orientation, leadership ability, and cosmo politeness. The entrepreneurial behaviour is vital for a farmer as he, like an entrepreneur is engaged in risky task of producing and marketing the produce. There are certain factors that are responsible for successful establishment of any venture-

Motivational, Social, Economic and Technical factors. This study might help the State Agriculture Universities to design courses at various levels of agricultural education regarding options of various agricultural enterprises and inculcate entrepreneurial behaviour among the graduates from initial level.

MATERIALS AND METHODS

The present study was conducted in Maharashtra and Uttar Pradesh. Out of 358 blocks in Maharashtra, 15 blocks were selected randomly and in Uttar Pradesh, out of 822 blocks, 13 blocks were selected. These two states were selected as these were the top two states where maximum number of agri-ventures were established under the scheme of ACABC in India (MANAGE 2017). The study is focussed only on those successful farmer entrepreneurs who have converted their ideas by establishing some business enterprise. The total sample size was 30 (15 from each state).

The entrepreneurial behaviour of farmer-entrepreneurs was measured with the help of a scale developed by Technonet Asia (1981) in terms of four dimensions namely, risk taking behaviour, hope of success, manageability and persuasive ability. Based on the information obtained in the survey, review of available literature and in consultation with the experts, a schedule was developed. The schedule consisted of four behavioural components. Against each dimension, responses were obtained as Strongly Agree, Agree, Undecided, Disagree and Strongly disagree in frequency and percentage.

There are many factors which determine the success of any enterprise. In this study, three factors namely Motivational factors, Social factors and Economic factors were selected for research. The schedule consisted of three components of Critical success factors for establishment of agribusiness ventures. Against each Critical success factor, responses were obtained as Strongly Agree, Agree, Undecided, Disagree and Strongly disagree in frequency and percentage.

For entrepreneurial behaviour, Principal Component Analysis was employed for the variables to know inter correlation among the selected variables. Principal Component Analysis (PCA) is the general name for a technique which uses sophisticated underlying mathematical principles to transform a number of possibly correlated variables into a smaller number of variables called principal components. PCA is one of the most important results from applied linear algebra and perhaps its most common use is as the first step in trying to analyse large data sets. PCA has been analysed using SPSS version 16 software. For Critical success factors for establishment of agribusiness venture, the Kruskal-Wallis H test was used. It (sometimes also called the "one-way ANOVA on ranks") is a rank-based nonparametric test that can be used to determine if there are statistically significant differences between two or more groups of an independent variable on a continuous or ordinal dependent variable.

Table 1 Entrepreneurial behaviour of Uttar Pradesh Farmer-entrepreneurs (N=15)

Component	Categories	Frequency	Percent
Risk taking behaviour	Low	04	26.67
	Medium	07	46.67
	High	04	26.67
Hope of success	Low	02	13.33
	Medium	09	60.00
	High	04	26.67
Manageability	Low	02	13.33
	Medium	03	20.00
	High	10	66.67
Persuasive ability	Low	03	20.00
	Medium	05	33.33
	High	07	46.67

RESULTS AND DISCUSSION

Entrepreneurial behaviour of farmer entrepreneurs of Uttar Pradesh

Four components of entrepreneurial behaviour of the farmers were measured and the result has been presented in Table 1 as follows.

Majority of the respondents had medium level (46.67%), whereas 26.67% of the farmer-entrepreneurs had equally low and high risk taking behaviour. The results were in line with Pal (2006). Small operational land holding, medium level of education and low exposure to government scheme leads to low risk taking behaviour of farmer entrepreneurs.

Table 1 shows that majority (60.00%) of the farmer entrepreneurs fell in the category of medium level of hope of success, followed by 26.67% of the farmer-entrepreneur in the high level and 13.33 % in the low category of hope of success. The results were in line with Hajong (2014). The possible reason could be low annual income and low expectations of farmer-entrepreneurs towards bright and fruitful future.

Table 1 depicts that majority of the farmer-entrepreneurs were high (66.67%) in manageability behaviour followed by medium level of manageability (20.00%) and low category (13.33%). The results were in line with Hajong (2014). The self-employment process demands lot of hard work, time and dedication. Generally, self employed farmer entrepreneur happens to be a one-man army of managing his enterprise, right from planning the nature of the product till marketing and storage which overtime, develops the quality of manageability in them and helps them sustaining in the market for longer run.

It is evident from the Table 1 that majority of the farmer-entrepreneurs (46.67%) had high level of persuasive ability followed by medium level (33.33%) and low (20.00%) level ability. The results were in line with Hajong (2014). It could be because of the close contacts with the customers that might have helped them develop this ability.

Table 2 Entrepreneurial behaviour of Maharashtra farmer entrepreneurs (N=15)

Variable	Categories	Frequency	Percent
Risk taking behaviour	Low	03	20.00
	Medium	05	33.33
	High	07	46.67
Hope of success	Low	04	26.67
	Medium	06	40.00
	High	05	33.33
Manageability	Low	04	26.67
	Medium	05	33.33
	High	06	40.00
Persuasive ability	Low	05	33.33
	Medium	03	20.00
	High	07	46.67

Majority of the respondents had high level (46.67%), whereas 33.33% of the entrepreneurs had medium category of risk taking behaviour and rest of the farmers had low (20.00%) level of risk taking behaviour. Patil *et al.* (2010) noticed that 45% of respondents had high risk level followed by majority of respondents (70.76%) with positive attitude towards vegetable cultivation, as it generates income in short duration and acts as a risk absorbing venture. Meeran and Jayaseelan (1999) also reported high risk orientation (72.00%) among shrimp farmers followed by medium (26.00%) and low (20.00%) risk orientation. The possible reason could be due to large land holding, high level of education, high exposure to government sponsored scheme and more annual income which explained their greater risk taking ability.

Table 2 shows that majority (40.00%) of the farmer entrepreneurs fell in the category of medium level of hope of success, followed by 33.33% of the farmer-entrepreneur in the high level and 26.67 % in the low category of hope of success. The possible reason could be low annual income and low expectations of farmer-entrepreneurs towards bright and fruitful future.

Table 2 depicts that majority of the farmer-entrepreneurs were high (40.00%) in manageability behaviour followed by medium level of manageability (33.33%) and low category (26.67%).

It is evident from the Table 2 that majority of the farmer-entrepreneurs (46.67%) had high level of persuasive ability followed by low level (33.33%) and medium (20.00%) level ability. It could be because of the involvement of various extension meetings, *melas*, *kisangosthi* and farmer group level meetings which helped them ultimately in achieving high persuasive ability.

Finally it can be concluded that the farmer-entrepreneurs of Uttar Pradesh had medium risk taking behaviour, medium level of hope of success, high manageability and high level of persuasive ability while farmer-entrepreneurs of Maharashtra had high level of risk taking behaviour,

medium level of hope of success, high manageability and high level of persuasive ability. Efforts should be made to imbibe aspects of entrepreneurial behaviour among farmer entrepreneurs through farmer group interactions, exhibitions, *melas*, demonstrations, trainings and seminars.

Factor for establishment of agribusiness ventures in Uttar Pradesh

Three critical success factors for establishing agribusiness ventures were studied, the results of which are listed down below in Table 3.

Majority of the respondents (53.33%) were in low level, whereas 33.33% of the farmer-entrepreneurs were in medium category and 13.33% fell under high category who perceived that motivational factors play an important role in the successful establishment of agri-business ventures. The possible reason could be these factor influence only a part of the establishment and may not necessarily be important as other factors.

An equal number of respondents (40.00%) fell in the category of medium and low who considered social factors as important factors for establishment of agribusiness venture and 20.00% of the farmer respondents fell in the category of high.

Majority of the respondents fell in the category of medium level (53.33%), followed by 40.00% who were in the category of high and only 6.67 % of the respondents fell in the category of low level who considered the economic factors as an important role in the establishment of agribusiness venture.

An equal number of respondents (46.67%) fell in the category of medium and high who considered motivational factors as important factors for establishment of agribusiness venture. Only 6.67% of the respondents fell in the low category, who thought that motivational factors play an important role in the establishment of agribusiness venture. The possible reason could be these factors are important and internal motivation and a will to do better sometimes lead to success.

Majority of the respondents fell in the category of high level (40.00%), who considered social factors as important

Table 3 Critical success factors for establishment of agribusiness venture by farmer entrepreneurs of Uttar Pradesh (N=15)

Variable	Categories	Frequency	Percent
Motivational factors	Low	8	53.33
	Medium	5	33.33
	High	2	13.33
Social factors	Low	3	20.00
	Medium	6	40.00
	High	6	40.00
Economic factors	Low	1	06.67
	Medium	8	53.33
	High	6	40.00

Table 4 Critical success factor for establishment of agribusiness ventures by farmer entrepreneurs of Maharashtra (N=15)

Variable	Categories	Frequency	Percent
Motivational factors	Low	1	06.67
	Medium	7	46.67
	High	7	46.67
Social factors	Low	4	26.67
	Medium	5	33.33
	High	6	40.00
Economic factors	Low	2	13.33
	Medium	6	40.00
	High	7	46.67

Table 5 KMO and Bartlett's Test for entrepreneurial behaviour of farmers of Uttar Pradesh and Maharashtra

	Uttar Pradesh	Maharashtra
Kaiser-Meyer-Olkin measure of sampling adequacy	0.463	0.833
Bartlett's test of sphericity		
Approx. chi-square	4.084	29.716
Df	6	6
Sig.	0.665	0.000

factors for establishment of agribusiness venture and 33.33% of the farmer respondents fell in the category of medium followed by low (26.67%). The possible reason could be that social factors like market concentration, community development, desire for locally produced foods were important.

Majority of the respondents fell in the category of high level (46.67%), followed by 40.00% who were in the category of medium and only 13.33 % of the respondents fell in the category of low level who considered the economic factors as an important role in the establishment of agribusiness venture.

The KMO measures the sampling adequacy (which determines if the responses given with the sample are adequate or not) which should be less than 0.5 for a satisfactory factor analysis to proceed. Kaiser (1974)

recommend 0.5 (value for KMO) as minimum value to be accepted (barely accepted), values between 0.7-0.8 are acceptable, and values above 0.9 are superb. Looking at the Table 5, the KMO measure is 0.463 in case of Uttar Pradesh, which is close of 0.5 and therefore can be barely accepted (Table.5). The KMO measure is 0.833 in Maharashtra, which is acceptable (Table 5).

Bartlett's test is another indication of the strength of the relationship among variables. The Bartlett's Test of Sphericity is non-significant (0.665) in case of Uttar Pradesh while in case of Maharashtra; it is significant (0.000).

Extraction Method: Principal Component Analysis

In case of Maharashtra, 87.407% variance is explained up to two factors which is satisfactory (Table 6). In Maharashtra, Eigen value is less than 0.65 which leads rejection of two factors, i.e. manageability and persuasive ability and two components has been extracted. Fig 1 showed that after point 2 the line goes in strip which confirm the same phenomena. It can be explained that manageability and risk taking ability were combined as one component and may be defined risk management. Rest two factor, i.e. hope of success and persuasive ability were combined as another component may be defined as perceived success ability. In case of Uttar Pradesh, 64.89% variance is explained up to 2 factors. Rest of two factors has been extracted from the PCA analysis based on Eigen value. Here Fig 2 depicted that risk taking and manageability combines as one component and hope of success and persuasive ability combining another component. Therefore, PCA analysis depicts that two factors can be successfully extracted from this method.

Impact of differential behaviour on successful entrepreneur

It was found that after ACABC training, these two states were top rank where maximum number of agri-ventures were established. Agriclincs and agribusiness centres scheme implementing in the 31 states of the country including union tertiary. It is observed that Maharashtra, Tamil Nadu, Uttar Pradesh, Bihar and Karnataka are the leading states in overall performance of agriclincs and agribusiness centres scheme. These states have maximum number of trained candidates, agriventure established, nodal training institutes and No. of training batches completed under the scheme. Maharashtra is

Table 6 Total variance explained for entrepreneurial behaviour of farmers of Uttar Pradesh and Maharashtra

Component	Uttar Pradesh (N= 15)						Maharashtra (N= 15)					
	Initial Eigen values			Extraction sums of squared loadings			Initial Eigen values			Extraction sums of squared loadings		
	Total	% of variance	Cumulative %	Total	% of variance	Cumulative %	Total	% of variance	Cumulative %	Total	% of variance	Cumulative %
1	1.538	38.450	38.450	1.538	38.450	38.450	3.055	76.364	76.364	3.055	76.364	76.364
2	1.058	26.449	64.899	1.058	26.449	64.899	0.442	11.042	87.407	0.442	11.042	87.407
3	0.942	23.551	88.451				0.309	7.727	95.134			
4	0.462	11.549	100.00				0.195	4.866	100.000			

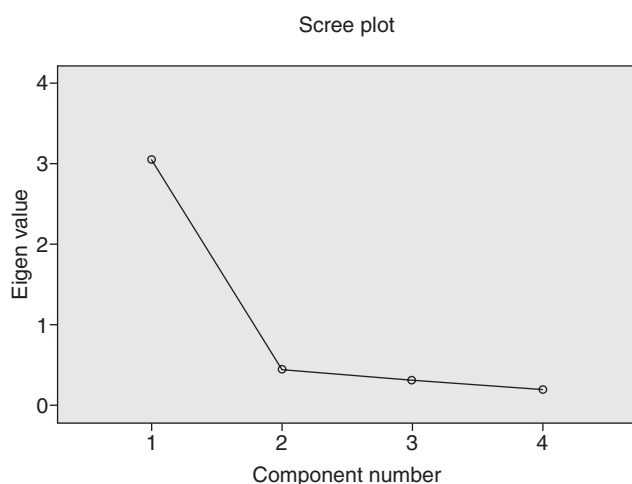


Fig 1 Scree plot of Maharashtra.

Component matrix of Maharashtra and Uttar Pradesh

Factor	Component			
	Maharashtra		Uttar Pradesh	
	1	2	1	2
Risk taking	.997	.136	.541	-.332
Hope of success	.829	.137	-.199	.770
Manageability	.774	.194	.875	.005
Persuasive ability	.046	.960	.416	.789

leading state in number of candidates trained (6904) followed by Uttar Pradesh (6055), Tamil Nadu (3006), Bihar (2815), Karnataka (2587) and Rajasthan (2377). Total no. of agriventure established under ACABCs is 11641 in the country. Uttar Pradesh has highest number of agriventure established (3097) followed by Maharashtra (3034), Tamil Nadu (1592), Karnataka (1050) and Bihar (909) (Bairwal *et al.* 2019).

Conclusion

It is concluded that the farmer entrepreneurs of Uttar Pradesh had medium risk taking behaviour while Maharashtra had high risk taking behaviour because of the abundance of the resources that the Maharashtra state had which supported them to have higher risk taking capacity. Similarly, both the state had medium hope of success, high manageability and high persuasive ability that made these two states entrepreneurial hub for agriculture. Farmer entrepreneurs of Uttar Pradesh considered motivational factors as moderately important while social and economic factors as highly important while respondents of Maharashtra had considered all the three factors equally and highly important for success of any enterprise. Even the resourceful state's farmer entrepreneurs had medium risk taking

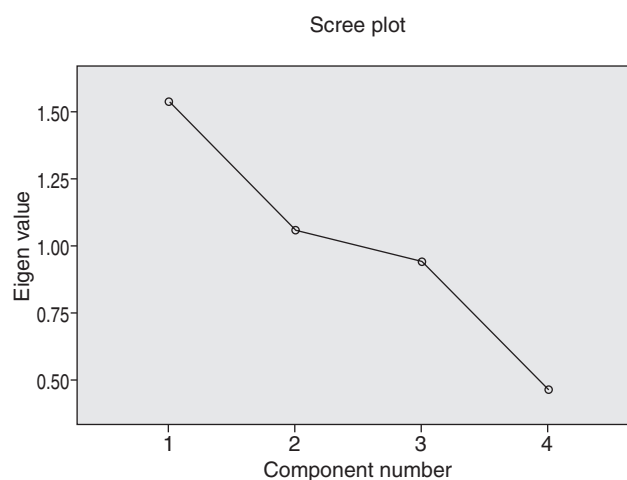


Fig 2 Scree plot of Uttar Pradesh.

behaviour which states that purposeful training is needed in the areas of entrepreneurship and self-employment. Further, in the establishment of a successful enterprise, many factors play a significant role. The training programmes by ACABC or state organizations should focus on the profit realised from a particular enterprise, so that it works as a motivational factor to convert the training experience gained, into an absolute concrete idea of establishing the agricultural enterprise.

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