

A SCALE FOR MEASURING ENTREPRENEURIAL BEHAVIOR OF MEMBERS OF FARMER PRODUCERS' ORGANIZATION

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ABSTRACT

Entrepreneurial behavior is a complex behavior which includes essential traits for running enterprise successfully. For construction of an entrepreneurial behavior scale, experts opinion of 70 judges from five different state agricultural universities from Maharashtra and Gujarat state was considered. In present study, 10 main indicators of entrepreneurial behavior of FPO members were found relevant by more than 75 % judges. For calculating the scale value of each indicator, normalized rank method suggested by Guilford, (1954) was used. The scale indicators found relevant by the panel of judges with their respective scale values were viz., Market orientation (7.44), Decision making ability (6.99), Economic motivation (6.42), Risk orientation (6.09), Planning ability (5.81), Self-confidence (4.66), Scientific orientation (4.45), Innovativeness (2.28), Communication skills (1.59) and Achievement motivation (1.09). Under each indicator sub items were identified by arranging separate conference with experts, they were requested to score each of the sub item according to their importance in measuring the main indicator of entrepreneurial behavior. On the basis of their suggestions, a total of 73 statements of the identified indicators and 10 indicators with a maximum score of 341 were included in the final entrepreneurial behavior scale constructed under the study

Keywords: FPO, Entrepreneurial behavior scale, market orientation, economic motivation

INTRODUCTION

Entrepreneurs as innovators who drive change in the economy by serving new markets or creating new ways of doing things. Entrepreneurship contributes for development of a country in several ways, viz. assembling and harnessing the various inputs, bearing the risks, innovating and imitating the techniques of production to reduce the cost and increase its quality and quantity, expanding the horizons of the market etc. It is suggested that for competing in national and international markets, agriculture needs to function with entrepreneurial approach.

Development as well as strengthening of small and micro enterprises especially in agricultural and allied agricultural sectors in rural areas and promoting agri entrepreneurs is important to tackle the present agriculture situation. Considering these facts, Department of Agriculture and Cooperation (DAC), Ministry of Agriculture, Government of India launched a pilot programme for promoting member-based Farmer Producer Organizations (FPOs) during 2011-12. The purpose of project is to collectivize farmers, especially small and marginal producers, at various levels across several

states.(Anonymous, 2013). Working in an organisation provides wide scope for development of entrepreneurial qualities among the small and marginal farmers. An attempt has been made to identify the indicators and construct a scale for measuring the entrepreneurial behaviour of members of Farmer Producers' Organizations from Pune District of Western Maharashtra.

OBJECTIVES

- (1) To identify the major indicators of entrepreneurial behavior of FPO members
- (2) To construct a scale for measuring entrepreneurial Behavior of FPO members

METHODOLOGY

Developing entrepreneurial behavior is the complex process which includes many indicators that are interrelated and interdependent. In present investigation, entrepreneurial behavior of member farmer is operationalised as cumulative outcome of selected main indicators for running their enterprise successfully. Procedure followed for construction

of a scale is as under.

(1) Identification of indicators

The possible indicators of entrepreneurial behaviour were identified after reviewing the related literature. After thorough scrutiny and comprehensive understanding, these indicators were consulted with the experts. Finally thirteen possible indicators of entrepreneurial behaviour were included for the scale. The indicators were then circulated to judges of different disciplines. The sub-items of each indicator were also finalized for the study.

(2) Selection of judges

A group of 105 experts from social sciences, extension educationists and teachers from 5 State Agricultural Universities (SAUs) [viz., Gujarat, Rajasthan, Maharashtra, New Delhi, Andhra Pradesh] were selected as judges to develop the scale.

(3) Judges’ opinion

An official letter was mailed to all the selected judges with a request to give their valuable opinion regarding the relevancy and importance of the listed indicators to develop the entrepreneurial behaviour scale for members of vegetable producers’ organizations. Out of 105 judges, 74 (61.66%) judges had responded within a stipulated time their opinion was taken into consideration for items analysis.

(4) Relevance of scale items

For construction of the scale, those indicators found relevant by more than 75 per cent of the judges were considered as relevant items. Out of thirteen indicators, ten indicators were selected while three indicators were deleted as less per cent of positive response was received from the judges.

(5) Ranking of the selected indicators

In order to obtain the rank of the selected indicators of the scale items, same judges’ opinion was used. The judges were requested to rank the selected indicators according to their relative importance in measuring entrepreneurial behaviour of members of vegetable producers’ organizations. Finally, important indicators were selected on the basis of its relevancy and rank acquired by them.

(6) Item analysis

After receiving the responses of judges, a master table was prepared and data were tabulated on the basis of judges’ opinion. (Table.1)

(7) Item delineation

Kendall, (1948) suggested to compute coefficient of correlation i.e., “W” to know the consistency in the ranks given by different judges. The perfect agreement and the least agreement among the judgement of judges is known, while the value of “W” is one and zero, respectively. Based on the same, “W” was calculated. Then chi-square was calculated to test the significance of the value of Kendall coefficient of concordance. The computed W value was 0.8335 and calculated chi square value was significant at 5 per cent level of probability. It means there was a perfect agreement in rating the scale items by the experts. Formula for calculating W is as under

$$W = \frac{\sum (R_i - R)^2}{K (N^2 - 1)/12}$$

Where,

W	=	The Kendall coefficient of concordance
R _i	=	Average of the ranks assigned to the i th object or subject
R	=	Average or grand mean of the ranks assigned across all objects or subjects
K	=	Number of sets of ranking e.g., the number of judge
N	=	Number of objects (or individual’s) being ranked

(B) χ² formula is as under

$$\chi^2 = K (N - 1) W$$

Where,

χ ²	=	Chi-square
K	=	Number of sets of ranking or number of judges
N	=	Number of objects
W	=	Value of coefficient of concordance

All the ten major indicators were finally identified to constitute the entrepreneurial behaviour scale of the members.

On the basis of normalized rank order method as recommended by Guilford, (1954), the rank values for the main indicators were computed.

Table 1 : Normalize rank method followed for construction of scale

Rank	Rank value RI	Statements										Total	r	c	The components of the scale with the scale value			
		A	B	C	D	E	F	G	H	I	J				Sr. No	Indicators	Rank values	Rank
1	10	1	1	7	16	14	15	3	6	5	2	70	95	8	1	Market orientation	7.44	I
2	9	3	2	9	13	10	14	6	7	3	3	70	85	7	2	Decision making ability	6.99	II
3	8	4	1	8	11	16	10	6	7	6	1	70	75	6	3	Economic motivation	6.42	III
4	7	5	4	14	5	11	4	4	12	7	4	70	65	6	4	Risk orientation	6.09	IV
5	6	5	2	10	3	6	2	13	18	8	3	70	55	5	5	Planning ability	5.81	V
6	5	6	2	9	6	7	7	12	9	10	2	70	45	5	6	Self confidence	4.66	VI
7	4	12	3	5	9	2	7	14	4	13	1	70	35	4	7	Scientific orientation	4.45	VII
8	3	18	12	2	2	1	1	4	1	14	15	70	25	4	8	Innovativeness	2.28	VIII
9	2	6	19	3	2	2	0	1	3	2	22	70	15	3	9	Communication skills	1.59	IX
10	1	0	24	3	3	1	10	7	3	2	17	70	5	2	10	Achievement motivation	1.09	X
Σfi		70	70	70	70	70	70	70	70	70	70	5Nn=3500						
$\Sigma f'ic$		276	241	389	416	429	399	340	381	347	256							
MC=Ri		3.94	3.44	5.56	5.94	6.13	5.70	4.86	5.44	4.95	3.65	5n=50						
RC*=		2.28	1.09	6.09	6.99	7.44	6.42	4.45	5.81	4.66	1.59							

RC* = 2.357Ri-7.01

Where,

A = Innovativeness,

B = Achievement motivation,

C = Risk taking ability,

D = Decision making ability,

E = Market orientation,

F = Economic motivation,

G = Scientific orientation,

H = Planning ability,

I = Self-confidence,

J = Communication skills,

r_i = Ranks given by judges to ten components,

R_i = $(n-r_i+1)$ Rank values (in the reverse order of rank *i.e.*, rank one getting ten, rank two getting nine and rank ten getting one),

P = Centile value,

N = Number of variables ranked.
the deduction of 0.5 from the rank value is simply to get the middle of the area for the things so ranked,

C = Values determined to each centile value (P),

f_{ii} = Total number of judges who have ranked ten components,

f_{iic} = Ca or CE (Summation of each statement rank value multiple with C value),

MC = $RJ = f_{iic} / f_{ii}$ and

R_c = (Scale value) = $2.357 R_j - 7.01$.

$$P = \frac{(R_i - 0.5) 100}{n}, \text{ here } n = 10$$

$$= \frac{(10 - 0.5) 100}{10}$$

$$= 9.5 \times 100/10$$

$$= 95$$

$$\Sigma f_{iic} = 1 \times 8 + 3 \times 7 + 4 \times 6 + 5 \times 6 + 5 \times 5 + 6 \times 5 + 12 \times 4 + 18 \times 4 + 6 \times 3 + 0 \times 2$$

$$= 276$$

$$MC = \Sigma f_{iic} / \Sigma f_{ii}$$

$$= 276/70$$

$$= 3.94$$

(8) Computing scale value

$$R_c = 2.357R_j - 7.01$$

In order to determine the scale value of each item, ranked by judges, the centile position “P” based on the method suggested by Guilford, (1954) was worked out. The “C” values (values determined to each centile value), R_j values and finally scale values, *i.e.*, R_c values, were worked out by using the following formula

Those indicators which received one or more than one positive scale value (R_c) were considered as relevant indicators for inclusion in the scale. All the ten indicators obtained more than one positive values, so all the indicators were finally selected for the scale.

Table 2 : Entrepreneurial behaviour scale

1]	Market Orientation	Maximum score (45)		Scale value (7.44)	Total maximum scale value (334.8)	
Sr. No.	Statements	SA (5) (1)	A (4) (2)	UD (3) (3)	DA (2) (4)	SDA (1) (5)
1	I encouraged for market the produce in cities through VPO					
2	I learned to produce as per market demands					
3	I am marketing the produce under brand name through VPO					
4	I facilitated for collective transportation of produce through VPO					
5	I learned direct marketing of produce through VPO					
6	Market knowledge is not necessary before starting any enterprise					
7	Member should sell their produce to the nearest market irrespective of price					
8	Grading, standardization and packaging decides market price of produce					
9	It is not necessary to consider the consumer needs and preferences before marketing the produce					
2]	Decision making ability	Maximum score (36)		Scale value (6.99)	Total maximum scale value (251.64)	
I)	Statement	Always (3)	Sometimes (2)	Never (1)		
1	Do you take scientific and rational decisions?					
2	Do you take care of all possible alternatives before making decision?					
3	Do you implement the decisions timely which you made?					
4	When you make wrong decision, do you timely rectify it?					
II)	In following matters how you take the decisions	Considered independently (3)	Considered after consultation with others(2)	Not yet considered (1)		
5	To join VPO					
6	To cast vote for electing Board of Directors					
7	To try new crop variety/practice in a farm					
8	To purchase any farm implement, machinery					

9	To market the produce					
10	To participate in training programme/ demonstration / exposure visit arranged by VPO					
11	To take loan/credit through VPO					
12	To take decision about crop insurance					
3]	Economic motivation	Maximum score (35)		Scale value (6.42)		Total maximum scale value (224.7)
Sr. No.	Statement	SA (5) (1)	A (4) (2)	UD (3) (3)	DA (2) (4)	SDA (1) (5)
1	I started getting remunerative price for my produce through VPO sale.					
2	I think, bargaining power of members has increased by VPO					
3	I started getting maximum economic returns after joining VPO					
4	It is economical to avail credit and loan facility in group than individual					
5	Collective purchase of inputs through VPO helped to save time, money and manpower					
6	Collective operations reduced cost of vegetable production					
7	I improved my socio-economic status after joining VPO					
4]	Risk Orientation	Maximum score (35)		Scale value (6.09)		Total maximum scale value (213.15)
Sr. No.	Statement	SA (5) (1)	A (4) (2)	UD (3) (3)	DA (2) (4)	SDA (1) (5)
1	I would like to take risk though profit may small but assured and constant					
2	I think it is worthy to try new method in vegetable enterprise though it involves risk					
3	I take more chance in making big profit than stick up to a smaller but less risky profit					
4	I never try new production methods unless others have successfully used					
5	I wish VPO should engage in number of activities to avoid greater risk instead of limiting to one or two products.					
6	I think perishable nature of vegetables increases risk in its production and sale					
7	I can work in uncertainty condition, being associated with VPO					

5]	Planning Ability	Maximum score (30)		Scale value (5.81)		Total Max. scale value (174.3)	
Sr. No.	Statements	SA	A	UD	DA	SDA	
		(5) (1)	(4) (2)	(3) (3)	(2) (4)	(1) (5)	
1	I plan in advance for input requirement, labour charges and other expenses before undertaking any business activity in VPO.						
2	I think advance planning is of no use as there are chance factors that influence success						
3	I plan well in advance for credit requirement every year.						
4	I properly plan for optimum utilization of resources in VPO.						
5	I think it is not necessary to plan for crop insurance every year.						
6	I think strategic planning is required to increase production and profit of VPO members.						
6]	Self confidence						
Sr. No.	Statement	Maximum score (40)		Scale value (4.66)	Total maximum scale value (186.4)		
		SA (5) (1)	A (4) (2)	UD (3) (3)	DA (2) (4)	SDA (1) (5)	
1	I believe that joining VPO is always advantageous than working individually						
2	I think that benefits from VPO is depend upon fate or luck						
3	I believe that the ways in which I am working in VPO is the best						
4	I think that group efforts can make the task easy						
5	I feel that individual voice is nowhere in VPO						
6	I think I became more confident after joining VPO						
7	I feel that my progress is blocked through VPO						
8	I think that there is no need to worry to sell vegetables after joining VPO						
7]	Scientific orientation	Maximum score (30)		Scale value (4.45)	Total maximum scale value (133.5)		
Sr. No.	Statements	SA	A	UD	DA	SDA	
		(5) (1)	(4) (2)	(3) (3)	(2) (4)	(1) (5)	
1.	I think VPO encouraged me for cleaning, grading and scientific storage of vegetables						
2.	I believe that scientific methods saves time and money						
3.	I keep updated scientific knowledge about vegetable production						

4	I would like to attend field trials, demonstrations organised by KVK/SAUs					
5	I think scientifically grown vegetables gives better price than traditional one					
6	I keep rapport with university/KVK scientists					
8]	Innovativeness	Maximum score (30)	Scale value (2.28)		Total maximum scale value (68.4)	
Sr. No.	Statements	SA (5) (1)	A (4) (2)	UD (3) (3)	DA (2) (4)	SDA (1) (5)
1	I always try new and better ways to make product/ service more competitive					
2	I search new opportunities for entrepreneurial development					
3	I use to avoid changing the things which are already decided by an organization.					
4	I believe that innovations are necessary to change the status of an enterprise					
5	I use improved and new varieties of vegetable crops					
6	I would like to update technical information regarding vegetable production					
9]	Communication skills	Maximum score (30)	Scale value (1.59)		Total maximum scale value (47.7)	
Sr. No.	Statements	SA (5) (1)	A (4) (2)	UD (3) (3)	DA (2) (4)	SDA (1) (5)
1	Communication skill is important for improving bargaining power of members.					
2	Communication skills are not necessary for the member to market the produce					
3	Communication makes responsive to the member to solve group disparities/problems					
4	Communication skill is not necessary for team building					
5	Communication skill help to develop organizational relations for growth of VPO.					
6	Communication is required to establish linkage between scientists and VPO member					
10]	Achievement motivation	Maximum score (30)	Scale value (1.09)		Total maximum scale value (32.7)	
Sr. No.	Statements	SA (5) (1)	A (4) (2)	UD (3) (3)	DA (2) (4)	SDA (1) (5)
1	It gives me pleasure in responding to challenges in my enterprise					

2	I want to earn only as much as to attain a comfortable way to live					
3	I work hard to compete and achieve success in vegetable production					
4	I give priority to work than rest					
5	I am constantly looking for ways to improve the working of organization					
6	I try hard for achieving the organizational goals					

(9) Identification of sub items (statements)

Under each identified major indicator of entrepreneurial behavior, sub items (statements) were identified based on past review and discussion with advisory committee members. These statements were then discussed with another set of 25 local experts including professors, scientists, extension personnel etc. by organizing conference. They were requested to add or delete sub items from the list. Further, they were requested to score each of the sub item according to their importance in measuring the main indicator of entrepreneurial behavior. On the basis of their suggestions, a total of 73 statements of the identified indicators and 10 indicators with a maximum score of 341 were included in the instrument developed for measuring the entrepreneurial behaviour of the members.

(10) Validity of the scale

The validity of the scale was confirmed by two methods viz., content validity and criterion validity.

(A) Content validity

The content validity of the scale was achieved by two ways. Firstly, the indicators were collected, selected for inclusion in the scale based on an extensive and exhaustive literature, the opinion of panel of 70 judges was obtained to know whether the indicators were appropriate for inclusion in the scale. More than 75 per cent judges endorsed the proposed indicators as relevant indicating the scale was valid.

(B) Criterion validity

It was established by correlating the entrepreneurial

behaviour scores obtained from 30 non-sampled respondents with their respective formal education. The coefficient of correlation (0.792) between the two variables was found to be highly significant at 0.01 level of significance indicating the scale was valid.

(11) Reliability of the scale

The split-half method of reliability was used. The scale was administered to 30 non-sampled members of vegetable producer farmers organization from the research area. The score for the alternate items were separated and two sets were prepared. The coefficient of correlation was used for the two sets of score. The coefficient of correlation obtained was 0.801 which was significant at 1 per cent level of probability. Hence, the scale was dependable or stable as a measuring instrument.

CONFLICT OF INTEREST

The authors of the paper declare no conflict of interest

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