

## **Entrepreneurial Behaviour and their Correlates among Dairy Entrepreneurs in Northern India**

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### **ABSTRACT**

A study was conducted in Northern states (Haryana and Uttar Pradesh) of India to assess the entrepreneurial behaviour of dairy entrepreneurs. Karnal and Lucknow districts were selected randomly from Haryana and Uttar Pradesh, respectively. Two blocks from each selected district was selected randomly. Within each selected block a cluster of villages was formed and from each cluster of villages 45 entrepreneurs were selected on proportionate random sampling basis, thus a total 180 respondents were selected. The data were collected by conducting personal interview of respondents with the help of modified interview schedule. Entrepreneurial behaviour of respondents was measured by executing entrepreneurial Self Assessment Scale. The association of independent variables viz., socio-economic, communication and psychological variables with entrepreneurial behaviour of farmers was assessed and contributory influence of these independent variable on dependent variable i.e. Entrepreneurial Behaviour was also estimated. The results revealed that large majority of dairy entrepreneurs are moderate in their entrepreneurial ability. The individuals rich in entrepreneurial attributes can be role models for isolated group of dairy farmers who are still to venture out in dairy entrepreneurship. As a result of relational analysis, it was found that herd size, milk yield, total income, mass media exposure, knowledge and economic motivation of the respondents had positive and significant contribution on the entrepreneurial behaviour. Family size negatively and significantly contributed towards entrepreneurial behaviour. However, age and milk sale were not contributing towards possession of entrepreneurial characteristics by the dairy entrepreneurs.

The fact that dairying could play a more constructive role in promoting rural welfare and reducing poverty by generating employment at farm level is increasingly being recognized. A sustainable and financially viable dairy farming, which will generate income and self-employment through entrepreneurship, is need of the day. In this context entrepreneur is one of the most important inputs for development of dairying, which may prove phenomenal for economic development of farming community or regions dominated with dairy farming. Answers to questions like what are the optional combinations of qualities needed to be an entrepreneur are not yet clearly available. Empirical studies conducted in the past have worked out some important characteristics, which can provide a working

profile of farm entrepreneurs. List of these characteristics include need for achievement, risk taking, self confidence, problem solving, locus of control, effective communication leadership, originality, use of feedback, profit orientation and personal efficacy (Bhagat et al., 2005). Farm entrepreneur may not need all these traits; but the more he has, the greater the chances of being an entrepreneur. So, it is worthwhile to assess the level of entrepreneurial characteristics among dairy entrepreneurs. The understanding of this may help in predicting the success of dairy enterprise in generating more income and social goods. At the same time it is of utmost importance to know the factors, which in different magnitude affect the entrepreneurial behaviour of dairy farmers. So, contributory factors may be manipulated or ensured

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to strengthen the process of entrepreneurship among dairy entrepreneurs.

Keeping in view the above stated facts a study was conducted to assess the entrepreneurial behaviour of dairy entrepreneurs in Northern India. The association of independent variables viz., socio-economic, communication and psychological variables with Entrepreneurial Behaviour of farmers was also assessed and contributory influence of these independent variable on dependent variable on dependent variable i.e. Entrepreneurial Behaviour was also estimated with the help of suitable statistical analysis.

## METHODOLOGY

### Study locale and respondents selection

The study on dairy entrepreneurship was conducted in purposively selected Haryana and Uttar Pradesh states of northern India. Kamal and Lucknow districts were selected randomly from Haryana and Uttar Pradesh, respectively. Two blocks from each selected district was selected randomly. Within each selected block a cluster of villages having large numbers of dairy entrepreneurs was formed. From each cluster of villages 45 entrepreneurs were selected on proportionate random sampling basis, thus a total 180 respondents were selected.

### Operationalization and measurement of entrepreneurial behaviour

Entrepreneurial behaviour is referred as the extent to which a dairy farmer has the traits responsible for entrepreneurial ability and operationalized as the function of ten psychological attributes viz., Risk taking, Hope of success, Persistence, Feedback usage, Self confidence, Knowledgeability, Persuasability, Manageability, Innovativeness and Achievement motivation possessed by them.

Entrepreneurial Behaviour was measured by executing Entrepreneurial self assessment scale (Technonet Asia, 1981) with minor modifications. The scores obtained by individual respondent on 10 psychological attributes were pooled, which was score of entrepreneurial behaviour for that respondent. Further respondents were categorized into low, medium and high group on all the 10 psychological attributes as well as in entrepreneurial behaviour on the basis of means and standard deviations. Entrepreneurial behaviour index was also calculated by using formula:-

$$\text{Entrepreneurial behaviour index } x \text{ (EBI)} = \frac{\text{Obtained mean score } \times 100}{\text{Maximum obtained score}}$$

### Data collection and analysis

An interview schedule was developed, pre-tested among non-sample respondents and modified. The data was collected from 180 respondents by conducting personal interview of respondents with the help of modified interview schedule. The collected data were scored, compiled, tabulated and subjected to various statistical tools like frequency, percentage, mean, standard deviation to draw meaningful results and conclusions.

In order to find out association or relationship of selected independent (socio-economic, communication and psychological) variables with entrepreneurial behaviour Pearson product moment correlation coefficient (r) was worked out. To know the contributory influence of selected independent variables on entrepreneurial behaviour, multiple regression analysis was carried out.

## RESULTS AND DISCUSSION

### Entrepreneurial behaviour level

Detailed data on profile parameters of entrepreneurial behaviour are presented in Table 1. Higher the entrepreneurial self-assessment score on the entrepreneurial dimension higher is the self-assessment of an individual on his ability and characteristics reflecting entrepreneurship. The profile of the dairy entrepreneurs on entrepreneurial characteristics is discussed below :-

#### i) Risk taking

Majority of the respondents were found to be moderate risk takers (60.00%). A good percentage of respondents (23.33%) had low risk taking ability, however, a small percentage (16.67%) also found to have high risk taking ability. The result is clear indication of the fact that dairy entrepreneurs are calculative while considering a decision concerning new activity. This finding is supported by those of Devi (1986) and Murali et al. (2003).

#### ii) Hope of success

The majority of respondents i.e. 74.45 per cent had medium level of this traits, and rest of them were nearly equally distributed between low and high category. A person is likely to be successful in entrepreneurial activity when he has high hope of success. Most likely

interpretation of the results indicate that only small percentage of the respondents presume to get success in dairy enterprise, while equal percentage expect failure while enterprising in dairy farming.

However, three-fourth portion of the respondents had moderate chance to get success or failure and they are prepared to face this consequence, These findings also corroborated with the observations made by Murali et al. (2003) who reported majority of the floriculture entrepreneurs having moderate level of hope of success.

### iii) Persuasability

The medium level of this attribute was possessed by 62.78 percent of the respondents. However, 21.67 percent of the respondents scored high in their ability to be persuasive and 15.59 percent of them found to be poor in convincing others with his ideas. The results are in conformity with the findings of Murali et al. (2003).

### iv) Manageability

Majority of the respondents (66.11 %) were rated in medium category on this particular attribute. Nearly one-fifth were found to be having high level of manageability and rest (13.33%) were poor on this particular dimension of entrepreneurial behaviour. Likely interpretation of results is that large number of dairy entrepreneurs had moderate managerial skill in planning, organizing, leading and controlling the efforts of members employed in dairy enterprise. The managerial skill enhances an individual's chance of success in setting up entrepreneurial venture and this characteristic can be easily enhanced through training and practice (Jhamtani et al., 2003). So, in the study area a systematic training on entrepreneurship development can be planned and implemented to enhance the manageability trait among the dairy entrepreneurs.

### v) Self confidence

The possession of this particular attribute explains the degree to which an individual expresses confidence in his own ability to complete a task or meet a challenge. The majority i.e. 62.78 percent of the respondents had medium level of self-confidence, followed by more than one-fourth of them having high level of self-confidence. However, a very small percentage of the respondents were poor in their confidence to complete the task or meet the challenges in his dairy enterprise. The findings are in conformity with the empirical evidences reported by Murali

et al. (2003) and Jhamtani et al. (2003).

### vi) Knowledgeability

The 64.45 percent of the respondents had medium level of knowledgeability, followed by 21.11 and 14.44 percents of them having high and low level of this particular dimension of entrepreneurial behaviour. The trend of results indicate that majority of the dairy entrepreneurs perceived themselves moderately competent in technical and management aspects of running dairy enterprise. However, about one-fifth of the respondents assessed themselves as quite competent in running his dairy enterprise by addressing all technical and management aspects properly.

### vii) Persistence

By knowing the level of this attribute possessed by an individual, the extent upto which he can try different options to overcome obstacles can be predicted. The majority of the respondents (63.33%) perceived themselves under medium category of persistence, followed by 21.11 and 15.56 percents of them under high and low level of persistence, respectively. The good majority of the dairy entrepreneurs might perceive it appropriate to try few actions/options to address the problems. About one-fifth of them perceived necessary to take repeated or different actions till arrived at appropriate solutions of the problems faced by them in dairy farming.

### viii) Feedback usage

The ability to seek and use feedback on owns performance and decisions is an important quality of entrepreneurs. About 70.00 percent of the dairy entrepreneurs were assessed in medium category of feedback usage, the rest of them were equally placed in low and high level of feedback usage. Those who are fairly good or excellent at receiving and using feedback are likely to improve upon their performance and productively use information to manage his resources better, avoiding past mistakes and making his dairy enterprise a great success.

### ix) Innovativeness

Innovativeness refers to the extent to which a dairy entrepreneur perceives himself to act in a way so he can extend his enterprise by acquiring new technology, animals, products and services. The largest percentage of the respondents i.e. 58.33 percent were found to be in medium category, followed by good percentage of them

(23.34) in high on this attribute. However, a small percentage of them (18.33%) were also in low category. It was quite encouraging to note that large majority of the dairy entrepreneurs rated themselves fairly good or good in innovativeness. This shows that dairy entrepreneurs at large are keen to extend dairy enterprise in new areas. Further, this attribute can be developed among entrepreneurs by imparting training in order to improve the entrepreneurship among farmers (Bheemappa, 2003).

#### **x) Achievement motivation**

It is an urge to improve oneself and excel in relation to a goal and many empirical evidences proved it as an integral component of entrepreneurship. The data on this particular parameter revealed that majority (66.11%) of the respondents had medium level of this attribute. Only 14.44 percent of respondents were high in achievement motivation and rest were under low category.

The scores obtained by an individual on all ten attributes of entrepreneurial behaviour was pooled and referred as score of entrepreneurial behaviour for that individual. As evident from Table 1 that good majority (66.11 %) of the respondents possessed medium level of entrepreneurial behaviour. A small percentage of respondents (18.33%) also possessed high entrepreneurial behaviour, whereas; very small percentage of them (15.56%) was in low category of entrepreneurial behaviour. The mean score of entrepreneurial behaviour was 63.46 and range of scores was between 41 to 102. The analysis of overall entrepreneurial behaviour reveals the situation where large majority of dairy entrepreneurs are moderate in their entrepreneurial ability. The individuals rich in entrepreneurial attributes can be role models for isolated group of dairy farmers who are still to venture out in dairy entrepreneurship. The small section of entrepreneurs found poorly in entrepreneurial behaviour might be underprivileged group of society who don't have access to necessary infrastructure, support facilities and most important socio-psychological milieu.

#### **Entrepreneurial Behaviour Index (EBI)**

Here entrepreneurial behaviour index (EBI) is a number on the basis of which the respondents can be said to have more or less of entrepreneurial attributes by virtue of which their chance of success or failure in dairy entrepreneurship can be predicted. The results are presented in Table 2 and are described below.

It is evident from Table 2 that highest EBI (58.25) was found in knowledgeable attribute of entrepreneurial behaviour and ranked first. The lowest index of 44.08 was recorded in case of achievement motivation and ranked last out of all ten attributes. However, EBI calculated for risk taking, manageability, hope of success, feedback usage, self confidence, persuasability, persistence and innovativeness were 56.50, 56.25, 53.58, 53.50, 52.50, 51.50, 51.50 and 51.17 with rank II, III, IV, V, VI, VII, VII and VIII, respectively. The EBI for overall entrepreneurial behaviour was found 52.88. The highest index in case of knowledgeable may be due to reasons like acquaintances of respondents with the technologies of dairy farming, high competency in managing dairy enterprise, familiarity with the market channels and support agencies etc. The good performance of dairy entrepreneurs in knowledgeable tells the story of their multidimensional capability in dairy entrepreneurship. However, it is also discouraging to note lowest index in case of achievement motivation. It is indication of the fact that respondents possess comparatively low amount of inner urge to improve themselves and excel into dairy enterprise, for successful phenomenon of entrepreneurship" which is not desirable and encouraging. The overall entrepreneurial behaviour index i.e. 52.88 can be termed as moderate and average. On five out of ten attributes, respondents obtained EBI of more than 52.88 and on rest five attributes index was lower than 52.88. So, poor indices on five attributes keeping down the respondents at moderate level of EBI. Entrepreneurship development training programme must focus more on inculcating the achievement motivation, innovativeness, persistence, self-confidence and persuasability among dairy entrepreneurs.

#### **Relational Analysis**

In order to ascertain the relationships between entrepreneurial behaviour and other traits of dairy entrepreneurs, correlation, multiple regression, stepwise regression (with backward elimination) analyses were done. The outcome of relational analysis helped in identifying predictive factors/ variables, which can help in explaining the process of entrepreneurship among milk producers of the study area. The findings have been presented and discussed in the following subheads:

**Table 1. Distribution of dairy entrepreneurs on the basis of attributes of entrepreneurial behaviour**

Sl. No.	Attributes	Mean	Category	frequency	Percentage
1.	Risk taking	6.78	Low (< 5.17)	42	23.33
			Medium (5.17-8.39)	108	60.00
			High (> 8.39)	30	16.67
2.	Hope of success	6.43	Low (< 4.60)	22	12.22
			Medium (4.60-8.26)	134	74.45
			High (> 8.26)	24	13.33
3.	Persuasability	6.18	Low (< 4.60)	28	15.59
			Medium (4.60-7.76)	113	62.78
			High (> 7.76)	39	21.67
4.	Manageability	6.75	Low (< 4.87)	24	13.33
			Medium (4.87-8.63)	119	66.11
			High (> 8.63)	37	20.56
5.	Self confidence	6.30	Low (< 4.80)	20	11.11
			Medium (4.80-7.80)	113	62.78
			High (> 7.80)	47	26.11
6.	Knowledgeability	6.99	Low (< 4.60)	26	14.44
			Medium (4.60-9.38)	116	64.45
			High (> 9.38)	38	21.11
7.	Persistence	6.18	Low (< 4.68)	28	15.56
			Medium (4.68-7.68)	114	63.33
			High (> 7.68)	38	21.11
8.	Feedback usage	6.42	Low (< 4.55)	27	15.00
			Medium (4.55-8.29)	126	70.00
			High (> 8.29)	27	15.00
9.	Innovativeness	6.14	Low (< 4.37)	33	18.33
			Medium (4.37-7.91)	105	58.33
			High (> 7.91)	42	23.34
10.	Achievement motivation	5.29	Low (< 4.08)	52	28.89
			Medium (4.08-6.50)	102	56.67
			High (> 6.50)	26	14.44
11.	Entrepreneurial Behaviour	63.46	Low (< 48.170)	28	15.56
			Medium (48.17-78.75)	119	66.11
			High (> 78.75)	33	18.33

**(i) Relationship between Entrepreneurial behaviour and other traits**

The correlation coefficients between entrepreneurial behaviour and other traits of the respondents have been shown in Table 3. While explaining the relationship, the traits of respondents are intermittently treated as independent variables because these traits are considered

here as presumed cause of entrepreneurial behaviour. It is evident from table that the traits of the respondents i.e. age, family size, education, social participation, land holding, herd size, milk production, milk yield, milk sale, wage labors, income from milk, total income, mass media exposure, extension contact, knowledge, attitude and economic motivation had positive and significant

**Table 2. Extent of entrepreneurial behaviour attributes possessed by dairy entrepreneurs**

Sl. No.	Attributes	Mean Score behaviour index	Entrepreneurial	Rank
1.	Risk taking	6.78	56.50	I
2.	Hope of success	6.43	53.58	IV
3.	Persuasability	6.18	51.50	VII
4.	Manageability	6.75	56.25	III
5.	Self confidence	6.30	52.50	VI
6.	Knowledgeability	6.99	58.25	I
7.	Persistence	6.18	51.50	VII
8.	Feedback usage	6.42	53.50	V
9.	Innovativeness	6.14	51.17	VIII
10.	Achievement motivation	5.29	44.08	IX
	Entrepreneurial behaviour	63.46	52.88	

relationship with entrepreneurial behaviour of the respondents. It was interesting to note that relationships of all these independent variables with dependent variable i.e. entrepreneurial behaviour had strong relationships, except family size, which was found to be significant at 0.05 level of probability. However, caste has no relationship with entrepreneurial behaviour. In other words all these traits of the respondents are important especially under the domain of entrepreneurship in milk production among dairy farmers of the study area. The socio-personal variables like age, family size, education and social participation in one or other way may influence one or more attributes of entrepreneurial behaviour. Herd size, milk production, milk yield, milk sale, wage labors employed

and income being important component of dairy enterprise are found to be positively associated with entrepreneurial behaviour of dairy entrepreneurs. More of utilization of mass media such as radio, television, newspapers, magazines, etc. and frequent contact with different extension agencies helps dairy entrepreneurs in acquiring different technical and managerial skills in running dairy enterprise, which in turn increase the entrepreneurial ability of the entrepreneurs. The possession of cognitive domain such as knowledge about IDFPs, attitude towards IDFPs and economic motivation to manage the farm in best way also help the farmers in acquiring more and more attributes of entrepreneurial behaviour.

**Table 3. Correlation analysis between entrepreneurial behaviour and other traits of the dairy entrepreneurs**

Sl. No.	Variables	'r' value	't' value
1.	Age	0.201	2.737**
2.	Family size	0.126	1.604*
3.	Caste	-0.052	0.789
4.	Education	0.242	3.327**
5.	Social participation	0.311	4.365**
6.	Land holding	0.634	10.936**
7.	Herd size	0.528	8.294**
8.	Milk production	0.716	13.683**
9.	Milk yield	0.586	9.647**
10.	Milk sale	0.632	10.879**
11.	Wage labors	0.797	17.604**

12.	Income from milk	0.724	14.002**
13.	Total income	0.779	16.574**
14.	Mass media exposure	0.574	9.351**
15.	Extension contact	0.225	3.080**
16.	Knowledge	0.910	29.281**
17.	Attitude	0.743	14.810**
18.	Economic motivation	0.711	13.489**

\*\*Significant at 0.01 level of probability, \*Significant at 0.05 level of probability

### (ii) Contributory influence of traits of respondents on entrepreneurial behaviour

In order to assess the contribution of independent variables towards the entrepreneurial behaviour, multiple regression analysis was carried out and results are presented in Table 4 and Table 5. In the first stage of multiple regression analysis entire set of independent variables was considered and as a result herd size, milk yield, total income, mass media exposure, knowledge and economic motivation were found to have positive and significant influence on the entrepreneurial behaviour of the respondents (Table 4). However, milk production and wage labors had positive influence on entrepreneurial behaviour but was not significant. Other variables viz. age, family size, education, social participation, land holding, milk sale, income from milk, extension contact and attitude were found to have negative and non-significant contribution on entrepreneurial behaviour. The  $R^2$  value was 0.892 and indicates that all the independent variables taken together could explain a variation of 89.2 percent in the entrepreneurial behaviour of the respondents.

Moreover, to identify set of independent variables contributing maximum towards entrepreneurial behaviour, the stepwise multiple regression with backward elimination procedure was carried out. As a result, out of seventeen variables, nine independent variables were identified as most contributing factors towards entrepreneurial behaviour. Table 5 revealed that herd size, milk yield, total income, mass media exposure, knowledge and economic motivation of the respondents had positive contribution on the entrepreneurial behaviour and was highly significant at 0.01 level of probability. Family size negatively and significantly contributed towards entrepreneurial behaviour. However, age and milk sale were not contributing towards

possession of entrepreneurial characteristics by the dairy entrepreneurs.

It may be concluded here that large herd size, high milk yield by milch animals possessed by farmers and high total income ensures high entrepreneurial ability among dairy entrepreneurs. With the increase in exposure of respondents toward mass media their entrepreneurial behaviour also increased. Possession of more knowledge or better acquaintances of respondents with different aspects of scientific dairy farming guarantee enhanced level of entrepreneurial ability. With high level of economic motivation possibility of healthy entrepreneurship can be predicted among milk producers of the study area. In contrast, increase in family size had deleterious effect on the entrepreneurial behaviour. The respondent with large family size can not be expected as good entrepreneur.

All these nine variables together were able to predict 89.00 percent variability in the entrepreneurial behaviour of the respondents. It was quite interesting to note that elimination of eight variables from regression model resulted into minor decrease in  $R^2$  value and that decrease was 0.02, this particular result highlight the major contribution of all nine variables viz. age, family size, herd size, milk yield, milk sale, income, mass media exposure, knowledge and economic motivation towards entrepreneurial behaviour. It is also evident from Table 5 that out of these 9 variables the knowledge about IDFPs had major contribution of 46.16 towards entrepreneurial behaviour followed by total income (16.45), milk sale (8.40), herd size (8.00), mass media exposure (7.71), milk yield (7.44) and economic motivation (7.34), respectively. The quantification of these contributory 9 variables may serve as baseline for manipulating the these variables for promoting entrepreneurial ability of farmers.

**Table 4. Regression analysis between traits and entrepreneurial behaviour**

Sl. No.	Variables	'b' value
1.	Age ( $x_1$ )	-0.075
2.	Family size ( $x_2$ )	-0.205
3.	Education ( $x_3$ )	-0.307
4.	Social participation ( $x_4$ )	-0.045
5.	Land holding ( $x_5$ )	-0.126
6.	Herd size ( $x_6$ )	0.747**
7.	Milk production ( $x_7$ )	0.406
8.	Milk yield ( $x_8$ )	0.415**
9.	Milk sale ( $x_9$ )	-0.562
10.	Wage labors ( $x_{10}$ )	0.007
11.	Income from milk ( $x_{11}$ )	-0.000
12.	Total income ( $x_{12}$ )	0.001*
13.	Mass media exposure ( $x_{13}$ )	0.852**
14.	Extension contact ( $x_{14}$ )	-0.012
15.	Knowledge ( $x_{15}$ )	0.977**
16.	Attitude ( $x_{16}$ )	-0.115
17.	Economic motivation ( $x_{17}$ )	1.476**
<b>R<sup>2</sup>= 0.892</b>		

\*Significant at 0.05 level of probability, \*\*Significant at 0.01 level of probability

**Table 5. Regression analysis between selected traits and entrepreneurial behaviour**

Sl. No.	Variables	'b' value	Contribution
1.	Age ( $x_1$ )	-0.052	-0.750
2.	Family size ( $x_2$ )	-0.357*	-0.775
3.	Herd size ( $x_6$ )	0.769**	8.008
4.	Milk yield ( $x_8$ )	0.437**	7.445
5.	Milk sale ( $x_9$ )	0.401	8.400
6.	Total income ( $x_{12}$ )	0.001**	16.452
7.	Mass media exposure ( $x_{13}$ )	0.764**	7.716
8.	Knowledge ( $x_{15}$ )	0.980**	46.164
9.	Economic motivation ( $x_{17}$ )	1.317**	7.340
<b>R<sup>2</sup>= 0.890</b>			<b>100.00</b>

\*Significant at 0.01 level of probability, \*\*Significant at 0.05 level of probability

### CONCLUSION

The dairy entrepreneurs possessed the moderate level of entrepreneurial behaviour traits. There is possibility to enhance these traits among entrepreneurs by implementing suitable interventions. In this direction entrepreneurship development training programme can be

implemented with the objective to enhance entrepreneurial ability of the targeted population. Knowledge of farmers about IDFPs was deduced as most important contributing factors towards entrepreneurial behaviour. The farmers, development agencies and extension managers for inculcating entrepreneurial ability among dairy farmers must consider this symbiotic relationship as an opportunity.



For this concerned agencies must undertake training programmes, demonstrations and exhibitions to impart knowledge in various aspects of IDFPs to the dairy farmers and follow up should be implemented to reinforce the knowledge. The traits of entrepreneurs like achievement motivation, innovativeness, persistency and persuasability must find central place in entrepreneurship development training programme in order to strengthen these traits among entrepreneurs.

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