ENTREPRENEURIAL BEHAVIOR OF DAIRY FARMERS- AN EMPIRICAL STUDY IN THENI DISTRICT

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Abstract
The study assessed the level of entrepreneurial behaviour of dairy farmers in Theni district. The study is empirical. The primary data was gathered from the dairy farmers by adopting a structured interview schedule method. Secondary data were gathered from thesis, journals, articles and the internet. A sample of 150 respondents was selected by adopting the purposive sampling method. The statistical tools namely reliability test, descriptive statistics and Structural Equation Modelling (SEM) were applied to examine the determining factors of the entrepreneur behavior of dairy farmers in the Theni district. The study indicated that the entrepreneurial traits and their behavior in dairy farming are at a moderate level. The study also revealed that there is a meaningful relationship between entrepreneurial traits and the entrepreneurial behavior of dairy growers of the Theni district, Tamilnadu. Suggestions and conclusions were discussed.

Key Words: Entrepreneurial Behavior, Dairy Farmers, Theni District, Tamilnadu.

I. Introduction
Entrepreneurship is now seen as a catalyst for economic development and job establishment (Wong, P.K., et al., 2005). There are opportunities to raise awareness of the historical role of culture and values in entrepreneurial behavior (Jones G., & Wadhwani, R.D. 2006). Agricultural entrepreneurship is often seen as an instrument for inspiring rural unemployed youth who are capable of starting a company and excelling in the fields of agriculture and related activities (Vik & McElwee, 2011). Entrepreneurship is a prerequisite for the continuity of smallholder farmers in an ever-changing and increasingly complex worldwide economy (David, K. 2013). There has been a renewed interest in global entrepreneurship in the last few decades (Al-Harrasi, A.S, et al., 2014). Livestock production is one of the promising sectors of rural entrepreneurship among the farmers in India (Bandopadhyay, 2007). The dairy business, provides continuous revenue, improves family nutritional standards, supplements revenue and diminishes unemployment for a large number of rural poor (Mariammal, R and Seethalakshmi, M., 2017). Considering the value of entrepreneurship and opportunities in the dairy sector in India, the behaviour of dairy farmers concerning entrepreneurship needs to be assessed. Hence, the study has been chosen to measure the factors influencing entrepreneurial behavior of dairy farmers at Theni district, Tamilnadu.

II. Problem Definition
In recent decades, entrepreneurial behavior has increased dramatically, as it is a vehicle for socio-economic development in many countries (Rathod PK, 2012). Entrepreneurial behaviour has an impact on the individual’s profit-making (Abeyratne HRMP, 2014). Entrepreneurship education is growing worldwide, but key educational and documentary issues remain unstable. Hence, it is meaningful to reinforce the future of entrepreneurship education through strong academic and theoretical foundations to strengthen entrepreneurship courses (Fayolle, Alain., 2013). Efforts should be made to enhance the level of entrepreneurial behavior using comprehensive training programs, panel discussions, presentations, tours, area visits, awareness programs, etc (Avhad, S.R., 2015). Since entrepreneurship is a structure of human capital, productive entrepreneurship requires useful characteristics and behaviour (Subramanyeswari, 2007). Many research studies identified various determinants of entrepreneurship behavior in different aspects namely ability, the experience of the enterprise, risk-taking skill, performance motivation, disclosure to mass media, preparation received, and innovative entrepreneurship, etc. Thus, this study is undertaken to identify the determining factors of entrepreneurial behavior of dairy farmers which leads to getting success in their dairy farming business.

III. Review of Literature
Dairy farmers were highly motivated economically to adopt new farming techniques to improve their revenue and thus raise their living standards. (Satish, M. & Sadasivhe, 2017). Dairy is increasingly perceived and could play a more effective part in promoting rural welfare and reducing poverty by creating
farm-level jobs. The need for the day is sustainable and financially possible dairy farming, which will generate revenue and independence through entrepreneurship (Gamit et al. 2015).

**Overview of Dairy Production in Tamilnadu**

With the milk cooperative movement taking hold and spreading across the globe, India has transformed from a milk deficit nation into the world's largest milk producer. During 2017-18, India produced 176.30 Million Tonnes (4699 lakh liters per day) of milk which is 18.5% of the world production. Tamil Nadu ranks among the top ten milk producing states of the country with a daily production of 206 lakh liters per day. The state has a very vibrant milk cooperative sector with milk producers’ cooperative societies spread across nook and corner of the state. There are 12,585 milk producers’ cooperative societies having 20.30 lakh milk farmers as members. The average milk procurement through 19 District Co-operative Milk Producers Unions during the year 2018-19 stood at 33.23 LLPD. On 29.10.2018, procurement stood at an all-time high level of 37.03 lakh litres (https://aavinmilk.com/milk-production-section1).

**Determinants of Entrepreneurial Behavior**

(Paramashivaiah, P., Puttaswamy, 2018) understands the aspects of the entrepreneurial behaviour of rural women farmers in dairying. The study model recognized five independent variables- entrepreneurial orientation, decision skill, performance motivation, knowledge-seeking behaviour, and risk tolerance positively contributes to entrepreneurial behavior.

(Marianmal and M. Seethalakshmi, 2017) assessed entrepreneurship behavior of women dairy farmers in Dindigul district, Tamilnadu by using nine preferred factors namely innovativeness, performance motivation, decision making skill, risk orientation, co-coordinating skills, planning skill, knowledge seeking behaviour, cosmopolites and self-confidence. The study recognized that most of the women dairy farmers had a high level of creativeness, self-confidence and good co-coordinating skill. They had a medium level of performance motivation, risk orientation, knowledge-seeking behavior, cosmopolites; and moderate decision-making skills and planning skills. The study concluded that the overall entrepreneurial behavior of women dairy farmers was moderate.

(Satish M. Sadashive, et al. 2017) assessed the level of entrepreneurial behaviour of dairy farmers, by evaluating the nine components of behaviour such as innovativeness, achievement motivation, decision-making ability, risk-orientation, information-seeking behaviour, Cosmo politeness, self-confidence, economic motivation and management orientation in Aurangabad and Jalna district of Marathwada region of Maharashtra. The findings of the research indicate that the majority of the participants possessed medium level (68.33%) followed by low (17.50%) and high level (14.17%) of entrepreneurial behaviour.

(S. Porchezhiyan, et al. 2016) assessed the characteristics of entrepreneurial behaviour in four northern districts of Tamil Nadu. The study found that the majority of farmers possessed high level of achievement motivation, cosmopolites and self-confidence. Most of the respondents possessed medium level of innovativeness, decision-making skill, risk orientation, co-ordination skills and knowledge-seeking behaviour and low level of planning skill. The study concluded that the overall entrepreneurial behavioural index (EBI) was medium level among dairy farmers.

(Avhad, S.R., 2015) analyzed the entrepreneurial behaviour of dairy farmers in the Ahmednagar district of Maharashtra. The findings of the study found that the highest Entrepreneurial Behaviour was constructed in the co-ordinating skill attribute of entrepreneurial behavior, followed by innovativeness, cosmopolites, risk orientation, planning skill, self-assurance, performance motivation and decision-making skill, respectively. The study show that education, preparation received, landholding, knowledge in dairying, herd size, milk production, total annual revenue, mass media disclosure, and expansion contact had certain and meaningful relationship with their entrepreneurial behaviour level.

(S.R. Bhosal, et al. 2014) examined the entrepreneurship behavior of dairy farmers in selected 10 villages from Amravati and Bhatkuli tahsil of Amravati District of Maharashtra. The study indicates that dairy farmers had medium entrepreneurial behaviour levels. Among the preferred traits, education, occupation, landholding, annual income, herd size, innovativeness, milk production, expansion contact, and economic motivation were certain and automatically linked with entrepreneurial behaviour.

**IV. Objective study**

1. To examine the level of entrepreneurial characteristics of dairy farmers in Theni district, Tamilnadu.
2. To identify whether the determining factors contribute to the entrepreneurship behavior of dairy farmers in Theni district, Tamilnadu.
V. Significance of the Study

India has an immense potential to develop entrepreneurship in terms of the diversity of rural occupations. Tamil Nadu is a more agricultural-oriented state and the majority of farmers are engaged in dairying. The future diary industry lies in encouraging the full participation of dairy entrepreneurs. It plays a more positive role in promoting rural welfare and poverty reduction through job generation at the farm level. This study examines the level of entrepreneurship behavior of dairy farmers in the Theni district, Tamil Nadu which aid the government to create awareness among farmers regarding the benefits gained in dairy business and the subsidies and seed capital offered by the government for start-ups. The study identifies the major determining factor that contributes to the entrepreneurship behavior in dairy farming which assists the government to take further steps in conducting training programs for the farmers in order to enhance their entrepreneurship traits and competency level with concerning for to dairy farming.

VI. Scope of the Study

This study revolves around the entrepreneurship behavior of dairy farmers in Theni district, Tamil Nadu. Based on the reviews, the study has chosen eight behavioral characteristics to analyze the entrepreneurship behavior of dairy farmers namely risk-taking, innovativeness, risk-bearing, resourcefulness, self-assurance, decision-making skills, performance motivation, knowledge seeker.

VII. Theoretical Framework of the Study

![Figure 1: theoretical framework of the study]

VIII. Research Methodology

The main objective of the study is to assess the level of entrepreneurial behaviour of dairy farmers in Theni district. The primary data has been gathered from the dairy farmers by adopting a structured interview schedule method. Secondary data are gathered from thesis, journals, articles and the internet. A sample of 150 respondents is selected by adopting a purposive sampling method. The statistical tools namely reliability test, descriptive statistics and Structural Equation Modelling (SEM) are applied to examine the determining factors of entrepreneur behavior of dairy farmers in the Theni district.
IX. Hypothesis Setting
Based on the theoretical framework and objectives of the study, the following hypothesis is developed for the study:-

\[ H_{11}: \text{There does not exist an fit model between entrepreneurial traits (IV) and entrepreneurship behavior of dairy farmers (DV).} \]

X. Data Analysis and Interpretation

a. Reliability Test
The researcher used Cronbach’s Alpha Reliability to examine the internal flexibility of variables in the construct. Cronbach’s Alpha states that reliability less than 0.60 are considered to be poor, while those in the 0.70 range are acceptable and those over 0.80 are considered good (George, D., and Mallery, P., 2003 and Kline, P., 2000).

<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>Scale</th>
<th>No. of Items</th>
<th>Cronbach’s Alpha (α)</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>Factors Determining Entrepreneurial Traits</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.</td>
<td>Risk Taking</td>
<td>5</td>
<td>0.941</td>
</tr>
<tr>
<td>2.</td>
<td>Innovativeness</td>
<td>5</td>
<td>0.944</td>
</tr>
<tr>
<td>3.</td>
<td>Risk-Bearing</td>
<td>5</td>
<td>0.936</td>
</tr>
<tr>
<td>4.</td>
<td>Resourcefulness</td>
<td>5</td>
<td>0.917</td>
</tr>
<tr>
<td>5.</td>
<td>Self-Confidence</td>
<td>5</td>
<td>0.863</td>
</tr>
<tr>
<td>6.</td>
<td>Decision Making Ability</td>
<td>5</td>
<td>0.849</td>
</tr>
<tr>
<td>7.</td>
<td>Achievement Motivation</td>
<td>5</td>
<td>0.814</td>
</tr>
<tr>
<td>8.</td>
<td>Information Seeker</td>
<td>5</td>
<td>0.911</td>
</tr>
<tr>
<td>II</td>
<td>Entrepreneurial Behavior of Dairy Farmers</td>
<td>10</td>
<td>0.906</td>
</tr>
</tbody>
</table>

[Source: Primary data]
From the above table, it is learned that Cronbach’s Alpha reliability for all the components was above 80% which means that the variables produce constant findings if calculations are made frequently.

b. Descriptive Statistics

<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>Scale</th>
<th>Mean</th>
<th>Standard Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>Factors Determining Entrepreneurial Traits</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.</td>
<td>Risk Taking</td>
<td>3.49</td>
<td>0.934</td>
</tr>
<tr>
<td>2.</td>
<td>Innovativeness</td>
<td>3.42</td>
<td>0.924</td>
</tr>
<tr>
<td>3.</td>
<td>Risk-Bearing</td>
<td>3.34</td>
<td>1.058</td>
</tr>
<tr>
<td>4.</td>
<td>Resourcefulness</td>
<td>2.18</td>
<td>1.349</td>
</tr>
<tr>
<td>5.</td>
<td>Self-Confidence</td>
<td>3.22</td>
<td>1.105</td>
</tr>
<tr>
<td>6.</td>
<td>Decision Making Ability</td>
<td>2.47</td>
<td>1.211</td>
</tr>
<tr>
<td>7.</td>
<td>Achievement Motivation</td>
<td>2.64</td>
<td>1.321</td>
</tr>
<tr>
<td>8.</td>
<td>Information Seeker</td>
<td>3.17</td>
<td>1.158</td>
</tr>
<tr>
<td>II</td>
<td>Entrepreneurial Behavior of Dairy Farmers</td>
<td>3.31</td>
<td>1.047</td>
</tr>
</tbody>
</table>

[Source: Primary data]
From the above table, the mean values of all factors are below 3.50, which indicates that the factors determining entrepreneurial traits are at average and below-average level; and the entrepreneurial behavior of dairy farmers is considered ineffective.

c. Structural Equation Modeling (SEM)
To find the fitness of data and to estimate the relationship between entrepreneurial traits and entrepreneurial behavior of dairy farmers, Structural Equation Modelling (SEM) is executed by using Analysis of Moment Structures (AMOS).

<table>
<thead>
<tr>
<th>Variables</th>
<th>Value</th>
<th>Suggested value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chi-square value</td>
<td>1031.95</td>
<td>-</td>
</tr>
<tr>
<td>P value</td>
<td>0.192</td>
<td>&gt;0.05 (Hair et al., 1998)</td>
</tr>
<tr>
<td>Goodness of Fit (GFI)</td>
<td>0.975</td>
<td>&gt;0.90 (Hu and Bentler, 1999)</td>
</tr>
</tbody>
</table>
Adjusted Goodness of Fit Index (AGFI) | 0.946 | >0.90 (Hair et al., 2006)
Comparative Fit Index (CFI) | 0.932 | > 0.90 (Hu and Bentler, 1999)
Root Mean Square Residual (RMR) | 0.071 | < 0.08 (Hair et al., 2006)
Root Mean Squared Error of Approximation (RMSEA) | 0.036 | < 0.08 (Hair et al., 1998)

[Source: Primary Data]

From the above tables it is found that the calculated P-value (0.192) is greater than 0.05 which indicates perfectly fit. Here GFI (Goodness of Fit Index) value is 0.975 and AGFI (Adjusted Goodness of Fit Index) value is 0.946 are greater than 0.9 which represents it is a good fit. The calculated CFI (Comparative Fit Index) value is 0.932 and is nearer to 1 which means that it is fit and also it is found that RMR (Root Mean Square Residuals, 0.071) and RMSEA (Root Mean Square Error of Approximation, 0.036) is less than 0.08 which indicated it is a completely fit model.

Maximum Likelihood Estimates

To obtain non-standardized regression weights, a variance estimate for the residual errors and the squared multiple correlations of the variables are calculated.

Table 10.3.b variables in structural equation model analysis

<table>
<thead>
<tr>
<th>Variables</th>
<th>USC</th>
<th>SE</th>
<th>t value</th>
<th>P value</th>
</tr>
</thead>
<tbody>
<tr>
<td>EBDF ← Risk-Taking</td>
<td>1.617</td>
<td>0.031</td>
<td>51.562</td>
<td>0.001**</td>
</tr>
<tr>
<td>EBDF ← Innovativeness</td>
<td>1.896</td>
<td>0.034</td>
<td>55.752</td>
<td>0.001**</td>
</tr>
<tr>
<td>EBDF ← Risk-Bearing</td>
<td>1.553</td>
<td>0.033</td>
<td>47.107</td>
<td>0.001**</td>
</tr>
<tr>
<td>EBDF ← Resourcefulness</td>
<td>1.231</td>
<td>0.033</td>
<td>36.857</td>
<td>0.001**</td>
</tr>
<tr>
<td>EBDF ← Self-Confidence</td>
<td>0.988</td>
<td>0.032</td>
<td>30.963</td>
<td>0.001**</td>
</tr>
<tr>
<td>EBDF ← Decision Making Ability</td>
<td>0.967</td>
<td>0.034</td>
<td>28.452</td>
<td>0.001**</td>
</tr>
<tr>
<td>EBDF ← Achievement Motivation</td>
<td>0.755</td>
<td>0.033</td>
<td>22.892</td>
<td>0.001**</td>
</tr>
<tr>
<td>EBDF ← Information Seeker</td>
<td>1.00</td>
<td></td>
<td></td>
<td>0.001**</td>
</tr>
</tbody>
</table>

[Source: Primary Data]

Note: ** Denotes significant at 1% level

From the above table, it is found that the unstandardized co-efficient of “Risk-taking” is 1.617 which signifies a direct effect on “Entrepreneurial Behavior of Rural Farmers”, holding other variables as constant. The estimated positive sign implies that the “Entrepreneurial Behavior of Rural Farmers” would increase by 1.617 for every unit improves in “Risk-taking” and this co-efficient value is meaningful a 1% level.

From the above table, it is found that the unstandardized co-efficient of “Innovativeness” is 1.896 which signifies a direct effect on “Entrepreneurial Behavior of Rural Farmers”, holding other variables as constant. The estimated positive sign implies that the “Entrepreneurial Behavior of Rural Farmers” would increase by 1.896 for every unit develops in “Innovativeness” and this co-efficient value is meaningful a 1% level.

From the above table, it is found that the unstandardized co-efficient of “Risk-Bearing” is 1.553 which signifies a direct effect on “Entrepreneurial Behavior of Rural Farmers”, holding other variables as constant. The estimated positive sign implies that the “Entrepreneurial Behavior of Rural Farmers” would increase by 1.553 for every unit improves in “Risk-Bearing” and this co-efficient value is meaningful a 1% level.

From the above table, it is found that the unstandardized co-efficient of “Resourcefulness” is 1.231 which signifies a direct effect on “Entrepreneurial Behavior of Rural Farmers”, holding other variables as constant. The estimated positive sign implies that the “Entrepreneurial Behavior of Rural Farmers” would increase by 1.231 for every unit improves in “Resourcefulness” and this co-efficient value is meaningful a 1% level.

From the above table, it is found that the unstandardized co-efficient of “Self-Confidence” is 0.988 which signifies a direct effect on “Entrepreneurial Behavior of Rural Farmers”, holding other variables as constant. The estimated positive sign implies that the “Entrepreneurial Behavior of Rural Farmers” would increase by 0.988 for every unit develops in “Self-Confidence” and this co-efficient value is meaningful a 1% level.

From the above table, it is found that the unstandardized co-efficient of “Decision Making Ability” is 0.967 which signifies a direct effect on “Entrepreneurial Behavior of Rural Farmers”, holding other variables as constant. The estimated positive sign implies that the “Entrepreneurial Behavior of Rural Farmers” would increase by 0.967 for every unit improves in “Decision Making Ability” and this co-efficient value is meaningful a 1% level.

From the above table, it is found that the unstandardized co-efficient of “Achievement Motivation” is 0.755 which signifies a direct effect on “Entrepreneurial Behavior of Rural Farmers”, holding other variables as constant. The estimated positive sign implies that the “Entrepreneurial Behavior of Rural Farmers” would increase by 0.755 for every unit improves in “Achievement Motivation” and this co-efficient value is meaningful a 1% level.

From the above table, it is found that the unstandardized co-efficient of “Information Seeker” is 1.00 which signifies a direct effect on “Entrepreneurial Behavior of Rural Farmers”, holding other variables as constant. The estimated positive sign implies that the “Entrepreneurial Behavior of Rural Farmers” would increase by 1.00 for every unit develops in “Information Seeker” and this co-efficient value is meaningful a 1% level.
Farmers’ would increase by 0.967 for every unit improves in “Decision Making Ability” and this co-efficient value is meaningful at 1% level.

From the above table, it is found that the unstandardized co-efficient of “Achievement Motivation” is 0.755 which signifies a direct effect on “Entrepreneurial Behavior of Rural Farmers”, holding other variables as constant. The estimated positive sign implies that the “Entrepreneurial Behavior of Rural Farmers” would increase by 0.755 for every unit develops in “Achievement Motivation” and this co-efficient value is meaningful at 1% level.

From the above table, it is found that the unstandardized co-efficient of “Information Seeker” is 1.000 which signifies a direct effect on “Entrepreneurial Behavior of Rural Farmers”, holding other variables as constant. The estimated positive sign implies that the “Entrepreneurial Behavior of Rural Farmers” would increase by 1.000 for every unit improves in “Information Seeker” and this co-efficient value is meaningful at 1% level.

![Figure 10.1: structural equation modelling (sem)](image)

 XI. Findings

Based on the descriptive statistics, it is identified that the mean value of most of the dairy farmers had a high level of risk-taking, innovativeness and risk-bearing entrepreneurial traits, moderate level of self-confidence and information seeker and low level of resourcefulness, decision making skill and performance motivation. Based on the Structural Equation Modeling, it is clearly understood that there exist a completely fit model between factors of entrepreneurial traits and entrepreneurial behavior of dairy farmers. also, based on the unstandardized coefficient, it is learned that the entrepreneurial behavior of dairy farmers would increase by a certain percentage for every unit improves in entrepreneurial traits. The outcomes of the research are in line with the reviews mentioned in this study.

 XII. Suggestions

The dairy farmers try to take advantage of every chance to excel in dairy entrepreneurship. Their entrepreneurial activity is more aggressive and growth-oriented. Based on the descriptive statistics, it is
identified that the mean value of most of the entrepreneurial traits is at below the average level. Hence, it is suggested for the government to take initiatives by providing training programs regarding competency development, management skills in order to develop entrepreneurial traits of dairy farmers. The government has to disseminate through proper channels and in colloquial language the schemes, facilities ,and subsidies available for the dairy farmers to expand and develop their dairy farming business.

XIII. Conclusion
The entrepreneurs in agricultural and farming businesses are considered as the backbone and key persons of our country for promoting economic growth and technological change. The improvement of entrepreneurship is directly associated with the socio-economic growth of the society. Our Indian Government is making efforts to improve infrastructure for the production, acquisition, processing ,and commerce of dairy and dairy products through dairy development schemes National Programme for Dairy Development(NPDD), National Dairy Plan (Phase-I), Dairy Entrepreneurship Development Scheme(EDDS), Support to Dairy Cooperatives and Dairy Processing and Infrastructure Development Fund (DIDF). The study shows that there is a meaningful relationship between entrepreneurial traits and entrepreneurial behavior of dairy farmers in Theni district, Tamilnadu. The study also indicates that most of the dairy farmers are found to have an average level of entrepreneurial behavior. Hence, the special endeavor should be taken by our state government to develop the entrepreneurship in dairy farmers.

XIV. Limitations of the Study
1. The study is limited to the entrepreneurial behavior of dairy farmers in the Theni district.
2. The sample size of the research is limited to 150 dairy farmers of the Theni district.
3. Other factors affecting entrepreneurial behavior namely cosmopolites, scientific orientation ,etc are not taken into consideration for the study.

Reference


