Archives of Current Research International

Volume 24, Issue 10, Page 8-15, 2024; Article no.ACRI.123795
ISSN: 2454-7077

Entrepreneurial Behavior of Vegetable Growers and Determinants: A Study in Ferozepur District of Punjab, India

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Authors' contributions

This work was carried out in collaboration between both authors. Both authors read and approved the final manuscript.

Article Information

DOI: https://doi.org/10.9734/acri/2024/v24i10903

Open Peer Review History:
This journal follows the Advanced Open Peer Review policy. Identity of the Reviewers, Editor(s) and additional Reviewers, peer review comments, different versions of the manuscript, comments of the editors, etc are available here: https://www.sdiarticle5.com/review-history/123795

Original Research Article

Received: 23/07/2024
Accepted: 26/09/2024
Published: 01/10/2024

ABSTRACT

The present study attempted to analyze the entrepreneurial behavior of vegetable growers and factors influencing entrepreneurial behavior of vegetable growers in Ferozepur district of Punjab during 2024. A multistage simple random sampling technique was used for the selection of the respondents. During the study total 120 vegetable growers were selected for the present study. Mean, frequency, percent, one sample t-test were used for the analysis of the collected data. The results of the study revealed that majority of the farmers (35 per cent) had experience of 5-10 years in vegetables cultivation. Farmers cultivated vegetables to avoid risk (4.26) and adopt recommended package of practices for vegetables cultivation (3.72). Access to reliable market and buyers greatly affect entrepreneurial behavior (4.57) were reported important constraint. Income enhancements through vegetable cultivation are the important motivation factor to the farmers. Favorable supportive policies in this regard may enrich the entrepreneurial ecosystem among the vegetable growers.

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Cite as: *Chopra, Satvik, and Rakesh Rathore. 2024. "Entrepreneurial Behavior of Vegetable Growers and Determinants: A Study in Ferozepur District of Punjab, India". Archives of Current Research International 24 (10):8-15. https://doi.org/10.9734/acri/2024/v24i10903.*

Keywords: Entrepreneurial behavior; vegetable growers; market; factor influencing.

1. INTRODUCTION

Vegetable growers' entrepreneurial behaviors are tangled with broader socio-economic changes, such as globalization, urbanization, and changing consumers taste. Vegetable growers are required to regulate to changing market demands, standards of quality, and supply chain dynamics as agrarian economy becomes more integrated into both domestic and at global value chains level. Entrepreneurship and agriculture share a symbiotic relationship, with entrepreneurial behavior driving innovation and market development within the agricultural sector [1]. Cultivating vegetables provide opportunities for entrepreneurs to identify demand of the market, innovation in production technology, and value addition to their products [2]. The innovative, competitive and sustainable practices of vegetable growers are propelling the industry's growth and profitability [3]. As India continues to progress on its agricultural journey, prioritizing the cultivation of vegetables are essential for building resilient food value chain systems, alleviating poverty, and ensuring a healthy and prosperous future for new generations [4]. Entrepreneurship plays a vital role in creation of employment opportunities and innovation in agriculture. Entrepreneurial behaviors require efforts and time as it needs to be well defined and require research on entrepreneurial behavior of farmers especially in agriculture. In agriculture the vegetables production and marketing is important to fulfill the market and consumers need and demand. Agriculture entrepreneurship involves the application of entrepreneurial principles and innovative marketing strategies within the realm of farming [5]. There is a need to understand entrepreneurial behaviors of vegetable growers to gain more insight into the real opinion of farmers/growers to becoming an entrepreneur. There is a significant gap between understanding of entrepreneurial behaviors and intensions of farmers to become an entrepreneur. The study address research questions such as, do vegetables farmers have entrepreneurial behaviors. What are the factors affecting entrepreneurial behavior. What are the essential skills farmers have to become entrepreneurs. In this context, the study on the entrepreneurial behavior of vegetable growers in Ferozepur district of Punjab was taken with the following objectives:

- To study entrepreneurial behavior of vegetable growers.
- To analyze factors affecting entrepreneurial behavior of vegetable growers.

2. REVIEW OF LITERATURE

Higher education qualifications, experience, and use more extension services are more likely to have higher entrepreneurial attributes [6]. Entrepreneurial intensions in agricultural is more dependent on locus of control, motivations, age and level of education, gender and type of land holding [7]. Lone and Baba [8] revealed that important and positive relationship was found between entrepreneurial orientation traits of risk-taking, pro-activeness and innovativeness and entrepreneurial intension. Al-Silefanee and Bosma [9] found configurations differ depending on the student’s gender, personal appraisal of entrepreneurship, self-evaluation, and perceived support from their environment are important. The overall entrepreneurial behavior of vegetables (96.8 per cent) reported non availability of labor in time of harvesting, followed by (91.2 per cent) of the growers which reported that markets were distantly located was major constraint [10]. Yadav [11] concluded that overall entrepreneurial behavior of majority respondents (92 per cent) was of low to medium level. Rai et al. [12] concluded that the mean value of entrepreneurial behavior of small vegetable growers was lower than overall mean. Wankhade et al. [13] found majority of the vegetable growers had medium level in all entrepreneurial characteristics. Educational background of the farmers showed no significant association with innovation [14]. Ghose and Ghose [15] suggested that routine work opportunities and an increase in the number of casual laborers positively influence the generation of decent and sustainable livelihood opportunities. There is a vast scope for developing entrepreneurial behavior of vegetable growers [16]. Marketing constraints are lack of transportation facilities, low market price of the produce are some important constraints in vegetables production [12]. Parganiha et al. [17] concluded that vegetable agri entrepreneurs possess high to medium level of entrepreneurial behavior. Entrepreneurship development programs may be taken up for selected beneficiaries identified within the agricultural sector based on the attributes and farmers may

further be motivated for increasing production, income and employment thereby ensuring equitable regional development of the country.

3. METHODOLOGY

The population of the present study consists of vegetable growers. Multistage sampling was used for the selection of the respondents. A total of 120 vegetable growers were selected from Ferozepur district randomly. The data was collected through a well-designed, structured, and pre-tested questionnaire. A literature review of previous studies was considered for the preparation of the questionnaire. The questionnaire contains questions related to demographics, age, educational qualification, number of family members, total income of the family, and experience in farming, various entrepreneurial attributes, i.e., risk orientation, decision-making ability, innovativeness, motivation, profitability, and the factors affecting the entrepreneurial behavior of vegetable growers. The questions in the questionnaire were structured as scale-based questions on different parameters. Respondents were asked about their agreement or disagreement on a five-point Likert scale (5 = strongly agree, 4 = agree, 3 = neutral, 2 = disagree, and 1 = strongly disagree). Questionnaires were examined and corrected several times before undergoing a pilot study with a group of ten respondents. Data was collected during the months of February–March, 2024. The mean, frequency, percent, and one sample t-test were used for the analysis of the collected data.

4. RESULTS AND DISCUSSION

The information on demographics like age, educational qualification, number of family members, total family income, experience in vegetable cultivation, land owned for cultivation, land holding and land under vegetable cultivation etc.

Table 1. Demographic profile of the respondents (n=120)

Particulars	Frequency	Percent
Age of respondent		
20-30	26	21.7
30-40	42	35.0
40-50	34	28.3
More than 50	18	15.0
Education qualification		
Illiterate	10	8.3
Primary schooling	11	9.2
Middle schooling	26	21.7
High schooling	39	32.5
Graduation and above	34	28.5
Number of family members		
2-4	24	20.0
4-6	71	59.2
6-8	22	18.3
>8	3.0	2.5
Income of the family		
0.5-1 lakhs	3.0	2.5
1-1.5 lakhs	4.0	3.3
1.5-2 lakhs	17	14.2
Above 2 lakhs	96	80
Experience of the farmers		
<1 year	12	10
1-5 years	27	22.5
5-10 years	42	35
>10 years	39	32.5
Land owned for cultivation		
Owned	117	97.5
Leased	3.0	2.5
Total	**120**	**100.00**

(Source: Primary Data)

Table 2. Risk taking ability, Decision making ability and Innovativeness

Statements	Mean	Std. Dev.	t-value	p-value
You cultivate more number of vegetable crops to avoid risks	4.29	0.79	17.78	<0.001
You adopt recommended package of practices for vegetables cultivation	3.72	0.69	11.38	<0.001
You try to use new equipment/tools or technology	3.62	0.98	6.93	<0.001
You go for new practice at small scale to avoid risk	3.57	0.76	8.25	<0.001
Trying an entirely new practice by you involves risk but it is totally worth it	3.53	0.85	6.79	<0.001
Decision making ability				
You adapt and take quick decisions in response to unpredicted challenges on the farm	4.05	0.77	15.05	<0.001
You try to grow vegetables according to the demand of the market	3.85	0.93	9.99	<0.001
You consider multiple perspectives and gather input before making decisions	3.74	0.69	11.74	<0.001
You consider all possible alternative outcomes before making any decision	3.72	0.79	9.94	<0.001
You follow other farmers or agricultural experts while making important decisions	3.71	0.77	10.06	<0.001
Innovativeness				
You explore new farming techniques or technologies to improve productivity	4.33	0.81	17.96	<0.001
Seeking out training to stay updated on the latest advancements in vegetable farming	3.71	0.70	11.21	<0.001
You wait to see what results other farmers obtain before trying new farm practices in vegetable production	3.67	0.81	8.98	<0.001
You consult with other farmers or agricultural expert to know about innovative ideas/method	3.48	0.72	7.33	<0.001
You feel cautious about a new practice	3.40	0.80	5.56	<0.001

**Significance at 5 per cent level of significance (p<0.05)*

Table 1 depicts the age of the respondents. The above data shows that the majority of the respondents i.e. 42 (35 per cent) are in age group of 30-40 years [18] followed by 34 (28.3 per cent) 40-50 years, followed by 26 (21.7 per cent) 20-30 years, followed by 18 (15 per cent) more than 50 years of age group.

According to the (Table 2) it can be seen that majority of the respondents cultivate more number of vegetable crops to avoid risks as involved in growing one or two crops, with the highest mean score (4.29), followed by the mean score of the statement “Adopting recommended package of practices in vegetables involves risk, but worth taking” (3.72), followed by the mean score of the statement “You invest in new equipment or technology” (3.62), followed by the mean score of the statement “You go for new practice at small scale to avoid greater risk” (3.57), followed by the mean score of the statement “Trying an entirely new practice by you involves risk but it is totally worth it” (3.53). Singh et al. [19]; Nayak and Banerjee [20] found similar results in their research result in contrast with study of Anthony et al. [21].

According to the (Table 2) we can see that majority of the respondents agree that they adapt and make quick decisions in response to unforeseen challenges on the farm, with the maximum mean score (4.05), followed by the mean score of the statement “You give importance to market demand and consumer preferences when making decisions about what vegetables to grow” (3.85), followed by the mean score of the statement “You consider multiple perspectives and gather inputs before making major decisions” (3.74) , followed by the mean score of the statement “You consider all possible alternative outcomes before making any decision” (3.72), followed by the mean score of the statement “You collaborate with other farmers or agricultural experts while making important decisions” (3.71). Similar findings were reported by Ram et al. [22]; Tikariha and Soni [23];

Table 3. Motivation and Profitability

Statement	Mean	Std. Dev.	t-value	p-value
Motivation of the respondents				
The income of a farmer increases by vegetable cultivation	3.85	0.88	10.51	<0.001
You give importance to gaining more profit and production rather than vegetable growing	3.63	0.75	9.18	<0.001
You are motivated to go for vegetable cultivation	3.55	0.74	8.23	<0.001
You try any new idea which may earn you more money	3.54	0.81	7.47	<0.001
Vegetable farming can increase economic profit	3.53	0.74	7.85	<0.001
Profitability of the respondents				
Maximizing profitability is one of the top priorities for you	4.48	0.64	25.07	<0.001
You regularly analyze and track your farm's financial performance to ensure profitability	4.22	0.72	18.45	<0.001
Managing costs and expenses is crucial for maintaining profitable farm	4.21	0.85	15.64	<0.001
You are open to explore new market opportunities or value added ventures to increase profitability	4.11	0.75	16.13	<0.001
You invest in technology and modern farming practices to improve farm's profitability	3.55	0.87	7.04	<0.001

**Significance at 5 per cent level of significance (p<0.05)*

Table 4. Factors affecting entrepreneurial behavior

Statements	Mean	Std. Dev.	t-value	p-value
Access to reliable markets and buyers greatly influences entrepreneurial behavior	4.57	0.68	25.3	<0.001
Government policies and regulations have a significant effect on entrepreneurial behavior	3.82	0.71	12.58	<0.001
Limited market opportunities or access to markets affects entrepreneurial behavior	3.82	0.92	9.79	<0.001
Lack of availability of modern farming technologies and knowledge influences entrepreneurial decisions	3.71	0.82	9.55	<0.001
Lack of availability of financial resources and access to credit affects entrepreneurial behavior	3.66	0.77	9.47	<0.001
High cost input acts as a hindrance in adoption of entrepreneurial behavior	3.65	0.85	8.31	<0.001
Lack of storage facilities affects the adoption of entrepreneurial behavior	3.63	0.82	8.36	<0.001
Unpredictable weather conditions pose significant challenges in adoption of entrepreneurial practices	3.53	0.83	6.95	<0.001
Lack of collaboration and networking opportunities within the farming community hinders the entrepreneurial aspirations	3.41	0.85	5.33	<0.001
Level of education and technical knowledge plays a crucial role in shaping entrepreneurial behavior	3.34	0.91	4.1	<0.001

(Computation from primary data)

Pongener and Jha [24]; Nayak and Banerjee [20].

According to the (Table 2) it can be seen that majority of the respondents explore new farming techniques or technologies to improve productivity with the highest mean score (4.33) followed by the mean score of the statement "Seeking out training to stay updated on the latest advancements in vegetable farming" (3.71) followed by the mean score of the statement "You wait to see what results other farmers obtain before trying new farm practices in vegetable production" (3.67) followed by the mean score of the statement "You collaborate with other farmers or agricultural organizations to exchange innovative ideas" (3.48), followed by

the mean score of the statement "You feel cautious about a new practice" (3.40).

Table 3 depicted that majority of the respondents agrees that income of a farmer increases by doing vegetable farming with the highest mean score of (3.85) followed by the mean score of the statement "You give importance to gaining more profit and production rather than vegetable growing" (3.63) followed by the mean score of the statement "You are motivated to do vegetable farming" (3.55) followed by the mean score of the statement "You try any new idea which may earn you more money" (3.54) followed by the mean score of the statement "Vegetable farming can increase economic profit" (3.53). Our results correspond with [16,20] reported similar findings.

It can be seen (Table 3) that majority of the respondents agrees that maximizing profitability is one of the top priorities for them with the highest mean score (4.48) followed by the mean score of the statement "You regularly analyze and track your farm's financial performance to ensure profitability" (4.22), followed by the mean score of the statement "Managing costs and expenses is crucial for maintaining a profitable farm" (4.21) followed by the mean score of the statement "You are open to explore new market opportunities or value added ventures to increase profitability" (4.11) followed by the mean score of the statement "You invest in technology and modern farming practices to improve farm's profitability" (3.55). Jaiswal et al. [16] reported similar findings which depicted that profitability is one of the major attributes in the entrepreneurial behavior of the respondents.

Table 4 represents that majority of the respondents agrees that access to reliable markets and buyers greatly influences entrepreneurial behavior with the highest mean score (4.57), followed by the mean score of the statement "Government policies and regulations have a significant effect on entrepreneurial behavior" (3.82) followed by the mean score of the statement "Limited market opportunities or access to markets affects entrepreneurial behavior" (3.82), followed by the mean score of the statement "Lack of availability of modern farming technologies and knowledge influences entrepreneurial decisions" (3.71) [25]. High input cost and lack of storage also influence entrepreneurial decision (3.65) and (3.63) respectively. "Unpredictable weather conditions pose significant challenges in adoption of entrepreneurial practices" (3.53), followed by the mean score of the statement "Lack of collaboration and networking opportunities within the farming community hinders the entrepreneurial aspirations" (3.41), followed by "Level of education and technical knowledge plays a crucial role in shaping entrepreneurial behavior" (3.34). Similar factors were reported by Anthony et al. [21]; Dulanjani et al. [6]; Bai et al. [26].

5. CONCLUSION

Motivation is driven by the potential for increased income and economic profit through vegetable cultivation. The important factors influencing entrepreneurial behaviors include access to reliable markets, limited marketing opportunities, lack of modern technologies knowledge, and financial resources constraints. Enhancement in income and profitability of the farmers are the important motivation towards vegetable cultivation. Favorable and supportive government policies also creates the favorable entrepreneurial ecosystem for vegetable growers.

DISCLAIMER (ARTIFICIAL INTELLIGENCE)

Author(s) hereby declare that NO generative AI technologies such as Large Language Models (ChatGPT, COPILOT, etc.) and text-to-image generators have been used during the writing or editing of this manuscript.

ACKNOWLEDGEMENT

The study is part of MBA(AB) research project, authors are thankful to Director School of Business Studies, PAU, Ludhiana for their support and guidance during the study. Authors are also thankful to farmers for providing related information.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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Peer-review history:
The peer review history for this paper can be accessed here:
https://www.sdiarticle5.com/review-history/123795