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Relationship between characteristics of the date palm growers and their entrepreneurial behaviour

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Abstract

Date palm (*Phoenix dactylifera* L.) is one of the oldest cultivated horticultural crops of the world. Date palm is one of the important arid fruit crops of Gujarat and very popularly known as 'Kalpavruksh of Kutch'. The present study was conducted in Kutch district of Gujarat state as the district ranks first so far the area and production under date palm is concerned. Four talukas viz., Mundra, Anjar, Mandvi and Bhuj were selected purposively as they occupy more than 90 percent area of date palm in the district. Five villages having date palm cultivation were selected randomly. A list of farmers cultivating date palm since last three years was prepared. From the village wise list, twelve farmers were randomly selected to make a sample size of 240 date palm growers. Ex-post facto research design was used for the study. The data were collected by personal contact method with help of structured interview schedule and data were coded, classified, tabulated and analyzed in the light of objectives. Fifteen independent and one dependent variables were selected for study. The independent variables viz., are under date palm cultivation, annual income, social participation, extension participation, management orientation, innovativeness, progressiveness, knowledge of improved date palm production technology and extent of adoption had positive and highly significant correlation with entrepreneurial behaviour. Whereas, education, land holding and mass media exposure had positive and significant correlation with entrepreneurial behaviour. Yield index had negative and significant correlation with entrepreneurial behaviour. On the other hand, age and family size had non significant relationship with entrepreneurial behaviour.

Keywords: Entrepreneurial behaviour, relationship, date palm

Introduction

Date palm (*Phoenix dactylifera* L.) is one of the oldest cultivated horticultural crops of the world, and its origin in Mesopotamia region of present-day Iraq during 4000 B.C. (Johnson *et al.*, 2013) [4]. It was a prominent tree of the desert oases and now, it is extensively cultivated with the help of irrigation facilities making it suitable for arid and semi-arid tract of the country. Over the years the crop has expanded its presence in more than 40 countries with its major concentration in Asia (Saudi Arabia, UAE, Iraq, Kuwait, Oman, Pakistan, Turkmenistan, Yemen *etc.*) and Africa (Algeria, Egypt, Libya, Mali, Morocco, Mauritania, Niger, Somalia, Sudan, Chad, Tunisia *etc.*). The pre-independence India was then among the major date palm producing countries in the world having its presence since the Mohenjodaro period (2000 B.C.) (Pareek *et al.*, 2021) [7]. In the Indus valley, the date palm was believed to be introduced by the soldiers of Alexander the Great during 4th century B.C. and further by Muslim invaders during 8th century A.D. Almost all the areas are now in the present-day Pakistan. The date groves of Kutch were the only area in India having natural date palm population which was believed to be introduced during 16th to 17th Century by traders, missionaries and Turk settlers visiting Arab countries. Most of these populations are of seedling origin.

Date palm is indeed a long-duration crop that requires significant investment of time, efforts and resources. Date palms have the potential to generate substantial revenue over their lifespan. High-value dates have demand in local and international markets. This creates opportunities for entrepreneurs to capitalize on the market demand. This revenue potential can motivate growers to adopt the entrepreneurial behaviour and make long-term profitability in date palm farming.

Objective

1. To study the personal, socio-economic and situational, communicational and psychological characteristics of the date palm growers.

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- To ascertain the relationship between personal, socio-economic and situational, communicational and psychological characteristics of the date palm growers with their entrepreneurial behaviour

Methodology

The present investigation was carried out in Kutch district of Gujarat. Out of ten talukas of Kutch district, four talukas *viz.*, Mundra, Anjar, Mandavi and Bhuj talukas occupies more than 90 percent of the total area under date palm cultivation in the district. Therefore, these four talukas were selected purposively. From each selected taluka, five date palm cultivating villages and from each selected village twelve date palm growers were selected randomly. Thus, total 240 date palm growers were selected as sample of the study.

An ex-post facto research design was adopted for the study. In line of the objectives, structured interview schedule was prepared and respondents were interviewed either at their home or farms. Fifteen independent variables were considered and measured using appropriate scales available or structured schedules specially developed for the present study. The collected data were coded, classified, tabulated and analysed in order to make the findings meaningful in light of objectives for drawing meaningful interpretation.

Results and Discussion

Personal, socio-economic and situational, communicational and psychological characteristics of the date palm growers

Keeping in view the objectives of the study, the relevant variables were selected on the basis of an extensive review of literature related to the study, in consultation with experts and members of advisory committee. Only those variables which were found most relevant to the present investigation were finally selected. The result of selected variables were presented in Table 1.

The data presented in Table 1 indicates that nearly half (47.92%) of the date palm growers were in the middle age group, having primary to higher secondary school education (77.50 percent), had 2.01 to 10.00 ha of land holding (65.83percent), had cultivate date palm on more than 50.00 percent of their land holding (87.92 percent), had 5 to 8 members in their family (66.67 percent), had medium to high level of annual income (69.58 percent), had membership in any organization (78.75 percent), had medium to high level of yield index (95.83 percent), had medium to high level of extension participation (81.25 percent), had medium to high level of mass media exposure (82.08 percent), had medium to high level of management orientation (86.25 percent), had medium level of innovativeness (54.17 percent), having poor to average level of progressiveness (91.25 percent), had medium level of knowledge about improved date palm production technologies (87.50 percent) and having low to medium level of adoption of improved date palm production technologies (85.42 percent).

Relationship between personal, socio-economic and situational, communicational and psychological characteristics of the date palm with their entrepreneurial behaviour

The relationship between the selected characteristics of the

date palm growers *viz.*, age, education, land holding, area under date palm cultivation, family size, annual income, social participation, yield index, extension participation, mass media exposure, management orientation, innovativeness, progressiveness, knowledge of improved date palm production technology, extent of adoption and their entrepreneurial behaviour were worked out with the help of coefficient of correlation. A statistical method of Karl Pearson's coefficient correlation (r) was used to calculate relationship between the selected characteristics of the date palm growers and their entrepreneurial behaviour. The result obtained is dispensed in Table 2.

1. Age and entrepreneurial behaviour

It is apparent from the Table 2 that the age of the date palm growers had positive and non significant relationship ($r = 0.082$) with their entrepreneurial behaviour. Therefore, the null hypothesis was accepted. It is concluded that there was positive and non significant relationship between age of the date palm growers and their entrepreneurial behaviour. The probable reason might be that entrepreneurial behaviour is qualitative mental capability which is independent of age. Person belonging to any age group can be mature for making pragmatic decision and exploiting resources for betterment of their enterprise which in turn reflects in to development of high level of entrepreneurial behaviour irrespective of age. This finding has been supported by findings of Nagesh and Halakatti (2014)^[6], Prasad (2016)^[8], Sumana (2017)^[9] and Tikariha (2017)^[11].

2. Education and entrepreneurial behavior

The data presented in Table 2 reveal that education of the date palm growers had positive and significant correlation ($r = 0.154$) with their entrepreneurial behaviour at 0.05 level of significance. Therefore, null hypothesis was rejected. It can be concluded that with the increase in level of education of the date palm growers, their entrepreneurial behaviour index also increased simultaneously. The probable reason might be that higher level of education help an individual to broader his mental horizon and provide direction towards the fruitful thinking and acting for the success of entrepreneurial behaviour. Education could avoid the exploitation and broaden the scope of exposure and learning. Similar findings were reported by Mehta and Sonawane (2012)^[5], Sumana (2017)^[9] and Tikariha (2017)^[11].

3. Land holding and entrepreneurial behavior

A glance at Table 2 reveal that land holding of the date palm growers had positive and significant correlation ($r = 0.145$) with their entrepreneurial behaviour at 0.05 level of significance. Therefore, null hypothesis was rejected. The probable reason for this finding might be that, the respondents with higher land holding would have more opportunities and potentialities to try and adopt variety of technological innovations. As a result, it is quite possible that farmers with large land holding evidenced keen interest to know about new techniques and be more receptive to ideas leading to better acquisition of knowledge, experience, which in turn reflected on their entrepreneurial behaviour. The finding is in line with the finding reported by Nagesh and Halakatti (2014)^[6].

Table 1: Profile of date palm growers

(n = 240)

Sr. No.	Particulars of Variables	Frequency	Percent	
1	Age			
	Young age (up to 35 years)	48	20.00	
	Middle age (36 to 50 years)	115	47.92	
	Old age (above 50 years)	77	32.08	
2	Education level			
	Illiterate	19	07.92	
	Functionally literate	32	13.33	
	Primary school	50	20.84	
	secondary school	101	42.08	
	Higher secondary school	35	14.58	
3	Land holding			
	Marginal (0.01 to 1.00 ha)	00	00.00	
	Small (1.01 to 2.00 ha)	40	16.67	
	Semi medium (2.01 to 4.00 ha)	90	37.50	
	Medium (4.01 to 10.00 ha)	68	28.33	
	Big (above 10.00 ha)	42	17.50	
4	Area under date palm cultivation			
	Low (up to 25.00 percent)	05	02.08	
	Medium (25.01 to 50.00 percent)	24	10.00	
	High (50.01 to 75.00 percent)	44	18.33	
5	Family size			
	1 to 2 members	04	1.67	
	3 to 4 members	20	8.33	
	5 to 6 members	69	28.75	
	7 to 8 members	91	37.92	
6	Annual income			
	Low (up to ₹2,50,000)	46	19.17	
	Medium (₹2,50,001 to ₹5,00,000)	98	40.83	
	High (₹5,00,001 to ₹10,00,000)	69	28.75	
	Very high (Above ₹10,00,000)	27	11.25	
7	Social Participation			
	No membership	51	21.25	
	Membership in one organization	134	55.83	
	Membership in more than one organization office bearer	30	12.50	
8	Yield index			
	Low	10	4.17	
	Medium	197	82.08	
	High	33	13.75	
	Mean =100.55 S.D. = 47.48			
9	Extension participation			
	Low	45	18.75	
	Medium	141	58.75	
	High	54	22.50	
Mean =22.91 S.D. = 10.75				
10	Mass media exposure			
	Low	43	17.92	
	Medium	148	61.67	
	High	49	20.41	
Mean = 6.43 S.D. = 4.27				
11	Management Orientation			
	Low	33	13.75	
	Medium	145	60.42	
	High	62	25.83	
Mean =32.29 S.D. = 9.36				
12	Innovativeness			
	Low	65	27.08	
	Medium	130	54.17	
High			45	18.75

	Mean =1.92	S.D. = 0.67	
13	Progressiveness		
	Poor	73	30.42
	Average	146	60.83
	Best	21	08.75
	Mean =4.33 S.D. = 1.97		
14	Level of knowledge		
	Low	00	00
	Medium	210	87.50
	High	30	12.50
	Mean =50.72 S.D. = 11.27		
15	Extent of adoption		
	Low	51	21.25
	Medium	154	64.17
	High	35	14.58
	Mean =46.13 S.D. = 16.94		

Table 2: Relationship between selected characteristics of the date palm growers and their entrepreneurial behaviour

(n = 240)

Sr. No.	Selected characteristics	Correlation coefficient ('r' value)
1	Age	0.082 ^{NS}
2	Education	0.154*
3	Land holding	0.145*
4	Area under date palm cultivation	0.208**
5	Family size	-0.052 ^{NS}
6	Annual income	0.521**
7	Social participation	0.451**
8	Yield index	-0.170**
9	Extension participation	0.535**
10	Mass media exposure	0.145*
11	Management orientation	0.560**
12	Innovativeness	0.225**
13	Progressiveness	0.196**
14	Knowledge of improved date palm production technology	0.738**
15	Extent of adoption	0.708**

* Significant at 0.05 level of significance

NS = Non significant

** Significant at 0.01 level of significance

4. Area under date palm cultivation and entrepreneurial behavior

It is evident from the Table 2 that area under the date palm cultivation of the date palm growers had positive and highly significant correlation (r = 0.208) with their entrepreneurial behaviour at 0.01 level of significance. Therefore, null hypothesis was rejected. It is obvious that there was significant correlation existing between the level of entrepreneurial behaviour of the date palm growers and their area under date palm cultivation. It implied that increase in area under date palm cultivation in compare to the total land resulted in increase the entrepreneurial behaviour of the date palm growers. Larger the area under the date palm cultivation, higher is the production and income of the farmers. Surplus income increase risk bearing capacity facilities the adoption of innovations at right time and adequate quantity. All those leading towards better entrepreneurial behaviour. Hence, naturally the farmers with higher level of area under date palm cultivation will have higher level of entrepreneurial behaviour. The finding was in conformity with the findings of Mehta and Sonawane (2012) [5], Chouhan (2015) [3], Tijare (2018) [10] and Thakor and Mehta (2018) [12].

5. Family size and entrepreneurial behavior

It is apparent from the Table 2 that family size of the date palm growers had negative and non-significant correlation (r = -0.052) with their entrepreneurial behaviour. Therefore, null hypothesis was accepted. This finding implies that date palm growers' entrepreneurial behaviour was not influenced by their size of family. Other factors such as personal motivation, education, experience, social participation, extension participation might have more significant influence on entrepreneurial behaviour than family size. Similar findings were reported by Mehta and Sonawane (2012) [5], Sumana (2017) [9], Tijare (2018) [10] and Bhojani (2019) [2].

6. Annual income and entrepreneurial behavior

Table 2 reveals that annual income of the date palm growers had positive and highly significant correlation (r = 0.521) with their entrepreneurial behavior at 0.01 level of significance. Therefore, null hypothesis was rejected. It is concluded that annual income had played a positive and highly significant role in improving entrepreneurial behaviour of the date palm growers. The probable reason for positive relationship may be that farmers with more annual income have more surplus income more chance of experimenting and adopting new techniques and technological innovation. Higher annual income may enhance risk orientation, extension participation, social participation and mass media exposure leading to right decision making ultimately result in exhibiting higher entrepreneurial behaviour. This finding is in the concurrence with the findings of Mehta and Sonawane (2012) [5], Nagesh and Halakatti (2014) [6], Prasad (2016) [8], Tikariha (2017) [11] and Tijare (2018) [10].

7. Social participation and entrepreneurial behavior

The data presented in Table 2 reveal that social participation of the date palm growers had positive and highly significant correlation (r = 0.451) with their entrepreneurial behaviour at 0.01 level of significance. Therefore, null hypothesis was rejected. The date palm growers having higher social participation might have more chances of interaction with progressive farmers and taking part in various village organizations. More interaction might be resulted in increased knowledge about production and helped them in taking right decision for date palm cultivation. This might have led them to higher entrepreneurial behaviour. Higher social participation makes their visions more clear, which help them

in development of their date palm orchard. Thus, significant relationship was observed between social participation and entrepreneurial behaviour of the date palm growers. This finding is in the line with the findings of Mehta and Sonawane (2012)^[5], Chouhan (2015)^[3] and Thakor and Mehta (2018)^[12].

8. Yield index and entrepreneurial behavior

The Table 2 reveals that yield index of the date palm growers had negative and highly significant correlation ($r = -0.170$) with their entrepreneurial behaviour at 0.01 level of significance. Hence, null hypothesis was rejected. It is inferred that the entrepreneurial behaviour of the date palm growers was negative and highly significantly associated with date palm yield index. It shows that as yield index increases the entrepreneurial behaviour of date palm growers decreases and vice versa. The date palm grower with higher yield, might be satisfied with their progressiveness, innovativeness, *etc.* hence they might have not put more efforts to develop their entrepreneurial behaviour. This finding is parallel to the findings of Mehta and Sonawane (2012)^[5] and Thakor and Mehta (2018)^[12].

9. Extension participation and entrepreneurial behavior

It is apparent from the Table 2 that extension participation of the date palm growers had positive and highly significant correlation ($r = 0.535$) with their entrepreneurial behaviour at 0.01 level of significance. Hence, null hypothesis was rejected. It is concluded that there was significant relationship between extension participation and entrepreneurial behaviour of the date palm growers. This might be due the fact that participation in extension activities like demonstration, agriculture exhibition, field day, krushi mela *etc.* and contacts with extension functionaries have contributed in developing and/or strengthening their communication skill, self confidence, scientific orientation, risk orientation, decision making ability, ability to perceive opportunities and knowledge about date palm production technologies and ultimately contributed in developing or shaping their entrepreneurial behaviour. This finding is in conformity with the findings reported by Mehta and Sonawane (2012), Sumana (2017)^[9] and Thakor and Mehta (2018)^[12].

10. Mass media exposure and entrepreneurial behavior

The data presented in Table 2 reveal that mass media exposure of the date palm growers had positive and significant correlation ($r = 0.145$) with their entrepreneurial behaviour at 0.05 level of significance. Hence, null hypothesis was rejected. It shows that if an individual has better utilization of mass media such as radio, television, news paper and magazine *etc.*, it influence the entrepreneurial behaviour, because these might have increased his/her awareness about new innovations, opportunities, market information for higher production and profit maximization which ultimately shape his/her entrepreneurial behaviour. Similar findings were reported by Nagesh and Halakatti (2014)^[6] and Tikariha (2017)^[11].

11. Management orientation and entrepreneurial behavior

The Table 2 shows that the management orientation of the date palm growers had positive and highly significant correlation ($r = 0.560$) with their entrepreneurial behaviour at 0.01 level of significance. Hence, null hypothesis was rejected. From the above data it is concluded that

management orientation had positive and highly significant relationship with the entrepreneurial behaviour of the date palm growers. This implies that as the management orientation that includes the components like planning, production and market orientation increases, the level of entrepreneurial behaviour also increases. Proper, purposeful and need based management improves resources use efficiently and profitability of date palm growers and thereby increases the entrepreneurial behaviour of the date palm growers. This finding is in the line with the findings of Bharad (2007)^[1] and Thakor and Mehta (2018)^[12].

12. Innovativeness and entrepreneurial behavior

The data presented in Table 2 reveal that the innovativeness of the date palm growers had positive and highly significant correlation ($r = 0.225$) with their entrepreneurial behaviour at 0.01 level of significance. Hence, null hypothesis was rejected. It is inferred that there was positive and highly significant relationship between date palm growers' entrepreneurial behaviour and their innovativeness. It indicates that an increase in innovativeness of the date palm growers lead to increase the entrepreneurial behaviour of the date palm growers. Innovative farmers are generally ready to accept and adopt the new innovations as soon as they become aware of those innovations. Hence, they harvest the benefits of those new innovations comparatively earlier than their fellow farmers. This motivates them to adopt other new innovations for profit maximization. Thus, innovativeness contributes in developing entrepreneurial behaviour of the date palm growers. Similar findings were reported by Bharad (2007)^[1], Mehta and Sonawane (2012)^[5] and Thakor and Mehta (2018)^[12].

13. Progressiveness and entrepreneurial behavior

It is evident from the Table 2 that progressiveness of the date palm growers had positive and highly significant correlation ($r = 0.196$) with their entrepreneurial behaviour at 0.01 level of significance. Therefore, null hypothesis was rejected. It is obvious that there was positive and highly significant relationship between date palm growers' entrepreneurial behaviour and their progressiveness. It shows that an increase in progressiveness of date palm growers led to increase in their entrepreneurial behaviour. It might be due to the fact that the respondents were very keen to know about improved date palm production technology. Their level of extension participation, social participation and mass media exposure were also high. Therefore, a higher mass media exposure and participation in various organizations will increase the progressiveness of date palm growers. As a result the significant association was found between progressiveness and entrepreneurial behaviour of the date palm growers. The finding was in conformity with finding of Mehta and Sonawane (2012)^[5].

14. Knowledge of improved date palm production technologies and entrepreneurial behavior

It is apparent from the Table 2 that knowledge of improved date palm production technologies of the date palm growers had positive and highly significant correlation ($r = 0.738$) with their entrepreneurial behaviour at 0.01 level of significance. Hence, null hypothesis was rejected. It is concluded that there was positive and highly significant relationship between date palm growers' entrepreneurial behaviour and their knowledge regarding improved date palm production technologies. This

might be due to the fact that farmers with high mass media exposure and extension participation will always have more opportunities to interact with different categories of personnel. By this way they collect useful information about the latest date palm production technologies. Therefore, increase in knowledge of date palm growers regarding various scientific cultivation practices led in increase their entrepreneurial behaviour. This finding is in conformity with the finding reported by Mehta and Sonawane (2012)^[5].

15. Extent of adoption of improved date palm production technologies and entrepreneurial behavior

The data presented in Table 2 reveal that adoption of the date palm growers had positive and significant correlation ($r = 0.708$) with their entrepreneurial behaviour at 0.01 level of significance. Hence, null hypothesis was rejected. From the above data it is concluded that there was positive and highly significant relationship between date palm growers' entrepreneurial behaviour and their extent of adoption. This might be due to the fact that farmers with higher level of extent of adoption helped them not only in increasing the yield, but also provided new practical experience to date palm growers. This has helped them to improved their knowledge and skill. Hence, an increase in extent of adoption led towards the increase the level of the entrepreneurial behaviour of the date palm growers. Similar findings were reported by Mehta and Sonawane (2012)^[5].

Conclusion

The finding related to personal, socio-economic and situational, communicational and psychological characteristics of the date palm growers indicate that majority of the date palm growers were middle aged, had primary to higher secondary education, had semi medium to medium land holding, had medium yield index and medium to high level of annual income. They had membership in any organization, medium extension participation, medium mass media exposure, medium management orientation, poor to average level of progressiveness, low to medium innovativeness, medium level of knowledge and medium extent of adoption.

While in case of association, independent variables *viz.*, area under date palm cultivation, annual income, social participation, extension participation, management orientation, innovativeness, progressiveness, knowledge of improved date palm production technology and extent of adoption had positive and significant correlation with entrepreneurial behaviour at 0.01 level of significance. Whereas, education, land holding and mass media exposure had positive and significant correlation with entrepreneurial behaviour at 0.05 level of significance. Yield index had negative and significant correlation with entrepreneurial behaviour at 0.01 level of significance. On the other hand, age and family size had non-significant relationship with entrepreneurial behaviour.

Conflict of Interest

The authors of the paper declare no conflict of interest

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