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An Assessment of Entrepreneurship Behaviour of Fisherwomen in the Ratnagiri block of Ratnagiri District, Maharashtra State, India

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Authors' contributions

This work was carried out in collaboration between all authors. Authors AMG and KJC designed the study, performed the statistical analysis, wrote the protocol and wrote the first draft of the manuscript. Author MPB managed the analyses of the study. Authors Laxmi and RHR managed the literature searches. All authors read and approved the final manuscript.

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ABSTRACT

A study on entrepreneurship behaviour of fisherwomen in the Ratnagiri block of Ratnagiri district, Maharashtra state was conducted during 2011-12 with a sample size of 105 fisherwomen from 10 villages of Ratnagiri block in Ratnagiri district. The components of entrepreneurial behaviour were innovativeness, risk orientation, decision making, economic motivation, management orientation and self-confidence. Among all these components majority of respondents (55.24%) belong to medium entrepreneurial behaviour but in innovativeness and achievement motivation respondents exhibited low and high entrepreneurial behaviour category. The rank correlation technique was applied and found that the characteristics such as education, family size, house type and social participation

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were positively and significantly (P < 0.05) correlated with entrepreneurial behaviour. Principal component analysis was performed to find out the major components of entrepreneurial behaviour of the sampled fisherwomen. The first three principal components accounted for almost 58.97 per cent of the total variance. Canonical correlation analysis was used to examine the potential relationship between sociopersonal variables and entrepreneurship behaviour variables. Results of the analysis showed that there was no relationship between set of socio-personal variables and entrepreneurial behaviour variable.

Keywords: Entrepreneurship behavior; fisherwomen; socio-personal variables.

1. INTRODUCTION

The development of any nation depends primarily on the important role played by entrepreneurs [1]. Thus, in all economic development activities more attention is being given to entrepreneurship development. Entrepreneur is basically an intelligent person and has a definite ability to create something new to prove its worthiness. It is a purposeful activity in initiating, promoting and maintaining economic activities for the production and distribution of wealth. Entrepreneurship involves all those characteristics and qualities which if present within the entrepreneurs, would make him/her run the business successfully, thereby helping him/her to make the profits [2]. It does not happen until individuals take action. Thus, entrepreneurial behaviour is critical to the phenomenon of entrepreneurship and venture creation. Entrepreneurial behaviour is the study of human behaviour involved in identifying and exploiting opportunities through creating and developing new ventures.

Women in India constitute about 50 % of the total population and comprise one third of the labour force. It is, therefore, important that when considering the economic development of this segment of the population, due attention is given to their socio-economic empowerment. In India, of the total population of 5.4 million active fishers, 3.8 million are fishermen and 1.6 million are fisherwomen. These fisherwomen are engaged in several fisheries vocations. The major activities in which women's contribution can be noticed throughout the country are fish processing and marketing. However, their participation and contribution are increasing in the areas of aquaculture, development and education. The involvement of women in these activities generates supplemental income to support their families. Even though women are as efficient as men, earnings are not always the same. The wages for men and women are often different with men being paid at least 30% more than that received by women.

The fisherwomen are the important link in the fishery industry. Their involvement starts right at the fishing jetty and continues till the fish reaches the buyers' table. The involvement may come in different forms. But these women are the 'tradition - holders' of the fishery industry. Their role needs a lot of attention and consideration not only from the fishery industry but also from the government and the society. A time has come to recognize their mite and give them their dues with an open heart.

The objective of the present study was to assess the profile of entrepreneurial components and entrepreneurial behavioural index of various aspects of the life of fisherwomen and their actual contribution in fisheries related activities will be explored.

2. MATERIALS AND METHODS

Retailer fisherwomen were selected from each of the ten selected villages following random sampling procedure. Thus, a total of 105 samples were selected to represent the fisherwomen population from Ratnagiri block. Data were collected from the study area with the help of a well-structured and pre-tested interview schedule, developed in line with the objective of the study [3]. The schedule consisted of personal information of the respondent along with the components of the entrepreneurial behaviour.

The statistical data were scored, tabulated and analysed [4], Entrepreneurial Behaviour Index (EBI) [5], rank correlation [6], and multivariate analysis.

3. RESULTS AND DISCUSSION

3.1 Personal and Socio-Economic Characteristics of Fisherwomen

It is apparent from the Table 1 most of the fisherwomen (57%) were with middle age, up to secondary school education (40%). Majority of the fisherwomen are married having nuclear

family living in pacca house (made up of wood, bricks, cement, iron rods and steel) with fish selling as a primary occupation. Fisherwomen possessed medium level in market orientation and scientific orientation.

To find out whether there is any significant difference between categories the chi-square test was applied. It was found that there was significant difference ($P < 0.05$) between age, education, occupation, annual income, marital status, house type, market and scientific orientation category. There was no significant difference ($P > 0.05$) between family size, family type and social participation category.

3.2 Entrepreneurial Behaviour of Fisherwomen

The results pertaining to the entrepreneurial behaviour of fisherwomen comprised eight components, viz., innovativeness, risk orientation, decision making, economic motivation, achievement motivation, management orientation, self-confidence and overall entrepreneurial behaviour are depicted in Table 2.

It could be observed from the table majority of the fisherwomen were with medium level of risk orientation (70%), decision making (55%), economic motivation (76%), management orientation (56%), self-confidence (39%) and overall entrepreneurial behaviour (55%) which might be due to their experience in fish selling and low level of innovativeness might be due to their less education, less restricted information about new technology or they were not ready to adopt new techniques due to their low income. 56% of fishermen possessed low level of innovation.

To find out the significant difference between three categories chi-square test were applied. It shows that there was significant difference ($P > 0.05$) between all the attributes of entrepreneurial behaviour.

3.3 Entrepreneurial Behaviour Index (EBI)

Entrepreneurial behaviour was studied as the composite measure of seven components such as innovativeness, risk orientation, decision making, economic motivation, achievement motivation, management orientation and self-confidence. The EBI index was categorized on a four point scale Table 3. It shown 48 fisherwomen in medium level, 42 in high level, 8 fisherwomen in very high and only five farmers in low level category of entrepreneurial behaviour index.

3.4 Relationship of Personal and Socio-economic Characteristics of the Fisherwomen with Entrepreneurial Behavior

3.4.1 Rank correlation analysis

The correlation between the socio-personal characteristics of fisherwomen and their entrepreneurial behaviour was tested by computing the rank correlation coefficient (r_s). The findings in this regards are presented in Table 4.

It was observed from the Table 4 that correlation (r_s) between age and overall entrepreneurial behaviour of fisherwomen was non-significant ($P > 0.05$). Relationship between education (0.2734) family size (0.2207) house type (0.2259) social participation (0.2321) and overall entrepreneurial behaviour of fisherwomen was positive and coefficients were significant ($P < 0.05$), while correlation coefficient between family type, market orientation and scientific orientation with overall entrepreneurial behaviour was not significant ($P > 0.05$).

3.4.2 Principal component analysis (PCA)

The principal component analysis (PCA) was performed with (SAS 9.3 and SPSS 13.0) to find out the major components of entrepreneurial behaviour of the sampled fisherwomen. Calculated eigen values, percentage variance and cumulative variance of each variable are given in Table 5. Eigen values with highest magnitude was 1.7795 while lowest value was 0.5305. All the eigen values for entrepreneurial components were positive. The first estimated eigen value accounted 25.42 per cent variance while the second value accounted 17.84 per cent variance and third accounted 15.71 per cent respectively. The first three principal components accounted for almost 58.97 per cent of the total variance. The scree plot of eigen values exhibited role played by the eigen values which apportioned the total variance. Scree plot straightened after fourth variable and first three variables (components) explained the original data with reduced dimension (Fig. 1).

The loadings (correlations) of each variable on first three principal components (Table 5a) revealed pattern of the coefficients of eigen vectors. Decision making (0.712) and economic motivation (0.636) showed maximum correlation with principal component I, while risk orientation (0.120) correlate minimum with principal component I.

3.4.3 Canonical correlation analysis

Canonical correlation analysis was used to examine the potential relationship between socio-personal variables (age, education, house type, social participation, market and scientific orientation) and entrepreneurship behaviour variables (innovativeness, risk orientation, decision making, economic motivation, achievement motivation, management orientation and self-confidence).

Results of the analysis (with SAS 9.3) indicated that canonical correlation with a value of 0.4234. Next two canonical variables with a value of 0.3710 and 0.2459 (Table 6).

Table 7 showed PCA type decomposition of the canonical variables. The first canonical variable accounted 44.17% variability, subsequently second and third canonical variable accounted 32.29 and 13.01% variability and together first three canonical variable expressed 89.47% variability.

Table 8 showed test of hypothesis of canonical analysis that there was no relationship between two sets of multivariate data and it was found non-significant (P > 0.05). Canonical analysis showed that there was no significant difference (P > 0.05) in socio-personal variables and entrepreneurship behaviour. Table 9 and 10 indicated that market orientation were showed negative relationship (-0.6459) with socio-personal index. Similarly decision making were showed positive relationship (0.6593) with entrepreneurship behaviour index.

Table 1. Personal and socio-economic characteristics of fisherwomen

Sr. no.	Characters	Category	Frequency	Percentage
1	Age	Young	29	27.62
		Middle	60	57.14
		Old	16	15.24
2	Education	Illiterate	33	31.43
		Primary	25	23.81
		Secondary	42	40.00
		Higher secondary	5	04.76
3	Occupation	Fish selling as primary occupation	102	97.14
		Fish selling as secondary occupation	3	2.86
4	Annual income	Low	39	37.14
		Medium	38	36.19
		High	28	26.67
5	Family size	Up to 5 members	82	78.10
		> 5 members	23	21.90
6	Family type	Nuclear	82	78.10
		Joint	23	21.90
7	House type	Kaccha (made up of wood, mud, straw and dry leaves)	10	9.52
		Pacca	57	54.29
		RCC	38	36.19
8	Marital status	Married	75	71.43
		Widow	30	28.57
9	Social participation	Partcipant	60	57.14
		Non-participant	45	42.86
10	Market orientation	Low	18	17.14
		Medium	58	55.24
		High	29	27.62
11	Scientific orientation	Low	24	22.86
		Medium	70	66.67
		High	11	10.47

Table 2. Attributes of entrepreneurial behaviour

Sr. no	Attributes	Categories	Respondents (N=105)	
			Frequency	Percentage frequency
1	Innovativeness	Low (9 to 15)	59	56.19
		Medium(15 to 21)	43	40.95
		High (Above 21)	3	2.86
2	Risk orientation	Low (6 to 10)	9	8.57
		Medium (11 to 14)	73	69.52
		High (Above 14)	23	21.91
3	Decision making	Low (6 to 10)	12	11.43
		Medium (11 to 14)	58	55.24
		High (Above 14)	35	33.33
4	Economic motivation	Low (6 to 10)	13	12.38
		Medium (11 to 14)	80	76.19
		High (Above 14)	12	11.43
5	Achievement Motivation	Low (6 to 10)	3	2.86
		Medium (11 to 14)	49	46.67
		High (Above 14)	53	50.47
6	Management orientation	Low (6 to 10)	22	20.95
		Medium (11 to 14)	59	56.19
		High (Above 14)	24	22.86
7	Self-confidence	Low (6 to 8)	23	21.90
		Medium (9 to 10)	41	39.05
		High (Above 10)	41	39.05
8	Overall entrepreneurial behaviour	Low (76 to 87)	33	31.43
		Medium (87 to 98)	58	55.24
		High (Above 98)	14	13.33

Table 3. Entrepreneurial behaviour index among fisherwomen (N=105)

Sr. no	Categories	Frequency	Percentage frequency
1	Low (Up to 60)	5	5
2	Medium (61 to 70)	**48**	**46**
3	High (71 to 80)	44	42
4	Very high (Above 80)	8	8
Total		105	100

Table 4. Correlation between socio-personal characteristics and overall entrepreneurial behavior

Sr. no	Socio-personal characteristics	Rank correlation co-efficient (r_s)
1	Age	-0.0274
2	Education	0.2734
3	Family size	0.1543
4	Family type	0.2207
5	House type	0.2259
6	Social participation	0.2321
7	Market orientation	0.0361
8	Scientific orientation	0.1818

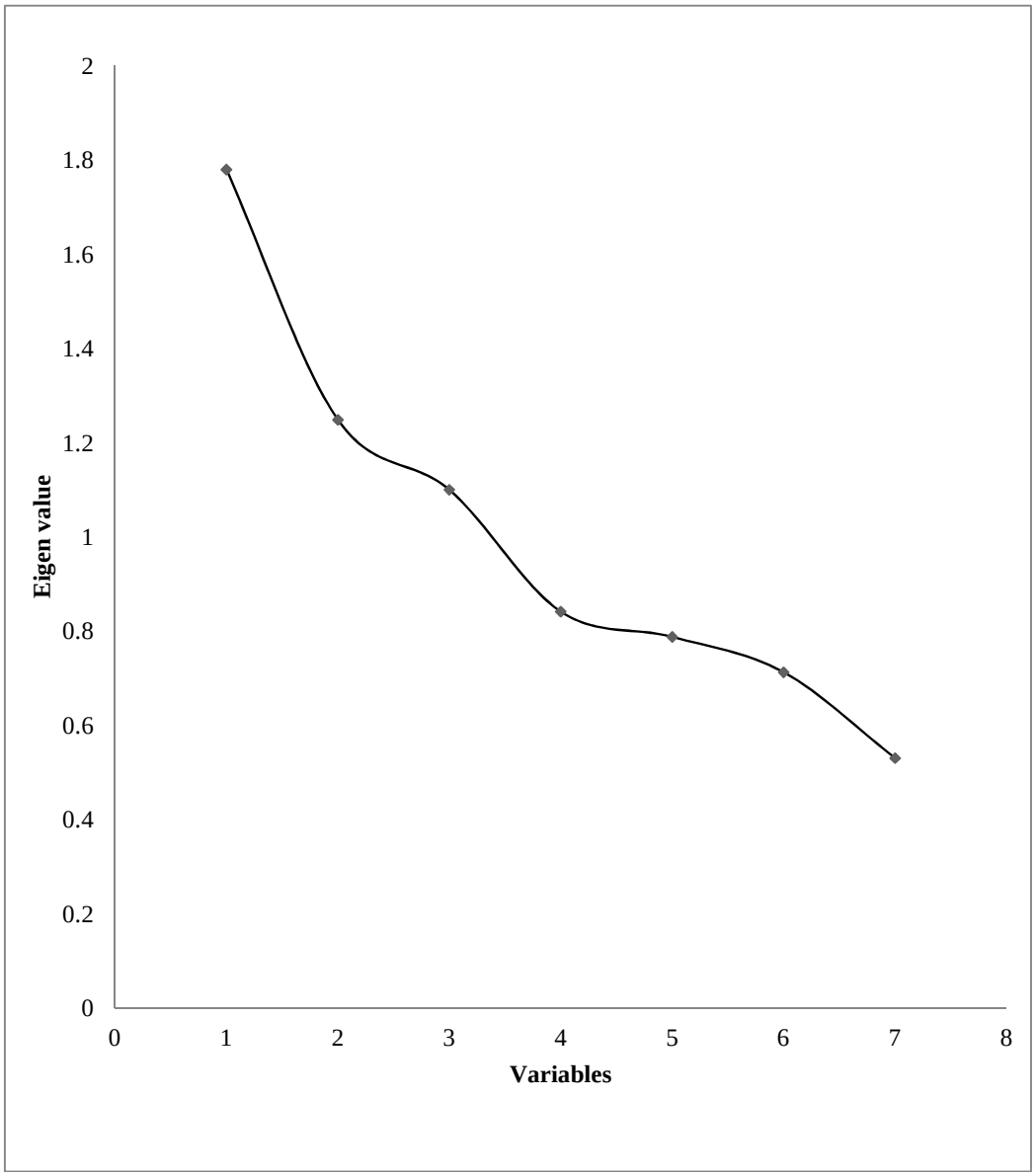

Fig. 1. Scree plot of eigen values for entrepreneurial for entrepreneurial behaviour

Table 5. Eigen value, per cent variances and cumulative percentage for different entrepreneurial components

Components	Eigen value	Per cent variance	Cumulative percentage
Innovativeness	1.7795	25.42	25.42
Risk orientation	1.2485	17.84	43.26
Decision making	1.0999	15.71	58.97
Economic motivation	0.8412	12.02	70.99
Achievement motivation	0.7876	11.25	82.24
Management orientation	0.7125	10.18	92.42
Self-confidence	0.5305	7.58	100.00

Table 5a. Eigen vector loading of each variable on entrepreneurial behavior

Components	Prin 1	Prin 2	Prin 3
Innovativeness	0.483	-0.311	0.499
Risk orientation	0.120	0.778	0.066
Decision making	0.712	-0.258	-0.101
Economic motivation	0.636	-0.281	-0.373
Achievement motivation	0.481	0.575	0.159
Management orientation	0.505	0.104	0.462
Self-confidence	0.368	0.244	-0.677

Table 6. Canonical correlation of socio-personal variables and entrepreneurship behaviour variables

Sr. no	Canonical correlation	Adjusted standard error	Approximate standard error	Squared canonical correlation
1	0.4234	0.2592	0.0804	0.1792
2	0.3710		0.0845	0.1377
3	0.2459	0.1148	0.0921	0.0604
4	0.1571		0.0956	0.0246
5	0.1315		0.0963	0.0173
6	0.0952		0.0971	0.0090

Table 7. Eigenvalues

Eigenvalue	Difference	Proportion	Cummulative
0.2185	0.0588	44.17	0.4417
0.1597	0.0953	32.29	0.7646
0.0644	0.0391	13.01	0.8947
0.0253	0.0070	5.12	0.9459
0.0176	0.0085	3.56	0.9815
0.0910		1.85	1.0000

Table 8. Test of Ho: The canonical correlations in the current row and all that follow are zero

Likelihood Ratio	Approximate F value	Numerator DF	Denominator DF	Pr > F
0.6314	1.07	42	434.97	0.3647
0.7694	0.84	30	374	0.7048
0.8923	0.55	20	312.71	0.9449
0.9497	0.41	12	251.64	0.9580
0.9737	0.43	6	192	0.8598
0.9909	0.44	2	97	0.6430

Table 9. Standardized canonical coefficients for socio-personal index (canonical variate)

	V1
Age	-0.4728
Education	0.3603
House type	0.0703
Social participation	0.1856
Market orientation	-0.6459
Scientific orientation	0.3008

Table 10. Standardized canonical coefficients for entrepreneurship behaviour variables

	W1
Innovation	-0.1379
Risk orientation	0.2338
Decision making	0.6593
Economic motivation	0.3176
Achievement motivation	-0.1474
Management orientation	0.4315
Self- confidence	-0.3795

4. CONCLUSION AND SUGGESTIONS

This figures show that socioeconomic development of fisherwomen development is demonstrated not only by changes in lifestyle, nutrition and economic systems, but also by changes in gender roles. Most of the fisherwomen possessed low level of education, low in market orientation and scientific orientation. About more than half fisherwomen possessed low level of innovation due to the old age, education, low training exposure, family problem with low level of exposure to scientific practices. So it is necessary to educate to younger generation aware about the scientific commercial marketing study and other fisheries component.

Majority of the fisherwomen possessed medium level of risk orientation, decision making, economic motivation, management orientation, self-confidence and overall entrepreneurial behaviour. Therefore, training and interaction meetings with extension experts could motivate and promote development of entrepreneurial qualities. Last but not the least rethinking statement that “women never hunt-but fish” [7], women have traditionally participated in, and are becoming increasingly involved with fisheries.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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