

## Factors Determining Entrepreneurial Competency - An Analysis

**S. Gnanasaranya,**

Post-Doctoral Fellow,  
Department of Economics,  
Gandhigram Rural Institute-DU,  
Gandhigram, Tamil Nadu, India.

**Dr. K. Raja Alias Prannmalai,**

Professor,  
Department of Rural Industries and Management,  
Gandhigram Rural Institute, Gandhigram,  
Tamil Nadu, India.

### ABSTRACT

*An empirical analysis was made to estimate the determinants of entrepreneurial competency of coir yarn spinners in one of the Coir cluster regions in Tamil Nadu. The study found that the coir yarn spinners who possess the high qualities of management orientation and prior work experience in the production and trading practices related to coir yarn spinning have in-depth knowledge while demographic, economic and social variables do not contribute for entrepreneurial competency development.*

**Keywords:** Entrepreneurial Competency, Entrepreneurial Development, Coir Yarn Spinners, Prior work experience, Determinant factors of Entrepreneurial Competency.

### INTRODUCTION:

Entrepreneurial Competency is one of the most important determinants of business success. It is the source of entrepreneur's growth and sustainability particularly in the globalized economic era. Dr. W. Edwards Deming (1986) the father of the Japanese post-war industrial revival, advocates that all the managers need to have what he called a system of profound knowledge consisting of four parts viz., Appreciation of a system, Knowledge of variation, Theory of knowledge and Knowledge of psychology. Whereas C.Y.Woo, et.al.,(1991); Hansen (2001); Tapan (2002) and Mariassunte Giannetti (2004) found that economic, social, political and psychological factors constituting the macro and micro environment of an entrepreneur, often nomenclatured as supporting conditions enable for entrepreneurial development. Studies by Nonaka (1994), Kristiansen et.al., (2003), Kamisan Gadar et.al.,(2005) and Marc Cowling (2009) reveal that prior experience on the entrepreneurial activity which form the base for the present entrepreneurial activity, play an important role on the entrepreneurial development / success of the individual. Mueller (2006) evidences that experience gained through the family occupation / social group / social interaction contribute for entrepreneurial success. Chrisman, Mc Mullar and Hall (2005) found that prior experience as a variable is positively related to increase the sales performance. Prior experience has contributed for increased capacity utilization and cost reduction by eliminating/ preventing machine repairs/wear outs (Frank R. Lichtenberg and Moshe Kim ,1989) and is likely to have high degree of managerial leadership (Shane, 2003) and accurate forecasting. Further evidences show that entrepreneurs do most of the times their own family businesses and do not go for diversification (Bhanushali, 1987; V.K. Tewari, 1990; Hyrsky and Tuunamen, 1990) and chances to become entrepreneurs are more to those who are from business family than others. Ko and Butler (2007) and Rae (2000) revealed that social interactive learning enhances creativity and innovativeness, while experiential learning enables for entrepreneurial competency.

Although literatures pertaining the cross-analysis on the nature, type and extent of relationship prevailing between /among the entrepreneurial competency and the social, economic, personality and prior experience factors of the entrepreneurs are available elsewhere, literatures dovetailing the effect of Demographic (such as age, gender and educational status), Economic (such as income, occupation, assets possessed), Social (such as social participation, exposure to mass media, neighborliness and contact with change agents), Personality traits

(such as scientific orientation, achievement orientation, and management orientation), and Prior experience in entrepreneurial activities on the entrepreneurial knowledge of the entrepreneurs in general and the determinants of the entrepreneurial competency are seldom in areas of micro/ tiny entrepreneurial sectors in particular. Thus exists the research gap.

### **ENTREPRENEURSHIP ON COIR YARN SPINNING AND ITS FEATURES:**

Coir yarn spinning, which is one amongst the traditional occupations of weaker sections of the population in regions where coconut palms are prominent, of late, is being encouraged as an entrepreneurial activity with the sole objective of creating self-employment especially among youth and women who do not have coir yarn spinning as their traditional occupation. Technology innovations on coir yarn spinning through automated machines/devices resulting to mass production and the increased demand for coir based products in global markets coupled by the special initiative measures of the Govt. for coir based entrepreneurial development and the like, have pulled a many to venture into entrepreneurship on coir yarn spinning mostly in semi urban and rural areas. In Tamil Nadu, the coir yarn spinning enterprises are 5399 in 2016 (GOTN, 2016).

Nevertheless, entrepreneurs spinning coir yarn are small people; they have ventured into coir spinning as an entrepreneurial activity primarily with the objective of creating employment for themselves as a means of livelihood security; they are tiny entrepreneurs with a capital investments ranging from Rs. 4 to 8 lakhs; they depend on unskilled workers mostly hailing from the locality; they do purchase the raw materials in piece meal / small scale and carry out production; they are persons of small means and are highly un-organized; they simply rely only on the suppliers, the workers and the buyers who are available locally.

As such, the coir yarn entrepreneurs need to perform the roles of various job specialists such as the machine operator, the quality controller, the machine repairer, the electrician, and the accountant besides executing the tasks of a manager looking after production, finance, human resources, marketing and the like. Beyond these, the coir yarn entrepreneurs in the capacity as owners, have to take decisions affecting the operational and strategic issues of the enterprise too. Hence, the coir yarn entrepreneurs though are tiny and small people, they need to have high level of managerial competency in the coir yarn entrepreneurial endeavor.

### **ISSUES ADDRESSED:**

During field visits it was observed that a few of the coir yarn entrepreneurs were found to be happy with their enterprises; whereas many of them have failures and could not either maximize their production nor create employment nor derive income. Nevertheless, it is noticed that the coir yarn entrepreneurs possessing high competency and skills relating to the enterprise seem to perform well in their entrepreneurial activity. Particularly those who have thorough knowledge and skill on the machine capacity and utilization, the inventory and cost details, quality standard norms and the like, were witnessed to perform well in their enterprise to a greater extent than others. In this context, a few issues such as; Whether the coir yarn spinning entrepreneurs have at-most knowledge and skill on the entrepreneurial managerial functions such as the production process, the inventory control, the machine capacity utilization and machine maintenance, the cost associated with production and marketing of the coir yarn and the cost reduction techniques, etc., or not? Are there differences in their entrepreneurial competency? Where have they acquired the knowledge and skill prior to venturing into the entrepreneurial endeavor? Have they acquired competency through prior experience and or through formal training? Do their socio-economic characteristics including the personality traits influence their entrepreneurial competency? and other such related issues, are addressed through an empirical inquiry of the coir yarn spinning entrepreneurs.

### **METHODOLOGY:**

To embark an empirical analysis, field survey method was employed. The study employed simple random sampling procedure for the selection of the geographical area (see endnote) to carrying out the field work. All the coir yarn spinning entrepreneurs operating in the study geographical area were considered as the respondents i.e., 154 entrepreneurs spinning coir yarn through automated spinning machines / devices in Dindigul Coir Cluster (previously periyakulam coir cluster) comprising 48 and 106 in Theni and Dindigul districts respectively (DIC, 2016). The field work was carried out by administering Structured Interview Schedule (SIS) through personal interview technique. Besides administering SIS among the respondents, the study used Focus Discussions to have in-depth details on a few specific issues like procurement and conversion of raw materials (fibre) into coir yarn, the cost details, the factors affecting the quality of coir yarn, difficulties

and problems in the production and the sale of coir yarn etc. To compute the knowledge index of each respondent a few questions with binary answers (yes/no) were prepared and administered. The binary answers are scored (Yes=1; No=0). Statistical Package for Social Science (SPSS) is used for analysis. Simple and Two way tables are prepared. The statistical tools such as percentages, mean, chi-square / correlation tests, ANOVA and Linear Multiple Regression models are used for analyses and draw inferences.

### **MAJOR INFERENCES:**

The focus of the study is to estimate the effect of a few of the variables such as demographic, social, economic, personality and prior work experience in production/ trading of coir yarn spinning of the coir yarn entrepreneurs on their entrepreneurial competencies. Towards these in view, a few major inferences drawn from the analysis are presented here.

#### **Entrepreneurial Competency:**

As shown in table 01, majority of the respondents know well about the basics of the coir yarn spinning unit. i.e., they know about the space requirement, the number of workers required, input (fibre) requirement, the minimum working capital needed and the like. However they have poor knowledge about the very important aspects of the spinning unit such as the production capacity utilization, the inventory norms & standards, the cost details including the Economic Production Quantity. As such a majority of the coir yarn spinning entrepreneurs have low level of knowledge. Yet, surprisingly they have taken-up entrepreneurship on coir yarn spinning. Overall mean score is 36.87 out of the maximum scores 70; and the standard deviation is 14.806.

#### **Acquisition of Skill:**

Only 48.7 per cent of the respondents have acquired the knowledge / skill on coir- yarn production process including entrepreneurial managerial activities through personal involvement i.e., work experience. Whereas, others have acquired the knowledge through social interaction and observation visits to coir yarn spinning units. None of them have acquired the skill/knowledge through formal training (Table 02).

#### **Prior Experience / Involvement in Coir Yarn related Entrepreneurial - Managerial functions:**

The study finds that majority of the respondents do not possess prior experience either on the coir yarn production or the trade activities. On an average 30 per cent of the respondents are reported to have prior experience in coir yarn production process particularly the spinning operations; and 18 – 31 percentage of the respondents possess prior experience in coir yarn entrepreneurial managerial activities such as procurement, quality control, labor management, book keeping and the sale process. The index scores on prior experience are computed and the estimated mean score is 11.7 out of 23. This shows that the lack of prior experience among the coir yarn entrepreneurs in the production process/entrepreneurial managerial activities related to the coir yarn (Table 03).

#### **Determinants of Entrepreneurial Competencies:**

The study presumes that the variables such as age, gender, educational level, marital status, type and size of family, place of domicile, occupation and community under demographic factors; social participation, mass media exposure, contact with change agents and neighborliness under Social factors; assets such as land and housing, vehicles, machineries, household furnishing/ fittings, etc., sources of income, investments and debts under Economic factors; scientific orientation, achievement orientation and management orientation under Personality factors and Prior work experience in production and trading of coir yarn spinning as predictors. To find out the effect of predictors on the entrepreneurial competencies of the respondents LMR model is used. The results show that the model is significant (0.000) since the probability value is significant at 0.05 level. The model is accounting 92.9 per cent of variances ( $R^2 = 0.929$ ). The results show that the prior experience as a variable has positively effected significantly ( $\beta = 0.722$ ) to have high entrepreneurial competency to a greater extent than the other variables. Thus, the model confirms that the entrepreneurs who have prior experience/ involvement in coir yarn production have high level of entrepreneurial competency in coir yarn spinning (Table 04).

As shown in table 05, the LMR results show that model is significant (0.000) since the probability value is significant at 0.01 level. The model is accounting 66.8 per cent of variance ( $R^2 = 0.668$ ). The results show that the variables such as gender, educational level, family size, place of domicile, possession of assets such as land, building, machinery, vehicles, and household furnishings/ fittings including investments, debts, etc., and the personality variables such as scientific orientation and achievement orientation are excluded from the model as they did not have effect on the dependent variable. Whereas the personality variable particularly management orientation ( $\beta = 0.508$ ), and prior work experience particularly involvement in entrepreneurial practices ( $\beta = 0.490$ ) have positively effected significantly to a great extent while prior work household furnishings/ fittings including investments, debts, etc., and the personality variables such as scientific orientation and achievement

orientation are excluded from the model as they did not have effect on the dependent variable. Whereas the personality variable particularly management orientation ( $\beta = 0.508$ ), and prior work experience particularly involvement in entrepreneurial practices ( $\beta = 0.490$ ) have positively effected significantly to a great extent while prior work experience particularly the production process ( $\beta = -0.373$ ) and the social variable particularly neighborliness ( $\beta = -0.173$ ) have negatively effected significantly to a great extent for high level of entrepreneurial competency (Table 05). This finding is on our expected line ie, people with high level of management orientation, possessing less duration of prior work experience in production process but with more experience in coir related entrepreneurial practices have high level of entrepreneurial competency. Besides, people who have low level of social participation particularly in neighborliness is found to have high level of entrepreneurial competency. Extensive involvement in entrepreneurial managerial activities might have distorted the neighborliness trait of the entrepreneurs. This could be the reason.

## CONCLUSION:

The analysis made in this paper reveals that majority of the coir yarn spinners have fair level of knowledge on the general aspects such as the machineries used, the raw materials used, the production process involved, and the buyers of the coir yarn in the markets and the like. Whereas they do not have in-depth knowledge on the production technologies, scheduling and loading of the machineries for line-balancing and capacity utilization, inventory keeping and the norms associated with it, quality control and standardization of coir yarn and the like. It is learnt that coir yarn spinning entrepreneurs who possess the high qualities of management orientation and prior work experience in the production and trade practices, have in-depth knowledge, while economic, demographic and social variables (excluding neighborliness) do not contribute for entrepreneurial competency development among coir yarn spinners. In view of the above, the study concludes by emphasizing the significance of providing competency development through incubation training / experiential learning for entrepreneurial development. The development agencies promoting entrepreneurial development on coir / coir related products may carve schemes/ programmes in a way that people with prior work experience in both production and trade related activities on coir yarn and having high level of management orientation are identified and promoted.

## ENDNOTE:

So far as the selection of the geographical area for the study is concerned, the study considered that the Coir Board (GOI), Kochi have notified a few geographical regions in Tamil Nadu where coir and coir based entrepreneurial activities are prominently found. According to Coir Board, Coir clusters comprising the geographical regions of Coimbatore, Madurai, Dindigul, Kanyakumari, Salem, Tiruppur, Pudukkottai, Dharmapuri, Krishnagiri and Tirunelveli. Dindigul Coir Cluster (previously periyakulam coir cluster) which covers the geographical area of Theni and Dindigul districts, was selected on 'simple random sampling basis' as the geographical area to launch the study.

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**TABLES:**

**Table 01: Classification of Respondents according to the Entrepreneurial Knowledge level**

S. No	Knowledge level / Details	Number of respondents (N=154)			Total
		Low	Medium	High	
1.	Basics of the coir yarn spinning unit	60 (39.0)	05 (3.2)	89 (57.8)	154 (100)
2.	Features of coir yarn	42 (27.2)	64 (41.5)	48 (31.1)	154 (100)
3.	Production process	50 (32.5)	80 (51.9)	24 (15.6)	154 (100)
4.	Production capacity utilization	107 (69.5)	06 (3.9)	41 (26.6)	154 (100)
5.	Inventory norms	111 (72.1)	43 (27.9)	-	154 (100)
6.	Cost details	73 (47.4)	41 (26.6)	40 (26.0)	154 (100)
7.	Knowledge about the markets	69 (44.8)	54 (35.1)	31 (20.1)	154 (100)
8.	Overall	512 (47.5)	293 (27.2)	273 (25.3)	1078 (100)

Figures in brackets are percentages to row total.

**Table 02: Mode of Acquisition of Skill on Coir Yarn Production**

S. No	Response / Mode	Number of respondents		Total
		Yes	No	
1.	Formal training	--	154 (100.0)	154 (100)
2.	Work experience	75 (48.7)	79 (51.3)	154 (100)
3.	Observation visits	77 (50.0)	77 (50.0)	154 (100)
4.	Social interaction/ Networking	154 (100.0)	--	154 (100)

Figures in brackets are percentages to row total.

**Table 03: Prior Experience in Coir Yarn related Entrepreneurial Managerial activities**

S. No	Response / Entrepreneurial Activity	Number of respondents (N=154)		Total
		Yes	No	
1.	Coir yarn production process	24 (32.0)	51 (68.0)	75 (100)
2.	Raw material procurement	15 (20.0)	60 (80.0)	75 (100)
3.	Quality control	16 (21.0)	59 (79.0)	75 (100)
4.	Labor management	16 (21.0)	59 (79.0)	75 (100)
5.	Cost details	16 (21.0)	59 (79.0)	75 (100)
6.	Sale of coir yarn	15 (20.0)	60 (80.0)	75 (100)
7.	Accounting & book keeping	16 (21.0)	59 (79.0)	75 (100)
8.	Overall supervision	25 (33.3)	50 (66.6)	75 (100)

Figures in brackets are percentages to row total.

**Table 04: Effect of Predictor variables on the Entrepreneurial Competency– LMR model**

Variables Entered/Removed(b)			
Model	Variables Entered	Variables Removed	Method
1	Demographic Characteristics, Social Characteristics, Economic Characteristics, Personality Traits, Prior Experience (a)		Enter

a All requested variables entered.

**b Dependent Variable:** Entrepreneurial Competency

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.964(a)	.929	.926	4.0148

**a Predictors:** (Constant), Demographic Characteristics, Social Characteristics, Economic Characteristics, Personality Traits, Prior Experience

ANOVA(b)						
Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	30344.280	5	6068.856	376.517	.000(a)
	Residual	2321.053	144	16.118		
	<b>Total</b>	<b>32665.333</b>	<b>149</b>			

**a Predictors:** (Constant), Demographic Characteristics, Social Characteristics, Economic Characteristics, Personality Traits, Prior Experience

**b Dependent Variable:** Entrepreneurial Competency

Coefficients(a)						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-18.443	9.424		-1.957	.052
	Demographic characteristics	.310	.280	.060	1.108	.270
	Economic characteristics	.204	.187	.098	1.086	.279
	Social characteristics	.554	.423	.281	1.310	.192
	Personality traits	-.125	.049	-.191	-2.557	.012
	Prior experience	3.427	.514	.722	6.670	.000

**b Dependent Variable:** Entrepreneurial Competency

**Table 05: Determinant variables of the Entrepreneurial Competency – LMR Model**

Variables Entered/Removed (b)			
Model	Variables Entered	Variables Removed	Method
1	Management Orientation, Age, Acquisition of Skill, Neighborliness, Marital Status, Traditional Occupation, Community, Duration of Involvement of Coir Production Process, Change Agents Non Coir, Type of Family, Sources of Income, Housing, Change Agent Coir, Mass Media, Involvement in Entrepreneurial Practices, Occupation, Social Participation (a)		Enter

a Tolerance = .000 limits reached.

**b Dependent Variable:** Entrepreneurial Competency

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.817(a)	.668	.625	6.53326

**a Predictors:** (Constant), Management Orientation, Age, Acquisition of Skill, Neighborliness, Marital Status, Traditional Occupation, Community, Duration of Involvement of Coir Production Process, Change Agents Non Coir, Type of Family, Sources of Income, Housing, Change Agent Coir, Mass Media, Involvement in Entrepreneurial Practices, Occupation, Social Participation

ANOVA(b)						
Model		Sum of Squares	df	Mean Square	f	Sig.
1	Regression	11319.036	17	665.826	15.599	.000(a)
	Residual	5634.224	132	42.684		
	<b>Total</b>	<b>16953.260</b>	<b>149</b>			

**a Predictors:** (Constant), Management Orientation, Age, Acquisition of Skill, Neighborliness, Marital Status, Traditional Occupation, Community, Duration of Involvement of Coir Production Process, Change Agents Non Coir, Type of Family, Sources of Income, Housing, Change Agent Coir, Mass Media, Involvement in Entrepreneurial Practices, Occupation, Social Participation

**b Dependent Variable:** Entrepreneurial Competency

Coefficients(a)						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	65.514	19.989		3.278	.001
	Age	-5.006	3.055	-.331	-1.639	.104
	Marital status	-7.061	4.045	-.205	-1.746	.083
	Type of family	-1.337	3.909	-.059	-.342	.733

Coefficients(a)						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
	Community	6.215E-02	1.104	.004	.056	.955
	Occupation	-3.491	3.723	-.164	-.938	.350
	Traditional occupation	-2.285	2.122	-.096	-1.077	.283
	Housing assets	2.768	1.931	.215	1.433	.154
	Sources of income	.324	.930	.061	.348	.728
	Social participation	-.747	1.443	-.120	-.518	.606
	Mass media exposure	-.864	1.288	-.087	-.671	.504
	Change agent (coir related)	.889	1.360	.088	.654	.514
	Change agents (non- coir related)	-.173	.200	-.088	-.864	.389
	Neighborliness	-.988	.304	-.173	-3.246	.001
	Duration of involvement in coir production process	-2.671	.943	-.373	-2.833	.005
	Involvement in entrepreneurial practices	3.050	.839	.490	3.635	.000
	Management orientation	.650	.177	.508	3.675	.000

**b Dependent Variable:** Entrepreneurial Competency

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