PROBLEMS OF BRICKS INDUSTRY IN RAMNAD DISTRICT – A STUDY

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Abstract
The brick units are suffering by various problems which lead to loss in the units. The important problems faced by the units are finance, labour and availability of material. In the case of Kalavasal, the highly viewed production problems are provision of accommodation to labourers, difficulty in mobilizing capital and higher cost of capital since their mean scores are 3.9943, 3.9334 and 3.8899 respectively. In the case of chamber, these production problems are availability of labour, availability of water and quality of clay since its mean scores are 3.9944, 3.9664 and 3.8583 respectively. Regarding the perception on the production problems, the significant difference between the two group of units has been noticed in the perception on quality of clay, natural calamities, provision of accommodation to labourers, transportation of clay, availability of water and difficulty in mobilisation of capital since their respective 't' statistics are significant at five per cent level.

Keywords: Bricks Industry, Problems, Correlation, Explanatory Factor Analysis, Multiple Regression, t-test .

Introduction
Brick industry has a lot of scope to-day since the construction of new building and building material industry is growing at a faster rate. The brick industry is providing a lot of employment to the rural poor. It is subjected with a lot of technical upgraduation in order to reveal the economies of scale of production. Hence, the traditional brick units are converted into chambers slowly. But this conversion is happening at a slow rate because of the shortage of capital and also poor entrepreneurial orientation among the owners. It is the time to understand the conversion of small brick units into big chamber units. Otherwise, the survival of the brick units will be a big problem to the owners of small units (Kalavasal). Hence, the present study has made an attempt to focus on this aspect. The present study focuses on the brick units which have capital intensive techniques (Chambers) and labour intensive techniques (Kalavasal).

Need of the Study
Nowadays, there is a very good demand for the bricks since the construction of housing is increasing especially after the liberalization of housing finance in Indian economy. Even though, the demand for bricks is higher, the brick units are suffering by various problems which lead to loss in the units. The important problems faced by the units are finance, labour and availability of material. The units which are producing lesser unit of bricks are struggling to compete with the large unit in the markets. Since the small units are suffering by the lack of technical economies, lack of quality of bricks and also the substitute products in the market. The increase in material cost, labour cost and processing cost reduce the profit margin of the bricks units. The labour problems create a lot of uncertainty in this business. The large units are managing their things by their large scale production and higher bargaining power in market. If the small units are willing to avail the economies of large scale production, they suffer by the deficiency of both fixed capital and working capital. Hence, their profitability is declining deeply. The owners of the small units are doing the business just for the sake of their experience in the field and also as their family business.

Objectives: To study the problems of bricks industry faced by manufacturer with regard to labour and production.
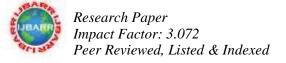
Methodology
In total, there are 764 brick units registered their names in the Brick Manufacturers Association (BMA) at Ramnad of Tamil Nadu. For the study 368 Kalavasal and 208 Chambers were selected. The period of the study is also confined to 2013-14. Interview schedule was designed to collect the revenue and cost components per annum in the units. Since the present study is highly based on the primary data collected from the owners of the brick units, a special care has been taken to design the interview schedule.

Tools for Analysis
The tools used for analyzing data were average, t-test, correlation, multiple regression, Explanatory Factor Analysis and Discriminant analysis.

Results and Methods
The brick units are facing so many problems. These problems may be related to finance, labour, competition, and availability

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of materials. The problems faced by the units are growing day by day since the labour management is becoming a hectic one in the industry. Since the perception on the production problems of the brick units affect their financial and production performances, it is imperative to analyse the importance of the various production problems in the industry. The respondents are asked to rate these problems at five points scale from highly important to not at all important. The assigned score on these scales are from 5 to 1 respectively. The mean score of each production problem in Kalavasal and Chamber has been computed to exhibit the importance on the problem in two group of units. The 't' tests have been executed to analyse the significant difference among the two group of units regarding their perception on various production problems.

Table 1 Production Problems in Brick Units

Sl. No.	Production Problem	Mean Score in		't' statistics
		Kalavasal	Chamber	
1	Quality of clay	2.9197	3.8583*	2.2455*
2	Availability of labour	3.8554	3.9944*	1.8183
3	Fuel price	3.6886	2.9193	1.9336
4	Natural calamities	3.8182	2.9039	2.1086*
5	Availability of clay	3.5045	2.9697*	1.5432
6	Availability of Fire wood	3.6443	3.1148	0.9939
7	Labour cost	3.7375	3.2646	1.0868
8	Provision of accommodation to labourers	3.9943*	3.1408	2.1457*
9	Transportation of clay	3.4508	2.5891	2.2669*
10	Transportation of Fire wood	3.6617	3.0517	1.2144
11	Labour management	3.3244	3.5646	0.6599
12	Availability of water	3.1884	3.9664*	2.1446*
13	Rainy season	3.8582	3.1776	1.3081
14	Price of clay	3.7334	3.3341	1.7114
15	Cheating by labour contractors	3.8568	3.8108	0.3889
16	Arrangement of finance	3.6673	3.4146	0.4562
17	Higher cost of capital	3.8899*	3.3089	1.2149
18	Difficulty in mobilization of capital	3.9334	3.1445	2.0842*

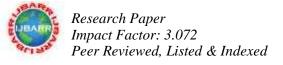* Significant at five per cent level

In the case of Kalavasal, the highly viewed production problems are provision of accommodation to labourers, difficulty in mobilizing capital and higher cost of capital since their mean scores are 3.9943, 3.9334 and 3.8899 respectively. In the case of chamber, these production problems are availability of labour, availability of water and quality of clay since its mean scores are 3.9944, 3.9664 and 3.8583 respectively. Regarding the perception on the production problems, the significant difference between the two group of units has been noticed in the perception on quality of clay, natural calamities, provision of accommodation to labourers, transportation of clay, availability of water and difficulty in mobilisation of capital since their respective 't' statistics are significant at five per cent level.

Important Production Problems (IPP) in the Brick Industry
The present study has made an attempt to identity the important production problems (IPP) in the brick industry with the help of Exploratory Factor Analysis (EFA). The score of eighteen production problems have been included for the analysis. Initially, the data validity for EFA has been conducted with the help of Kaiser Meyer-Ohlin (KMO) measure of sampling adequacy and Bartlett's test of sphericity. Since the KMO measure is greater than 0.5 and the level of significance of the chi-square test is at zero per cent level, the validity of data for EFA has been confirmed. The Eigen value, per cent of variation explained and the Reliability coefficient of the IPPs have been exhibited in Table 2.

Table 2 Important Production Problems in Brick Industry

Sl.No.	Important production problems	Numberof problems	Reliability coefficient	Eigen value	Per cent of variation explained	Cumulative per cent of variation explained
1	Labour	5	0.7968	3.8182	21.21	21.21
2	Material	5	0.8145	2.9076	16.15	37.36
3	Fuel	3	0.7861	2.0811	11.56	48.92
4	Nature	2	0.6963	1.8942	10.52	59.44
5	Capital	3	0.7841	1.3266	7.370	66.81

* Significant at five per cent level.

The included 18 problem variables are explained by the narrated five important problems to an extent of 66.81 per cent. The most important IPP in the brick industry is labour problem since its Eigen value and the per cent of variation explained is 3.8182 and 21.21 per cent respectively. It consists of five problems with the reliability coefficient of 0.7968. It infers that the included five problems in labour problems explain it to the extent of 79.68 per cent. The second and third IPPs are material and fuel problems since their Eigen values are 2.9076 and 2.0811 respectively. The per cent of variation explained by the above two IPPs are 16.15 and 11.56 per cent respectively. The material problem consists of 5 problems with the reliability coefficient of 0.8145 whereas the fuel problem consists of two problems with the reliability coefficient of 0.7861.

The last two IPPs are nature and capital problems since their Eigen values are 1.8942 and 1.3266 respectively. The per cent of variation explained by these two IPPs are 10.52 and 7.37 per cent respectively. The 'Nature' problem consists of two problems with the reliability coefficient of 0.6963whereas the capital problem consists of three problems with the reliability coefficient of 0.7841. In total, all these five IPPs have been included for further analysis.

Reliability and validity of the problems in IPPs
To confirm the reliability and validity of the problems in each IPP, the Confirmatory Factor Analysis (CFA) has been executed. The standardized factor loading of the problems in each IPP and its statistical significance, composite reliability and average variance extracted have been computed to confirm the convergent and construct validity. The results are given in Table 3.

Table 3 Reliability and Validity of Problems in Important Production Problem

Sl.No.	Important problem	Range of standardized Factor loading	Range of 't'statistics	Composite reliability	Average variance extracted(AVE) (in per cent)
1	Labour	0.7862-0.9063	2.8917*-3.6817*	0.7678	54.33
2	Material	0.7911-0.8968	2.9646*-3.8408*	0.7886	59.08
3	Fuel	0.7144-0.9308	2.7033*-3.9194*	0.7397	56.03
4	Nature	0.7336-0.8604	2.7661*-3.4332*	0.6924	50.19
5	Capital	0.6417-0.8911	2.3084*-3.5191*	0.7409	52.04

* Significant at five per cent level

The range of standardized factor loading of the problems in 'labour' problem is 0.7862 to 0.9063 whereas all 't' statistics of the standardized factor loadings are significant at five per cent level. In the case of 'Material' problem, the range of standardized factor loading is 0.7911 to 0.8968 whereas in the case of 'Fuel' problem, it is 0.7144 to 0.9308. In the case of 'Natural' problem the range of standardized factor loading is 0.7336 to 0.8604 whereas in the case of 'capital', it is 0.6417 to 0.8911. In all cases, the 't' statistics are significant at five per cent level which indicates the validity of the IPPs. The composite reliability of all IPPs are greater than 0.5 and the Average variance Extracted (AVE) of the IPPs are greater than 50.00 which indicate the convergent validity of IPPs. The content validity of IPPs has been proved since the standardized factor loading of the variables in it are greater than 0.60.

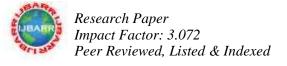**Importance given to IPPs in Bricks Industry**
The owners have given importance to each IPP according to the level of existence at their units. It is analysed with the help of mean score of each IPPs. The score of each IPP has been computed by the mean score of the problems in each IPP. Regarding the level of importance given on each IPP, the significant difference between the two group of units has been examined with the help of 't' test. The results are shown in Table 4.

Table 4 Mean Score of Important Problems in Brick Industry

Sl. No.	Important Production Problem	Mean score in		't' statistics
		Kalavasal	Chamber	
1.	Labour	3.7537	3.5550	0.9096
2.	Material	3.3594	3.3435	0.8184
3.	Fuel	3.8649	3.0286	2.0646*
4.	Nature	3.8382	3.0408	2.9197*
5.	Capital	3.8302	3.2893	2.3086*

* Significant at five per cent level.

The highly viewed IPP among the owners in Kalavasal is fuel and nature problem since its mean scores are 3.8649 and 3.8382 respectively. In the case of Chamber, these two are labour and Material problems since their mean scores are 3.5550 and 3.3435 respectively. Regarding the level of importance given to IPP, the significant difference between the two group of

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units has been identified in the case of fuel, nature and capital since their respective 't' statistics are significant at five per cent level.

Inter correlation between the IPPs
The inter correlation between the various IPPs has been computed with the help of correlation coefficient. The 't' statistics have been administered to test the level of significance of correlation coefficient. The inter correlation between various IPPs has been analysed to find out the relationship between the various IPPs and also the discriminant validity of the IPPs. The discriminant validity has been confirmed when the average variance explained by the IPP is greater than the square of correlation between any two IPPs. The result is given in Table 5.

Table 5 Inter Correlation between the Important Production Problems

Sl.No.	Mean of AVE	Correlation Co-efficient				
		Labour	Material	Fuel	Nature	Capital
1	Labour		0.4845*	0.4911*	0.3452	0.3643*
2	Material	0.5670		0.3646*	0.2868	0.3641*
3	Fuel	0.5518	0.5756		0.2742	0.4868
4	Nature	0.5226	0.5464	0.5311		0.2896
5	Capital	0.5317	0.5554	0.5402	0.5110	

* Significant at five per cent level

The significant correlation coefficients have been identified among the all five important problems since their respective correlation coefficients are significant at five per cent level. Regarding the material problem, the significant correlation is noticed with fuel and capital. The mean of Average variance Extracted by all possible pair of IPPs is greater than the square of any two IPPs in the present study. For example, the mean of AVE between Fuel and Labour (0.5518) is greater than its spouse of correlation co-efficient (0.2411). It indicates the discriminant validity of the IPPs which conveys the mutual exclusiveness among the important problems.

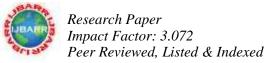**Impact of IPPs on the Profit of the Units**
The impact of Important Production Problem in the brick units may have its own influence on the profit of the units. It is highly imperative to analyse the impact of IPPs on the profit of the units to exhibit the relative importance of each IPPs on the profit of the units. The multiple regression analysis has been executed to analyse such impact in Kalavasal and Chamber separately. The fitted regression model is

$$Y = a + b_1x_1 + b_2x_2 + b_3x_3 + b_4x_4 + b_5x_5 + e$$

Whereas
y = Profit per annum in the units
X_1 = Score on labour problem among the owner
X_2 = Score on Material problem among the owner
X_3 = Score on fuel problem among the owner
X_4 = Score on Nature problem among the owner
X_5 = Score on capital problem among the owner
$b_1,b_2,…b_5$ = regression coefficient of independent variables
a = intercept and
e = error term
The result of regression analysis is given in Table 6

Table 6 Impact of Important Production Problems on Profit of the Unit

Sl. No.	Independent Variables	Regression co-efficient in		
		Kalavasal	Chamber	Pooled data
1.	Labour	-0.2968*	-0.2882*	-0.2317*
2.	Material	-0.1443*	-0.1506*	-0.1502*
3.	Fuel	-0.0967	-0.0996Ns	-0.0969
4.	Nature	-0.2462*	-0.0245Ns	-0.1044
5.	Capital	-0.3089*	0.1038 Ns	-0.1568*
	Constant	-0.4156	-0.7066	-0.6786

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R^2	0.7394	0.7066	0.8144
F-statistics	8.6869*	8.0891*	10.4565*

* Significant at five per cent level.

The significantly influencing IPPs on the profit of the Kalavasal is labour, Material, Nature and capital related problems since their respective regression coefficients are significant at five per cent level. A unit increase in the perception on the above said IPPs results in a decline in profit of the units by 0.2968, 0.1443, 0.2462 and 0.3089 units respectively. The change in perception on IPPs explains the changes in the profit of the Kalavasal to the extent of 73.94 per cent.

In the case of Chamber, a unit increase in the perception on labour and material related problems among the owners significantly decline the profit of the unit by 0.2882 and 0.1506 units respectively. The analysis of pooled data reveals the importance of IPPs namely labour, material and capital on the determination of profit of the unit.

Association between the Profile of the Owners and their Perception on Two IPPs
The profile of the owners may be associated with their perception on IPPs. In order to analyse this aspect, the included profile variables are gender, age, level of education, marital status, nature of family, family size, personal income, number of earning members per family, family income and personality score. The one way analysis of variance has been executed to analyse such association. The results are given in Table 7.

Table 7 Association between Profile of Owners and their Perception on Production Problems

Sl.No.	Profile variables	F-statistics				
		Labour	*Material*	*Fuel*	*Natural*	*Capital*
1	Gender	3.0145	2.7606	1.8999	3.0641	2.2417
2	Age	2.8647*	3.1408*	2.9196*	2.6568*	2.7186*
3	Level of education	2.3443*	2.9106*	2.8283*	2.0841	2.9696*
4	Marital status	2.5144	1.3889	2.0442	2.3942	2.8086*
5	Nature of family	2.0144	1.8081	2.1143	2.6568	3.1449
6	Family size	2.8184*	2.9169*	3.1442*	2.0864	3.2661*
7	Personal income	2.6862*	1.3344	2.0664	1.5654	2.8146*
8	Number of earning members per family	2.0621	1.8942	2.1447	2.0733	2.5142*
9	Family income	2.7144*	2.5646*	2.7308*	2.6861*	1.9193
10	Personality Trait Score	2.8244*	2.0841	2.8141*	1.8669	2.8144*

* Significant at five per cent level.

Regarding the perception on 'Labour' problem, the significantly associating profile variables are age, level of education, family size, personal income, family income and Personality Trait Index since their respective 'F' statistics are significant at five per cent level. In the case of perception on 'Material' problem, these profile variables are age, level of education, family size, and family income. The significantly associating profile variables with the perception on 'fuel' problem is age, level of education, family size, family income and Personality Trait Index. In the case of 'natural' problem, these profile variables are age and family income. In the perception on capital related problems, the significantly associating profiles are age, level of education, marital status, family size, number of earning members per family and Personality Trait Index since their respective 'F' statistics are significant at five per cent.

Association between the organizational profile of the unit and the owner's perception on IPPs
To find out the association between the organizational profile and the owner's perception on IPPs, the one way analysis of variance has been administered. The included organizational profile variables are nature of organization, years of experience, type of ownership, amount of investment, source of capital, and number of employees. The result of one way analysis of variance is given in Table 8,

TABLE 8 Association between Organization Profile and their Production Problems

Sl.No.	Organization Profile	F-statistics				
		Labour	Material	Fuel	Natural	Capital
1	Nature of organization	2.9969*	2.1882	3.1445*	1.8864	3.1446*
2	Years of Experience	2.4516*	2.7081*	1.6684	2.0061	3.2145*

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3	Type of ownership	2.3399	2.8646	3.1414*	2.1144	2.999*
4	Amount of investment	2.6644*	2.7314*	2.9446*	2.5447*	2.8643*
5	Source of capital	2.8142	3.0417*	3.1469*	3.3082*	2.9909*
6.	Number of employees	2.8641*	2.7144*	1.8668	1.4508	2.4086*

* Significant at five per cent level.

The significantly associating organizational profile variables with the perception on 'labour' problem is nature of organization, years of experience, amount of investment, and number of employees since their respective 'F' statistics are significant at five per cent level. Regarding the perception on 'Material' problem, the significantly associating organizational profile variables are years of experience, amount of investment, source of capital and number of employees. Regarding the perception on the 'fuel' problem, the significantly associating organizational profile variables are nature of organization, type of ownership, amount of investment, source of capital, and number of employees.

Regarding the perception on the 'Natural' problem, the significantly associating organizational profile variables are amount of investment and source of capital since their respective 'F' statistics are significant at five per cent level. In the perception on 'capital' problem, the significantly associating organizational profile variables are nature of organization, years of experience, type of ownership, amount of investment, source of capital and number of employees in the units.

Discriminant IPPs among the Kalavasal and Chamber
The discriminant IPPs among the owner in Kalavasal and Chamber have been examined with the help of two group discriminant analysis. The scores of five IPPs among the two groups of owners have been included for the analysis. Initially, the mean difference of each IPPs among the two group of owners and their respective 't' statistics have been computed. The discriminant power of IPP is computed with the help of its Wilk's Lambda. The results are presented in Table 9.

Table 9 Mean Difference and Discriminant Power of IPPs among the Kalavasal and Chamber

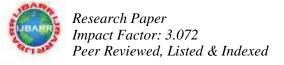| Sl.No.	IPPs	Mean score in		Mean Difference	t-statistics	Wilk's Lambda
		Kalavasal	Chamber			
1	Labour	3.7537	3.5550	0.1987	2.1143*	0.3096
2	Material	3.3594	3.3435	0.1159	0.3096	0.4317
3	Fuel	3.6649	3.0286	0.6363	3.9042*	0.1731
4	Nature	3.8382	3.0408	0.7974	4.3917*	0.2334
5	Capital	3.8302	3.2893	0.5409	3.0676*	0.1234

* Significant at five per cent level.

The significant mean difference among the owners in Kalavasal and Chamber has been identified in the perception labour, fuel, nature and capital related problems since their respective 't' statistics are significant at five per cent level. The higher mean difference is noticed in the case of nature and fuel related problems since its mean differences are 0.7974 and 0.6363 respectively. The higher discriminant power of the IPPs has been noticed in the case of capital and fuel related problems since their Wilk's Lambda are 0.1234 and 0.1731 respectively.

The significant IPPs have been included for the establishment of two group discriminant function. The unstandardized procedure has been followed to establish the discriminant function. The estimated function is $Z = 1.2417 + 0.3962x_1 + 0.2061x_3 + 0.0233x_4 + 0.4133x_5 + e$

The relative contribution of discriminant IPPs in TDS has been computed by the product of discriminant coefficient of the IPPs and their respective mean difference. The relative contribution of discriminant IPPs in Total Discriminant score is given in Table 10.

Table 10 Relative Contribution of IPPs in TDS

Sl.No.	IPPs	Discriminant coefficient	Mean Difference	Product	Relative contribution in TDS
1	Labour	0.3962	0.1987	0.0787	12.71
2	Fuel	0.2061	0.6363	0.1311	21.17
3	Nature	0.0233	0.7974	0.1858	30.01
4	Capital	0.4133	0.5409	0.2236	36.11
				0.6192	100.00
Percent of cases correctly classified 64.49.					

The higher discriminant coefficient is noticed in the case of capital and labour since its coefficients are 0.4133 and 0.3962 respectively. It shows that the capital and labour related problems are having more influence in the two group discriminant function. The higher relative contribution in Total Discriminant Score is identified in capital and nature since its contributions are 36.11 and 30.01 per cent respectively. The estimated two group discriminant function correctly classifies the cases to extent of 64.49 per cent. The analysis reveals that the capital and Nature the two related problems are discriminating the Kalavasal and Chamber more whereas these two problems are highly perceived by the owners in Kalavasal than in Chamber.

Labour Problems in Brick Units

One of the most important production problems in the brick units is labour problem since it is highly labour intensive. The labour problems in the units may affect the production, productivity and also the survival of the brick units. Hence, the present study has made an attempt on analyzing the labour problems in brick unit, with the help of 17 variables. The owners are asked to rate these 17 variables in labour problems at five point scale according to the order of existence from very high to very low. The assigned scores on these scales are from 5 to 1 respectively. The mean score of each variable in labour problem among the owners in Kalavasal and Chamber has been computed separately. The 't' test has been administered to find out the significant difference between the two group of owners regarding their view on variables in labour problems. The results are given in Table 11.

Table 11 Owners' Views on Variables in Labour Problems

Sl. No.	Variables	Mean score in		't' statistics
		Kalavasal	*Chamber*	
1.	Breaching of contract	3.9458	3.1142	3.0996*
2.	Dual contract	3.8667	3.0996	2.8184*
3.	Higher advance	3.9909	3.4097	1.9909*
4.	Frequent demand of higher wages	3.8868	3.0546	2.9094*
5.	Provision of accommodation to labourers	3.9142	3.0144	3.1178*
6.	Health provision to labourers	3.8091	3.0242	3.0996*
7.	Intervention of trade union	3.8334	3.6568	0.4969
8.	Family accommodation to labourers	3.9908	3.1148	3.2108*
9.	Provision of family grievances	3.8843	3.0665	3.1914*
10.	Irregular in work	3.6627	2.8845	3.1089*
11.	Poor in quality consciousness	3.5089	2.7089	3.2664*
12.	Poor in interpersonal relationship	3.6991	2.9968	2.9982*
13.	Poor in human relation	3.7374	2.9909	3.0445*
14.	Lesser education	3.6143	3.8586	-0.4549
15.	Higher resistance to change	3.8108	3.0141	3.1142*
16.	Frequent loan arrangement	3.7344	2.9969	2.9696*
17.	Child Labour	3.6693	2.8084	2.9909

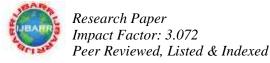* Significant at five per cent level.

The highly perceived problems among the owners in Kalavasal are higher advance and family accommodation to labourers since their mean scores are 3.9909 and 3.9908 respectively. Among the owners in chambers, these are lesser education and intervention of trade union since their mean scores are 3.8586 and 3.6568 respectively. Regarding the perception on variables in labour problem, the significant difference between the two group of owners has been noticed in 14 variables out of 17 variables in labour problem since their respective 't' statistics are significant at five per cent level.

Important Labour Problems (ILP) in the Brick Units

The important labour problems in the brick units have been noticed with the help of exploratory factor analysis. The reliability of data for factor has been tested with the help of Kaiser – Meyer – Ohlin measure of sampling adequacy and Bartlett's test of sphericity. The results are given in Table 12.

Table 12 Important Labour Problems (ILP)

Sl.No.	Factor	Number of variables	Eigen Value	Per cent of Variation Explained	Cumulative per cent of Variation Explained
1.	Work	6	3.5144	20.67	20.67
2.	Monetary provision	3	2.0918	12.30	32.97
3.	Family	3	1.8447	10.85	43.82

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	accommodation				
4.	Contract	3	1.7089	10.05	53.87
5.	Personality	2	1.5887	9.35	63.22
KMO measure of sampling adequacy: 0.7089.			Bartlett's test of sphericity chi-square value : 80.93*		

* Significant at five per cent level.

The KMO measure of sampling adequacy and chi-square value justify the reliability of data for factor analysis. The exploratory factor analysis results in five important labour problems (ILP). All these 5 ILPs explain the labour problems to an extent of 63.22 per cent. The most important ILP among the owners is 'work' since its Eigen value and the percent variation explained are 3.5144 and 20.67 per cent respectively. The next two ILPs are monetary provision and family accommodation since its Eigen values are 2.0918 and 1.8447 respectively. The last two ILPs are contract and personality since their Eigen values are 1.7089 and 1.5887 respectively.

Reliability and Validity of Variables in each ILP
The variables included in work, monetary provision, family accommodation, contract and personality are 6, 3, 3, 3 and 2 respectively. The score of variables in each ILP have been included for confirmatory factor analysis (CFA) to examine the reliability and validity of variables in each ILP. The results are given in Table 13.

Table 13 Reliability and Validity of Variables in ILP

Sl. No.	Factor	Range of standardized Factor loading	Range of 't' statistics	Cronbach alpha	Composite reliability	Average variance extracted (AVE)(in per cent)
1	Work	0.8991-0.6868	3.9145*-2.6676	0.8042	0.7886	56.96
2	Marketing provision	0.8447-0.6917	3.5086*-2.7338*	0.7489	0.6997	53.39
3	Family accommodation	0.8738-0.7109	3.7671*-2.8088*	0.7962	0.7703	55.01
4	Contract	0.9072-0.6445	4.0578*-2.3944-**	0.8145	0.8021	59.96
5	Personality	0.8549-0.7616	3.6911*-3.0244*	0.8117	0.7965	58.11

* Significant at five per cent level

The standardized factor loading of the variables in ILP are greater than 0.60 which shows its content validity. The significance of 't' statistics of the standardized factor loading of the variables in ILP indicates its convergent validity. The composite reliability and average variance extracted (AVE) are greater from its minimum threshold of 0.50 and 50.00 per cent respectively. The Cronbach alpha of all ILP is also greater than its standardized minimum of 0.60. It shows the reliability and validity of variables in each ILP.
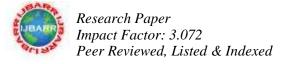
Owner's View in ILP
The owners' views in ILP have been computed by the mean score of the variables in each ILP. The mean score of each ILP among the owners in Kalavasal and Chamber has been computed separately in order to exhibit the level of labour problem among them. The significant difference between the two group of owners regarding their view on each ILP has been found with the help of 't' test. The results are given in Table 14,

Table 14 Owners' View on ILP

Sl. No.	Factor	Mean score in		't' statistics
		Kalavasal	Chamber	
1.	Work	3.6851	3.0077	2.4668*
2.	Monetary Provision	3.8101	3.0252	2.7963*
3.	Family accommodation	3.9298	3.0652	3.2696*
4.	Contract	3.9344	3.2078	2.8088*
5.	Personality	3.7126	3.4364	1.0991

* Significant at five per cent level.

The highly viewed ILP among the owners in Kalavasal is contract and family accommodation since their mean scores are 3.9344 and 3.9298 respectively. Among the owners in Chamber, these are personality and contract since their mean scores are 3.4364 and 3.2078 respectively. Regarding the perception on ILP, the significant difference between the two group of

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owners has been noticed in the case of work, monetary provision, family accommodation and contract since their respective 't' statistics are significant at five per cent level.

Association between the Profile of Owners and their views on ILP
The profiles of the owners may be associated with their perception on labour problems at their units. The present study has made an attempt to examine it with the help of one way analysis of variance. The included profile variables are the same 10 variables. The result of one-way analysis of variance is summarized in Table 15.

TABLE 15 Association between the Profile of Owners and their views on ILP

Sl. No.	Profile variables	F-statistics				
		Work	Monetary Provision	Family accommodation	Contract	Personality
1	Gender	2.7145	2.5886	1.7886	3.0667	3.1142
2	Age	2.9697*	3.0842*	2.8084*	2.7089*	2.8648*
3	Level of education	2.3089*	2.6646*	2.7141*	2.0442	2.6096*
4	Marital status	2.1177	2.0894	1.6686	2.2456	2.8244*
5	Nature of family	1.1144	3 .2449*	3.0119	2.8996	2.6556
6	Family size	2.9084*	2.9969*	3.1042*	2.0441	3.1661*
7	Personal income	2.6996*	1.4884	1.9945	1.4083	2.8033*
8	Number of earning members per family	2.1021	1.7708	2.1086	2.0086	2.6446*
9	Family income	2.8049*	2.0044	2.9098*	2.8869*	2.9024*
10	Personality Trait Score	2.8441*	2.0111	2.7669*	1.9441	2.8246*

* Significant at five per cent level.

The significantly associating profile variables with the perception on 'work' related problem is age, level of education, family size, personal income, family income and personality score since their respective 'F' statistics are significant at five per cent level. Regarding the perception on monetary provision, the significantly associating profile variables are age, level of education, nature of family and family size whereas in the case of family accommodation, these profile variables are age, level of education, family size, family income and personality trait score. In the case of 'personality' related problems these are age, level of education, marital status, family size, personal income, number of earning members per family, family income and personality trait score.

Association between Organizational Profile and the Owner's view on ILP
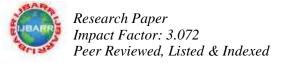The association between the organizational profile of the owners and their views on ILP has been examined with the help of one way analysis of variance. The results are given in Table 16.

Table 16 Association between Organisational Profile and the Owner's view on ILP

Sl. No.	Organizational Profile	F-statistics				
		Work	Monetary Provision	Family accomodation	Contract	Personality
1	Nature of organization	2.9089*	2.0441	3.1886*	2.0171	3.2668*
2	Years of experience	2.5889*	2.7384*	2.8641*	2.7339*	3.0465*
3	Type of ownership	2.0144	2.7339	3.1609*	2.1021	2.9698*
4	Amount of investment	2.7041*	2.8088*	2.9042*	2.6494*	2.8598*
5	Source of capital	2.5884	3.1779*	3.3868*	3.4683*	2.9969*
6	Number of employees	2.9336*	2.8667*	2.7083*	1.5898	2.7636*

* Significant at five per cent level.

The significantly associating organizational profile variables with the work related problems are nature of organization, years of experience, amount of investment and number of employees whereas in the case of monetary provision related problems, these are years of experience, amount of investment, source of capital and number of employees. Regarding the perception in family accommodation and personality related problem, all the six organizational variables are significantly associated. In the case of contract related problem, the significantly associating organizational profile variables are years of experience, amount of investment and source of capital.

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Discriminant Validity among the ILPs
The discriminant validity among the ILPs has been examined to analyse the mutual exclusiveness among the ILPs. The mean of average variance extracted (AVE) and square of correlation co-efficient between each pair of ILPs have been computed. If the mean of AVEs is greater than its square of correlation co-efficient between the pair of ILP, its discriminant validity will be confirmed. The results are given in Table 17.

Table 17 Inter Correlation between the Important Production Problems

Sl.No.	Mean of AVEs	Inter Correlation Co-efficient				
		Work	Monetary Provision	Family accommodation	Contract	Personality
1	Work		0.4667*	0.5044*	0.4818*	0.5029*
2	Monetary provision	0.5518		0.4887*	0.4309*	0.5142*
3	Family accommodation	0.5599	0.5420		0.5239*	0.4776*
4	Contract	0.5846	0.5668	0.5749		0.4508*
5	Personality	0.5754	0.5575	0.5656	0.5904	

* Significant at five per cent level

In all pair of ILPs, the mean of AVEs are greater than its square of correlation co-efficient. For example, the mean of AVEs of monetary provision and work (0.5518) is the mean of AVEs of personality and contract (0.5904) is greater than its square of correlation co-efficient (0.2032). It shows the mutual exclusiveness of the five ILPs.

Impact of ILPs on the Profit of the Unit
The perception on labour problem by the owners of brick units may have its own influence on the profit. The present study has made an attempt to examine it with the help of multiple regression analysis. The fitted regression model is:
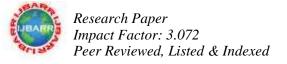
$$Y = a + b_1x_1 + b_2x_2 + b_3x_3 + b_4x_4 + b_5x_5 + e$$

Whereas
Y	-	Profit per annum in the units
X_1	-	Score on work related problem among the owners
X_2	-	Score on monetary possession related problem among the owners
X_3	-	Score on family accommodation related problem among the owners
X_4	-	Score on contract related problem among the owners
X_5	-	Score on personality related problem among the owners
$b_1, b_1 …. b_5$	-	regression co-efficient of independent variables
e	-	Error term an
a	-	Constant

The impact of ILPs on the profit of the unit has been examined at Kalavasal, Chamber and also for pooled data separately. The results are given in Table 18.

Table 18 Impact of ILP on Profit of the Unit

Sl. No.	Independent variables	Regression co-efficient in		
		Kalavasal	Chamber	Pooled data
1.	Work	-0.1661*	-0.1884*	-0.1704*
2.	Monetary provision	-0.1607*	-0.0964	-0.1318*
3.	Family accommodation	-0.0889	-0.1509*	-0.1994
4.	Contract	-0.2884*	-0.1337*	-0.2269*
5.	Personality	-0.0448	-0.1448*	-0.0965
	Constant	-0.0869	-0.3849	-0.5887
	R^2	0.7884	0.7249	0.8145
	F-statistics	8.9917*	7.6563*	9.5089*

* Significant at five per cent level.

The significantly and negatively influencing ILP on the profit of the unit in Kalavasal is work, monetary provision and contract related problems since their regression co-efficient are significant at five per cent level. A unit increase in the above said ILP results in a decline in profit of the unit by 0.1661, 0.1607 and 0.2884 units respectively. The changes in perception on ILP explain the changes in profit of the unit to an extent of 78.84 per cent. A unit increase in the perception on work,

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family accommodation, contract and personality related problems among the owners in chamber results in decrease in profit of the units by 0.1884, 0.1509, 0.1337 and 0.1448 units respectively. The changes in the perception on ILPs in chamber explain the changes in profit of the chamber to an extent of 72.49 per cent. The analysis of pooled data reveals the importance of work, monetary provision and contract related problems in the determination of the profit of the brick units.

Discriminant ILP among the Owners in Kalavasal and Chamber
It is imperative to identify the important discriminant ILP among the owners of Kalavasal and Chamber for some policy implications. The two group discriminant analysis has been administered for this purpose. Initially, the mean difference between the two groups of owners regarding each ILP and its statistical significance has been computed. The discriminant power of ILP has been computed with the help of Wilk's Lambda. The results are shown in Table 19.

Table 19 Mean Difference and Discriminant Power of ILP

Sl. No.	ILP	Mean score in		Mean Difference	't' statistics	Wilk's Lambda
		Kalavasal	*Chamber*			
1	Work	3.6851	3.0077	0.6774	2.4668*	0.2676
2	Monetary provision	3.8101	3.0252	0.7849	2.7963*	0.1245
3	Family accommodation	3.9298	3.0652	0.8646	3.2696*	0.1071
4	Contract	3.9344	3.2078	0.7266	2.8088*	0.1969
5	Personality	3.7126	3.4364	0.2762	1.0991	0.3884

The significant mean differences are identified in the case of work, monetary provision, family accommodation, and contract related problems since their respective mean differences are significant at five per cent level. The higher mean differences are noticed in the case of family accommodation and monetary provisions related problems since their mean differences are 0.8646 and 0.7849 respectively. The higher discriminant power is identified in the case of family accommodation and monetary provision since their respective Wilk's Lambda is 0.1071 and 0.1245. The significant ILPs have been included to estimate the two group discriminant function. The unstandardized procedure has been followed to estimate the function. The estimated function is $Z = 0.8684 + 0.1393 x_1 + 0.1018 x_2 + 0.0883 x_3 + 0.1667 x_4$ The relative contribution of discriminant ILP in Total Discriminant Score (TDS) is computed by the product of discriminant co-efficient and the mean difference of the respective ILP. The results are shown in Table 20.

Table 20 Relative Contribution of ILP in Total Discriminant Score (TDS)

Sl.No.	ILP	Discriminant co-efficient	Mean Difference	Product	Relative Contribution in TDS
1.	Work	0.1393	0.6774	0.0944	25.39
2.	Monetary provision	0.1018	0.7849	0.0799	21.50
3.	Family accommodation	0.0883	0.8646	0.0763	20.53
4.	Contract	0.1667	0.7266	0.1211	32.58
	Total			0.3717	100.00
Per cent of cases correctly classified: 74:92.					

The higher discriminant co-efficient are identified in the case of contract and work related problems since their respective discriminant co-efficient are 0.1667 and 0.1393. It shows the higher influence of above said ILP in the discriminant function. The higher relative contribution of discriminant ILP in TDS has been noticed in the case of contract and work related problems since their respective relative contributions are 32.58 and 25.39 per cent respectively. The estimated discriminant function correctly classifies the cases to the extent of 74.92 per cent. The analysis reveals that the important discriminant ILP between the two groups of owners is contract and work related problems which are highly perceived by the owners in Kalavasal than by the owners in Chamber.

Conclusion
The owners of Kalavasal confront many production problems because of their small scale production. Large scale operation, modernization of their units and change their style of production similar to that of Chambers may help them solve much problems.

References

1. Ministry of SSI, (2005), "Policy Measures for Promoting Small, Tiny and Village Enterprises, Government of India", New Delhi, 6th August.
2. Ministry Finance (2006), Micro, Small and Medium Enterprises Development Act, 2006, Small Scale Industries, Government of India, New Delhi.
3. Bala Subramanya, M.H., (2005), "Small Scale Industries in India in the Globalized Era: Performance and Prospects", International Journal of Management and Enterprise Development, 2(1), pp.122-139.
4. TERI, (2001), Case Study: Experience in Small Scale Glass Industry in Firozabad, Energy – Environment – Technology Division, Tata Energy Research Institute, New Delhi.
5. Ministry of Finance (2005), Annual Report 2004-05, Small Scale Industries, Government of India, New Delhi.
6. Chan, S and Dennis Poll and (2003), "Succeeding in the Doctor Economy: challenges for Brick & Mortar companies," International Journal of Management, 20(1), pp: 11-16.
7. Evanschitzky, H., Iyer, G., Hesse, J. and Albert, D., (2004), "E-satisfaction: A Re-examination," Journal of Retailing, 80(4), pp. 239-247.
8. Iqhal, Z., Verma, R. and Baran, R., (2003), "Underst anding Consumer Choices and Preferences in Translation-based e-services," Journal of Services Research, 6(1), pp:51-65.
9. Lee, E and Overby, J.W., (2004), "Creating value for on-line Shoppers: Implications for Satisfaction and Loyalty," Journal of Consumer Satisfaction, Dissatisfaction and Complaining Behaviour, 17(1), pp:54-67.
10. Grenberg, P.A., (2000), "Don't forget the online human touch," E-commerce Times, January, 5, pp:1-5.
11. Alba, J., Lynch, J., Weitz, B., Janiszewiski, C., Lutz. R., Sawyer, A and wood, s., (1997), "Interactive Home Shopping: Incentives for Consumers, Relatives and Manufacturers to Participate in Electronic Market Place," Journal of Marketing, 61(July), pp:38-53.
12. Menon, S and Kahn, B.E., (1995), "The Impact of Context on Variety Seeking in Product Choices," Journal of Consumer Research, 22 (December), pp: 285-295.