



MOTIVATING FACTORS TO CHOOSE REGULATED MARKETS IN THENI DISTRICT – A STUDY

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Abstract

In seven factors namely ‘ Services’, ‘ Market Information’, ‘ Weighing’, ‘Grading’, ‘Storage’, ‘Pledge Loan’, and ‘Other Infrastructure’ were extracted out of the thirty five attributes with the help of the factor analysis technique. Each factor had more than one variable. Each variable was expressed as a linear combination of the underlying factors. The amount of variance, a variable shares with all the other variables included in the analysis was referred to as communality. All the attributes that are formed under each factor had high association.

Keywords: Regulated Market, Factor Analysis.

INTRODUCTION

Agriculture constitutes one of the economies of the developing countries in the world. Constructive progress in their agricultural sector is an indispensable prerequisite for the rapid economic growth and rural development of the countries in general and poverty reduction both within and outside the agricultural sector in particular. It contributes around 25 percent to the GDP and employs 65 percent of the workforce of the country. Furthermore, 80 percent of Indians who live below the poverty line constitute the rural population which depends directly (or) indirectly on agriculture. India is planning to achieve a GDP growth rate of 7 percent to 8 percent during the 10th 5 year plan and has set the target as 4 percent growth in agriculture. The success of any agricultural development rests ultimately on the efficiency of the marketing system. The marketing of agricultural produce is as important as the production itself. Therefore, a mere cell to produce more without providing an efficient marketing machinery which could assure a fair return to the producer- seller carries to conviction with the farmers. The Regulated Market is the major institutional innovation to help the farmers in profitably disposing of their marketable surpluses.

NEED OF THE STUDY

A Market is said to be regulated when the State Government establishes market under a specific enactment and frames rules and regulations to conduct business therein. An efficient marketing system can be an important means of raising the income levels of the farmers and increasing the consumer satisfaction. The cultivation in Theni District is carried on in 1,12,053 hectares which is 34.56 per cent of the district’s geographical area, and is 2.10 percent of the total area shown in the State. Further agriculture is the livelihood of 56.97 percent of the total workers comprising 50,436 cultivators (9.69%) and 2,45,989 agricultural labourers (47.28%). The district Regulated Market Committee declared twenty crops as notified including all the important food crops and cash crops grown in the district. Moreover the annual average agricultural production of the district was 2.68 lakh M.Ts. and was 2.19 per cent of the average production of the State. The main objective of the paper is to study the factors motivating farmers to choose regulated markets in the study area.

METHODOLOGY

There are 7 Regulated Markets functioning under the Control of the Theni Regulated Market Committee. All these markets have been taken for the study following the census method. The Stratified Random Sampling Technique is adopted for selecting farmers, taking Theni district as the Universe, the taluk divisions as strata, notified area as the primary unit and farmers as ultimate unit. Theni District comprises 5 Taluk Divisions. A list of the number of farmers of the taluk concerned was obtained from the District statistical office, Theni.

RESULTS AND DISCUSSION

This paper analyses the selected expectations that have been collected from sample respondents. These expectations when fulfilled are helpful to them for their overall development. The respondents expect ‘ Services’, ‘Market Information’, ‘Weighing’, ‘Grading’, ‘Storage’, ‘Pledge loan’, and ‘Other Infrastructure’.

FACTOR ANALYSIS

Mathematically, factor analysis is somewhat similar to multiple regression analysis. Each variable is expressed as a linear combination of under-lying factors. The amount of variance, a variable share with all the other variables included in the analysis is referred to as communality. The co - variation among the variables is described in terms of a small number of

common factors plus a unique factor for each variable. If the variables are standardized, the factor model may be represented as:

$$X_i = A_{ij}F_j + A_{i2}F_2 + A_{i3}F_3 + \dots + A_{im}F_m + V_iU_i$$

Where,

X_i = I th Standardised Variable

A_{ij} = Standardised multiple regression co-efficient of variable I on common factor j

F = Common Factor

V_i = Standardise regression co-efficient of variable I on unique factor

U_i = The unique factor for variable i

M = Number of common factor

The unique factors are uncorrelated with each other and the common factors themselves can be expressed as linear combinations of the observed variables.

$$F_i = W_{i1}X_1 + W_{i2}X_2 + W_{i3}X_3 + \dots + W_{ik}X_k$$

Where,

F_i = Estimate of I th factor score co-efficient

W_i = Weight of factor score co-efficient

K = Number of variables

It is possible to select a weight of factor score co-efficient, so that the first factor explains the largest portion of the total variance. Then a second set of weights can be selected so that the second factor accounts for most of the residual variance, subject to being uncorrelated with the first factor. The same principle could be applied for selecting additional weights for the additional factors. Thus the factors can be estimated. Furthermore, the first factor accounts for the highest variance in the data, the second highest and so on.

Rotated Factor Matrix for Performance of the Regulated Markets in Theni District.

The related factor matrix for performance of the regulated markets in Theni district is given in Table 1.

Table.1 Rotated Factors Matrix for Performance of Regulated Markets

Sl.No	Variable	F1	F2	F3	F4	F5	F6	F7	F8	F9
1.	The closed bid system followed is satisfactory	.88476	.06453	.05448	.10026	.18857	.09619	.05362	.18213	.04398
2.	The market fee levied is reasonable	.82475	.05771	.03080	.19957	.07338	.14009	.03020	.25276	.05231
3.	The license fee charged is reasonable	.74893	.01689	.25404	.26051	.16801	.02418	.17792	.15182	.08740
4.	The market officials are honest in their behavior	.55844	.40911	.13456	.18140	.33966	.07251	-.00699	-.14568	.38209
5.	The time allowed for making payment is sufficient	.50410	.07329	.06974	.45047	-.33966	-.00105	-.14970	-.19396	-.15153
6.	Available information is useful in arriving at marketing decisions	.49597	.45027	.14476	.8691	.41719	.11758	-.04259	-.12465	.49158
7.	Reliable market information is available	.09737	.83406	.05135	.05455	-.33590	.12210	.08272	.15398	.03715
8.	The market information on prices and arrivals is given in time.	.07626	.75902	.10255	.07391	-.15129	.07012	-.24710	.08115	-.09970
9.	Information is displayed daily on the notice board.	.56019	.57573	.18285	.09778	-.14884	.09749	-.30599	-.05358	-.00559
10.	The market information given is enough to determine the market trend.	.46954	.54671	.16072	.05049	-.12295	.00560	-.01906	.03512	.30606
11.	The weighmen are honest in their work.	.34149	.48025	.45349	.02432	.15435	.07704	.04221	-.22324	-.04673

12.	The weights and scales used in regulated markets are accurate.	.40084	.45481	.37787	.02504	-.05163	.40059	-.19921	-.03908	.09084
13.	There is no shortage of weight.	.12117	.07616	.82456	.05066	.26497	.17902	.17182	.12418	.04750
14.	System of weighment is open and easily understandable.	.15025	.03095	.82026	.05127	.11561	.18624	.12521	.18590	.02381
15.	All weights and scales are periodically checked.	.25430	.34430	.59050	.18231	-.02985	-.14624	.06338	.10807	.01905
16.	Price is fixed on the basis of grade.	.25427	.29004	.48422	.12984	.12868	.13397	-.23123	.35038	-.01014
17.	Scientific method of grading is followed.	.06358	.03846	.03060	.83915	.11135	.13326	.03553	-.17162	.02139
18.	No further grading is necessary.	.24852	.02547	.15995	.76960	.17000	-.09440	.08279	.27064	-.00779
19.	Behaviour of graders is honest.	.00177	.12543	.00705	.70672	-.12740	-.06985	.32154	.10611	.08810
20.	Makes further selling process easy.	.42239	.09849	.19614	.62671	.39608	-.07919	-.10789	-.09561	.11448
21.	The time limit permitted for storing the produce is enough.	.07146	.13289	.05753	.12913	.87317	-.8829	-.03449	.15871	.01509
22.	The space of go down is sufficient.	.17373	.15764	.00705	.16368	.72999	0.06916	.11594	.11660	.06779
23.	The cost of storing is reasonable.	.10318	.06354	.19614	.14924	.72999	.78557	-.11324	.04848	-.1397
24.	Availing loan is easy.	.10240	.34344	.05753	.18496	-.17919	.67376	.34146	.03212	-.03039
25.	No loss of pilferage in storage.	.32034	.18667	.19504	.24029	.22429	.57284	-.20128	.29707	.00161
26.	The interest charged is cheaper.	.06166	.19083	.11695	.48998	.25867	.49220	-.28282	-.11494	.25342
27.	The loan amount is sufficient.	.27257	.27617	.00838	.22831	-.11316	.45805	-.14262	.25119	-.24451
28.	Helps in purchasing the produce when available.	.05476	.28007	.35431	.08279	-.19761	.07986	.87941	.04026	-.04806
29.	The net profit in sales is sufficient.	.46186	.36871	.16961	.02015	-.02729	.01181	.57180	-.03050	-.06809
30.	It serves storage facility without costs.	.46505	.09351	.37024	.08566	.04165	-.05711	.54645	.13275	.46142
31.	The drying yards are adequate.	.16807	.13290	.10386	.15330	.15196	.16363	-.03961	.80802	.06762
32.	Care yard, Cattle sheds, and Rest rooms are adequate and satisfactory.	.14143	.00240	.18642	.11573	.25541	-.00496	.17931	.72192	-.10126
33.	Sufficient water supply and sanitary facility are provided.	.17279	.13644	.24690	.31516	.05403	.04485	-.08457	-.00376	.70184
34.	The transaction sheds are adequate.	.08448	.23589	.32816	.24318	.00071	.43182	-.02663	.14474	-.58716
35.	Transport facilities are adequate.	.11644	.15114	.50485	.09638	.27636	.10400	-.08943	-.24756	-.51898

Source: Computed data

Factor 1 Service

Service is one of the important prerequisites to start a regulated market. In fact it is the availability of service that facilitates the farmers to bring their produce to the place of sales. The significance of service in regulated markets is like a lubricant to the process of production. The metaphorical view of service is that it is the life blood of agriculture. The right phrase, "Whoever has the gold makes the rule" also underlines the very significance of services for farmers in general. The variables relating to the services are presented in Table 2.

Table 2 Selected Variables Relating to Services

Sl.No	Variables	Factor Loadings	Community
1.	The closed bid systems followed is satisfactory	.88476	.61914
2.	The Market fee levied is reasonable	.82475	.78536
3.	The license fee charged is reasonable	.74893	.79556
4.	The Market officials are honest in their behaviour	.55844	.77159
5.	The time allowed for making payment is sufficient	.50410	.84456
6.	These are satisfactory services to customers	.49597	.78475

Source: Computed data

Among the variables of performances of regulated market namely, 'Services', 'Market information', 'Weighing', 'Grading', 'Storage', 'Pledge loan', 'Other infrastructure' constituted Factor 1 with higher factor loadings. These six variables with higher factor loadings on Factor 1 are characterized as 'Services'. All the six attributes have a high communality indicating that the attributes with in Factor 1 have very high association among them. With regard to the factor, services, the variables like 'the closed bid system followed is satisfactory', 'the market fee levied is reasonable' were the first and second highest factors with the loading of .88476 and .82475 respectively and a high communality of .61914 and .78536 respectively. The variable 'available information is useful in arriving at marketing decisions' was the least factor with the loading of .49597 and a communality of .78475.

Factor 2 Market Information

Market information is an organized and systematic development. One trained and successful farmer can set a right example for others to follow.

Market information programme helps in enhancing the motivation, knowledge and arriving at marketing decisions and assisting them in the development of their own cultivation. The variables relating to the market information are presented in Table 3.

Table 3 Selected Variable Relating to Market Information

Sl.No	Variables	Factor Loadings	Community
1.	Available information is useful in arriving at marketing decisions	.83406	.81687
2.	Reliable market information is available	.75902	.88279
3.	The market information on prices and arrivals is given in time	.57573	.75734
4.	Information is displayed daily on the notice board	.54671	.82710
5.	The market information given is enough to determine the market trend	.48025	.67164
6.	There is timely provision of information	.45481	.72432

Source: Computed data

Among the variables of performance of regulated markets namely 'Market Information', the variables such as 'Reliable market information is available', 'The market information on prices and arrivals is given in time', 'Information is displayed daily on the notice board', 'The market information given is enough to determine the market trend', 'The weighmen are honest in their business', 'The weights and scales used in regulated markets are accurate' constituted Factor 2 are characterized as performance of regulated markets.

All the 5 attributes have a high communality indicating that the attributes within factor 2 have very high association among them. Regarding the factor "market information" the variable 'Reliable market information is available' was the first highest factor with the loading of .83406 and a communality of .81687 and 'Weights and scales used in regulated markets are accurate' was the least factor with the loading of .45481 and a low communality of .72432.

Factor 3 Weighing

Proper weighing can ensure success of a regulated market. The variables relating to managing weighing are presented in Table 4

Table 4 Selected Variables Relating to Weighing

Sl.No	Variables	Factor Loadings	Communality
1.	The weighmen are honest in their business	.82456	.84880
2.	The weights and scales used in regulated markets are accurate	.82026	.68916
3.	There is no shortage of weight	.59050	.83958
4.	System of weighment is open and easily understandable	.48422	.79942

Source: Computed Data

Among the variables of performance of regulated markets, 'Weighing' the variables such as 'There is no shortage of weights', 'System of weighment is open and easily understandable', 'All weights and scales are periodically checked', 'Price is fixed on the basis of grade' constituted Factor 3 with higher factor loadings.

These four variables on Factor 3 are characterized as managing weighing. All the four attributes have a high communality indicating that the attributes with in Factor 3 have very high association among them.

The analysis of the factor managing weighing the variable 'There is no shortage of weight' was the first highest factor with the loading of .82456 and a high communality of .84880 and 'price is fixed on the basis of grade' was the least factor with the loading of .48422 and a communality of .79942.

Factor 4 Grading

The farmers and traders need to know about the opportunities and threats to their business, government policies, developments in international economic score and technological changes. The variables relating to grading of products are presented in Table 5.

Table 5 Selected Variables Relating to Grading

Sl.No	Variables	Factor Loadings	Communality
1.	Scientific method of grading is followed	.83915	.88348
2.	No further grading is necessary	.76060	.71882
3.	Behaviour of graders is honest	.70672	.78846
4.	Makes further selling process easy	.62671	.78552

Source: Computed data

Among the variables of performance of regulated markets namely 'Grading' the variables such as 'Scientific method of grading is followed', 'No further grading is necessary', and 'Behaviour of graders is honest', 'Makes further selling process easy' constituted Factor 4 with higher factor loadings. These four variables on Factor 4 are characterized as grading of products. All the four attributes have a high communality indicating that the attributes within Factor 4 have very high association.

'Scientific method of grading is followed' came first with the highest factor with the loading of .83915 and a communality of .88348 under factor 'Makes further selling process easy' came last as the least factor with the loading of .62671 and a communality of .78552.

Factor 5 Storage

Storage is one of the main essentials in the regulated market. Farmers and traders are mostly expected to save their products in the regulated markets. The variables relating to storage are presented in Table 6.

Table 6 Selected Variables Relating to Storage

Sl.No	Variables	Factors Loading	Communality
1.	The time limit permitted for storing the produce is enough	.87317	.60693
2.	The space of godown is sufficient	.72999	.73185

Source: Computed data

Among the variables of performance of regulated markets, namely ‘The time limit permitted for storing the produce is enough’, ‘The space of go down is sufficient’ constituted Factor 5 with higher factor loadings. These two variables on Factor 5 are characterized as storage. Both attributes have a high communality indicating that the attributes within Factor 5 have very high association.

As far as the factor storage concerned, ‘The time limit permitted for storing the produce is enough’ was the highest factor with the loading of .87317 and a communality of .60693. The factor loading and the communality of variable ‘The space of go down is sufficient’ were .72999 and .73185 respectively.

Factor 6 Pledge Loan

Most of the farmers and traders are running their business with the help of pledge loan. Regulated markets and banks give pledge loan to the farmers and traders. The variables relating to pledge loan are presented in Table 7.

Table 7.7 Selected Variables Relating to Pledge Loan

Sl.No	Variables	Factor Loadings	Communality
1.	The interest charged is cheaper	.78557	.78249
2.	The loan amount is sufficient	.67376	.72638
3.	Helps in purchasing the produce when available	.57284	.80943
4.	The net profit in sales is sufficient	.49220	.72155
5.	It serves storage facility without costs	.45805	.79108

Source: Computed data

Among the variables of performance of regulated markets, namely ‘Pledge Loan’ the variables such as ‘The cost of storing is reasonable’, ‘Availing loan is easy’, ‘No loss of pilferage in storage’, ‘The interest charged is cheaper’, ‘The loan amount is sufficient’ constituted Factor 6 with higher factor loadings. These 5 variables on Factor 6 are characterized as pledge loan. Both attributes have a high communality indicating that the attributes within Factor 6 have very high association.

The analysis on the factor pledge loan revealed that ‘The cost of storing is reasonable’ came first as the highest factor with the loading of .78557 and a high communality of .78249 and the factor ‘The loan amount is sufficient’ came least factor with the loading of .45805 and a communality of .79108.

Factor 7 Other Infrastructure

In order to start any business activity a minimum level of prior built up of other infrastructure facilities is needed. Infrastructural facilities commonly comprise of energy, transport, communications, banking, finance, science and technology, social overheads like health, hygiene and education. But creation of infrastructural facilities involves huge funds which the small farmers are always short of.

The variables relating to other infrastructure facilities are presented in Table 8.

Table 8 Selected Variables Relating to Other Infrastructure

Sl.No	Variables	Factor Loadings	Communality
1.	The Interest charged is cheaper	-.28282	
2.	The loan amount is sufficient	-.14262	
3.	Helps in purchasing the produce when available	.87941	

Source: Computed data

Among the variables of performance of regulated markets namely ‘Other Infrastructure’ the variables such as ‘Helps in purchase the produce when available’, ‘The Net profit in sales is significant’, ‘It serves storage facility without costs’ constituted Factor 7 with higher factor loadings. These 3 variables on Factor 7 are characterized as other infrastructure facilities. All the 3 attributes have a high communality indicating that the attributes within Factor 7 have very high association. With regard to the factor infrastructural facilities, the variables like ‘Helps in purchase the produce when available’ and ‘The net profit in sales is significant’ were the first and second highest factors with the loadings of .87941 and .57180 respectively and a communality of .69590 and .61591 respectively. The factor ‘It serves storage facility without cost’ was the least factor with the loadings of .54645 and a communality of .73455.

Table 9 Selected Variables Relating to Performance of Regulated Markets

Sl.No	Factor	Eigen Value	Percentage of Variance	Cumulative Percentage of Variance
1.	Services	8.34344	23.8	23.8
2.	Market Information	4.43924		
3.	Weighing	3.54951		
4.	Grading	2.46131	7.0	
5.	Storage	1.90144	5.4	
6.	Pledge Loan	1.84407	5.3	
7.	Other Infrastructure	1.61020	4.6	
8.		1.37965	3.9	
9.		1.15237	3.3	

Kaiser – Meyer – Olkin measures of Sampling adequacy : .55803
Bartlett's Test of Sphericity (Chi Square) : 17757.774
Degrees of Freedom :-
Significance : 0.000

The Eigen value for the first factor Services is 8.34344, which indicates that the factor contains much higher information than the other factors. The percentage of variance is 23.8 services provide maximum insights into the performance of regulated markets among the farmers in the study area.

The second and third factors namely Market Information and Weighing accounts for 4.43924 and 3.54951 respectively. The fourth and fifth factors namely Grading and Storage accounts for 2.46131 and 1.90144 percent variance with Eigen values 7.0 and 5.4 respectively.

The sixth and seventh factors Pledge Loan and Other Infrastructure account for 1.84407 and 1.61020 percent variance with Eigen values 5.3 and 4.6 respectively.

High value of Kaiser – Mayes – Olkin (KMO) test of sampling adequacy (0.558) indicates the correlation between the pairs of variables explained by other variables and thus factor analysis is considered to be appropriate in this model.

CONCLUSION

In seven factors namely ' Services', ' Market Information', ' Weighing', 'Grading', 'Storage', ' Pledge Loan', and 'Other Infrastructure' were extracted out of the thirty five attributes with the help of the factor analysis technique. Each factor had more than one variable. Each variable was expressed as a linear combination of the underlying factors. The amount of variance, a variable shares with all the other variables included in the analysis was referred to as communality. All the attributes that are formed under each factor had high association.

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