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Performance evaluation of Karnataka Vikas Grameena Bank branches

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Abstract
Karnataka Vikas Grameena Bank branches purposively selected for the study. Scaling technique was adopted for analysis of the data. Information on twenty indicators comprising physical and financial variables were collected for the year 2013-14 from eighteen branches. The depicted seven branches were grouped under good category, five branches were under satisfactory and six under poor category. It was found that there was significant difference in the mean of the two groups' namely good and satisfactory categories for the variables such as, deposit accounts, advance accounts and total business accounts. In case of satisfactory and poor category branches has been no significant difference. The significant difference was observed between good and poor branches for all the variables except advances accounts per employee.

Keywords: Regional rural banks, performance evaluation, physical indicators, financial indicators

Introduction

Generally, the ratio analysis and audit classification are the prominent methods considered for evaluation of the performance. However, these methods take into consideration only one or two aspects of growth in measuring the efficiency of institutions and it becomes very difficult to arrive at a concrete conclusion about the comprehensive performance. The above mentioned facets, necessitated to develop a methodology (scaling technique) which can incorporate multidimensional aspects of performance. The scale is expected to measure the efficiency of RRBs branches by grouping them as good, satisfactory and poor.

Materials and Methods

A sample of eighteen branches of Karnataka Vikas Grameena Bank, Dharwad, in Karnataka state were selected randomly and information on 20 development indicators both physical and financial were collected for the year 2013-14. The variables were identified based on the discussion held in the interaction session conducted by the researcher with senior officials of the bank. The scale developed (Aruna Rao *et al*., 1991) [5] for the purpose of measuring the performance of business organizations which incorporates multidimensional aspects of the performance has been applied to financial institutions to classify the selected branches of Karnataka Vikas Grameena Bank into good, satisfactory and poor.

Let there be 'n' branches and 'K' variables which indicate the performance of the branches. The 'K' variables will be grouped into 'r' classes. The basis of classification being that within a class the variables combined together measure the particular dimension of development. Let X_{ij} denote the realized value for i^{th} branch for the j^{th} variable (i=1 to n and j=1 to K).

The first step in the construction of scale relates to the conversion of the realized values of each variable for each branch into percentile (or centile) scores using the assumption of normal distribution. Thus for the i^{th} branch the realized value X_{ij} will be transformed into a percentile score Pij by the relation.

$$P_{ij} = P\,[X_{ij} \leq X_{ij}] \times 100 \qquad (1)$$

The actual steps of computation of P_{ij} value are as follows.

a) Compute the mean M_j and standard deviation r_j for j^{th} variable.
b) Transform the x_{ij} into standard normal variate Z_{ij} by the relation.

$$Z_{ij} = \frac{x_{ij} - M_j}{r_j} \qquad (2)$$

c) Read the area below the Z_{ij} by referring to the table of area under normal curve.
d) Compute the average percentile score for each class and let 'M_{ik}' denote the average score for i^{th} branch for K^{th} class (k = 1 to r).
e) Then the scale volume for the i^{th} branch is given by

$$S_{ij} = \sum_{K=1}^{r} W_k M_{ik} / \sum_{K=1}^{r} Wk \quad (3)$$

Where,
S_i = Scale value for the i^{th} branch
W_k = Weights attached to the k^{th} class
M_k = Percentile score for each class

vi. The branches can be classified into three groups, then the cutoff point can be shown as follows.

a) Those branches which come under the scale value of less than mean – 0.425 standard deviation can be considered as poor performing branches.
b) Those branches which come under the scale values between mean – 0.425 standard deviation and mean + 0.425 standard deviation can be considered as satisfactory branches.
c) Those branches which fail under the scale values of more than mean + 0.425 standard deviation can be considered as good performing branches.

Here the mean and standard deviation refers to the mean scale values for 'n' branches given by RS_i/n and variance $E(S_i\text{-}S)2/(n\text{-}1)$. The selected variables for all the branches were converted into standard normal variety were recorded using equation-2. Then these percentile scores of all the twenty variables were added for each branch. Thus, the branches were regrouped in descending order based on the total area for all variables of each branch and classified into three groups as good, satisfactory and poor. The't' test was carried out to find out the viability of the scale on discriminating poor performing branches with the good performing branches.

Results and Discussion

The percentile scores of branches and their classification is presented in the table 1. It could be seen from the table that seven branches were grouped under good category, five branches under satisfactory and six under poor category. The average percentile score of good category branches ranged from 84.77 to 56.28 and satisfactory branches was range between 55.12 to 43.33. In the case of poor category branches the percentile score was found in between 33.16 to 13.62

In the table 2, physical variables for all the three groups are given, which helps to test the validity of the scale. It could be seen from the table that the mean values of good branches were higher as compared to satisfactory and poor branches with respect to the variable *viz.*, staff, deposit accounts, deposit accounts per employee, advances accounts and advances accounts per employee, total business accounts, productivity, agricultural advance accounts and allied advance accounts.

The mean of financial variables for the three category branches has been shown in the table 3. The table revealed that, the mean values of good branches were higher as compared to satisfactory and poor branches in respect of variables namely deposit amount, advance amount, advance per employee, total business, productivity, agricultural advance, allied advance, profit/loss, overdues and recovery percentage. The variables *viz.*, deposit per employee had higher mean values in the case of satisfactory branches. None of the variables had higher mean values in the case of poor branches.

The mean difference and CD values for different categories of branches relating to physical indicators are given in the table 4. It is found that, there was a significant mean difference between good performance and satisfactory performance branches for the variables such as deposit accounts, advance accounts and total business accounts.

It is observed that, there was a significant mean difference between good performance and poor performance branches for the variables such as staff, deposit accounts, deposit accounts per employee, advance accounts, total business accounts, productivity, agricultural advances accounts and allied advances accounts except in advance accounts per employee.

However no significant difference was observed with respect to staff, deposit account per employee, advance accounts per employee, productivity account and allied activity accounts. Between satisfactory and poor branches only two variables were found to discriminate the branches. They were deposit accounts and total business accounts. However, no significant difference was seen between satisfactory and poor branches with respect to any variables.

In the case of financial indicators (Table 5) four variables namely advance amount, advance amount per employee, productivity amount, agricultural advances, allied advances and profit or loss were found to be significantly discriminating the good and poor performing branches. The remaining financial variables such as deposit amount, deposit amount per employee, total business amount, overdues and recovery percent were found to be non-significant. No significant difference was observed between good and satisfactory branches and also in case of satisfactory and poor category branches with respect to any of the financial variables.

As shown in the table 1, seven branches were grouped under good category, five branches under satisfactory and six branches poor category based on the percentile scores. The percentile score of good category branches ranged between 84.76 to 56.27, and the satisfactory category branches had the score of 55.74 to 43.33, whereas, the poor category branches had the scores ranging between 33.16 to 13.62. The differences in the scores of different category branches could be attributed to the better performance of physical and financial variables in the case of good category branches. This was further supported by the higher mean value (Table 2 and 3) in the case of good category branches over other branches in respect of staff, deposit account per employee, deposit amount, advances amount, advances per employee, deposit accounts, outstanding advances, advances accounts per employee, total business accounts, agricultural advances accounts, allied activity advances accounts, agricultural advances amount, allied activity advances amount, overdue and recovery percentage. The deposit per employee and productivity variables had a higher mean value in the case of satisfactory branches as compared to good and poor branches. This may be related to more number of staff in good performance branches. The efficiency of the employees might have been unutilized due to lack of sufficient business in case of poor branches.

The 't' test was carried out to find the validity of the scale in discriminating the poor performing branches with good performing one. The results of 't' test for physical and financial variables were indicated in table 4 and 5 respectively. It was found that there was significant difference in the mean of the two groups namely good and satisfactory categories for the variables such as, deposit accounts, advance accounts and total business accounts. In case of satisfactory and poor category branches, no significant difference was observed. Significant difference was observed between good and poor branches for all the variables except advances accounts per employee. The conclusion that emerges from the study is that the methodology adopted was powerful enough to measure the efficiency of the branches and helped to categorize them into good, satisfactory and poor branches. However, the fruitfulness of the methodology depends upon the careful selections of the variables in an exhaustive manner.

Table 1: Average percentile score of each selected branch of Karnataka Vikas Grameen Bank (2013-14)

Sl. No.	Name of the branch	Average percentile source	Class
1	Savanur	84.765	Good
2	Tikota	65.370	
3	Shalawadi	63.988	
4	Bijapura Main	63.530	
5	Ramadurga	59.725	
6	Telsang	57.611	
7	Hosaritti	56.276	
8	Gaddanakeri	55.121	Satisfactory
9	Ron	52.745	
10	Hombal	50.831	
11	Gokul Road Hubli	48.254	
12	Mudol	43.333	
13	Kalagadde	33.160	Poor
14	Kundapura	31.395	
15	Uppinangady	30.769	
16	Hirehonnihalli	28.033	
17	Puttur	20.216	
18	Padubidri	13.620	

Table 2: Mean values of the physical variables of KVG Bank sample branches (Numbers/branch)

SL. No.	Variables	Good branches	Satisfactory branches	Poor branches
1.	Staff	8	7	5
2.	Deposit accounts	33,551	21,753	13,515
3.	Deposit accounts per employee	4,412	3,292	2,977
4.	Advances accounts	2,354	1,720	1,178
5.	Advances accounts per employee	316	262	265
6.	Total business accounts	35,906	23,473	14,692
7.	Productivity	4,728	3,554	3,243
8.	Agricultural advances accounts	1,119	602	529
9.	Allied advances	280	151	132

Table 3: Mean values of the financial variables of KVG Bank sample branches (₹ in Lakh/branch)

SL. No.	Variables	Good branches	Satisfactory branches	Poor branches
1.	Deposit amount	5,602	3,923	1,181.33
2.	Deposit per employee	545	556	260
3.	Advances amount	3,483	3,169	1,123
4.	Advances per employee	461	453	251
5.	Total business	9,085	7,092	2,304
6.	Productivity	1,006	1,009	511
7.	Agricultural advances	1,812	1,056	519
8.	Allied advances	453	264	130
9.	Profit or loss	222	178	48
10.	Over dues	60	63	20.33
11.	Recovery (percent)	76	76	73

Table 4: Mean differences of different categories of branches based on physical indicators

Variables	Mean difference 1 & 2	C.D values at 5 %	Mean difference 1 & 3	C.D values at 5 %	Mean difference 2 & 3	C.D values at 5 %
Staff	1.20	2.33	3.5*	2.2	-2.30	2.4
Deposit accounts	11,798.43*	8,016.06	20,036.76**	7,616.4	-8,238.33	8,289.7
Deposit accounts per employee	1,119.86	1,398.36	1,434.41*	1,328.6	-314.55	1,446.1
Advances accounts	633.94*	510.13	1,176.48**	484.7	-542.53	527.5
Advances accounts per employee	53.69	111.39	50.57	105.8	3.12	115.2
Total business	12,432.37*	8,368.89	21,213.24**	7,951.7	-8,780.87	8,654.6
Productivity	1,173.55	1,481.81	1,484.90*	1,407.9	-311.43	1,532.4
Agricultural advances accounts	517.35	459.43	590.23*	436.5	-72.88	475.1
Allied advances accounts	129.34	114.75	147.56*	109.0	-18.22	118.7

** Significant at 1 percent level
* Significant at 5 percent level
Note: 1- Good Branches, 2 – Satisfactory branches, 3 – Poor branches

Table 5: Mean differences of different categories of branches based on financial indicators

Variables	Mean difference 1 & 2	C.D. values at 5 %	Mean difference 1 & 3	C.D. values at 5 %	Mean difference 2 & 3	C.D. values at 5 %
Deposit amount	1,679.40	6,773.55	4,420.67	6,435.86	-2,741.27	7,004.80
Deposit amount per employee	-11.83	458.24	284.17	435.39	-295.12	473.88
Advances amount	313.46	1,575.35	2,360.36**	1,496.81	-2,046.90	1,629.13
Advances amount per Employee	8.29	207.71	210.40*	197.35	-202.12	214.80
Total Business amount	1,992.86	7,152.73	6,781.02	6,796.14	-4,788.17	7,396.92
Productivity amount	-3.54	469.40	494.57*	446.00	-498.12	485.43
Agricultural advances	756.46	760.48	1,292.91**	722.57	-536.45	786.44
Allied advances	189.12	190.12	323.23**	180.64	-134.11	196.61
Profit or loss	43.57	102.13	173.74**	97.04	-130.17	105.62
Overdues	-3.15	47.69	39.44	45.31	-42.59	49.31
Recovery (percent)	0.17	3.62	2.58	3.44	-2.41	3.74

** Significant at 1 percent level
* Significant at 5 percent level
Note: 1- Good Branches, 2 – Satisfactory branches, 3 – Poor branches

Conclusion

The differences in the scores of different category branches could be attributed to the better performance of physical and financial variables in the case of good category branches. The deposit per employee and productivity variables had a higher mean value in the case of satisfactory branches as compared to good and poor branches. This may be related to more number of staff in good performance branches. The efficiency of the employees might have been unutilized due to lack of sufficient business in case of poor branches. In case of satisfactory and poor category branches, no significant difference was observed. Significant difference was observed between good and poor branches for all the variables except advances accounts per employee. The conclusion that emerges from the study is that the methodology adopted was powerful enough to measure the efficiency of the branches and helped to categorize them into good, satisfactory and poor branches. However, the fruitfulness of the methodology depends upon the careful selections of the variables in an exhaustive manner.

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