

Research on Optimization of Performance Evaluation System of Agricultural and Commercial Banks in Z City Based on Balanced Scorecard

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Abstract: Rural commercial banks, which belonged to rural credit cooperatives before restructuring, are local small and medium-sized banks serving three rural areas and small and medium-sized micro-enterprises in China, and there are a lot of problems, such as unclear shareholding structure, affecting their own development. In recent years, the competition in the banking market has become more and more intense, and the major commercial banks have entered the rural financial market, and the market share of local small and medium-sized banks, which are the main battleground in the rural areas, has been gradually divided, and it is urgent to set up a set of scientific and standardized performance evaluation system to improve the level of internal control and management in order to cope with the difficult internal and external environments. In this paper, China Agricultural and Commercial Bank of City Z is selected as an example, and based on the BSC model, performance evaluation indexes are set up according to the refined strategic objectives of the bank, department (Corporate Finance Department), and employees (Corporate Finance Department) to complete the optimization and improvement of the original performance evaluation system.

Keywords: Balanced scorecard, Performance evaluation, Hierarchical analysis, Bank performance, Strategic management

1. Introduction

Performance evaluation refers to the use of scientific and reasonable assessment methods to quantitatively evaluate the degree of realization of the employee's functional objectives. A scientific, objective and all-round performance evaluation system can promote the realization of corporate strategic objectives^[2]. The balanced scorecard quantifies corporate strategic objectives into evaluation indicators from four dimensions: financial, customer, internal operation, and learning and growth, and is an effective performance evaluation tool to strengthen the execution of corporate strategy. Previous studies have also indicated that the balanced scorecard has a strong fit with bank performance^[4].

In 2016, five district-level rural credit unions in City Z merged to form Z City Agricultural and Commercial Bank Co. Before the restructuring, Z City Agricultural and Commercial Bank did not have a systematic performance evaluation system, and after the restructuring, the performance evaluation program of Z City Agricultural and Commercial Bank was not scientific and effective enough. Accordingly, this paper uses the balanced scorecard to try to optimize the performance evaluation system of Z City Agricultural and Commercial Bank, taking into account the characteristics of Z City Agricultural and Commercial Bank itself. The optimized performance evaluation system, if implemented strictly according to the requirements, will help Z City Agricultural and Commercial Bank to improve its core competitiveness and strategic execution.

2. Literature review

2.1 Research on BSC

BSC has scientific and standardized nature, and is widely used in performance evaluation direction research. Antonella et al (2018) took Venice Museum as the research object, and supported the

applicability of the method with empirical research through the balanced scorecard and the two-stage DEA model^[1]. Soraya et al (2024) utilized the BSC to determine the key performance of apparel manufacturing enterprises Indicators (KPIs)^[6]. Abedian et al (2024) proposed a combined use of BSC, EA and game theory methods to determine and rank the importance of manufacturing metrics in a steel company^[7].

2.2 BSC and Bank Performance Evaluation

The research of several scholars in recent years has also confirmed the effectiveness of BSC in performance evaluation in the field of banking. Acuña-Carvajal et al (2019), in order to solve the shortcomings of the traditional bank performance evaluation methods, combined the BSC and the camel evaluation method to form a comprehensive and targeted performance evaluation method, which showed good applicability in the Colombian bank^[2]. Hasan, Serhat(2019) took Turkish bank as an example and applied BSC combined with fuzzy evaluation method in the performance evaluation of this bank, and the results showed that this method has significant advantages for the performance evaluation of Turkish banks^[3]. Mahdi et al(2023) explored the effect of BSC on the performance of Palestinian banks, and proved that it has significant advantages^[5].

3. Current situation and problem analysis of performance evaluation of agricultural and commercial banks in Z city

3.1 Current situation of performance evaluation system of agricultural and commercial banks in Z city

Z City Agricultural and Commercial Bank only has a performance evaluation program at the branch (department) level. Lack of employee-level performance evaluation program design. Performance evaluation at the branch (department) level is based on the "comprehensive business evaluation scorecard". The comprehensive management evaluation scorecard is similar to the balanced scorecard, with a standard score of 1,000 points, which is determined according to the completion rate of tasks. Specific indicators at the branch level are shown in Table 1.

Table 1: Performance Evaluation Indicators for Sub-branches of Agricultural and Commercial Banks in City Z.

Indicator category	Name of indicator (standardized score)
Operating efficiency category (140 points)	Loan interest income, risk-adjusted return per capita, loan collection rate, net interest margin
Business Development Category (170 points)	Average daily net increase in public deposits, average daily net increase in savings deposits, deposit deviation, deposit contribution ratio
Transformation and Expansion (120 points)	Net increase in the number of corporate loan customers, net increase in the number of personal loan customers, net increase in the number of public basic deposit accounts, the number of new valid credit cards, the number of new Q-Healthy Neighbors, the replacement rate of e-transactions, the incidence of trade finance settlements, the net increase in the number of trade finance customers
Risk Management (200 points)	Recovery rate of loans due in the year, non-performing loan rate, non-performing loan balance
Compliance (210 points)	Compliance management, anti-money laundering, security management, auditing, and asset protection management
Indicator category	Name of indicator (standardized score)
Social responsibility (60 points)	Consumer rights and interests protection, quality and civilized service, "two increases and two controls" for small and micro-enterprise loans.
Party building work (100 points)	Party building work, work innovation

3.2 Problems with the performance evaluation system of Farmers and Merchants Bank in Z city

Problem 1, lack of employee level performance evaluation program. Employee performance is secondarily distributed by branches and departments themselves, with a high degree of opacity, which is easy to cause deviation from strategic goals. Problem 2, the establishment of evaluation indicators is not scientific. Financial performance indicators account for the majority of the indicator system, and there are very few indicators for internal processes, customers and employee learning and growth. And there are too many evaluation indicators, there is a duplication phenomenon, the efficiency of work is low, and the accuracy of performance evaluation is doubtful.

3.3 Causes of Performance Evaluation System Problems in Agricultural and Commercial Bank of City Z

Reason 1, management and employees have a weak sense of strategy and performance. After in-depth interviews with managers and employees of Z City Agricultural and Commercial Bank, it is found that most of the management and employees do not understand the top-level strategic design, and believe that the existence of performance is only for the purpose of measuring the degree of completion of business volume, according to which the performance salary is issued, and lack of strategic thinking. Reason 2, special background: before the merger and restructuring of Z Municipal Agricultural and Commercial Bank, each district-level credit union operated independently and assessed its performance individually, but after the merger, there were still problems such as lack of "centripetal force" and irregularities in operation and management.

4. Z City Agricultural and Commercial Bank performance evaluation system optimization program design

4.1 Selection of evaluation indicators

4.1.1 Bank-level evaluation indicators

Evaluation indicators are selected according to the strategic objectives of each dimension. The overall strategic objective of the bank is to adhere to the strategic positioning of "supporting agriculture and small businesses" and to build a modern agricultural and commercial bank with special characteristics. The financial dimension objective is to improve profitability and optimize the income structure (expand the proportion of intermediate income). The objective of the customer dimension is to expand market share (especially in the agricultural and small and micro-enterprise markets) and improve service quality. The goal of the internal process dimension is to improve management efficiency in innovation management, network management, cost management, risk management, and information system. The goal of the learning and growth dimension is to cultivate talents and improve employee satisfaction.

4.1.2 Departmental Performance Evaluation Indicators

The evaluation indicators of the Corporate Finance Department have some relevance to the strategic objectives at the bank level. Some indicators relevant to the Corporate Finance Department are retained and characterized, and some non-relevant indicators are removed.

4.1.3 Employee-level Performance Evaluation Indicators

Evaluation indicators are formulated by combining the characteristics of the employee's division of duties.

4.2 Determine the weight of indicators

This paper adopts the hierarchical analysis method to set the weights of the indicators. In addition to the 20 employees at different levels interviewed in the previous period, the board of directors' office, corporate finance, risk control and other departments continue to conduct questionnaire research with snowball sampling, a total of 100 questionnaires were distributed, 78 were returned, analyzed and processed using SPSS, and the consistency of the hierarchical structure of the matrix continues to be assessed. Specific methods for determining the weights: Step 1: the four dimensions are first compared two by two to determine the importance, forming a matrix; Step 2: the geometric mean method is used to determine the weights of the hierarchical indicators of each dimension, with 36% in the financial dimension, 25% in the customer dimension, 27% in the internal process dimension, and 12% in the

learning and growth dimension; Step 3: random consistency (CR) comparisons are made, and the CR value of each of the four dimensions does not exceed 0.1, and the matrix consistency test is passed. The CR values of all four dimensions do not exceed 0.1, which passes the matrix consistency test. In the same way, i.e., the indicators within the dimensions are compared two by two based on their importance to form a matrix, and the resultant data are normalized to derive the indicator weights and the consistency test, which in turn leads to the indicator weights at the bank, department, and employee levels as shown in the Table 2, Table 3, Table 4.

Table 2: Summary of Bank-Level Performance Evaluation Indicator Weights.

target level	Dimension Layer	weights	Sub-objective level	weights	Indicator Layer	Weights (%)	weighting factor (%)
Adhering to the strategic positioning of "supporting agriculture and small businesses" and building a modern agricultural and commercial bank (A)	Financial Dimension (B1)	36	Improve profitability (C1)	68	Return on net assets (D1)	69	17
					Deposit and loan growth rate (D2)	31	7
			Optimize revenue structure (C2)	32	Proportion of Wealth Management and Intermediate Business Income (D3)	43	5
					Percentage of agriculture-related loans (D4)	25	3
					Proportion of loans to small and micro enterprises (D5)	32	4
			(A)	Customer Dimension (B2)	25	Expand market share (C3)	55
Growth rate of MSME households (D7)	24	3					
Enhance service quality (C4)	45	Number of customer complaints (D8)				32	4
		Customer retention rate (D9)				68	7
(A)	Internal Process Dimension (B3)	27	Risk prevention and control (C5)	36	Non-performing loan ratio (D10)	66	7
					Capital Adequacy Ratio (D11)	34	3
			Business Compliance (C6)	20	Operational error rate (D12)	57	3
					Case occurrence (D13)	43	2
			Innovation Capability (C7)	14	New product yield rate (D14)	100	4
			Information System (C8)	8	Information system operation (D15)	63	1
					Troubleshooting (D16)	37	1
			Cost Management (C13)	17	Cost-to-income ratio (D17)	100	5
Bank-outlets Management (C14)	5	Degree of concentration of business at outlets (D18)	100	1			
(A)	Learning and Growth Dimension (B4)	12	Talent development (C11)	55	Employee training rate (D19)	45	3
					Training pass rate (D20)	55	4
			Employee Satisfaction (C12)	45	Wastage rate of operational cadres (D21)	52	3
					Staff separation rate (D22)	29	1
					Corporate culture (D23)	19	1

Table 3: Summary of Performance Evaluation Indicator Weights for the Corporate Finance Department.

Objective level	Dimension Layer	weights	Indicator Layer	weights(%)	weighting factor(%)
Adhering to the strategic positioning of "supporting small businesses" and promoting modernized financial services (A*)	Financial Dimension (B1)	36	Growth rate of line net income (C1)	39	14
			Growth rate of deposit and loan (C2)	21	8
			Proportion of Wealth Management and Intermediate Business Income (C3)	21	8
			Percentage of Small and Micro Enterprise Loans (C4)	19	6
(A*)	Customer Dimension (B2)	25	Satisfaction of sister departments (C5)	8	2
			Satisfaction of grassroots organizations (C6)	10	3
			Market share (C7)	37	9
			Growth rate of MSME households (C8)	18	4
			Number of customer complaints (C9)	27	7
(A*)	Internal Process Dimension (B3)	27	Non-performing loan rate (C10)	42	11
			Case occurrence (C11)	20	6
			Business Processing Efficiency (C12)	20	5
			Business management (C13)	18	5
	Learning and Growth Dimension (B4)	12	Employee training rate (C14)	26	3
			Training pass rate (C15)	32	4
			Business backbone turnover rate (C16)	25	3
			Employee separation rate (C17)	17	2

Table 4: Summary of Performance Evaluation Indicator Weights for Employees in the Corporate Finance Department.

Objective level	Dimension Layer	weights	Indicator Level	weights(%)	weighting factor(%)
Be sufficiently qualified for the job (A**)	Financial Dimension (B1)	36	Deposit and Loan Task Completion Rate (C1)	37	13
			Wealth management and intermediary business task fulfillment rate (C2)	34	12
			Percentage of small and micro-enterprise loans (C3)	29	11
	Customer Dimension (B2)	25	Colleague satisfaction (C4)	11	3
			Leadership satisfaction (C5)	16	4
			Completion rate of microenterprise account opening business (C6)	31	8
			Number of customer complaints(C7)	42	10
	Internal Process Dimension (B3)	27	Non-performing loan rate (C8)	39	11
			Case occurrence (C9)	22	6
			Business processing efficiency(C10)	13	3
			Job differentiation work (C11)	26	7
	Learning and Growth Dimension (B4)	12	Training participation rate (C12)	45	5
			Training pass rate (C13)	55	7

5. Conclusion

In this paper, the results of indicator scores under the performance evaluation system before and after optimization are compared to judge the implementation effect of the system. Firstly, the raw data are dimensionless processed; then the scores of each dimension and the total score of each level are summed up to analyze the performance of the bank before and after the optimization of the performance evaluation system of Agricultural and Commercial Bank of Z. The performance score of the bank level before the optimization of the performance evaluation system of Agricultural and Commercial Bank of Z is 90.2 (hereinafter referred to as the percentage system), and the score of the bank level after the optimization of the performance evaluation system is 87.61; the score of the departmental level before the optimization of the performance evaluation system is 93.5 and the score of the departmental level after the optimization of the performance evaluation system is 88.22. Both at the bank level and at the department level, the performance scores before the optimization of the performance evaluation system are higher than those after the optimization of the performance evaluation system. The optimized performance evaluation system yields more objective and fairer performance evaluation results, the indicator settings are consistent with the strategic objectives, and the incentive effect is more obvious.

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