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Article

Measuring Risk Culture in Commercial Banks: A Risk Culture Index (RCI) Approach

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Abstract: This article examines issues related to the assessment and management of risk culture in commercial banks. The main objective of the study is to develop a practical model that enables the systematic measurement of bank employees' attitudes toward risk. For this purpose, the Risk Culture Index (RCI) model is proposed. The model is based on approaches advanced by the Basel Committee on Banking Supervision, the Financial Stability Board, and the Institute of Risk Management. The results of the article have practical significance for improving the system of assessment and management of risk culture in commercial banks and are aimed at supporting effective bank risk management processes.

Keywords: risk culture, Risk Culture Index, commercial banks, operational risk, risk management.

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1. Introduction

Today, effective risk management in commercial banks is not only essential for ensuring financial stability but also one of the key factors for the long-term sustainable development of banking activities. In recent years, global financial crises, rising technological risks, and deficiencies in internal control systems have shown that relying solely on policies and procedures to manage bank risks is not sufficient. For this reason, international financial institutions are placing special emphasis on the formation and assessment of risk culture in banks [1].

Risk culture reflects the attitude toward risk, the behavior, and the extent to which risk factors are taken into account in decision-making processes by bank employees and management. In banks with a strong risk culture, processes for identifying, assessing, and mitigating risks are carried out more effectively, employee accountability increases, and internal control mechanisms are strengthened. Conversely, a weak risk culture increases the likelihood of operational errors, internal violations, and financial losses in the bank's operations [2].

In international practice, various approaches to assessing risk culture exist, relying primarily on qualitative indicators. However, these approaches are often applied only to a limited extent in banking operations due to a lack of precise measurement mechanisms. In particular, the lack of practical models tailored for the systematic assessment of risk culture in the banking systems of developing countries is a pressing issue [3].

In recent years, significant reforms have been implemented in Uzbekistan's banking system to improve the risk management system and strengthen internal control and compliance mechanisms. Nevertheless, banks have not yet developed sufficiently comprehensive, systematic approaches to assess and foster a risk culture. In practice, risk culture is mostly identified through internal audit findings or qualitative assessments, and opportunities to analyze them based on quantitative indicators are limited [4].

The purpose of this article is to propose a Risk Culture Index (RCI) model that enables the quantitative assessment of risk culture in commercial banks and to analyze its potential applications in banking practice based on an empirical study. The research findings serve to identify the current state of risk culture across bank management, pinpoint problem areas, and develop practical recommendations for further enhancing the risk management system [5].

2. Materials and Methods

Literature review

"Risk culture – how an organization accepts and manages risk in its conduct and decision-making processes" – is also identified as a key principle by the FSB (Financial Stability Board): The FSB emphasizes that risk culture is linked to elements of leadership, accountability, communication, and incentives [6].

"The Board (or leadership) is the 'tone at the top' source of the risk culture" – Basel/BCBS also notes the importance of management's leadership and example-setting through corporate governance principles; this is necessary to shape and support the risk culture [7].

Several empirical studies have found a relationship between risk culture indicators and stress-test/loss indicators, confirming the practical significance of indices such as the RCI [8].

On measurement methods: surveys are not enough - a multi-source approach is needed - The Bank of England and other researchers show that traditional surveys are struggling, so it is recommended to add internal complaints, internal fraud, customer complaints, and other "objective" indicators. (e.g., the work of Suss and the Bank of England) [9].

Regulators and practical recommendations (FSB / G30 / national supervisors) – the FSB and other international bodies (G30, national prudential supervisors) have issued methodological recommendations on how to interact during risk culture supervision; Therefore, banks can develop metrics such as the RCI in line with supervisory requirements [10].

Despite the growing attention to risk culture, existing studies mainly rely on qualitative assessments or internal supervisory reviews. Quantitative instruments for measuring risk culture in commercial banks remain limited, especially in emerging banking systems. Therefore, this study proposes the Risk Culture Index (RCI) as a practical tool for quantifying risk culture based on structured survey indicators.

Research methodology

This study employed an empirical methodology that integrated quantitative and qualitative approaches to assess risk culture in commercial banks. The primary objective of the study is to assess, based on quantitative indicators, bank employees' attitudes toward risk, their behavior, and the extent to which risk factors are taken into account in decision-making processes. To this end, the Risk Culture Index (RCI) model was developed and tested in banking practice.

The study was conducted using a cross-sectional design. Empirical data were collected through an anonymous survey at a commercial bank operating in the Republic of Uzbekistan. The survey covered 124 employees across seven departments, which helped ensure the reliability of the results [11].

The identities of the respondents were kept completely anonymous, and the data were used only for general statistical analysis. This approach was designed to encourage respondents to express their opinions freely and to reduce the impact of social desirability bias.

Research instrument and measurement tools

A 25-question survey was developed to assess risk culture. The questionnaire covered four main components: leadership and awareness, responsibility and ownership, communication and relationships, and incentives and behavior. Each component was developed based on indicators reflecting key aspects of the bank's risk culture [12].

The survey questions were developed in line with the principles of risk culture advanced by international financial institutions, particularly the Financial Stability Board and the Basel Committee on Banking Supervision. Respondents rated the questions on a 5-point Likert scale, where 1 means "strongly disagree" and 5 means "strongly agree."

Method for Calculating the Risk Culture Index

RCI was calculated as the arithmetic mean of the four component scores for each respondent. The components were assumed to be equally weighted, which allowed for a balanced assessment of all aspects of risk culture. The divisional RCI score was determined based on the average of the individual indices for that division's employees [13].

To simplify the interpretation of the obtained results, the RCI values were divided into three categories: low (0.0–2.5), medium (2.6–3.5), and high (3.6–5.0) risk culture levels. This classification made it possible to compare the state of risk culture across bank branches and identify problematic areas.

Data processing and analysis methods

The survey results were processed using spreadsheet software, and descriptive statistical analysis methods were applied. For each component, mean values, minimum and maximum indicators were determined, and the results were presented in tables and charts. The results obtained across the departments were compared, identifying the relative strengths and weaknesses of the risk culture [14].

3. Results and Discussion

Analysis and Results

A Risk Culture Index (RCI) model has been proposed to regularly measure risk culture in commercial banks and analyze employees' attitudes toward risk.

The proposed model is based on the recommendations of the Basel Committee on Banking Supervision, Financial Stability Board and the Institute of Risk Management.

RCI consists of four main components: Leadership and Awareness, Responsibility and Ownership, Communication and Relationships, and Motivation and Behavior[15].

Twenty-five indicators of the model are evaluated on a 1–5 point scale. An anonymous survey was conducted among the staff of each department, and the survey data were processed and analyzed using Microsoft Excel.

Based on the model, a 25-question survey is conducted anonymously among employees once a year.

The study was conducted at a medium-sized commercial bank operating in the Republic of Uzbekistan, and the results were used for general statistical analysis.

The data were analyzed at the departmental level.

The following questions are answered on a scale of 1 to 5, where:

A 5-point Likert scale was used to determine respondents' attitudes in the risk culture assessment questionnaire. On this scale, 1 point indicates "strongly disagree," 2 points "somewhat disagree," 3 points "neutral," 4 points "somewhat agree," and 5 points "strongly agree."

After the questionnaire is completed and submitted, the results are aggregated, and the Risk Culture Index (RCI) for each department is calculated using the following formula:

$$RCI_i = \frac{A_i + R_i + C_i + M_i}{4} \quad (1)$$

where:

(2)

A - Awareness

R - Responsibility
C - Communication
M - Motivation
Here, the index components were assumed to be equally weighted, and the Risk Culture Index was calculated as their arithmetic average.
In each department, at least 10 and up to 50 employees participated in the survey. The average value for each department is calculated:

$$RCI_{departmnt} = \frac{1}{n}\sum_{i=1}^{n} RCI_i$$

For example, a total of 30 employees from the Credit Department participated in the survey:

Their average table 1. Risk Culture Index is 3.85, which indicates a "high risk culture" level.

Table 1. Evaluation ranges

RCI value	Description	Color
0.0 - 2.5	Low level - weak risk culture	Red
2.6 - 3.5	Intermediate level - developing culture	Yellow
3.6 - 5.0	High level - a sustainable risk culture	Green

After the RCI results, the bank will take measures based on the following Table 2. recommendations:

Table 2. Recommended measures by Risk Culture Index levels

RCI level	Recommended measure
Low (≤2.5)	Risk awareness training, leadership development
Medium (2.6-3.5)	Strengthening internal communication and reviewing the incentive system.
High (≥3.6)	Applying best practices to other departments

RCI values between 0.0 and 2.5 indicate a low risk culture, 2.6–3.5 indicate a medium risk culture, and 3.6–5.0 indicate a high risk culture.

Based on the results, the state of risk culture is determined across the bank's branches, and training and internal communication programs are developed for areas that have been rated low.

The results of the RCI analysis are as follows:

In this Table 3. employees from seven selected departments filled out 25 anonymously submitted questionnaires, and the scores for each component were calculated as the departmental average.

Table 3. Results of the Risk Culture Index (RCI) by Department

Employee ID	Department	Awareness	Responsibility	Communication	Motivation	RCI employee	Evaluation
E0001	Credit Department	4	4	3	4	4	High
E0002	Payments Department	3	3	3	3	3	Average

E0003	Accounts Management Department	2	4	4	4	4	High
E0004	Risk Management Department	3	3	4	4	3	Averag e
E0005	Treasury Department	3	3	3	3	3	Averag e
E0006	Finance Department	3	3	3	3	3	Averag e
E0007	Customer Service Department	3	2	2	2	2	Low

The results show that in some departments there is a conscious approach to risk and a high level of responsibility, while in others this indicator is relatively low.

To Table 4. enhance the bank's overall risk culture, it is necessary to develop employee competencies, strengthen communication, and review the incentive system.

Table 4. Final Results of the Risk Culture Index (RCI) for Bank Management

Department name	**RCI_department**
Credit Department	3.6
Payments Department	3.0
Accounts Management Department	3.7
Risk Management Department	3.3
Treasury Department	3.1
Finance Department	2.7
Customer Service Department	2.2

According to the table results analysis, the Credit Department has a score of 3.6 and the Accounts Management Department has a score of 3.7, the highest risk culture.

The Customer Service Department scored 2.2 points lower, indicating the need to increase employees' risk awareness and motivation.

Other departments Figure 1. are moderately developed, and it is necessary to strengthen internal communication, motivation, and training systems to reinforce the bank's overall risk culture.

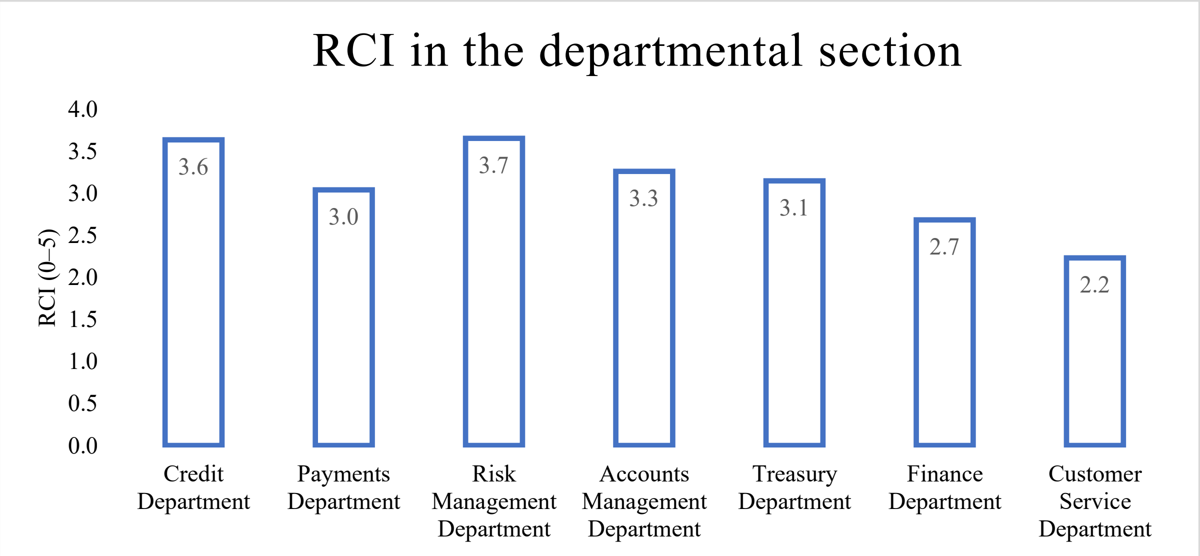

Figure 1. Diagram of Risk Culture Index (RCI) results by bank departments

The figure shows the average Risk Culture Index (RCI) scores for bank branches.

Green columns represent high-risk cultures, yellow represents medium-risk, and red represents low-risk organizations.

The highest RCI was observed in the Credit (3.6) and Risk Management (3.7) departments, while the lowest score was recorded in the Customer Service department (2.2).

4. Conclusion

This study develops and empirically tests the Risk Culture Index using survey data collected from a commercial bank in Uzbekistan. The RCI addresses a methodological gap by providing a standardized, banking-specific instrument that translates regulatory principles into measurable dimensions.

Empirical application at a Uzbek commercial bank revealed significant departmental variation in risk culture, from critically low levels in Customer Service to mature cultures in Accounts Management and Credit. These findings demonstrate that risk culture is not uniform across banking organizations and that quantitative assessment can identify specific vulnerabilities requiring intervention.

The RCI offers practical value for bank managers and supervisors. By quantifying cultural dimensions, the index enables benchmarking over time, comparison across units, and resource allocation to high-need areas. The instrument's alignment with international regulatory guidance facilitates supervisory dialogue and compliance demonstration.

Future research should extend the RCI to multiple banking institutions and incorporate objective behavioral indicators to complement self-reported perceptions. Longitudinal application would reveal whether targeted interventions produce measurable cultural improvement, validating the RCI's utility as a management tool.

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