Academia Open
Vol. 10 No. 2 (2025): December
DOI: 10.21070/acopen.10.2025.12235

Strategic Planning For Ensuring The Stability Of Commercial Banks' Resource Base: Perencanaan Strategis untuk Menjamin Stabilitas Dasar Sumber Daya Bank Komersial

Rakhmanov Ilkhom Khurramovich — Associate Professor of “Banking” Department of Tashkent State University of Economics

General background: The stability of commercial banks’ resource bases is a cornerstone of financial system resilience, particularly amid global crises and rapid digitalization that accelerate deposit withdrawals. **Specific background**: In Uzbekistan, recent reforms, including the 2022–2026 Development Strategy, emphasize strengthening banks through stress-testing and macroprudential buffers. **Knowledge gap**: Existing models such as Altman Z-Score, Ohlson, CAMELS, and Kromonov provide partial insights but lack a unified, context-specific system to measure and strategically manage resource base sustainability. **Aims**: This study seeks to design and apply an indicative model that integrates deposit stability, liability stability, capital adequacy, loan potential, and investment potential into a composite index. **Results**: Application of the model to Uzbekistan’s commercial banks (2020–2024) produced an average stability index of 59.6%, with capital indicators exerting the strongest positive effect, while overall stability remained moderate. **Novelty**: The model employs geometric mean integration to balance multi-dimensional indicators, ensuring adaptability, comparability, and efficiency in data collection. **Implications**: The framework offers banks and regulators a practical tool for monitoring resource base resilience, aligning strategic planning with liquidity and profitability goals, and guiding targeted responses through stability-based strategy selection, thereby fostering long-term competitiveness in the banking sector.

Highlight :

1. Emphasizes the importance of commercial banks’ resource base stability.
2. The indicator model includes deposit, liability, capital, loan, and investment stability.
3. Strategic planning focuses on resilience, liquidity, and profitability of banks.

Keywords : Deposit, Deposit Stability, Liability Stability, Capital Stability, Loan Potential

Introduction

Banking crises that have occurred around the world over the past 100 years have led to significant changes in legislation and regulation, as well as changes in the coefficients of a number of indicators of the stability of the banking system.

On March 9, 2023, clients of Silicon Valley Bank (USA) remotely withdrew $42 billion from their accounts using digital identification, which amounted to 85% of the bank's deposits. Due to this situation, by the end of the working day the bank had liquidity problems amounting to minus 1 billion dollars, and on the same day the bank was declared bankrupt. Modern technology allows customers to quickly withdraw funds from banks, but the influence of regulatory bodies on banking operations lags behind progress [1].

The result of banks' activities in attracting funds for short periods for investments in long-term assets makes them weak and tightly tied to depositors. Douglas Diamond and Philip Dybvig, winners of the 2022 Nobel Prize, noted in their research that the imperfect security of deposits gives rise to several types of a Nash equilibrium in the financial system. This situation is especially justified in the era of online and internet banking development. In addition, in their opinion, full guarantee of deposits will help prevent bank transfers [2].

Decree of the President of the Republic of Uzbekistan DP-60, dated January 28, 2022, “On the Development Strategy of the New Uzbekistan for 2022-2026” outlines the following key directions, goals, and objectives: “To develop stress-testing models, with the support of the International Monetary Fund, aimed at identifying potential risks in the economy and assessing their impact on the stability of the banking system. This includes taking measures to create macroprudential buffers to ensure the resilience of banks against potential financial losses” [3].

In the context of the modern banking system and economic transformations, commercial banks face several challenges in forming a stable resource base. The current situation is complex, primarily due to the limited amount of available funds held by individuals and legal entities. Consequently, banks need to explore new opportunities for forming and effectively utilizing their resource base [4].

Currently, several methods and models are used to assess the overall financial stability of commercial banks. These methods and models primarily differ in terms of the scope of information and data, evaluation principles, complexity of calculations, implementation processes, timelines, and the accuracy of the results. Depending on the types of bodies conducting the assessments, national, rating agency, and international methodologies are used to evaluate the financial stability of commercial banks.

Methods

The methods and models used to assess the overall financial stability of commercial banks have been studied in detail in scientific research by a number of renowned scientists, and the methods and models they have developed have a number of distinctive features.

The main examples of indicative models that are important for assessing the financial stability of commercial banks are the works of such scholars as Edward Altman, James Olson and Robert Merton, Kromonova V.S. as well as such models as the CAMELS rating. Their developments serve as an important theoretical and practical basis for assessing and strengthening the financial stability of commercial banks.

The Altman Z-model (Altman Z-Score) is a financial model (formula) developed by the American economist Edward Altman, designed to predict the probability of bankruptcy of an enterprise [5].

The formula is based on a combination of 4-5 key financial ratios that characterize the financial position and performance of an enterprise. The formula was originally proposed by Altman in the 1960s. Later, the author proposed variations of this formula taking into account the industry-specific features of organizations.

The Altman 4-factor Z-model is used for non-manufacturing companies. The formula for the four-factor model is as follows:

Z-score = 6.56T1 + 3.26T2 + 6.72T3 + 1.05T4 (1)

For manufacturing companies, the Altman 5-factor Z-model is used. The formula for the Altman 5-factor model is:

Z-score = 0.717T1 + 0.847T2 + 3.107T3 + 0.42T4 + 0.998T5 (2)

Where:

T1 = Working Capital / Assets

T2 = Retained Earnings / Assets

T3 = EBIT / Assets

T4 = Equity / Liabilities

T5 = Revenue / Assets

Altman's know-how consists of selecting indicators and, most importantly, weights (coefficients) by which these indicators and estimates of the resulting value are multiplied in the formula. Altman made his conclusions based on an analysis of American enterprises over a number of years [6].

The first person to use the logistic regression method to create a model for diagnosing the risk of bankruptcy of enterprises was J. A. Olson in 1980 [7]. According to this model, the Z index is calculated using the following formula:

Z= -1.3-0.4 X1+0.6X2-1.4X3+0.1X4-2.4X5-1.8X6+0.3X7-1.7X8-0.5X9 (3)

Where:

X1 - the natural logarithm of the ratio of total assets to the gross national product deflator index;

X2 - the ratio of total liabilities to total assets;

X3 - the ratio of working capital to total assets;

X4 - the ratio of current liabilities to current assets;

X5 - 1 if total liabilities exceed total assets, otherwise it is 0;

X6 - ratio of net profit to total assets;

X7 - ratio of revenue from core activities to total liabilities;

X8 - 1, if net profit has been negative for the last two years, if vice versa, the indicator is 0;

X9 - the ratio of the difference between net profit in the last reporting period and net profit in the previous reporting period to the sum of net profit in the last reporting period, taken modulo, and net profit in the previous reporting period, taken modulo.

The Z index is used to find the probability of bankruptcy risk using the logistic regression formula:

$$P = \frac{1}{1 + e^{-z}}$$

Figure 1.

Although not developed by a single academic, the CAMELS rating is a widely used indicative model for assessing financial stability. It assesses such indicators as capital adequacy, asset quality, management, earnings, liquidity and sensitivity to risk.

The CAMELS model is a single comprehensive method for developing the banking system. It also helps to identify which banks have financial weaknesses. In turn, operational and administrative risks represent a significant risk to their activities and require special supervision to eliminate the risks of weaknesses. The CAMELS model requires a comprehensive analysis of banking situations, can only perform this analysis during comprehensive on-site supervision, and can also be an observer during on-site supervision to understand the risk avoidance ability of the administration and its risk management method [8].

Russia uses its own ratings for assessing banks - the Kromonov Method for assessing the reliability and liquidity of a bank, and the Risk Limit for transactions in rubles and foreign currency according to the Sberbank system [9].

It is based on 6 indicators calculated on the basis of bank statements, which are called reliability criteria. These coefficients refer to the values of the coefficients of the optimal bank, are weighted by importance and summed up. The optimal values of the indicators and weights are established by the author of the methodology [10].

As initial data for calculating the coefficients, 7 parameters are used, which are taken from the balance sheets of banks for second-order accounts:

1. Authorized capital;

2. Equity

3. Demand deposits;

4. Total liabilities;

5. Liquid assets;

6. Risk-weighted assets;

7. Capital protection.

In this article we attempted to use indicative models to assess the sustainability of the resource base of commercial banks. The advantages of indicative models in assessing the sustainability of

the resource base of commercial banks are largely based on indicators that are easy to use, allow for a quick and effective assessment of the bank's condition, and make it possible to compare the condition of the resource base of different banks [11].

Result

Despite the variety of evaluation methods and techniques available today, there is no ideal model or single set of indicators that allows for the most accurate determination of a bank's financial stability or the strength of its resource base. Therefore, in this research, we decided to develop an indicative model for ensuring the stability of commercial banks' resource base [12].

The implementation of this model consists of four sequential stages: the first stage identifies the components of indicators, the second stage identifies the indicators themselves, the third stage identifies the integral indicators, and the fourth stage assesses the level of stability (Table 1) [13].

Stability Criteria	Coefficients and Normative Indicators	Designation	Calculation Method	Recommended Ratio, %
Deposit Stability	Commercial Bank Deposit Adequacy	D1	Demand Deposits/Total Deposits*100	<30
	Deposit Maturities	D2	Time and Savings Deposits/Total Deposits*100	>70
Liability Stability	Share of Bank Liabilities	L1	Liabilities/Total Assets*100	<90
	Customer Base	L2	(Retail Deposits + Corporate Funds)/Total Funds Raised*100	>80
	Interbank Loans	L3	Interbank Loans/Liabilities*100	<35
Capital Stability	Share of Bank Capital	C1	Capital/Total Assets*100	>10
	Coverage Ratio	C2	Capital/Liabilities*100	>15
	Regulatory Capital Adequacy	C3	Regulatory Capital/Risk-Weighted Assets*100	>13
Loan Potential	Loan-to-Deposit Ratio	Lp1	Loans/Deposits*100	<65
	Primary Reserves to Deposits Ratio	Lp2	Cash + Funds in Central Bank/Total Deposits*100	<10
	Loans expansion ratio	Lp3	Loans/Assets*100	<60
Investment Potential	Return on equity	Ip1	Net income/shareholder equity*100	>10
	Cost to income ratio	Ip2	Operating Expenses/Operating Income*100	<50

Table 1. *System of key indicators ensuring the sustainability of the resource base of commercial banks*

In the first stage, we identify the main indicators, i.e., coefficients and normative indicators, used to ensure the stability of the commercial banks' resource base.

When selecting the system of indicators presented in the table above, the main focus was on the following:

1. Availability of data collection sources;

2. Existence of upper and lower limits for the system of indicators;

Academia Open
Vol. 10 No. 2 (2025): December
DOI: 10.21070/acopen.10.2025.12235

3. Selection of the main indicators characterizing the stability of the commercial banks' resource base [14].

We believe that the implementation of a strategy to ensure the stability of commercial banks' resource base requires a special approach by banks based on the assessment of liquidity, profitability, and resource potential (Figure 1).

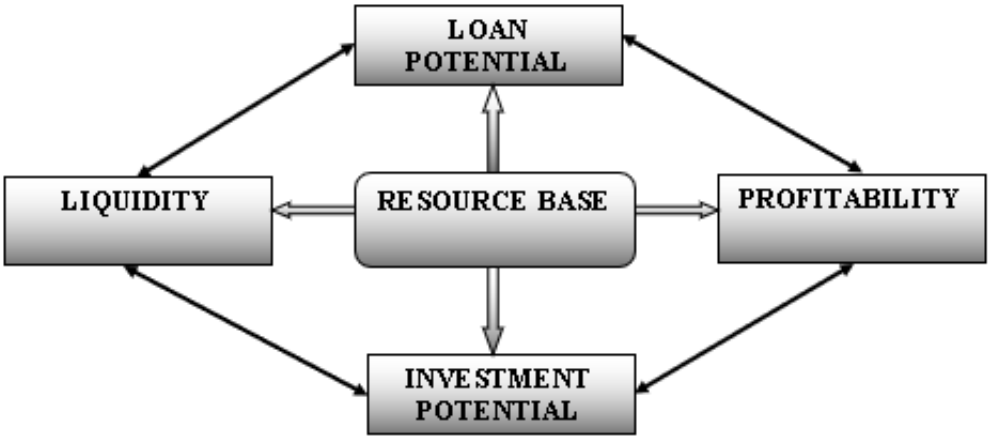

Figure 2. *Components of Banking Strategy*

This approach allows us to link the bank's strategic goals with the strength of its resource base and create a system of indicators for measuring and achieving them.

At the second stage, based on the selected components for each of the criteria for ensuring the strength of the resource base of commercial banks (deposit stability, liability stability, capital stability, loan and investment potential), a system of relevant indicators will be formed (Table 2).

Indicators	Designation	Indicator Calculation Method
Deposit Indicator	I_d	$I_d = \sqrt{D_1^{-1} \times D_2}$
Liability Indicator	I_l	$I_l = \sqrt[3]{L_1^{-1} \times L_2 \times L_3^{-1}}$
Capital Indicator	I_c	$I_c = \sqrt[3]{C_1 \times C_2 \times C_3}$
Loan Potential Indicator	I_{lp}	$I_{lp} = \sqrt[3]{L_{p1}^{-1} \times L_{p2}^{-1} \times L_{p3}^{-1}}$
Investment Potential Indicator	I_{ip}	$I_{ip} = \sqrt{I_{p1} \times I_{p2}^{-1}}$

Figure 3. *System of indicators used to ensure the sustainability of the resource base of commercial banks*

At the third stage, integral indicators of the strength of the resource base of a commercial bank are calculated, that is, the average geometric indicators of deposits, liabilities, capital, loan and investment potential:

Academia Open
Vol. 10 No. 2 (2025): December
DOI: 10.21070/acopen.10.2025.12235

$$I_{rb} = \sqrt[5]{(I_d \times I_l \times I_c \times I_{lp} \times I_{ip})} \times 100 \quad (5)$$

Figure 4.

Where:

Id - deposit indicator;

Il - liabilities indicator;

Ic - capital indicator;

Ilp - loan potential indicator;

Iip - investment potential indicator.

We calculate the indicators of the parameters we have selected using the data in the table below (Table 3).

Quarter	Deposit indicator	Liabilities indicator	Capital indicator	Loan potential indicator	Investment potential indicator	Resource base indicator
2020 Q1	115,2	44,87	2169,9	1,3816	62,673	62,7
2020 Q2	109,9	43,33	1979,4	1,3844	55,602	59,2
2020 Q3	109,4	44,77	1890,1	1,3494	53,335	58,2
2020 Q4	109,6	44,72	1821,4	1,3294	53,161	57,5
2021 Q1	115,4	43,52	1796,5	1,3761	70,360	61,4
2021 Q2	113,1	44,94	1709,8	1,2880	55,341	57,3
2021 Q3	114,6	47,39	1745,1	1,3811	52,471	58,5
2021 Q4	116,0	46,46	1706,7	1,4017	50,960	58,0
2022 Q1	125,6	45,88	1786,9	1,3923	69,348	63,0
2022 Q2	115,2	36,62	1633,7	1,4471	65,916	58,0
2022 Q3	101,4	36,93	1584,2	1,4840	65,592	56,5
2022 Q4	106,7	38,98	1547,5	1,5589	63,088	57,6
2023 Q1	114,1	37,08	1628,3	1,5367	79,383	60,9
2023 Q2	123,6	36,49	1628,6	1,5567	68,628	60,1
2023 Q3	121,7	37,24	1552,2	1,5331	61,455	58,1
2023 Q4	132,1	38,68	1587,0	1,5843	63,833	60,6
2024 Q1	144,1	40,12	1695,0	1,5467	50,191	59,7
2024 Q2	139,0	40,29	1652,2	1,6369	55,489	60,9
2024 Q3	141,8	40,91	1611,4	1,6812	55,417	61,4
2024 Q4	146,6	43,96	1665,6	1,7240	50,367	62,2

Table 2. *Indicators reflecting the sustainability of the resource base of commercial banks in Uzbekistan*

The conclusions drawn from the data presented in the table are that the average value of the resource base sustainability index of commercial banks, calculated on the basis of quarterly indicators for 2020-2024, is 59.6 percent.

Among the indicators of the resource base of commercial banks, only the indicators related to capital were positive, which had a positive impact on the formation of the value of the resource

Academia Open
Vol. 10 No. 2 (2025): December
DOI: 10.21070/acopen.10.2025.12235

base index.

Based on the data in the table provided, the dynamics of changes in the strength indicator of the resource base of commercial banks can be more clearly assessed using the figure below (Figure 2).

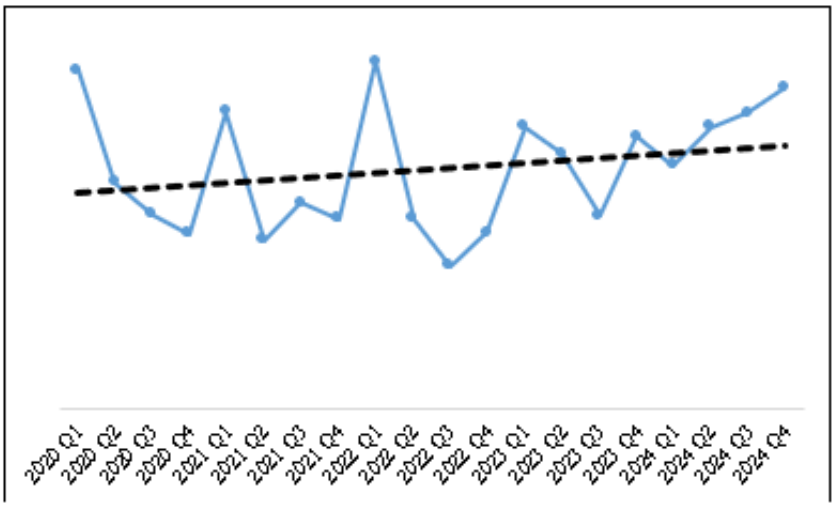

Figure 5. *Dynamics of changes in the resource base indicator*

The data in the figure show that the resource base indicator has been virtually stable for many years, with no noticeable growth dynamics. Of course, this also depends on the chosen system of indicators.

To ensure the sustainability of indicators, it is advisable to carry out strategic planning based on identifying the following main areas:

1st Direction: “Analysis of the Bank's Financial Condition, Operations, and Resources”

1. Analysis of the bank's resource base and assessment of its quality;

2. Analysis of own funds;

3. Analysis of the bank's deposit base and its stability;

4. Analysis of the bank's asset operations and assessment of asset quality;

5. Analysis of the bank's asset portfolio (loan, securities, currency portfolio, etc.);

6. Analysis of the balance of the bank's accounts payable and receivable;

7. Analysis of the bank's income and expenses;

8. Assessment of the level of profitability and income generation of the bank's activities.

2nd Direction: “Analysis of Factors Affecting Bank Activities”

1. Market analysis;

2. Analysis of changes in the regulatory and legislative framework;

3. Analysis of the Central Bank's policy;

4. Analysis of social factors;

5. Analysis of the development of the region where the bank operates;

6. Analysis of external economic factors;

7. Analysis of external risks, etc.

3rd Direction: “Assessment and Analysis of the Effectiveness of Bank Management”

1. Assessment of the effectiveness of the bank's organizational and management structure;

2. Assessment of the effectiveness of management decisions made by bank managers;

3. Assessment of bank policy, strategy, and tactics;

4. Assessment of the effectiveness of the bank's personnel policy.

Discussion

Three groups of levels of financial stability of commercial banks are shown based on the optimal value of integral indicators; based on expert recommendations, the recommended values of components are calculated:

1. financially stable commercial banks (index value - 35% and higher);

2. balanced financially stable commercial banks (index value - 25-35%);

3. financially unstable commercial banks (index value - less than 25%).

Based on the research results and the conclusions we have drawn, in the fourth stage, based on the obtained values of the integral indicators, we have divided the stability of the commercial banks' resource base into the following stability groups:

1. High Stability: $Irb > 80\%$

2. Stable: $60\% < Irb \leq 80\%$

3. Moderate Stability: $40\% < Irb \leq 60\%$

4. Low Stability: $20\% < Irb \leq 40\%$

5. Weak: $Irb \leq 20\%$

The purpose of dividing the integral indicators into 5 stability groups is that the strength of the resource base of commercial banks is a separate and relatively narrow approach to expressing the financial stability of banks.

In general, other criteria may be used by commercial banks themselves or by regulators and rating agencies.

According to our proposed classification of resistance groups, the value of this index reflects the moderate stability of resistance [15].

Academia Open
Vol. 10 No. 2 (2025): December
DOI: 10.21070/acopen.10.2025.12235

It is also recommended to select the following strategies for banks depending on the group of sustainability indicators characterizing the strength of the resource base of commercial banks (Table 4).

№	Groups	Strategy	Goal
1.	High Stability	Cooperation Strategy	Strategic cooperation with large companies, entering new markets.
2.	Stable	Concentration Strategy	Increasing the bank's market share, strengthening marketing activities.
3.	Moderate Stability	Differentiation Strategy	Developing a business strategy that differs from other banks and creating innovative products.
4	Low Stability	Integration Strategy	Merging with banks engaged in the same type of business and optimizing the supply chain.
5.	Weak	Cost Reduction Strategy	Increasing efficiency and automating operations.

Table 3. *Strategies for Strengthening the Resource Base of Commercial Banks*

The choice of the listed strategies depends, first of all, on the organizational form, goals and capabilities of banks. At the same time, banks can use several strategies simultaneously.

In the modern banking system, commercial banks also implement innovation strategies such as investing in research and development, collaborating with start-ups and creating an innovative environment, as well as diversification strategies by investing in businesses outside the financial services sector.

Conclusion

In our opinion, we have concluded that the advantages of using an indicative model in assessing the stability of commercial banks' resource base are as follows:

Firstly, geometric mean values were used in calculating the integral indicators of the stability of commercial banks' resource base. Unlike the arithmetic mean, the advantage of using the geometric mean value is that it takes into account the asymmetry of the distribution. This is especially important when calculating indicators with significant dispersion of deviations due to the use of quantities of different dimensions. The use of a weighted arithmetic mean instead of the geometric mean in financial stability indicators (as well as the inclusion of weights in the calculations) may lead to a loss of universality of the indicators. Also, changes in the indicators of ensuring the stability of commercial banks' resource base depend on the specific activities of each bank, which necessitates adapting the selected indicators to the characteristics of these banks. In addition, the use of geometric mean indicators in the calculation allows adding other indicators without making additional adjustments to the indicators. When arithmetic mean indicators are used, the weight of each indicator needs to be revised by adding a new one or removing an old one from the indicator, which is a very labor-intensive process when using a large number of indicators.

Secondly, it is related to the high speed, simplicity, ease of understanding of the analysis, and the convenience of collecting the necessary data by a wide range of interested users associated with a small number of indicator systems.

Thirdly, it is the existence of the possibility for banks to assess the state of their resource base

based on the general system of indicators that characterize the stability of their resource base.

Fourthly, there is also the possibility of using the results of the analysis to compare the state indicators of the resource base of different commercial banks.

At the same time, this model also has a number of shortcomings, and the result of the indicative model only reliably reflects the current state of the commercial bank's resource base, while the characteristics of other indicators (term, quantity, non-financial indicators, etc.) are not taken into account.

References

1. “Krakh Silicon Valley Bank: Vyvody Dlya Regulirovaniya,” Econs Online. \[Online]. Available: [https://econs.online/articles/opinions/krakh-silicon-valley-bank-vyvody-dlya-regulirovaniya/]
2. D. Diamond and P. Dybvig, “Bank Runs, Deposit Insurance, and Liquidity,” Journal of Political Economy, vol. 91, no. 3, pp. 401-419, 1983.
3. Decree of the President of the Republic of Uzbekistan DP-60, “On the Development Strategy of the New Uzbekistan for 2022-2026,” Jan. 28, 2022. \[Online]. Available: [https://www.lex.uz]
4. E. I. Altman, “Financial Ratios, Discriminant Analysis, and the Prediction of Corporate Bankruptcy,” Journal of Finance, vol. 23, no. 3, pp. 189-209, 1968.
5. J. A. Ohlson, “Financial Ratios and the Probabilistic Prediction of Bankruptcy,” Journal of Accounting Research, vol. 18, no. 1, pp. 109-131, 1980.
6. “Article on Kromonov Method for Assessing Bank Reliability,” RREconomic. \[Online]. Available: [https://rreconomic.ru/journal/article/2162/]
7. “Kromonov Method for Bank Assessments,” RBC. \[Online]. Available: [https://www.rbc.ru/kromonov.shtml]
8. Ya. A. Klaas, “Portfolio,” Kazan Federal University. \[Online]. Available: [https://kpfu.ru/portal/docs/F_2007222764/Portfolio.Klaas.Ya.A..pdf]
9. S. W. Muriuki, “Strategic Planning Practices and Performance of Commercial Banks in Kenya,” Ph.D. dissertation, Univ. of Nairobi, Kenya, 2010.
10. P. S. Musyoki, “Assessment of the Factors Influencing Strategic Planning in Commercial Banks of Kenya,” Ph.D. dissertation, Kenya Methodist Univ., 2023.
11. A. I. Mohamed and S. Bett, “Strategic Resources and Performance of Commercial Banks in Kenya: Case of Equity Bank Limited,” International Academic Journal of Human Resource and Business Administration, vol. 3, no. 3, pp. 218-242, 2018.
12. R. S. Kibet and A. D. A. Anyieni, “Strategic Management Process and Performance of Commercial Banks in Nakuru County, Kenya,” International Academic Journal of Human Resource and Business Administration, vol. 3, no. 1, pp. 434-450, 2018.
13. F. T. Tefera and S. Abebe, “Impact of Strategic Planning on the Performance of Commercial Banks: The Case of Public Commercial Banks in Eastern Hararghe, Ethiopia,” Cogent Business & Management, vol. 11, no. 1, p. 2336301, 2024.
14. M. S. Kollah, “Strategic Planning and Efficiency of the Banking Sector: A Case of Kenya Commercial Bank Limited,” Ph.D. dissertation, Univ. of Nairobi, Kenya, 2012.
15. R. M. Kimeu and S. Maina, “Strategy Implementation and Performance of Commercial Banks in Machakos County, Kenya,” International Academic Journal of Human Resource and Business Administration, vol. 3, no. 1, pp. 434-450, 2018.