



Research Paper

Design and Formulation of Strategic Liquidity Management Strategies in the Banking Industry (Case study: Refah Bank)

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ARTICLE INFO

Article history:

Received 2022-05-05

Accepted 2022-06-18

Keywords: Strategy
Strategic Management
Liquidity Management
Banking Industry

ABSTRACT

The purpose of this study was to design and formulate strategic liquidity management strategies in the banking industry. In this research, in order to combine qualitative and quantitative data, a sequential integrated exploratory method will be used, according to the classification model with emphasis on qualitative data. Therefore, according to its objectives, the present study is part of applied research and in terms of the research process is part of descriptive and exploratory research that was conducted in two parts: qualitative and quantitative. The statistical population of the present study was the qualitative part of the managers of the Welfare Bank. The sampling method was to achieve theoretical saturation and 25 people were selected as the sample size. Therefore, a survey was used to collect information and according to the data collection, two types of tools were used to review documents, interviews, and questionnaires, and the evaluation method of the questionnaire was performed with a 5-point Likert scale. The Cronbach's alpha questionnaire was used. SWOT analysis was used to analyze the data. The results showed that the Welfare Bank has many opportunities to develop appropriate liquidity management strategies. As it was observed, the chart stretches towards the opportunities and strengths of the offensive situation, which requires strategic planning to use the strengths and opportunities, and 11 strategies were developed for this purpose.

1 Introduction

The financial system of any country has a very important role in the health, growth, and success of the country's economy. Financial institutions, including markets and financial institutions, as intermediary institutions play an effective role in the provision, equipment, distribution, and allocation of financial resources. Any country with a more advanced financial system can maintain its financial stability nationally and internationally. Considering the field of financial management in the banking system, especially liquidity management in recent years, there has been significant growth and development. The importance of not equipping resources and how to manage liquidity in the country and the flow of funds in the banking system in today's competitive and complex market is such that if the bank management is unaware of how to use its resources and resources and does not have comprehensive information or

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planning to manage its cash [1-6]. There will be hidden and obvious financial crises in the performance of the banking situation. At present, the Supervisory Committee of the Bank for International Settlements is known as the Wing Committee, which believes that the liquidity of the banks is very important and the lack of liquidity has far-reaching consequences for banks. Has built banking management system and its beginning is focusing on the role of management in controlling and managing liquidity and managing resources and expenditures in the banking system and pricing methods of bank resources that should be strengthened by creating integration in price banking services and managing liquidity, assets, and debt of banks in the country. And be evaluated. Failure to use resources properly or to observe precautionary and preventive regulations to avoid liquidity risk according to the wishes of resource owners, bank costs, and therefore the average cost of acquired resources can cause irreparable losses to the bank to the extent that the bank to the brink of bankruptcy [7-11].

Welfare Bank, as a state-owned bank, has always tried to manage the bank's liquidity with various policies, and in recent years, in order to avoid a lack of liquidity, the bank has taken various measures to provide liquidity, including the forced sale of assets and maintenance. An adequate level of liquidity to respond to unexpected cash outflows based on past experience, providing an appropriate level of liquidity in accordance with the limits set in the bank's internal regulations and payment of debts and fulfillment of obligations continuously and in a timely manner. To increase the competitiveness between public and private banks, these measures have not been very fruitful in the long run, and at the end of the fiscal years, the Welfare Bank has borrowed from the central bank and the banking network due to a lack of liquidity, which shows that policy is still Liquidity management in this bank needs to be reviewed and new strategies should be reviewed and should be considered according to the economic conditions of the country and competitiveness between banks, and lack of optimal liquidity control reduces the bank's credit to customers and other financial institutions and finally the phenomenon [12-21]. Bank of thighs and There will be a liquidity crisis. On the other hand, keeping cash reserves above the required amount creates opportunity costs and reduces the bank's efficiency. Therefore, cash reserves should be managed in such a way that despite the coverage of liquidity management due to the deficit of funds, the cost of excess cash recession is minimized. This year, too, will lead to inefficiency and positive growth targeted at the Welfare Bank by managers, and it seems that fundamental and important changes are needed in the field of liquidity management [23-31]. Therefore, according to the main problem in the management of liquidity of the Welfare Bank, the present study is to develop appropriate strategies for managing liquidity in this bank using the SWOT method.

2 Research Literature

2.1 Strategic Management

Strategic thinking is an important tool that today's senior managers should be equipped with and is known as a trump card in various economic and social fields and also allows managers to assess the risk, benefits, and costs of their decisions. Strategic thinking looks at strategy as an art more than process and methodological aspects, and in today's changing and unpredictable environment, it is considered an appropriate approach and leadership of the organization, an approach that can create a competitive advantage for the organization [32-37]. Strategic management with integrated decisions and activities to develop effective strategies, implement and control their strategic results, activities related to reviewing, evaluating, and selecting strategies, adopting any internal and external measures to implement and implement these strategies, and finally, the control model includes activities related to these strategies. Strategic management, relying on a dynamic, forward-looking, holistic mentality, solves many problems of the organization by providing the necessary solutions and determines business success in today's

world [38-42]. Organizations use different processes to formulate and direct strategic management activities. Organizations with advanced planning have developed more detailed processes. Institutions with diverse operations Due to the reliance on product diversity, the technology market tends to use the advanced strategic management system. But despite the differences in detail and degree of formality, the basic components of the models used to analyze strategic management operations The process can be categorized into three general parts.

- 1- Formulation (regulation) of strategies
- 2- Execution of strategies
- 3- Evaluating Strategies

2.2 Definition of liquidity

The set of money includes the non-governmental sector's sight deposits with banks and banknotes and coins in the hands of individuals and quasi-money including long-term investment deposits, savings loan deposits, and miscellaneous liquidity deposits. Are the most important components of liquidity [43-46]. Liquidity is the amount of cash outside the banking system that has the potential to cause inflation, which means that if the amount of cash is high, purchasing power increases and causes goods or services to become more expensive than their current value. The amount of liquidity is in exchange for a certain amount of goods and services, and liquidity must meet the flow of goods and services with the turnover of people in the community. Thus, the price of goods depends on the amount of liquidity and the speed of its circulation [47-49].

The uncontrolled growth of liquidity has led to rapid growth in demand for goods and services, and because the supply of goods and services is limited in the short run, this has led to inflation in the economy. Controlling the volume of liquidity is the ultimate goal of countries to achieve macroeconomic goals such as creating growth in production, controlling inflation, balancing foreign payments, and creating employment. In fact, liquidity control is a means to an end for the economy. For this purpose, the volume of liquidity is considered in such a way as to prevent inflation by supporting the growth of domestic production at the level of production capacity. Monetary authorities of countries use monetary policies to control the growth of liquidity [50].

2.3 Liquidity Management

Bank liquidity management involves anticipating liquidity needs and meeting them at the lowest possible cost. Liquidity management refers to the bank's ability to provide planned resources and meet justified demands. Thus, the key factors in liquidity management include identifying justified liquidity demand and responding appropriately, given the time and cost of providing liquidity. Liquidity management is one of the biggest challenges facing the banking system. The main reason for this challenge is that most of the banks' resources are financed from short-term deposits. In addition, bank lending facilities are used to invest in assets with relatively low liquidity. The bank's main task is to strike a balance between short-term financial commitments and long-term investments. Maintaining insufficient amounts of liquidity puts the bank at risk of not being able to meet its obligations and resulting in bankruptcy. Maintaining large amounts of liquidity is a special type of inefficient allocation of resources that reduces the bank's rate of return on people's deposits and thus the loss of the market. Liquidity management means the ability of a bank to meet its financial obligations over time. Liquidity management takes place at different levels. The first type of liquidity management is done on a daily basis and the required liquidity is forecasted in the coming days. The second type of liquidity management, which

is based on cash flow management, predicts the liquidity required for longer intervals of six months to two years [51]. The third type of liquidity management examines the liquidity required by the bank in critical situations. The principles of liquidity management in banks are as follows:

Principle 1: Every bank to have its daily liquidity management, must have an acceptable strategy. This strategy must be communicated to all units of the bank.

Principle 2: Important strategies and procedures related to liquidity management must be approved by the bank's board of directors. The board should ensure that senior management takes the necessary steps to monitor and control liquidity risk. The bank's board of directors must be constantly informed of liquidity and any significant changes in the current and future liquidity of the bank.

Principle 3: Every bank to have effective management and implementation of its liquidity strategy must have a management organization with a suitable position. This structure includes the duties of the senior management members. The senior management must ensure that liquidity is managed efficiently and that appropriate methods and policies are in place to limit and control liquidity risk. Banks should constantly review and categorize their liquidity capacity at regular intervals, based on the current liquidity situation.

Principle 4: In order to measure, monitor, control, and report liquidity risk, each bank must establish an appropriate information system. Reports should be prepared in a timely manner for the board, senior management, and other relevant staff.

Principle 5: Every bank should establish a process for continuous monitoring and measurement of its net required funds.

Principle 6: Every bank should analyze its liquidity capability based on various scenarios.

Principle 7: Every bank should continuously review the assumptions used in liquidity management in order to make the right decisions.

Principle 8: Every bank should as define and at regular intervals, maintain and communicate with debtors, diversify the structure of debts and ensure the ability of the bank to liquidate assets and review.

Principle 9: Every bank should develop plans to deal with various possible events. These programs include strategies for managing liquidity crises and methods for compensating for short-term cash flow gaps caused by unexpected situations.

Principle 10: Every bank should have a control, monitoring, and measurement system to manage the liquidity of the major currencies on which it operates. In addition to assessing the sum of their cash needs separately for different currencies and examining the unacceptable time match between the maturity of the total currencies and the maturity of foreign exchange liabilities, each bank should have a specific strategy for analyzing each currency separately.

Principle 11: Based on the analysis made in Principle 10, each bank should, if necessary, measure the time mismatch of cash flows (cash inflows and outflows) over a period of time for all currencies and separately for the major currencies on which they operate. Carefully and regularly review and review within a defined framework.

Principle 12: Every bank must have an effective and efficient internal control system to monitor its liquidity risk management process. The core and effective components of the liquidity control system should be reviewed and evaluated independently and regularly, and to ensure that any part of the internal control system that is required is properly modified or upgraded. The results of these investigations should be made available to regulatory authorities.

Principle 13: Every bank should have an appropriate mechanism in place to guide public opinion to ensure that the necessary information about the integrity and credibility of the bank is disclosed at an acceptable level.

Principle 14: Supervisors should have a separate assessment of strategies, procedures, methods, and executive operations related to liquidity management. They must require banks to have an effective system for measuring, monitoring, and controlling liquidity risk. Supervisors to assess the level of liquidity risk of each bank should receive sufficient and timely information and ensure the existence of necessary precautionary programs regarding liquidity management [52-54].

2.4 Liquidity Management Framework in Banks

In 1952, Harry Markowitz measured risk by presenting a quantitative model, and by introducing a risk-return-efficient model and presenting an efficient boundary line for the first time, he placed the category of risk alongside returns and standard deviation. His student William Sharp presented the beta index for the relative changes in the value of a stock against the change in market value and, by introducing the capital asset pricing model, established the scientific management of the portfolio. McCully introduced the late measure as a measure of fixed-income securities risk, based on which asset and liability management and the design of risk management strategies, including late compliance and hedging, were presented. Continuation of McCully's work led to a non-linear relationship between the value of securities and fixed income and market interest rates, and the convexity criterion was introduced as a more accurate indicator for calculating the risk of these securities. In subsequent years, other methods such as variance and standard deviation, half variance, mean absolute deviations, coefficient of variation, amplitude, and probability of negative return were used. After the 1970s, risk-adjusted rates of return became the criterion for assessments. In 1996, the JP Morgan Institute introduced the at-risk value model. This criterion determined all types of risk in a summary number and a certain amount of capital of an institution that was exposed to losses.

In recent years, along with the allocation of huge amounts of financial resources through various banks around the world, we have witnessed crises, losses, and even multiple bankruptcies of banks. Successful banks have faced a number of crises for a variety of reasons, including the risk or cost of interest rate fluctuations, inflation, currency, or non-repayment of payment facilities. Social and hidden crises have led the officials of supervisory and executive bodies of financial systems to consider the risk management of financial institutions, especially banks, more seriously and more professionally. On the other hand, liquidity management today is one of the biggest challenges facing the banking system. The main reason for this challenge is that most of the banks' resources are financed from short-term deposits. In addition, bank lending facilities are used to invest in assets with relatively low liquidity.

2.5 Research Background

Mohammadi [12] in an article entitled Investigating the factors affecting liquidity management and cash flow in the Social Security Organization stated that there was a significant and positive relationship between social security management and cash flow and between liquidity management and cash flows. A significant relationship was observed from operational activities. Abbasi and Ramezani [2] in an article entitled Claim-Based Financing; Modern tools for liquidity management stated that if the company does not have enough liquidity, there will be no facilities to pay salaries, purchase materials, pay taxes, and other necessary requirements in order to continue the company's activities; For this reason, today, liquidity indicators are as important as profitability indicators, and forecasting its trend has a great impact on assessing the situation of companies and valuing businesses, and most creditors and investors make their decisions accordingly. Hosseinzadeh and Khodadadi [5] in an article entitled Credit

risk strategy based on SWOT model in Bank Melli Iran stated that the research results in a model consisting of 9 indicators including security, infrastructure, destination services, accommodation facilities, price competitiveness Destination atmosphere, human factors, destination environment, recreational and event attractions, destination management, and finally information and planning are presented. Also, 64 variables are included in the subset of these indicators. Ismailzadeh and Javanmardi [1] in an article entitled Designing a suitable model for liquidity management and risk forecasting in Bank Sad-erat Iran stated that according to the results of Arima estimation and model, the probability statistics for autoregressive breaks and moving average less than 0.05 And indicates the significance of the coefficients of these intervals and the appropriateness of Arima model to predict liquidity. Also, according to the Arch and Garch model, GARCH (1) and ARCH (1) coefficients related to the conditional variance equation are negative and significant. Therefore, the estimation model can be used to predict liquidity risk. Chalaki et al. [3] in an article entitled "Study of Factors Affecting the Liquidity of Iranian Banks and Credit Institutions" stated that last year's liquidity, capital, interest income ratio, bank size, interest rate gap, deposit changes, and the ratio of foreign currency deposits to total deposits They have a significant impact on banks' liquidity. As a result, in order to properly manage liquidity, it is suggested that the management of banks during their annual operations consider the factors approved by the present study to have less need to refer to the central bank or other banks to solve their liquidity problems.

Zalaghi and Bayat [8] in an article entitled The role of conservative accounting perspective in liquidity management state that there is a significant relationship between conservatism and liquidity management. Also, a significant and negative relationship was observed between conservatism in accounting and the tendency to save. According to the research results, it can be stated that the more conservatism increases, the less cash available to company's decreases.

Rahmati et al. [7] in an article entitled Development of Saderat Bank strategy based on service quality using SERVQUAL, network analysis technique, and fuzzy taps, stated that among the banking services, six services are deposit and withdrawal, receipt of checks, issuance Encrypted checks, issuance of guarantees, account opening, issuance of various types of cards using private banking and money transfer services and issuance of invoices using electronic banking services seek the highest level of satisfaction for the customer. Xiao [40] discussed the issue of liquidity risk management in Chinese commercial banks. The results of this study showed that the management of liquidity risk of commercial banks in China is still in its infancy. Liquidity has always been the basis for commercial banks to carry out all forms of activities and liquidity risk, which throughout this process has been associated with the development process of banks and directly with the survival of the bank as well as the stability of the financial system. Scannella [39] in an article entitled Theory and Regulations of Liquidity Risk Management in Banking state that liquidity risk does not need to cover equity but requires a sufficient volume of liquidity assets and cash securities. For this reason, liquidity risk regulation in banking focuses on liquidity ratios based on financial constraints. Konovalova and Zarembo [37] examined the topic "Unbalanced Liquidity Risk Management: Evidence from Latvian and Lithuanian Commercial Banks". In this paper, they found that the bank is able to pool its resource base either by attracting additional deposits at higher interest rates or by using a realization of the sale of other assets. Apart from that, another source of potential liquidity issues is the bank's sensitivity to interest rate fluctuations.

Bassey and Moses [34] "Bank Profitability and Liquidity Management in Deposit Cash Banks", theoretical results show that there is a significant relationship between the ratio of liquidity to cash flow, in the bank, liquidity ratio, cash ratio, ratio There are loans to deposits, loan-to-assets ratios, and equity returns. However, when the return on assets was used as a representative of profitability, the relationship was not statistically significant. Finally, it is suggested that banks should evaluate and redesign their

liquidity management strategies in order to not only increase equity but also optimize the use of assets.

Bord and Santos [35] examined the issue of "banks' liquidity and the cost of liquidity to companies". Their findings in this study showed that the crisis that affected the banking system had a negative effect not only on prices. It has credited companies but also paid companies to guarantee access to liquidity.

3 Research Method

In this research, first, qualitative methods were used to identify the dimensions and factors affecting the liquidity management of banks, and then quantitative methods will be used to discover the cause-and-effect relationships and confirm the findings. In fact, this method is a combination of quantitative and qualitative methods. The main assumption in integrated research is that the combination of quantitative and qualitative approaches creates a better understanding of the research topics than each of them being used alone. The classification model will be used with an emphasis on qualitative data. Therefore, according to its objectives, the present study is part of applied research and in terms of the research process is part of descriptive and exploratory research that was conducted in two parts: qualitative and quantitative. The statistical population of the present study was the qualitative part of the managers of the Welfare Bank. The sampling method was to achieve theoretical saturation and 25 people were selected as the sample size. Therefore, a survey was used to collect information and according to the data collection, two types of tools are used: document review, interview, and questionnaire, and the evaluation method of the questionnaire were performed with a 5-point Likert scale. Reliability of the research questionnaire from the internal consistency reliability, Cronbach's alpha method was used as a pre-test for the 25 initial questionnaires because the questionnaire is designed as a Likert scale and is in fact an attitude meter, so the most appropriate method for calculation Validity is Cronbach's alpha coefficient. The findings show that Cronbach's alpha value is 0.87 and the reliability is confirmed. SWOT SWOT analysis was used to analyze the data.

4 Findings

In this section, first, by interviewing the members of the statistical sample and using the SWOT technique, identification and determination of weaknesses, strengths, opportunities, and threats to develop liquidity management strategies in the Welfare Bank were done. The results are described in Tables 1 and 2. Are provided. As shown in Table 1, 6 strengths and 6 weaknesses were identified that can lead to liquidity management in the Welfare Bank. Also, 6 points were opportunities and threats to achieve liquidity management that can improve its performance.

Table 1: Results of SWOT Matrix Analysis of Strengths and Weaknesses

	Strengths		Weak points
S1	Lack of focus on lending activities	W1	No major changes in the monetary structure of the bank
S2	Liquidity risk management to build trust	W2	Lack of continuous operational and executive plans to control liquidity
S3	Continuous internal monitoring and control over the volume of liquidity	W3	Weakness in specialized manpower
S4	Observance of regulations related to the appropriate ratio of capital adequacy	W4	Inefficient resource allocation
S5	Reduction of overdue receivables of banks	W5	Financing through short-term deposits
		W6	Lack of liquidity risk management

Table 2: Results of SWOT Matrix Analysis of Opportunity and Threat Points

	Opportunities		Threats
O1	Government support for the banking system	T1	Existence of continuous inflation in the country's economic system
O2	Distribution of bonds among customers	T2	Price shock (interest rates, stock prices and other securities, commodities, etc.),
O3	Modification of structures for the growth and development of the capital market	T3	Evolution of markets and tools
O4	Creating an extensive interbank network	T4	Changes in the legal framework
O5	Perform specific techniques and policies and an effective monitoring system	T5	Failure to receive accounts receivable on time
O6	Credit policies for optimal management of the bank's portfolio	T6	Profit rate variability

Then, by identifying the most important strengths and weaknesses, the threats that were obtained from the statistical community through questionnaires and interviews and weighed by managers and experts are presented in Table 2 as described.

Table 3: Internal Factors Evaluation Matrix

	Strengths	Weight	Degree	Weight score
S1	Lack of focus on lending activities	0.07	2	0.14
S2	Liquidity risk management to build trust	0.09	4	0.36
S3	Continuous internal monitoring and control over the volume of liquidity	0.09	4	0.36
S4	Observance of regulations related to the appropriate ratio of capital adequacy	0.09	4	0.36
S5	Reduction of overdue receivables of banks	0.08	3	0.24
	Sum	0.42		1.46
	Weak points	Weight	Degree	Weight score
W1	No major changes in the monetary structure of the bank	0.07	3	0.21
W2	Lack of continuous operational and executive plans to control liquidity	0.09	4	0.36
W3	Weakness in specialized manpower	0.09	4	0.36
W4	Inefficient resource allocation	0.08	3	0.24
W5	Financing through short-term deposits	0.08	4	0.24
W6	Lack of liquidity risk management	0.07	2	0.14
	Sum	0.48		1.55
	Total Summation	1		3.01

According to Table 3, the most important weaknesses in the field of liquidity management in the Welfare Bank are equal to Lack of continuous operational and executive programs to control liquidity and weakness in specialized manpower with a weighted score (0.36).

Also, the most important strengths in liquidity management in the Welfare Bank are liquidity risk management for confidence building, continuous monitoring and internal controls on the volume of liquidity, and the ratio of 0.6 to 10% with a weighted score (0.36).

Also in the evaluation matrix if the exponential score is more than 2.5 (average 1 and 4) the strengths are more than the weaknesses and vice versa.

In this matrix, as can be seen, the final score is more than 2.5, which indicates the existence of many strengths for managing liquidity in the appropriate welfare bank. In the following, we will examine the opportunities and threats.

Table 4: External Factors Evaluation Matrix

Opportunities		Weight	Degree	Weight score
O1	Government support for the banking system	0.09	4	0.36
O2	Distribution of bonds among customers	0.09	4	0.36
O3	Modification of structures for the growth and development of the capital market	0.09	4	0.36
O4	Creating an extensive interbank network	0.08	3	0.24
O5	Perform specific techniques and policies and an effective monitoring system	0.08	3	0.24
O6	Credit policies for optimal management of the bank's portfolio	0.09	4	0.36
Sum		0.52		1.92
Threats		Weight	Degree	Weight score
T1	Existence of continuous inflation in the country's economic system	0.09	4	0.36
T2	Price shock (interest rates, stock prices and other securities, commodities, etc.),	0.07	2	0.14
T3	Evolution of markets and tools	0.09	4	0.36
T4	Changes in the legal framework	0.07	3	0.14
T5	Failure to receive accounts receivable on time	0.09	4	0.36
T6	Profit rate variability	0.07	2	0.14
Sum		0.48		1.50
Total Summation				3.42

According to Table 4, the most important liquidity management opportunities in the Welfare Bank are: government support for the banking system, distribution of bonds among customers, reform of structures for growth and development of the capital market and credit policies for optimal management of the bank's portfolio by weight (0.36) and the most important threats are equal: the existence of continuous inflation in the economic system of the country, the evolution of markets and instruments and the failure to timely receive accounts receivable by weight (0.36). In the external factors evaluation matrix if the final score is more than 2.5 (average 1 and 4). Opportunities outweigh threats, and vice versa. In this matrix, as can be seen, the final score is more than 2.5, so the Welfare Bank has many opportunities to develop appropriate liquidity management strategies. As can be seen in the chart below, the chart is stretched towards opportunities and strengths. The offensive situation tends to require strategic planning to take advantage of strengths and opportunities.

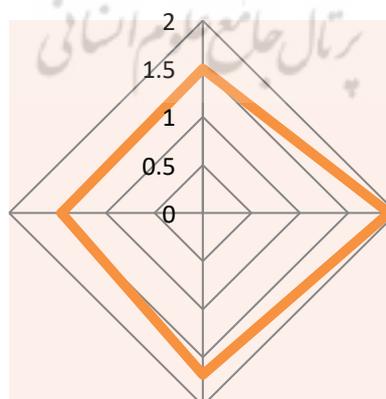


Fig. 1: Status of the Four Factors Relative to Each Other in the SWOT Matrix

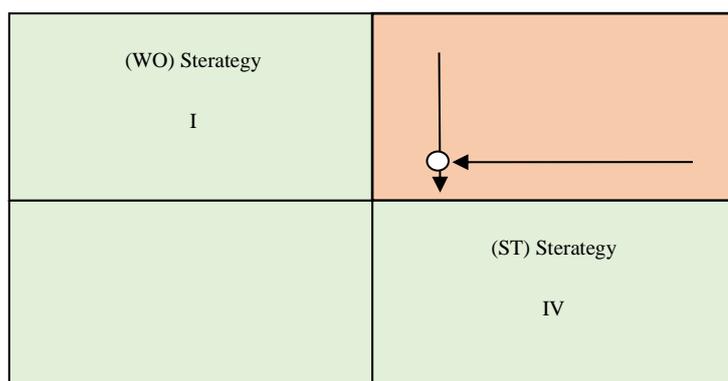


Fig. 2: The Position of the Welfare Bank in the Matrix of Internal and External Factors (IE)

The status of liquidity management in the Welfare Bank is in the range of house 1, which means that strategies are based on strengths and opportunities (ie offensive strategies). Offensive strategies are the result of a confrontation of strengths and opportunities. In these strategies, strengths are used to make the most of the opportunities provided by the external environment. Maximizes its latent and potential potentials and capabilities. According to the research findings, offensive strategies appropriate to liquidity management in the Welfare Bank should be developed, which are described in Table 5.

Table 5: Attack Strategies for Liquidity Management in the Welfare Bank

Opportunities Strengths
SO strategies SO1: Daily liquidity management SO2: Necessary measures to monitor and control liquidity risk SO3: Management organization with a suitable position SO4: Timely reports for the board, senior management and other related staff SO5: Continuous monitoring and measurement of net funds SO6: Continuous review of assumptions used in liquidity management SO7: Communicating with debt owners, diversifying debt structure SO8: Liquidity Crisis Management Strategies and Short-Term Gap Compensation Methods SO9: Liquidity management of major currencies SO10: Time matching of cash flows (cash inflows and outflows) over a period of time SO11: Effective and efficient internal control system

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