Balanced Scorecard and ISO 31000, Risk Management Integration to Improve Performance: Case Study at Indonesian Credit Union

Ririn Safitri; Perminas Pangeran

Master of Management, Faculty of Business, Duta Wacana Christian University, Indonesia

Abstract

This study aimed to integrate the *Balanced Scorecard* and risk management processes with the Cindelaras Tumangkar Credit Union (CTCU), Condong Catur 01 Branch office. CTCU has four Branch Offices (BO), meanwhile this study was conducted on one of the CTCU at Condong Catur 01 Branch Office. The risk assessment was based on the framework model of *ISO 31000* and *Balanced Scorecard*. The result of the risk identification showed that the risks faced by CTCU were financial risk (credit risk, market risk, liquidity risk), operational risk, and business risk. In the risk analysis process, the result stated that the credit risk was the highest risk, meanwhile the market risk was the medium risk. Based on the evaluation results, the financial risks needed urgent priority to be handled because the risks had the highest impact on the performance degradation. Those risks were managed by doing risk mitigation.

Keywords: *Risk Management Processes; ISO 31000; Balanced Scorecard*

Introduction

Nowadays, the choice of depository institutions is increasing in numbers and types: not only in banking, but also in non-banking institutions, such as: *Credit Union*. Based on the data from the Main Credit Union (Inkopdit) in 2017, the growth of the credit unions movement in Indonesia experienced ups and downs, from 2002 until 2016. However, the credit growth through credit unions continued to increase; the total loan balance was recorded at IDR19,040,318,477,739 until 2016. (Inkopdit, 2017).

In its ups and downs development; generally, *Credit Union* is inseparable from various events or risks; both from internal and external financial institutions. In order to survive in existing competition, this credit union seeks to accommodate the needs of its members, by offering various credit, savings products and other services. Aligned with the presence of more varied products that are offered by Credit Union and more complicated transactions that are carried out by its members; an integrated risk management model will be increasingly needed to enhance the ability in avoiding the large loss potential. The results proved that the application of enterprise risk management (ERM) can improve company performance and value (Hoyt and Liebenberg, 2015, Nocco and Stulz, 2006).

Along with challenges that are dealt by CU in general, Cindelaras Tumangkar Credit Union also deals with various events or risk that can obstruct the organization's strategic goals and objectives. The combination of *Balanced Scorecard* (BSC) and *enterprise risk management* (ERM) can improve the performance management (Nagumo and Donlon, 2006; Beasley et al., 2006; Shenkir and Walker, 2011; Rasid et al., 2017). At BSC, goals or objectives are identified for each perspective, meanwhile, ERM starts with an understanding on the organization's strategic goals or objectives. For each BSC perspective, the metric (Key Performance Index) is selected and the target is set. ERM provides added value to the BSC through events identification (risks) that can obstruct the target achievement in each of the four BSC perspectives. Although the integration of BSC and ERM provides added value; there is still no attention to their both combination. Thus, this practice gap encourages the importance of applying ERM to BSC combination that has been running at Cindelaras Tumangkar's Credit Union.

In this case study, the integration of ERM and BSC became interesting to be studied deeper. It was important to assess both internal and external risks related to various things that could be the obstacles in achieving strategic objectives in each BSC perspective on the Cindelaras Tumangkar Credit Union. The implementation of risk assessment was based on a risk management framework based on ISO 31000: 2009, starting from understanding the objectives (objectives) of each BSC perspective, identifying risk sources, analyzing risks, evaluating risks, and taking appropriate actions in responding to a risk. This study aimed to assess the risks that occur at Cindelaras Tumangkar Credit Union. Therefore, the realization of an integrated risk management framework could add value to the organization performance; particularly the Cindelaras Tumangkar Credit Union.

Literature Review

Balanced Scorecards

In 1992, a concept of strategy-based performance measurement was introduced. It was known as the *Balance Scorecard* (BSC). This concept was introduced by Kaplan and Norton. This concept is able to translate the company's vision, mission and strategy into the company's strategic objectives. The concept of the *balance scorecard* has experienced a significant development that is not only as a performance measurement system, but can also be used as a strategic management system and a communication tool.

According to Kaplan and Norton (1993); the balanced scorecard measurement model is not only assessed from a financial perspective, but also is seen from other perspectives namely the customer perspective, the internal business perspective and the learning and growth perspective. These four perspectives are designed to be integrated to achieve the company's vision and strategy (Beasley et al., 2006). The interrelationships between these perspectives are explained in figure 1. Learning and growth objectives are designed to increase employee competency and strategic awareness so that internal business processes are consistent with the desired goals. Better performance of internal business processes must lead to greater customer satisfaction, which later will lead to improved financial performance, enabling the goals and objectives achievement of the entity based on financial performance.

Based on the BSC framework, the company's Vision, Mission and Values are realized through an organizational strategy. Strategies include the company's programs, activities and strategic objectives. The success of achieving the company's strategy on all four perspectives, is measured based on Key Performance Indicators. In Cindelaras Tumangkar CU's case, the Main Performance Index from the financial perspective includes protection, effective financial structure, Rate on Return and Cost, liquidity, and sign of growth. While, the Main Performance Index from the customer's perspective includes products and services and member satisfaction. The Main Performance Index from the internal business perspective covers efficiency and competitive position, while the Main Performance Index from the learning and growth perspective includes leadership, and employee satisfaction. Last, the Main

Performance Index from the social perspective includes member education, socialization / motivation, and basic education. The four perspectives of the Balanced Scorecard are integrated into the Enterprise Risk Management framework.
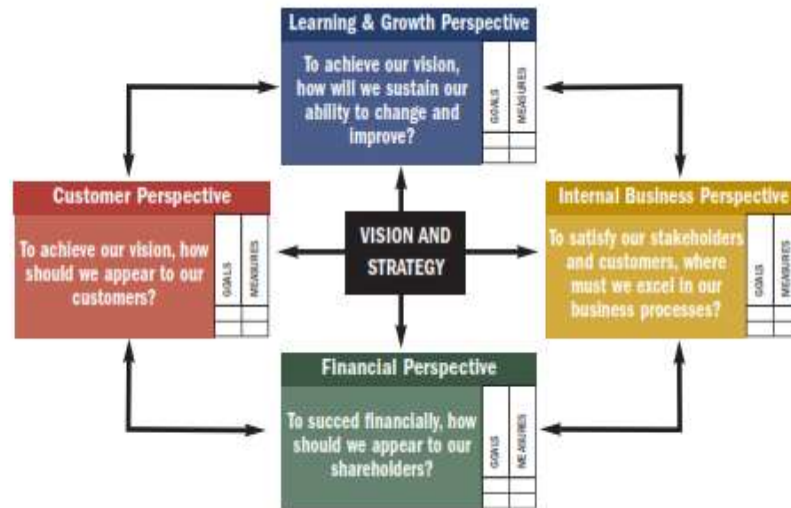

Figure 1. Balanced Scorecard
Source: Beasley et al., (2006)

Integrated Risk Management

Risk management according to ISO 31000: 2009 is a coordinated activity to direct and control an organization in managing risks. ISO 31000: 2009 provides principles, frameworks, and risk management processes which can be used as risk management architecture in an effort to ensure the effective risk management application.
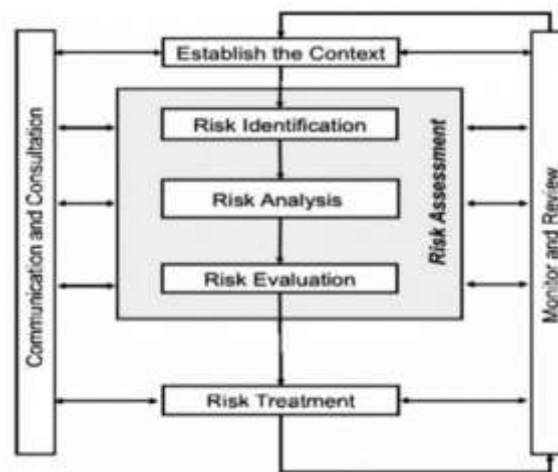

Figure 2. Risk Management Process
Source: ISO 31000: 2009: 14

The ISO 31000: 2009-based risk management process consists of three major activities, (Susilo and Kaho, 2018: 5). First, setting the context; which aims to identify and express organizational objectives, the environment in which the objectives are to be achieved, concerned stakeholders, and the

diversity of risk criteria, in which these things will help to reveal and assess the risk's traits and complexity. There are four contexts that need to be determined in setting the context. They are: internal context, external context, risk management context, and risk criteria. Second, risk assessment, which covers risk identification, risk analysis, and risk evaluation. Third, risk management; in dealing with risks, there are four treatments that can be done by organizations. They are: avoiding risks, mitigating risks, transferring risks, and accepting risks. Those three major processes are accompanied by two other processes. They are: (1) communication and consultation to internal and external stakeholders, and (2) monitoring and reviewing, which are carried out periodically. The image of the risk management process based on ISO 31000: 2009 is presented in Figure 2.

Based on ISO 31000: 2009 and ISO guide 73: 2009, the definition of risk is the impact of uncertainty on organizational objectives. While, impact is a deviation from the expected, can be positive or negative. Targets themselves cover various aspects, such as: finance, health, environment, and can be applied at various organizational levels. Meanwhile, the risks types in credit unions can be classified into several parts (Sunardi, 2017). They are: (1) Credit risk is the risk that arises if the loaner cannot and or does not want to meet the obligation to pay the principal installments and / or the interest as agreed in the loan agreement. (2) Liquidity risk, is the risk caused by CU's inability to meet its needs when due. (3) Market Risk, is the loss risk that occurs on the portfolio issued by CU related to market variables movement (*adverse movements)*, including interest rates and exchange rates. (4) Operational Risk, covers risks caused by inadequate or non-functioning internal process, human errors, system failures or external problems that affect the CU operations. (5) Legal Risk, is arising risk from the company management's inability to manage legal issues that can create loss or bankruptcy for the company. (6) Compliance Risk, is defined as the risk that is caused by CU for not complying and implementing the laws and regulations, and or other clauses that have been set. (7) Strategic Risk, is the risk caused by inappropriate determination and implementation of CU strategies, bad decision making or decision that is less responsive to external changes.

Balanced Scorecard (BSC) and Enterprise Risk Management (ERM) Integration

The risk assessment process needs to integrate Balanced Scorecard (BSC) and Enterprise Risk Management (ERM). Since ERM framework was introduced as an effective risk management solution for organizations that manage risk widely; there have been efforts in linking ERM framework with the existing performance measurement framework (Beasley et al., 2006; Calandro Jr. and Lane, 2006; Nagumo and Donlon, 2006; Maziol, 2009; Woods, 2007). This is aligned with the existing research recommendations (Nagumo and Donlon, 2006; Woods, 2007) which says that the integration of ERM and BSC most likely will bring a result in improving organizational performance. Meanwhile, the research findings by Rasid et al., (2017) reveals that although the use of ERM and PMS by companies will bring a result in improving organizational performance, linking these two frameworks will not lead to higher levels of organizational performance.

BSC's focus is on continuous improvement and BSC connects the organization's vision and strategy with particular performance measurement (Beasley et al., 2006). Basically, another convincing way for companies to assess the effectiveness of their risk management system is by linking it with the performance management system, BSC (Khameneh et al., 2016). Since the ultimate objective of the risk management system is to protect the stakeholders' interests and earn better profits; therefore, a higher overall organizational performance can be achieved with an effective risk management system (Khameneh et al., 2016).

Saraiva and Alves (2015) found that BSC adoption is beneficial for the company's global view, enabling strategic learning, and enabling companies in increasing the employees' involvement. Individual

performance is obtained by applying effective alignment of personal and departmental objectives to a well-defined strategy. Hence, it is clear that BSC uses the company's overall approach in measuring organizational performance. Aligned with this explanation; according to Rasid et al. (2017), BSC provides an excellent infrastructure for an integrated risk management system.

The organization admits the benefits of implementing BSC as a valuable tool in controlling financial instability, completing internal communication and strategic learning (Saraiva and Alves, 2015). BSC can be used to assess the organization's progress in achieving strategic objectives. The companies use BSC to focus on achieving future strategic objectives and priorities, besides that BSC also depicts the effectiveness and efficiency of the past system (Kalender and Vayvay, 2016). On the other hand, ERM is a tool for organizational leaders to detect positive and negative events that can affect organizational objectives achievement. Therefore, the integration of BSC and ERM will increase the chance in achieving the objectives and targets. Various types of risks can threaten the organization because it cannot fulfill its strategic objectives. Therefore, solutions must be planned to create an awareness culture in managing risk at the organization's all hierarchical levels. If the risks faced by the organization can be classified into four BSC perspectives, then risk management can be integrated into BSC (Woods, 2007).

Meanwhile, there are several organizations which already have integrated their ERM framework with BSC. Two examples are Tokyo-Mitsubishi Bank (BTM) in Japan (Nagumo and Donlon, 2006) and Tesco PLC, one of the largest retailers in the UK (Woods, 2007). BTM has succeeded in managing their risks and strategies to improve their corporate governance. The most fundamental thing from this linkage is that organizations must have superior strategies and strong capabilities in risk management (Nagumo and Donlon, 2006). In this case, the basis of ERM is the alignment of strategy and risk. After choosing the most appropriate strategy, the top management must consider the risks, assign responsibilities, and observe the implementation in a holistic and integrated approach. In addition, Mobil, Chrysler, and the US Army have linked their scorecards to risk management (Olson and Wu, 2010). These arguments encourage the importance of integrating the company's strategic performance measurement and risk management (ERM) system as the best practice that is suggested for risk management.

Research Method

The study was conducted at one of the Branch Offices at Cindelaras Tumangkar Credit Union, namely Cindelaras Tumangkar Credit Union, Condong Catur 01 Branch Office. This study used two types of data sources. They were: primary data and secondary data. Primary data are data that are obtained directly from the research objects and the respondents. Primary data in this study were obtained from questionnaires and risk registers that were filled out by the Head of Service Place. The primary data in this study were taken from interviews with the Managers, Head of Departments, Head of Service Offices, Management, Supervisors, and customers. While, secondary data were data that are used to support the research; such as: books and research journals.

The steps were started by determining perspective of each balanced scorecard by setting the Key Performance Indicators (KPI), risk identification, risk analysis and risk evaluation. All identified risks were calculated for their impact related to the objectives that the company wants to achieve. The risk identification process was done by conducting interviews with the Managers, Heads of Departments, and Heads of Service Places. The identification was aimed to make a broad risks list that can affect the company objectives achievement. The steps taken were (1) recording all negative risk events that might occur by distributing questionnaires, interviews, literature studies and field observations, and (2) risk mapping and risk selection. The event data, source, and the risk impact was confirmed by the Manager, Head of Department, and Head of Service Place and then it was included in the risk register. Risk analysis aimed to assess the risk of a confirmed risk register. The method was done by multiplying the amount of the risk impact with the probability of its occurrence, to determine the risk level. Risk analysis was aimed

to choose the most potential risks from the available risks. List. The method was done by mapping the risk list taken from the risk analysis the results into the FAA risk matrix. Risk mapping was carried out between the impact value and the frequency of occurrence value along with the risk matrix provided. From the mapped risks, it could be seen the risks types; started from the most potential or dangerous one to the usual or can be tolerated. After having the risk priority order, the risk aggregation was made in red, yellow and green. Risks in the red zone would be followed up by designing a control system. A control system was not made for risks in green and yellow zones, because those risks were considered as the ones which could be handled with applicable SOP. After each risk zone was known, those risks were later sorted out based on Risk Priority Numbers (RPN). The control system design was aimed to prepare actions that need to be done if the risk had not occurred / had occurred; therefore, each risk had a clear follow-up and also to reduce company mistakes. The method used was to prevent the risks that might occur and overcome the risks that had occurred. The control system design was based on the aggregate that had been created (the red part only), because the red part was a risk that had to be responded immediately.

Risk Level

The risk level measurement was carried out on the risk impact and the risk probability. The risk measurement objective was to assess how much risk that will be tolerated and later about how to handle the risks which were above the acceptance limit. The level of risk probability criteria is presented in table 1. Meanwhile, the level of risk impact criteria and risk impact area are presented in table 2. Impact criteria cover four impact areas. These impact areas include financial loss, reputation, performance, and service disruption.

Table 1. The Level of Risk Probability Criteria at CU

Probability Level/Frequency		Probability Criteria	
		Probability Percentage happens in 1 period	Amount of Probability Frequency happens in 1 period
Almost never occurs	1	$X \leq 5\%$	Very rarely: < twice in 1 year
Rarely occurs	2	$5\% < X \leq 10\%$	Rarely: 2 up to 4 times in 1 year
Sometimes occurs	3	$10\% < X \leq 20\%$	Quite often: 5 up to 8 times in 1 year
Often occurs	4	$20\% < X \leq 50\%$	Often : 9 up to11 times in 1 year
Almost ever occurs	5	$> 50\%$	Very often: > 11 times in 1 year

Table 2. The Level of Risk Impact Criteria

Impact Area	Not Significant	Minor	Moderate	Significant	Very Significant
	1	2	3	4	5
Financial Loss	< 40 Million	40 -150 Million	150 -350 Million	350 – 750 Million	> 750 Million
Reputation	$X \geq 90\%$	$85 < x \leq 90\%$	$70 < x \leq 85\%$	$65 < x \leq 70\%$	$X < 65\%$
Performance	$X \geq 95\%$	$90 < x \leq 95\%$	$80 < x \leq 90\%$	$75 < x \leq 80\%$	$X < 75\%$

The impact and frequency used in this study used a 5-levels (levels) scale. The level of risk probability criteria; used a statistical approach and events frequency per time frequency of (annual).

Percentage was used if there was a clear population of the activity and the amount that is used if the population was unknown. Meanwhile, the criteria level was classified in several impact areas based on the risk aversion type that may occur. Furthermore, impact risk area covers: financial loss, decreased ownership, decreased performance, and service recovery. The combination of the risk probability level and risk impact level reflected the amount of risk faced by CU. In this case study, the risk presentation was carried out in a in a risk map or risk analysis matrix. Based on the risk analysis matrix, risk preference limits were set. Risk preference was the level of risk that was acceptable by the management. The risks which could not be accepted by the organization and which risks that could be accepted by the organization (Susilo and Kaho, 2018: 106).

The determination of risk preference limits had been carried out for each category of risk level. The categories of the risk level in the risk acceptance area included very low and low risk levels. A mitigation process did not need to be done in this risk level. Next, the risk levels categories out of risk acceptance areas included moderate, high and very high (extreme) risk levels. This level of risk had to be carried out in mitigation process, treatment to reduce the risk level. The risk level criteria and the risk analysis matrix are presented chronologically in Table 3.

Table 3. Risk Level Criteria

Risk Level	Amount of Risk	Color	Area
Very High (5)	20 -25	Red	Mitigated Risk
High (4)	16 -19	Orange	
Moderate (3)	12 -15	Yellow	
Low (2)	6 -11	Green	Non-mitigated Risk
Very Low (1)	1-5	Blue	

Source: Researcher

Results and Discussion

Strategy Map

Strategy map was an explanation of the organization's vision and mission that aim to determine organizational objectives. The steps in determining the strategy map was started by determining the balanced scorecard perspective in accordance with the Credit Union conditions. Then, determining the strategic objectives placed in each balanced scorecard perspective. The balanced scorecard strategy map at Cindelaras Credit Union can be seen in Figure 3.

Risk Identification

In the risk identification process, the first step was to understand the company's vision, mission and strategy. The company's vision and mission were broken down again into Key Performance Indicators. Key Performance Indicators were categorized into growth and learning perspectives, internal process, customers, and finance. The combination of these four perspectives was commonly referred to as the Balanced Scorecard. Seen from financial perspective, Key Performance included protection, effective financial structure, Rate on Return and Cost, liquidity, and growth sign. Key Performance was seen from customer perspective including products and services, member satisfaction. Key Performance which was seen from internal business perspective including efficiency and competitive position, Key Performance

which was seen from learning and growth perspectives included leadership, and employee satisfaction, Key Performance which was seen from the social perspective includes member education, socialization / motivation, and basic education. The risks types which were identified in Condong Catur 01 were as follows, (1) financial risks consist of credit risk, market risk and liquidity risk. The indicator used to measure financial risk was using PEARLS (Richardson, 2002). (2) Non-financial risks consist of operational risks and business risks. Indicators used in operational risk include internal business processes, human resources, and systems. Indicators used in business risk include, products, services, marketing, and members' education.
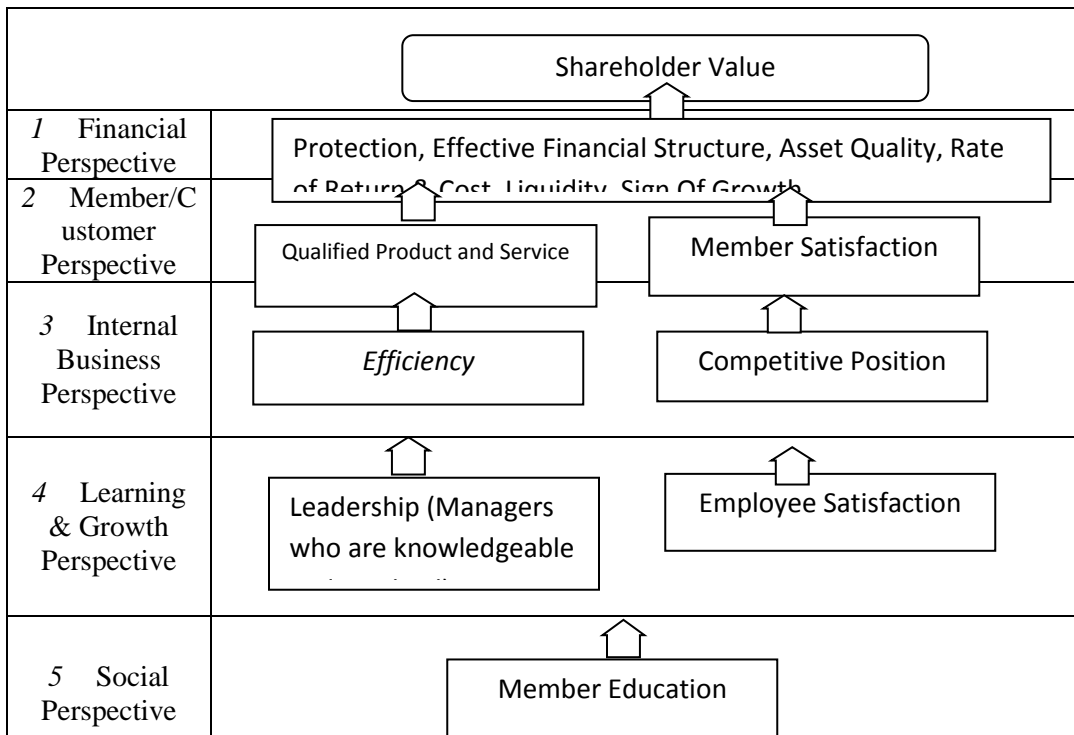
	Shareholder Value
1 Financial Perspective	Protection, Effective Financial Structure, Asset Quality, Rate of Return & Cost, Liquidity, Sign Of Growth
2 Member/Customer Perspective	Qualified Product and Service Member Satisfaction
3 Internal Business Perspective	*Efficiency* Competitive Position
4 Learning & Growth Perspective	Leadership (Managers who are knowledgeable Employee Satisfaction
5 Social Perspective	Member Education

Figure 3: Balanced Scorecard Strategic Map

Risk Analysis

Risk analysis was aimed to analyze the risk impact and all risks probability that could obstruct the organizational objectives achievement, as well as all opportunities that would be faced by the organization (Susilo and Kaho, 2018: 136). The results of this risk analysis would be beneficial inputs for risk evaluation and the decision making process related to these risks treatment. Risk analysis would help in setting mitigation options for risks priority. The level of risk would be calculated based on the probability value (likelihood) and the risk impact on the objectives achievement as specified in the context.

Based on the map image above, CTCU Condong Catur 01 faces risk priority in the form of credit risk, in which the credit levels were high. The highest risk level was caused by the risk events potential caused by the percentage of total assets that did not generate income, in which later it impacted on the failure of the organization's objectives achievement in a form of Asset Quality. The next highest risk level was caused by the risk events potential caused by member growth that was less than 5% and asset growth that was lower than the inflation rate. The impact of these events was the failure in achieving the organization's objectives, called Growth Signs.
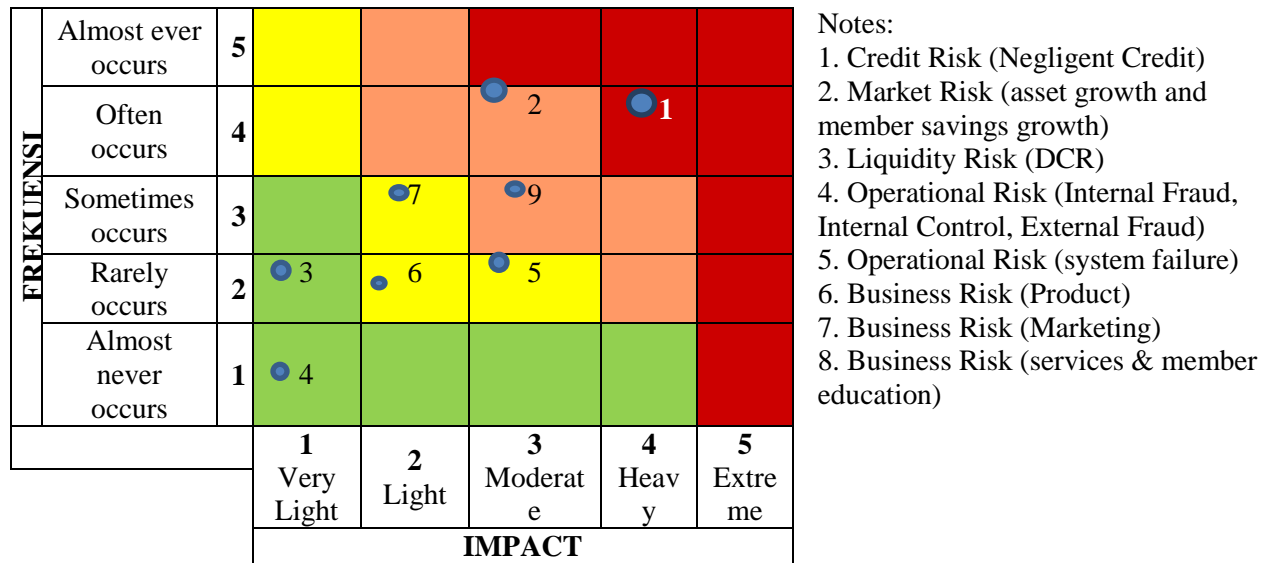
Figure 4: Risk Map

Notes:
1. Credit Risk (Negligent Credit)
2. Market Risk (asset growth and member savings growth)
3. Liquidity Risk (DCR)
4. Operational Risk (Internal Fraud, Internal Control, External Fraud)
5. Operational Risk (system failure)
6. Business Risk (Product)
7. Business Risk (Marketing)
8. Business Risk (services & member education)

Risk Evaluation

The risk evaluation objective was to help the decision making process based on the risk analysis results. The risk evaluation process would determine which risks that need treatments and how treatments were prioritized toward those risks. According to Susilo and Kaho (2011), risk treatment included efforts to select and apply actions that could reduce or eliminated the impact and risk probability. Some actions to treat the risks were avoiding risk, dividing risk, mitigating risk, and accepting risk.

At CTCU Condong Catur 01 risk mitigation occured to reduce the impact caused by the risks that occur. The risk mitigation strategies included Credit Risk: (1) Having warranty execution for bad negligent loans (2) Conducting regular monitoring for bad negligent loans (3) Liquidity Risk: (1) Reviewing policies on the procurement of fixed assets (2) Consistently shrinking, Growth Risk: member growth (1) Collaborating with institutions / universities in promoting Credit Union (2) having socialization in areas which had not known about Credit Union (3) Recruiting salespeople, member asset growth (1) Investing member savings into investments instruments that give higher interest than the inflation rate (2) Having productive businesses to develop member assets.

Conclusion

The implementation of Risk Management policy in Credit Union became an integral part of the company's business process and the management decision making processes. The Risk Management was carried out with the aim to identify and explore opportunities in increasing the company's value and reducing the risks negative impact. The Risk must be focused based on the context applied.

Based on the risk assessment results, Cindelaras Tumangkar Credit Union, Condong Catur 01 faced risks priority in the form of Financial Risk. Based on the 10 highest risks, it was found that the risks experienced by CTCU Condong Catur 01 had the highest impact on financial loss and the failure in achieving the work objectives. The strategy for risk management in CTCU Condong Catur 01 was carried out to reduce the risk level: by mitigating risks in order to reduce the events frequency, increased the value and reduce the impact.

Suggestion

In accordance with case study results of the risk assessment in CTCU Condong Catur 01, it was recommended to CTCU to be able to integrate BSC and ERM within a performance system framework. The combination of ERM and BSC is expected to improve its organizational performance and company value. Thus, the use of ERM in the organization's performance system is able to improve its governance, and increase the stakeholders' satisfaction.

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