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# The Management Guidelines to Strengthen the Education and Knowledge of Members of a Cooperative Credit Union in South Thailand

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#### **Abstract**

The aim of this paper is to study the key points of managing cooperative credit unions in south Thailand and how to strengthen the education and knowledge of the management team, staff and members. This paper is based on a qualitative method via in-depth interviews and a focus group with members and committees of cooperative credit unions in south Thailand; data were analyzed using content and descriptive analysis. Results showed that the most problematic issue is a lack of transparency in the management and patronage systems, leading to corruption. In addition, the key points for developing guidelines for this type of credit union include members' understanding and knowledge about the objectives of the cooperative system; updated regulations and legal measures concerning a deposit protection system; revised rules and regulations for loan policies, human resources, and information technology; government policies for strengthening cooperative credit unions; and allocating more budget to educate their staff and members, such as a training course and a visit to another cooperative credit union. In addition, the Cooperative Promotion Department and Cooperative Auditing Department of Thailand should improve the law and auditing method to strengthen and clarify the organization's operations.

Keywords: management, guidelines, cooperatives, credit union, south of Thailand

## 1. Introduction

Credit unions are the largest network of financial cooperatives in the world (van Rijn, 2022). A cooperative credit union is established on a voluntary basis by members in the same community, such as workers in the same factory, company, or educational institution. This type of credit union operates under the principle of democracy (one person, one vote); the members collect wealth together, and the credit union funds operations for members as borrowers to use for life. The members elect a board of directors, and the benefits generated are allocated to the members (Taylor, 1971). The objectives of a credit union are to promote society's well-being, peace, and economic benefits. For example, it may help people establish a livable income, save assets for the future as appropriate, and foster families' happiness based on the culture of each community. In addition, a credit union unites people and allows them to cooperate to achieve happiness, prosperity, and fullness of life (Homglin, 2015)

The difference between banks and credit unions is that banks are for-profit companies or partnerships whose goal is to make money for stockholders, and credit unions are nonprofit (Fay, 2022). Credit unions are (first and foremost) financial institutions, which primarily accept deposits (or shares) and make loans (McKillop & Wilson, 2010). In Thailand, the first cooperative credit union was informally established in the Huaykwang slum community, Din Daeng, Bangkok, in 1965; however, the first registered cooperative was the Mae Mun Credit Union Cooperative Limited in the Ubon Ratchathani province, registered in January 1979 (Cooperative Promotion Department, 2008). After 1969, Thailand's Cooperative Promotion Department encouraged various credit union groups to register as legal savings cooperatives, and its establishment of credit union cooperatives spread to various communities in urban and rural areas across Thailand. These unions operate based on the

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principle of cooperation among members, encompassing unity and voluntary democracy to maintain equal opportunities and fairness (Chunharungroj et al., 2018)

Credit unions in Thailand offer many types of services, such as typical loans intended for purchasing land, cattle, or housing, or to create small enterprises; risk-protection programs for borrowers in the event of permanent invalidity or death; life insurance for members who wish to save for their old age; risk funds for members in the event of fraud or default; mutual funds to cover cremation costs, and specific programs for women and young people (Sakaeo Provincial Cooperative Office, 2017). However, problems with credit union cooperatives in Thailand include corruption and the lack of strong auditing (Kittiwiwatanapong & Yossakrai, 2016), transparency, and management (Chutnitikun & Mungmuang, 2020). To solve some of these issues, this paper covers key points for managing cooperative credit unions and strengthening them through education and knowledge for sustainability; the results can inform guidelines for cooperative credit unions in other places.

#### 2. Literature Review

The literature review is based on cooperative credit unions, types of services, challenges of cooperative credit unions, and management of cooperative credit unions, as follows.

# 2.1 Cooperative Credit Unions

Cooperative credit unions are nonprofit financial institutions that provide financial services to members on the basis of a common bond; they emphasize building social capital and promoting empowerment among members (McKillop & Wilson, 2015). A credit union is governed by its members, who elect unpaid volunteer officers and directors from within the membership. Each member has one vote, regardless of the size of their financial stake (Goddard et al., 2009). The capital of credit unions comprises its members' deposits (Kang et al., 2022). Credit unions help to reduce poverty and increase the living standards of members and communities (Tulus & Nerang, 2020). As mentioned above, credit unions are member-owned financial institutions managed by members, and their purpose is to raise savings to be used as capital to provide members services in the form of loans at an appropriate interest rate; however, credit unions are not focusing on maximizing profits because profits are allocated to members as welfare benefits.

#### 2.2 Types of Services

A credit union is a type of cooperative in which people are committed to economic and social development because they believe that the union's methods and principles can be used to develop individual and societal economies. In addition, credit union cooperatives have procedures and regulations in place, with the condition that members must accumulate savings within the cooperative at fixed amounts and intervals (Saeteng, 2015). Many credit unions provide financial services similar to banks in terms of savings and loans. In addition, credit unions may offer interest-bearing business checking accounts, commercial loans, agricultural loans, and venture capital loans. Credit unions also deal in investment products, such as bankers' acceptances, cash forward agreements, and reverse purchase transactions. (Feinberg, 2001; Schmid, 2006)

## 2.3 Challenges of Cooperative Credit Union

Credit unions face many problems in achieving good financial performance and improving the quality of members' lives. In addition, they often lack the human resources necessary for efficient management, leading to problems with a variety of governance systems and levels of discipline in their implementation. Coordination between related parties in credit union management is weak, and many credit unions focus on the financial aspect of the business instead of on empowerment (Kusuma et al., 2022). The challenges facing small credit unions include the cost of technology, board leadership engagement with management, limited member growth, income, healthcare costs, and increasing overall costs (Credit Union National Association, 2021). In addition, many members lack knowledge and understanding of risk management in terms of accepting deposits for a cooperative credit union. Member participation is often inadequate; most members lack the potential and readiness to perform their duties as owners and stakeholders (Srasom & Tanarach, 2017)

## 2.4 Management of Cooperative Credit Unions

Regulations and legislation enforce the standards and transparency of cooperate credit unions, and credit unions should cooperate with the supervision of government agencies (Poprawa, 2009). Government policies effect cooperative credit unions' performance. In addition, returns on investment and equity depend on governance practices by the board of directors and the management team, and governance practices influence membership growth (Kumkit et al., 2022). In addition, gender diversity on management teams can produce a greater variation of opinions and ideas, resulting in better decisions from management (Saeed et al., 2018). A credit union's efficiency is related to interest rates on loans and deposits, the volume of credit operations with members, the

volume of deposits from members, and gross income from financial intermediation (Barros et al., 2020).

# 2.5 Conceptual Framework

The conceptual framework of this study followed and was developed based on other scholars' work, related theories, and discussion throughout the literature review to understand the concept of cooperative credit unions and management as follows.

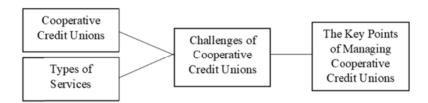


Figure 1. Conceptual framework

#### 3. Method

This study consists of qualitative research conducted in south Thailand between May and August, 2022. and which used multiple empirical methods of data collection through interviews, focus groups, and observations. In the first phase, researchers used phone interviews between 10 and 20 minutes with 10 committees and 15 members of 10 cooperative credit unions in south Thailand to study the problems of managing cooperative credit unions. In the second phase, researchers used an online small-group discussion, inviting 25 participants to a video conference to discuss development guidelines for managing cooperative credit unions. In addition, the participants were selected by purposive sampling (stakeholders of a cooperative credit union). In addition, we used data triangulation and investigator triangulation techniques from interview data, secondary data, and data from observations to check data and compare the data among themselves, and then used content and descriptive analysis from interview data to analyze the data.

## 4. Results

In Thailand, there are seven types of cooperatives: 1) agricultural, 2) fisheries, 3) land settlement, 4) consumer, 5) service, 6) thrift and credit, and 7) credit unions. Members of cooperative credit unions are allied people of various occupations who voluntarily become members and can resign any time with no obligation to the cooperative. There are two types of credit union members: 1) Ordinary members are those of legal age who have completed the membership process and have the right to use the cooperative's services in all respects in accordance with the regulations of the cooperative. 2) Associate members may or may not be sui juris and apply to use certain services of the cooperative but have no right to represent or exercise the right to vote. In Thailand, credit unions' services may include 1) savings, 2) capital accumulation (promoting savings and building financial status for members in the form of investment), a guarantee of a good return in the form of dividends, 3) loans for members, and 4) member welfare, such as in case of death or income compensation benefits in case of hospitalization.

# 4.1 Main Issue with Cooperative Credit Unions

This study showed that the main issue with credit unions is that a lack of management transparency leads to corruption, such as when a credit union's committee receives money in return for lending to other financial institutions or members. Another problem is competition for executive power within cooperatives (because of conflicts of interest, embezzlement within the organization and among staff, and the patronage system between committees, officers, and members leading to violations of rules and regulations). In addition, policies and laws are related to government policies, such as using cooperatives as a tool for implementing government projects to achieve project goals or government plans, but they are not a direct goal of cooperative credit unions. In terms of law, credit unions faced a problem with provisions and regulars that are too detailed and too inflexible for operation. In addition, the same regulations set up to control credit unions are also used in all type of cooperatives. Cooperatives all work under the same regulations without clear categorization or specific details. In addition, government officials mainly focus on compliance with the law, leading them to fail to promote compliance with cooperative principles and promote the use of organizational and business management tools in the workplace. Additionally, members lack knowledge and understanding of credit union cooperatives'

principles; some members hold ideologies contrary to that of the credit union cooperative because some members emphasize loans over accumulation or welfare.

4.2 Guideline for Managing Cooperative Credit Unions in South Thailand

As mentioned, a guideline for managing cooperative credit unions in south Thailand was developed as follows.

- 1) Create understanding and knowledge among members about the objectives of the cooperative system. For example, emphasize saving more than borrowing. A credit union cooperative is established in a community of members, so members of the cooperative have a convenient, fast money-collection place without having to waste time traveling to deposit money far away, such as banks, regardless of the amount of money. In addition, when members have trouble or need to spend money, they have the right to request a loan from the cooperative at a fair interest rate; the amount of money that members can borrow depends on their needs, their ability to repay, and the accumulation of members' own shares. Moreover, credit union cooperatives offer a range of services depending on members' needs and the funds the cooperative has, such as those earmarked for member relief services or welfare for members, which contributes to the stability of the members and their families.
- 2) Update regulations and legal measures for a deposit protection system. Establish guidelines for the development of management systems and supervision. Four approaches to supervising credit union cooperatives and cooperatives more efficiently include 1) developing an inspection service for reports and financial business to set standards similar to those of other financial institutions, 2) supervise the financial affairs of credit union cooperatives, 3) improve the structure of the corporate governance system, and 4) develop database and information systems and ensure they are up to date.
- 3) Rules and regulations for loan policies. The board of directors must establish a clear policy for loan allocation and an efficient system for monitoring debt payment; it must also set criteria for borrowing money customized to borrowers' ability to repay. In addition, a credit union must have policies and guidelines to help each debtor appropriately in the event that the debtor has problems repaying their debt.
- 4) Human resource management. Develop specific skills for the executive committee and staff allowing them to exchange knowledge with other successful cooperatives or organizations. Develop the potential of internal teams as relevant to their job descriptions.
- 5) Information technology management. Develop a program for accepting deposits, withdrawals, and borrowing to support the members' use. A fast, convenient web application would also be suitable for working members' transactions (possibly a mobile application). In addition, an application could help maintain a large database and grant easy to access to security protection by using an authentication system to prevent risks by verifying the correctness of program information. In addition, the system will be able to provide transparency and enable better inspection.
- 6) Government policy for strengthening cooperative credit unions. The state and cooperative credit unions must participate in the development of the credit union movement or strengthen the rule of law in administration and conflict resolution management. Government agencies should participate in all activities in collaboration with credit unions. In addition, the Cooperative Promotion Department of Thailand should revise and improve the laws related to cooperative credit unions, strengthening credit unions and allowing them to meet standards. The Cooperative Auditing Department of Thailand should emphasize consulting and improving management efficiency in finance, accounting, and auditing development concerning technology and continue to monitor financial reports from cooperatives and farmers' groups. This department should also strengthen knowledge and promote accounting management for cooperative members, including farmers' groups, professional groups, and community enterprises. Finally, credit unions must build strength and confidence in cooperatives between other credit unions to promote knowledge exchange and connect businesses to create networks for a sustainable organization.

In addition, to avoid corruption problems that were found in Thailand's cooperatives, the Thai government should build and develop an effective promotion, supporting, and supervising system for the cooperatives; create an efficient system for the supervision and internal audit of cooperatives; specify the policies, laws, regulations, and ethics for transparent operations; and boost cooperation among cooperative movements to prevent fraud.

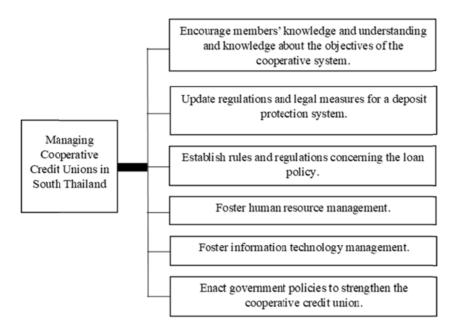


Figure 2. Managing cooperative credit unions in South Thailand

## 4.3 Strengthen Education and Knowledge

Guidelines for developing cooperatives must focus on improving the knowledge of staff and members because the strength of the cooperative credit union comes from its members. The guidelines to strengthen the education and knowledge of credit union members are as follows:

- 1) Personnel development for board members, management team and staff to develop skills and educate them about the rule of law and work regulations related to cooperative credit unions, such as holding a workshop or seminar both onsite and in other places. In addition, a workshop or seminar should be set up annually.
- 2) Update the operating manual and revise it to cover how to work and problem-solve current situations. The operating manual should be revised every year.
- 3) A member guide is similar to a handbook and gives guidelines and knowledge that credit union members should have. Every credit union should prepare and give a member guide to new members and should revise every one or two years.
- 4) A member's seminar would give members the opportunity to acknowledge the activities and operations of the cooperative as well as the rights and duties of members. In addition, the objectives are to understand and learn the principles, concepts and ideology of the cooperative credit union, inform members of their duties, and clarify the various privileges of the cooperative.
- 5) Prepare training courses for both staff and members, and the training date should be a public holiday for the convenience of staff and members, for example, a development course for participating in cooperative care, a finance and accounting course, and a credit management course.
- 6) Provide a visit to another high-performance cooperative credit union; board members should allocate the budget to bring the management team, staff and members to study and learn from another successful cooperative credit union.

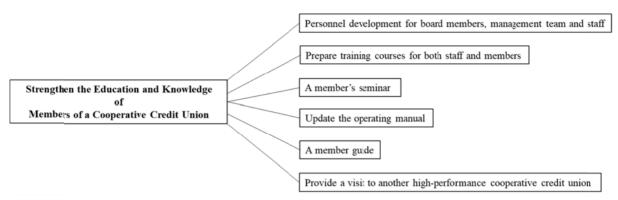


Figure 3. Strengthen the education and knowledge of members of a cooperative credit union

#### 5. Conclusion

A cooperative credit union is a financial organization established among members with a common community element, focused on providing assistance by using and managing their own accumulated funds to build a community finance system. In Thailand, the credit union movement has been expanding in urban and rural areas. The Cooperative Promotion Department of Thailand encourages various credit union groups to register as legitimate savings cooperatives in urban and rural areas across the country. Credit union cooperatives' policies are aimed to develop communities' potential; these unions have a systematic development process, starting from the individual family level and extending to the community level, linked to and consistent with the need to develop the economy and society. Policies with clear objectives to promote, support, and connect with governmental economic and social development policies related to cooperative credit unions will link development between personal, family, and community levels to address basic issues such as quality of life. However, some cooperative members do not understand the cooperative ideology.

The big issue with credit unions is a lack of transparency and patronage systems related to boards, committees, members, and staff. Some other obstacles are rooted in the knowledge and competency of staff; many cooperatives have low incomes and are unable to pay high remuneration to employees, so they cannot seek the right employees. In addition, success in operations is influenced by members and the board of directors working together to plan and control operations by closely monitoring the cooperative and its management. Operations must be improved consistently to enhance efficiency and to meet members' needs, ensuring that all employees are happy in their work. In addition, the developing guidelines for cooperate credit unions in south Thailand involve promoting understanding and knowledge for members about the objectives of the cooperative system, updating regulations and legal measures for a deposit protection system, revising rules and regulations for loan policies, human resource and information technology management, and government policies to strengthen cooperative credit unions. In addition, board members should allocate more budget to educate staff and members, such as providing a training course and a visit to another cooperative credit union.

Finally, government policy supporting credit unions would involve revising the ministerial regulations on lending and granting credit savings for cooperative credit unions, accepting deposits, incurring debt, and obligations, including loans or guarantees of savings. Other ministerial regulations to be revised include asset management and liquid asset management of savings and cooperative credit unions, improved asset classification, provisioning of savings, and transactions concerning financing and savings. Cooperative credit unions also require understanding in terms of risk management.

#### **Conflict of Interest**

There is no conflict of interest relating to this paper. We liaised with all co-authors to confirm agreement with the final statement.

#### References

Barros, M. G., Botelho da Costa Moraes, M., Salgado Junior, A. P., & de Souza Junior, M. A. A. (2020). Efficiency of credit unions in Brazil: an analysis of the evolution in financial intermediation and banking service. *RAUSP Management Journal*, *55*(3), 289–308. https://doi.org/10.1108/RAUSP-06-2018-0029

Chunharungroj, V., Vutimethee, Y., & Pitipanya, R. (2018). Model of effectiveness of the credit union cooperative management in Thailand. *Journal of Business Administration the Association of Private Higher* 

- Education Institutions of Thailand, 7, 45–56. Retrieved from https://so02.tci-thaijo.org/index.php/apheitvu/article/view/131685/98838
- Chutnitikun, N., & Mungmuang, S. (2020). New public administrative approach of the Ministry of Agriculture and Cooperatives on supervising credit union cooperatives. *Journal of MCU Peace Studies*, 8(5), 1833–1844. Retrieved from https://so03.tci-thaijo.org/index.php/journal-peace/article/view/240547/166940
- Cooperative Promotion Department. (2008). *Credit union cooperatives*. Ministry of Agriculture and Cooperatives. Retrieved from https://www.cpd.go.th/cpden/images/CreditUnionCooperatives.pdf
- Credit Union National Association. (2021). 6 challenges facing small credit unions. Credit Union National Association. Retrieved from https://news.cuna.org/articles/119661-6-challenges-facing-small-credit-unions
- Fay, B. (2022). *Credit unions*. America's Debt Help Organization. Retrieved from https://www.debt.org/credit/unions/
- Feinberg, R. M. (2001). The competitive role of credit unions in small local financial services markets. *Review of Economics and Statistics*, 83(3), 560–563. https://doi.org/10.1162/00346530152480207
- Goddard, J., McKillop, D., & Wilson, J. O. S. (2009). Consolidation in the US credit union sector: Determinants of the hazard of acquisition. *Journal of Financial Services Research*, *36*, 231–252. https://doi.org/10.2139/ssrn.1200262
- Homglin, S. (2015). Moral and spirit of the Cooperative Credit Union. *STOU Journal of Agriculture*, 1(2), 99–108. Retrieved from https://agrijournal.stou.ac.th/paper/P2 8.pdf
- Kang, C.-M., Ming-Chieh, W., & Lin, L. (2022). Financial distress prediction of cooperative financial institutions—Evidence for Taiwan credit unions. *International Journal of Financial Studies*, 10, 30. https://doi.org/10.3390/ijfs10020030
- Kittiwiwatanapong, R., & Yossakrai, K. (2016). Paradox of outstanding savings cooperatives in Thailand and corruption problems. *EAU Heritage Journal Social Science and Humanities*, 6(1), 235–248.
- Kumkit, T., Gan, C., Dao, L. T. A., & Hu, B. (2022). Enhancing governance practice for better performance of credit union cooperatives in Thailand. *International Social Science Journal*, 72(12), 597–612. https://doi.org/10.1111/issj.12366
- Kusuma, S. E., Sumarwan, A., & Kusumajati, T. O. (2022). The role of integrative approach for enhancing credit union sustainability: A reflection on the Indonesian credit union movement. *Jurnal Ekonomi Pembangunan: Kajian Masalah Ekonomi dan Pembangunan*, 23(1), 31–42. https://doi.org/10.23917/jep
- McKillop, D. G., & Wilson, J. O. S. (2010). *Credit unions: A theoretical and empirical overview*. https://doi.org/10.2139/ssrn.1702782
- McKillop, D. G., & Wilson, J. O. S. (2015). Credit unions as cooperative institutions: Distinctiveness, performance and prospects. *Social and Environmental Accountability Journal*, *35*(2), 1–17. https://doi.org/10.1080/0969160X.2015.1022195
- Poprawa, A. (2009). *Regulation and legislation of cooperative banks and credit unions*. United Nations Expert Group Meeting on Cooperatives April 28–30, 2009 New York. Retrieved from https://www.un.org/esa/socdev/egms/docs/2009/cooperatives/Poprawa.pdf
- Saeed, A., Javed, A. Y., & Noreen, U. (2018). Microfinancing, governance, and performance: A South Asian perspective. *Journal of Economics, Finance and Administrative Science*, 23(46), 247–265. https://doi.org/10.1108/JEFAS-01-2017-0014
- Saeteng, T. (2015). The strategic development of the potentiality community and membership administration management of the credit union cooperative in Bannadoem district, Surat Thani Province. *Narkbhutparitat Journal Nakhon Si Thammarat Rajabhat University*, 7(2), 144–160. Retrieved from https://so04.tci-thaijo.org/index.php/nakboot/article/view/96461/75262
- Sakaeo Provincial Cooperative Office. (2017). *Cooperative credit union*. Retrieved from https://web.cpd.go.th/sakaeo/index.php/abot1/2017-06-16-03-41-01/2017-06-16-03-45-42
- Schmid, F. (2006). When for-profits and not-for profits compete: Theory and empirical evidence from retail banking. *Managerial Finance*, *31*(11), 50–71. https://doi.org/10.1108/03074350510769965
- Srasom, T., & Tanarach, A. (2017). Legal measures for the deposit protection system of the cooperative credit union. *Journal of MCU Social Science Review*, 6(2), 725–734.

- Taylor, R. A. (1971). The credit union as a cooperative institute. *Review of Social Economy*, 29(2), 207–217. https://doi.org/10.1080/00346767100000033
- Tulus, R., & Nerang, M. (2020). *Existential challenges of cooperatives and credit unions in Indonesia*. In Waking the Asian Pacific Co-Operative Potential. INC. https://doi.org/10.1016/B978-0-12-816666-6.00025-2
- van Rijn, J. (2022). The cooperative identity at U.S. credit unions. *Journal of Co-Operative Organization and Management*, 10(1), 100152. https://doi.org/10.1016/j.jcom.2021.100152

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