Development of Management Information System to Improve a Sustainable Competitive Advantage of Nurul Barqi Sejahtera Cooperative

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Abstract: This community service activity aims to provide cooperative management training to improve the understanding and skills of administrators and supervisors in providing services to members. The location of this community service is at the Nurul Barqi Sejahtera Service Cooperative, Semarang, Central Java Province, with a target of 14 participants consisting of administrators and supervisors. The solution approach is carried out through the workshop method, which includes steps such as initial problem identification, follow-up FGD on institutional management development, development of an integrated cooperative management information system, implementation of an integrated SIM operation workshop, and program evaluation using interview instruments, with source triangulation analysis techniques, and follow-up. The results of this service are that the development of teacher professionalism in managing school cooperatives has been successfully carried out, starting from the problem identification stage and workshops to program evaluations. The results of this service can also increase cooperatives' competitiveness in a sustainable manner. Challenges faced, such as limited understanding of teachers regarding cooperative development, have been successfully overcome through intensive training and ongoing mentoring.

Introduction

As time goes by, human needs increase, so the economy experiences continuous growth and transformation. This transformation includes various aspects of the economy, such as inflation, unemployment rates, job opportunities, production results, etc. (Himran, 2020; Rusydiana et al., 2019). Proper handling of these changes will bring the country towards a stable and normal economic condition, which will positively impact the welfare of the people. Seeing Indonesia's financial challenges, we must reflect and find solutions to overcome these problems in the future.

Schools have an essential role in shaping students' character, not only through the learning process in the classroom but also by providing knowledge and social skills needed in community life (Lavy, 2020; Pradana et al., 2020). Student guidance services offered by schools, including through school cooperatives, are one aspect of character development that can positively impact student development. (Cai & Richdale, 2016; Lewallen et al., 2015; Wang & Degol, 2016). Cooperative requirements, such as the provision that cooperative members must be able to carry out legal actions, cannot be fulfilled by students who are generally still young, namely between 6-18 years old. (Inayah et al., 2021; Naimi, 2023). Therefore, school cooperatives must still be officially recognized as cooperative legal entities. However, in cooperative statistics, school cooperatives are still recorded and

registered. In this situation, the hope for school cooperatives is not focused on making students entrepreneurs or seeking profit but rather as a learning medium. School cooperatives are considered an alternative that supports students' interests in the future while still maintaining their primary mission as students who focus on pursuing knowledge. (Hidayati, 2016; Wijoyo et al., 2021).

At the high school/vocational school level or equivalent, cooperatives are known as organizations whose members consist of students from schools, madrasas, and other educational institutions at the same level. (Nurbudiyani, 2013; Sudarmanto, 2022; Suyati, 2016). However, the current reality shows that student cooperatives do not operate by their objectives, which should be cooperative with school student members. On the contrary, in managing the organization, the members of this cooperative consist of teachers who act as managers without involving students as active members in the management process. (Ma'rifah et al., 2024; Semaun, 2019).

One of the cooperatives currently developing at the school level is the Nurul Barqi Sejahtera Service Cooperative. This cooperative operates at SMK Nurul Barqi Islamic Boarding School, a vocational high school based on Islamic boarding schools. It is supported by the PLN BUMN Waqf Foundation, which provides free school facilities for underprivileged students. This vocational school adopts entrepreneurial practices that should be based on the expertise and competencies provided, namely Mechatronics and Electricity. Located in Cepoko Village, Gunungpati District, Semarang, SMK Nurul Barqi has two concentrations of expertise, namely Mechatronics Engineering and Electrical Power Installation Engineering, each of which is a 3-year educational program.

Based on the results of monitoring and initial discussions with the management of the Nurul Barqi Sejahtera Service Cooperative on December 8, 2023, it was revealed that the school faced several problems and had specific potential in managing its cooperative. Some of the issues faced by the Nurul Barqi Sejahtera Cooperative involved :

1) The limited resources of current cooperative administrators affect their ability to start or develop cooperative businesses.
2) Cooperatives also need help in the managerial, marketing, and financial aspects required to run a cooperative effectively. Lack of knowledge about cooperative management and limited access to business training and education can be obstacles to optimizing the potential of cooperatives in schools.
3) The need for more understanding of cooperative administrators, supervisors, and members regarding cooperative institution management causes overlapping in the implementation of tasks and responsibilities in various sections, including organization, business, and finance.

The results of the discussion with the management of the Nurul Barqi Sejahtera Service Cooperative can be represented as a problem that requires immediate resolution related to the performance of the institutional management of the Nurul Barqi Sejahtera Cooperative, which still needs The community service team from Universitas Negeri Semarang (UNNES) took advantage of this opportunity to maximally increase the competitiveness of cooperatives sustainably, to encourage internal economic development on a national scale. The solution that will be implemented is introducing new media to manage school cooperatives by developing an integrated management information system.

This community service project aims to provide institutional, financial, and cooperative business management training. It is hoped that this training will improve the understanding and skills of the management of the Nurul Barqi Sejahtera Cooperative in

managing the cooperative effectively and efficiently. This is expected so that each manager can carry out their duties and responsibilities well so that every activity can be directed to improve the welfare of members. This effort also involves developing an integrated cooperative management information system as a supporting facility.

Method

This community service occurred at the Nurul Barqi Sejahtera Service Cooperative on Jalan Kol. RW. Soegiarto, Cepoko, Kecamatan Gunungpati, Semarang City, Central Java 50223. The target of this activity includes administrators, supervisors, and representatives of cooperative members, totaling 14 people. They will be developed to create an integrated Management Information System. The problem-solving approach applied by the team involves workshops, which aim to improve skills through discussion, socialization, and training. Furthermore, participants will be engaged in a simulation of designing a Management Information System (SIM).

The concept of this SIM aligns with learning in the field of Entrepreneurship, where the system, as a computer-based system, can provide information to users with similar needs, interconnected to support operational, managerial, and decision-making functions. (Hambali, 2021; Mayasari et al., 2021; Zamroni, 2020). This system is based on computer technology, which can range from Excel sheets to more advanced platforms. Additionally, the collected data can be accessed and processed internally and externally, ensuring a more efficient and productive use of the information system. (Harahap, 2015). This community service activity uses lectures, question-and-answer sessions, discussions, simulations, and mentoring.

Optimizing the implementation of a series of activities related to workshops to strengthen the institutional capacity of cooperatives through the development of an integrated management information system can be achieved through specific steps. These steps must be measurable and have specific achievement targets, including the role played by the service team in the overall activity. In the problem-solving process, the service team begins by conducting a needs analysis before evaluating each problem-solving stage. The activities carried out by the service team to implement the institutional capacity of cooperatives assisted by an integrated management information system consist of five activities carried out sequentially. Several alternative solutions to the activities offered are described in Table 1.

Table 1. Operationalization of Activities

No	Operationalization of Activities	Target	Achievement indicators
1	Initial Problem Identification	Determine initial needs in solving problems, supporting components, and implementation strategies, and sign the Implementation Arrangement (IA)	Results of development needs analysis.
2	Continued FGD on Institutional Management Development	Explore in depth the needs of creating a cooperative management information system, including an analysis of the roles played by each party in the development process. In addition, designing a prototype model of the system is also carried out at this stage.	1. Prototype design 2. Work module design 3. Division of development tasks
3	Development of an Integrated Cooperative	1. SIM application creation 2. Creating a Work Module 3. Application usability testing	1. Cooperative SIM application 2. Work module

	Management Information System	4. Product revision and finalization	
4	Implementation of Integrated SIM Operation Workshop	1. Cooperative institutional management workshop 2. Cooperative SIM operation practice workshop 3. FGD on application usability with cooperative administrators, supervisors, and members 4. Workshop evaluation	1. Understanding media usage 2. Results of application on students
5	Program Evaluation and Follow-up	Program evaluation of: 1. Perceptions of managers, supervisors, and cooperative members in operating cooperative SIM 2. Program follow-up The evaluation instrument uses interviews with indicators: 1. Achievement of service objectives 2. Achievement of material understanding The analysis technique uses source (informant) triangulation.	Follow-up on the development of the cooperative SIM application

Result and Discussion
Community Service Results

An explanation of the results of activities that include strengthening the institutional capacity of the Nurul Barqi Sejahtera Cooperative through the development of an integrated management information system to increase the cooperative's sustainable competitive advantage is described as follows.

1) Coordination and Mapping of Needs in Cooperatives

On January 23, 2024, initial online coordination was carried out via WhatsApp with the Chairperson of the Nurul Barqi Cooperative. The results of this coordination and the mapping of needs for cooperative managers include (1) the Limited ability of managers to manage their cooperatives by cooperative provisions and (2) Managers' needs to implement cooperative practices by the provisions of the Law.

After conducting initial observations and coordination, on early January 30, 2024, the second stage of coordination was carried out with the chairman of the cooperative and the principal of SMK Nurul Barqi because this cooperative is based on a school cooperative. The results of the second coordination include the following: (1) Cooperative managers, in this case, teachers at SMK Nurul Barqi, need a workshop to develop an integrated management information system to strengthen the cooperative's institutional capacity. (2) Cooperation is needed between Universitas Negeri Semarang, especially the Faculty of Economics and Business, Universitas Negeri Semarang (FEB UNNES), and the Nurul Barqi Sejahtera Cooperative. One form of cooperation that can be carried out is to provide training in developing an integrated management information system. This collaborative activity is considered important as a form of social responsibility and mutual care between educational institutions in delivering meaningful and contextual learning and improving the quality of education in Indonesia, incredibly cooperative learning in the school environment.

Through the second coordination with the Nurul Barqi Cooperative, a letter of statement of cooperation in service was formed and signed by the cooperative's chairman. The letter stated the willingness to cooperate and explained that the service activities would occur from March to November 2024. In addition, the letter also explained that there was no family relationship or joint business in any form between the service team from the FEB UNNES team and the Chairman of the Cooperative.

2) Workshop and Mentoring to Strengthen Cooperative Institutional Capabilities

The next stage of the community service program is to hold a workshop and mentor the development of an integrated management information system. This activity was carried out on Tuesday, September 10, 2024. The scheduling was adjusted to the agreement and availability of time between the community service team and the Nurul Barqi Cooperative management. The workshop took place from 08.00 WIB to 12.00 WIB and was conducted face-to-face at SMK Nurul Barqi, Semarang. The school was chosen because it is the secretariat office and has adequate space for the activity.

The activity was attended by the service team from FEB UNNES and the cooperative management, in this case, the teachers of SMK Nurul Barqi. The total number of participants who attended was 14 people. The Head of the Nurul Barqi Service Cooperative expressed his appreciation to the FEB UNNES team for their cooperation in advancing and improving the quality of education and increasing economic activities in Indonesia to educate the nation's life and develop humans holistically. These humans believe and are devoted to God Almighty, have high morals, work together, and are responsible. Collaboration between higher and secondary education academics is essential for national education in Indonesia. The head of the service team from FEB UNNES also expressed his hope that this activity can contribute knowledge, motivation, and teaching skills to teachers to change their mindset in understanding the development of institutional capabilities of school cooperatives and improve their professional competence. This will increase cooperative management activities' effectiveness, efficiency, and sustainability.

Figure 1. Greetings from the Head of Community Service & the Head of the Cooperative

The core workshop was led by a resource person who is an expert in the field of cooperative assistance, namely Ahmad Sehabuddin, S.Pd., M.Pd., who discussed strengthening the institutional capabilities of cooperatives through the development of an integrated management information system. The materials presented include the concept of cooperative management, the role of cooperatives in the economy, the development of cooperative digitalization, and various integrated information systems in cooperatives. The resource person and participants of the community service activity conducted a simple simulation of operating the cooperative management information system. Participants were

taught how to identify the potential of cooperative resources, obstacles and challenges in the digital era, and various information systems needed by cooperative management. The community service team also held a discussion forum (question and answer) to answer questions or responses from workshop participants, allowing participants to understand the workshop material well.

Figure 2. Presentation of Material by Resource Person & FGD session

After receiving the workshop material from the resource person, participants were directed to conduct a focus group discussion (FGD) to strengthen the concept and implementation plan in the competence of cooperative managers. Based on the conclusion of the FGD, it was revealed that teachers need to understand the development of cooperative institutional capabilities, including developing management information systems. This is because, in the current highly competitive digitalization era and competition between cooperatives, teachers must be able to meet the demands of learning that allow for the development of creativity and school potential.

3) Post Workshop Assistance

Post-workshop support is carried out by implementing institutional capability strengthening of cooperatives by developing an integrated management information system. To continue the workshop and FGD activities, the FEB UNNES service team provides online assistance to teachers. Participants can discuss and share information through a Whatsapp group of the service team and workshop participants. The service team also monitors the progress of the service program by maintaining communication with partners. Through assistance using this method, it is hoped that participants can understand cooperative development to increase cooperatives' sustainable competitive advantage.

In addition, the service team also supports improving the quality of human resources in education by motivating cooperative managers to be more professional. The following assistance is to ensure and continue to monitor service participants to implement a properly and correctly integrated cooperative management information system by communicating actively through the Whatsapp group. This will likely result in a change in attitude reflected in teachers' enthusiasm for managing school cooperatives, which can provide excellent service to members.

4) Evaluation of Community Service Results

The evaluation of this community service activity shows that all planned program activities were successfully and smoothly implemented. Indicators of success include the satisfaction of the Nurul Barqi Cooperative managers with the activities they have participated in, starting from the identification stage and workshops to post-workshop

assistance. The teachers were able to overcome the challenges faced in improving their professional competence in cooperative management, especially in the field of digitalization.

The stages of this activity were carried out by the agreement made between the FEB UNNES community service team and the cooperative chairman, aiming to improve the quality of human resources in Indonesian cooperatives and achieve national education goals, namely cooperative learning in schools. The success of this community service program can also be seen from the following indicators: (1) the number of training participants who reached the target, namely 14 participants, (2) the achievement of the workshop objectives in optimizing the institutional capabilities of cooperatives to increase sustainable competitive advantage, (3) the achievement of planned materials, including the concept of cooperative management and the development of an integrated management information system, and (4) the ability of participants to understand cooperative digitalization materials.

Discussion

As educators, teachers' professionalism plays a vital role in education, especially in the learning process. This can be seen from their ability to contextualize student skills and involvement in school cooperatives. This professional ability is expected to contribute to the continuous improvement of cooperative competitiveness. This training teaches teachers to strengthen cooperative institutions by developing an integrated management information system. They learn how to properly manage cooperatives according to cooperative principles, utilize existing school resources, and integrate management information systems effectively and efficiently. This training aims to equip cooperative managers with the skills to develop strong school cooperatives and involve students in their management.

Community service activities focused on optimizing the institutional capacity of cooperatives through training in developing management information systems to improve sustainable competitiveness went well, thanks to several supporting factors. However, it should be noted that its implementation also has several inhibiting factors. These supporting factors include the enthusiasm of participants in learning the concept of cooperative development management, awareness of the importance of improving the skills of cooperative human resources, understanding of digitalization, and the need to follow the development of school cooperatives, which all parties in the school must support.

One of the challenges in implementing this community service activity is that developing a cooperative management information system requires expertise and precision in adjusting the potential of cooperative resources to the school's needs. Many teachers still need to understand how to develop cooperatives fully. Facing this challenge, Worldailmi et al. (2023) Cooperatives require developing a business support system, and each cooperative business unit must innovate to win the competition through product development, technology utilization, motivation, organizational design, and human resource optimization.

The results of this community service activity are consistent with the research. Yuniati et al. (2018) states that institutional strengthening can encourage members to increase productivity, positively affecting welfare. Human resources have an important role in institutional development. In the institutional context, human resources that run institutions or organizations still have limited capacity, so institutional operations are carried out based on their capabilities. Institutional strengthening can ensure sustainability in efforts to disseminate technical or technological knowledge and prepare institutions to compete in a more open economic structure.

The implications of the results of this community service activity highlight several key areas that impact the success and sustainability of school cooperatives: (1) Professional

development of teachers, the results emphasize the critical role of teacher professionalism in managing school cooperatives. By equipping teachers with the skills to integrate management information systems and manage cooperatives according to cooperative principles, there is a clear expectation that this will lead to continuous improvement in cooperative competitiveness. (2) Improvement in Cooperative Management, the training helps improve the operational efficiency of school cooperatives. The implication is that cooperatives that adopt these integrated systems will be better equipped to innovate and respond to market changes, ensuring their long-term viability.

Next, (3) Supportive Environment and Awareness, participants' enthusiasm, awareness of the need for skill enhancement, and an understanding of digitalization are supportive factors for successfully implementing cooperative development. The implication is that when school environments are supportive, cooperative members and managers are more likely to adopt new practices and technologies, which enhances the cooperative's ability to grow and succeed in the long term. (4) Long-term Impact on Economic Structure: By building capacity and adopting technological innovations, school cooperatives can evolve from simple member-based organizations to more competitive entities that thrive in larger economic frameworks, thus benefiting the school community and the broader economy.

Conclusion

The conclusion of the service activities to strengthen the institutional capacity of the Nurul Barqi Sejahtera Cooperative through the development of an integrated management information system is as follows: (1) The results of identifying needs in the field require training to develop a school cooperative management information system. (2) The results of stage 1 were then workshops and mentoring. This activity increased the participants' understanding of cooperate management and cooperative digitalization. Participants gain practical knowledge about managing cooperatives based on integrated information systems through simulations and discussions. (3) Post-workshop mentoring, carried out through online communication with the community service team, showed that the management of the cooperative information system has been running well and has sustainably developed the competence of managers. (4) The evaluation results show that this program has succeeded in increasing the competence of cooperative managers in digitalization and cooperative management and achieving success indicators, including increasing institutional capabilities and participant participation. Overall, this program has significantly contributed to the development of teacher professionalism in managing school cooperatives, as well as sustainably increasing the competitiveness of cooperatives. The challenges faced, such as the limited understanding of teachers regarding cooperative development, have been successfully overcome through intensive training and ongoing mentoring.

Recommendation

The service team proposes the following recommendations: (1) Advanced and Specialized Training: Conduct more in-depth advanced training on digitalization and the development of cooperative management information systems. Focus on the technical aspects of software usage and cooperative data management relevant to the needs of cooperative managers. (2) Strengthening Collaboration with Stakeholders and Policy Makers: Expand collaboration with educational institutions and external parties such as universities or technology development agencies to support innovation and the modernization of cooperatives through various forms of technical and academic support. (3) Increasing Cooperative Member

Participation: Engage more cooperative members, including students and teachers, in cooperative management through practical training that can enhance their understanding of cooperative operations and benefits.

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