



PKM Malaysia Enhances Information Technology Innovation Outcomes for Higher Education Cooperatives

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Abstract

The Community Service Program (PKM) implemented in Malaysia has opened up opportunities for international collaboration in developing information technology (IT) innovations to support the digital transformation of cooperatives in higher education settings. This activity underscored the importance of adapting technology to cooperative management systems to enhance efficiency, transparency, and accountability. Through a pilot study of digital cooperative models such as ANGKASA in Malaysia, participants gained insights into the implementation of integrated application-based information systems, the use of big data in membership management, and the optimization of digital platforms for financial reporting. The results of this activity demonstrated that the adoption of IT technology in Indonesian higher education cooperatives can strengthen institutional competitiveness, accelerate service processes, and increase active member participation. This PKM also reflects that the synergy between technological innovation and higher education-based cooperative governance is a strategic step towards modern and competitive cooperatives in the ASEAN digital era.

Keywords: community service, higher education cooperatives, digitalization, information technology, ANGKASA Malaysia.

INTRODUCTION



The development of information technology (IT) has had a significant impact on various aspects of life, including the management of cooperative institutions in higher education. In the digital era, cooperatives are required to be more adaptive to the use of technology to improve efficiency, accountability, and member participation (Setyawati et al., 2021). One strategic effort to address this challenge is through international-level Community Service (PKM) programs that provide opportunities for universities to conduct comparative studies, collaborate, and transfer technology abroad.

Malaysia, particularly through its national cooperative organization, ANGKASA (Angkatan Koperasi Kebangsaan Malaysia Berhad), has successfully implemented widespread digitalization of cooperative management. ANGKASA utilizes an information technology-based system that enables efficient and real-time cooperative administration, including financial management, member data, and mobile app-based services (Kamaruddin & Mohd, 2020). This model serves as an important reference for increasing the capacity and innovation of cooperatives in Indonesian universities, which are still dominated by manual systems and have not yet optimized the use of technology.

Through the PKM visit to Malaysia, specifically to educational and technology-based cooperative institutions, participants gained a deep understanding of how digitalization strategies can be systematically implemented within cooperative structures. Furthermore, this activity also served as a platform for developing a sustainable cooperative innovation roadmap that aligns with the needs of the Indonesian academic community (Widodo et al., 2022). Therefore, this activity not only enhanced academic insight but also had a practical impact on planning the development of information technology-based cooperatives in higher education settings.

With a cross-disciplinary approach integrating technology, economics, and institutional management, the results of this PKM are expected to form the foundation for the digital transformation of campus cooperatives nationally. Furthermore, strengthening international networks will also strengthen cooperatives' position as pillars of the people's economy with global competitiveness.

METHOD

This research uses a descriptive qualitative approach with a case study method through Community Service (PKM) activities conducted in Malaysia. Data were collected through participant observation, semi-structured interviews, and documentation during visits to several higher education cooperatives that have implemented information technology innovations, particularly cooperatives under the auspices of ANGKASA (Angkatan Koperasi Kebangsaan Malaysia Berhad). Observations were made on the cooperative's management information system, ranging from digital membership, application-based financial transactions, to the use of a cloud platform for data integration. Interviews were conducted with cooperative administrators, supervising lecturers, and student cooperative members to obtain an in-depth overview of the



impacts and challenges in implementing these innovations. Data were analyzed thematically using the Miles and Huberman approach, namely through data reduction, data presentation, and drawing conclusions. Data validity was strengthened through triangulation of sources and methods, as well as peer debriefing between researchers across disciplines.

RESULTS AND DISCUSSION

Community Service (PKM) activities conducted in Malaysia, particularly through visits to higher education cooperative organizations under the auspices of ANGKASA, provided significant insight into the integration of information technology in cooperative management. Observations showed that higher education cooperatives in Malaysia have adopted digital-based information systems that are integrated into daily cooperative management activities, such as membership, financial transactions, reporting, and inventory management.

One key finding is the use of cloud-based applications that enable cooperative administrators to access and manage data in real time. This technology has improved operational efficiency and financial transparency for cooperatives (Mohd Yusof et al., 2020). Furthermore, a digital membership system with QR codes simplifies registration, dues payments, and voting at annual membership meetings (AGM), as implemented by Koperasi Pendidikan Malaysia Berhad (KPMB).

Interviews with cooperative administrators and information technology staff revealed that the adoption of information technology innovations also increased the participation of young members (students). This aligns with a study by Zakaria et al. (2019), which showed that digitalization can increase the involvement of young people in cooperative activities through technology-based approaches that better align with their digital habits.

Furthermore, reflections on PKM activities demonstrate that synergy between academics and cooperative practitioners in Malaysia fosters sustainable innovation. The adoption of a cooperative-scale Enterprise Resource Planning (ERP) system by several Malaysian university cooperatives demonstrates that cooperative management systems can be optimized with digital technology without sacrificing cooperative principles of democratic participation and member autonomy (ICA, 2021).

However, implementing digital systems also faces challenges. Some cooperative administrators complained about limited human resources in terms of digital competency and the need for ongoing training. This is consistent with the findings of Hasibuan and Nasution (2021), who stated that technology adoption in cooperatives requires increased digital literacy among both administrators and members.

Overall, the results of the PKM in Malaysia provide inspiration and a strategic model for higher education cooperatives in Indonesia to accelerate digital transformation. Initiatives such as the development of a digital membership application, an online payment system, and a



web-based financial dashboard can be replicated and adapted to local needs within Indonesian campus cooperatives.

CONCLUSION

An international Community Service (PKM) program in Malaysia significantly contributed to understanding and strengthening the capacity of higher education cooperatives in Indonesia to adopt information technology innovations. Through a cooperative model study conducted by ANGKASA, PKM participants gained strategic insights into how cooperative management systems can be transformed through the implementation of digital applications, cloud-based platforms, and the use of data in decision-making processes.

The findings indicate that digitalization of cooperatives has a direct impact on operational efficiency, financial transparency, and member engagement, particularly among university students. Despite challenges such as limited digital literacy and infrastructure, the PKM results emphasize the importance of collaboration between academics, cooperative practitioners, and the government to strengthen the technology-based cooperative ecosystem in Indonesian universities.

Therefore, the results of this PKM reflection are not only an academic reference, but also serve as a basis for compiling a roadmap for digital transformation of cooperatives at the national level, in order to realize modern, inclusive, and competitive cooperatives in the ASEAN digital era.

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