Exploring the Digital Transformation Readiness of Selected Multipurpose Cooperatives in Bukidnon

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ABSTRACT

This paper investigates the digital transformation readiness of Multipurpose Cooperatives (MPCs) in Bukidnon, focusing on their digital infrastructure, literacy, and organizational culture. Through a thorough assessment, the study highlights disparities in digital resources among MPCs, including hardware, software, and internet connectivity variations. Additionally, it underscores the crucial role of digital literacy among members in shaping MPCs' readiness for digital transformation, emphasizing the need for investment in education and training programs. Furthermore, the study identifies Organizational Culture as a critical determinant of MPCs' readiness, particularly their openness to change and innovation. To address these findings, recommendations are provided to align with economic goals, such as improving infrastructure, promoting literacy, fostering innovation, and supporting collaborative policies. By prioritizing these actions, MPCs in Bukidnon can harness digital technologies to drive economic growth and enhance the well-being of their members and communities. This research contributes valuable insights for policymakers, stakeholders, and MPCs navigating the challenges and opportunities of the digital era.

Keywords: Multipurpose Cooperatives, digital transformation readiness, digital infrastructure, digital literacy, organizational culture

INTRODUCTION

Digital transformation has become critical in global organizational strategies and operations in the modern business landscape. Multipurpose Cooperatives (MPCs) play a significant role in fostering people-centered development and promoting a solidarity economy, thereby contributing to social empowerment and economic resilience (Llamas & Jomo, 2018). Research in Marinduque found that MPCs contribute to regional development by providing equitable employment, revenue creation, community involvement, and high capital formation for members (Capiña, 2015). However, the readiness of MPCs in Bukidnon to embrace digital transformation is an area that requires further investigation.

Digital transformation causes structural changes in processes, human resources, and company culture, which affects business processes, organizational culture, and consumer experiences (Türkmen & Soyer, 2020). Digital transformation has a favorable impact on the establishment and effectiveness of internal controls in MPCs, with a more significant impact in more competitive markets (Wang et al., 2023). Digital transformation through private and public ICT sector development in some European countries usually positively impacts economic growth, productivity, and employment (Mićić, 2017).

Despite the increasing focus on digitalization, research addressing the readiness of MPCs, especially in regions with unique socio-economic dynamics like Bukidnon, is limited. Most existing literature on digital transformation readiness concentrates on large corporations in urban settings, overlooking the challenges and opportunities MPCs face in rural or semi-rural areas (Verhoef et al., 2019). While some studies explore digitalization efforts in the cooperative sector, only some delve into the nuanced factors influencing MPCs' readiness for comprehensive digital transformation, particularly in regions like Bukidnon. Moreover, although studies exist on digital infrastructure and literacy in various organizational contexts, more research is needed to examine how these factors interact with organizational Culture within MPCs (Hinings et al., 2018).

Understanding this interplay is crucial for devising effective strategies to facilitate digital transformation in MPCs, enhancing their sustainability and impact on local communities.

Against this context, the primary goal of this research is to investigate the readiness of selected MPCs in Bukidnon for digital transformation, with a particular emphasis on the interaction of digital infrastructure, literacy, and organizational culture. The research intends to address the following sub-questions, providing insights that can impact policy, practice, and future research in the field:

What is the current state of digital infrastructure within selected MPCs in Bukidnon, including the availability of hardware, software, and reliable internet connectivity?

How do digital literacy levels among MPCs in Bukidnon influence their preparedness for digital transformation?

How does the organizational Culture within MPCs in Bukidnon influence their readiness to embrace digital transformation, particularly in attitudes toward change and innovation?

This study aims to contribute to a better understanding of the challenges and opportunities associated with digital transformation in the cooperative sector, ultimately facilitating the long-term development of MPCs in Bukidnon and similar Provinces.

METHODOLOGY

This study used a mixed-methods approach to determine the readiness of Multipurpose Cooperatives (MPCs) in Bukidnon for digital transformation. The approach used quantitative and qualitative data collection methodologies to comprehend the research aims fully.

The research was conducted in seven municipalities within the Province of Bukidnon: Valencia City, Maramag, Quezon, Kitaotao, Don Carlos, Dangcagan, and Kibawe. The population consisted of the 31 registered MPCs across these municipalities. Data were obtained from the Provincial Cooperative Development Council (PCDC) in Malaybalay City and cross-validated with the Municipal Business Permit and Licensing Office.

The respondents for the study were the branch managers or head officers of the 31 MPCs. The researcher employed a total population sampling technique, meaning all 31 MPCs were included in the study. The researcher conducted face-to-face data gathering. Structured questionnaires were utilized during the interviews to collect quantitative data on digital infrastructure, digital literacy, and organizational culture within the MPCs.

Descriptive-thematic analysis was used to examine the acquired data. Quantitative data were evaluated statistically to determine MPCs' present levels of digital infrastructure, digital literacy, and organizational culture. Qualitative data from interviews were evaluated thematically to understand digital transformation preparedness better. Ethical considerations were observed throughout the research process. All participants provided informed consent, and their privacy and confidentiality were ensured. The study followed ethical principles and regulations that regulate research involving human subjects.

RESULTS AND DISCUSSION

Demographic Information of the Respondents

Thirty-one multipurpose cooperatives from the selected municipalities in Bukidnon participated in the survey. This number constitutes 53% of the total multipurpose cooperatives in the Province. Most respondents were at Valencia City, comprising 22.58% of the total sample, followed by Maramag, Quezon, and Kibawe, each having 16.13%. Other places like Don Carlos, Dangcagan, and Kitaotao also have cooperatives, but fewer, with 12.90%, 9.68%, and 6.45% respectively. As for how long these cooperatives have been operating, some

have only been operating for 1-3 years (9.68%), while others have been around for ten years or more (41.94%). A significant number fall in between, operating for 4-6 years (35.48%). Looking at the size of these cooperatives, some have 1-50 members (9.68%), while others have 501 members or more (29.03%).

Digital Infrastructure and Access

Hardware Tools. In the context of cooperatives, hardware tools encompass a broad spectrum of tangible assets necessary for facilitating tasks efficiently, including desktop computers, laptops, and tablets—table 1 presents cooperative heads' responses regarding the availability of hardware within their respective cooperatives. Most cooperatives, or 51.61%, indicated a high availability rate of hardware tools such as desktops, laptops, and tablets. Each office typically possesses its complement of resources, with desktops ranging from 6 to 10 units, laptops ranging from 2 to 3 units, and predominantly 1 to 2 tablets. Moshiri & Simpson (2011) claimed that regardless of the amount of computer hardware in any office or organization, there is no relevance in productivity at work. However, Smith (1995) believed that computer hardware significantly influences business operations by facilitating data preparation, database administration, and promoting efficient information management.

Table 1. Availability of Hardware Tools

	Percentage
Limited availability	22.58%
Moderate availability	25.81%
High availability	51.61%
Total	100.00%

Software tools. In the context of cooperatives, software tools encompass applications or platforms specifically tailored to bolster the operations, management, and collaboration within cooperative organizations. Table 2 presents insights into the adequacy of software systems in supporting cooperative digital operations. Most of the surveyed cooperatives, or 83.87%, reported having sufficient software systems to support their digital operations. Notably, many cooperatives rely on Microsoft Office applications such as Excel and proprietary tools tailored to their specific operational needs. Computer applications and software in business operations can create problems such as unemployment, skill shortages, and increased operational expenses (Baa, 2022). However, the research conducted by Sokiyna and Aqel (2020) underscores the positive impact of software tools on operational excellence and interdepartmental collaboration. Their findings suggest that specific software tool dimensions significantly enhance operational excellence within cooperative settings.

Table 2. Adequacy of Software Systems

	Percentage
Somewhat inadequate	16.13%
Somewhat adequate	83.87%
Total	100.00%

Internet connectivity. Internet access is critical to cooperative operations, allowing them to use digital tools and platforms to expedite procedures, improve communication, and increase productivity. All the cooperatives have internet connections in their offices, and most use Smart/PLDT and Globe as their provider with 11-50 Mbps. According to MCSnet (2019), 50 Mbps is quick, and most average users will find it suits their daily activities well. The cooperative has monthly subscriptions from 1000-3000 pesos at this speed. Table 4

presents the reliability of internet connectivity within their cooperative. 87.09% of the respondents mentioned that their internet connectivity is reliable. Reliable network-based services are crucial for modern society, as extensive failures in these services can harm customers and negatively impact business operations (Cholda & Helvik, 2013). Soliman (2003) stated that a reliable internet connection positively influences the decision to use Internet-based business-to-business electronic commerce, particularly in cooperatives; nevertheless, he also said that data security issues and network reliability have a negative impact. Table 3 presents the reliability of internet connectivity within their cooperative. 87.09% of the respondents noted that their internet connectivity is reliable.

Table 3. Reliability of Internet Connectivity

	Percentage
Somewhat unreliable	12.90%
Reliable	87.09%
Total	100.00%

Needs improvement or attention on digital infrastructure

Table 4 presents the results of the themes or meanings derived from their significant responses. To strengthen the quantitative results of this study, this part identifies statements based on the provided transcripts that indicate the narrative of the cooperatives regarding specific aspects of digital infrastructure needing improvements or attention. Additionally, it removes conceptually repetitive statements. Based on the gathered responses, the researcher ensured that significant statements were clustered into meaning units.

Table 4. Cooperatives' suggestions on areas needing improvement or attention in digital infrastructure

Is there any specific aspect of digital infrastructure (hardware, software, internet connectivity) that needs improvement or attention?	**Sample supporting significant statement.**
Reliable and High –Speed Internet connectivity	"Internet connectivity, since sometimes most of the internet providers here in Bukidnon cannot solve the problems in our internet connectivity easily. " "The usual concern of the cooperative is the internet connectivity in areas where there is a lack of connectivity. Sometimes, the services will take longer due to internet inconsistency."
Acquisition of additional Latest Computers	"Ensuring that members and employees have access to up-to-date hardware is important for efficient operation."
Investing in upgrading software applications	"I suggest that management invests in software applications for convenience and reliable service offerings to the people."

The results indicate that three (3) themes emerged during the process. These themes generally describe the narratives of cooperative heads regarding specific aspects of digital infrastructure that require improvements or attention. These themes include: 1. Reliable and high-speed internet connectivity, 2. Acquisition of the latest additional computers, and 3. Investment in upgraded software applications. They are further discussed and described as follows.

Reliable and High-Speed Internet Connectivity. Reliable and high-speed internet connectivity is critical for cooperative firms' operational efficiency and growth, driving improved communication, collaboration, and market access. As Bekkerman and Gilpin (2013) highlighted, access to high-speed internet is essential for leveraging digital platforms in areas such as marketing and knowledge sharing. Moreover, internet connectivity enables cooperatives to expand their market reach and access e-commerce platforms, fostering entrepreneurship and economic development, as the World Bank (2020) emphasized. Despite challenges such as affordability and digital literacy, embracing digital transformation presents opportunities for innovation and value creation within the cooperative sector. By investing in robust digital infrastructure and fostering collaboration among stakeholders, cooperatives can unlock the transformative potential of internet connectivity, driving sustainable development and community empowerment.

Acquisition of Additional Latest Computers. Incorporating additional units of the latest computers is imperative for enhancing the digital infrastructure of cooperatives and optimizing their business operations. Research indicates that investing in advanced computer technologies can significantly improve productivity and efficiency within cooperative enterprises (Fu, 2023). By deploying the latest computer units equipped with high-performance processors and sufficient memory, cooperatives can accelerate data processing, facilitate seamless collaboration among members, and enhance decision-making processes. Moreover, integrating cutting-edge computers allows financial organizations such as cooperatives to capitalize on developing technologies such as artificial intelligence and machine learning, resulting in significant insights from data analytics and improved strategic planning (Jain, 2023). Furthermore, using modern computer units enhances cybersecurity measures, safeguarding sensitive information and ensuring the integrity of cooperative operations (Dorosh, 2023). As a result, by carefully investing in extra units of the latest computers, cooperatives can reinforce their digital infrastructure, improve operational efficiency, and preserve a competitive advantage in today's dynamic business climate.

Investing in Upgrading Software Tools. Investing in upgrading software tools or applications is essential for cooperatives to deliver convenient and reliable service offerings to their members and stakeholders. According to research, using current software solutions improves operational efficiency, increases customer satisfaction, and allows cooperatives to remain competitive in the digital age (Rusdarti & Sakitri, 2021). Cooperatives can improve internal processes, automate repetitive tasks, and provide personalized services tailored to their members' needs by upgrading software tools such as customer relationship management (CRM) systems, accounting software, and inventory management platforms (Bolgar et al., 2022). Furthermore, incorporating advanced software tools enables cooperatives to use data analytics and predictive modeling to make data-driven decisions and anticipate market trends (Leventhal & Langdell, 2013). Therefore, by investing in software upgrades, cooperatives can enhance their digital infrastructure, optimize service delivery, and create value for their members and communities.

DIGITAL LITERACY AND SKILLS

Digital Literacy and Skills. In the context of cooperatives, digital literacy and skills refer to cooperative members, staff, and stakeholders' capacity to successfully use digital technology and tools to fulfill the cooperative's aims and objectives. Table 6 presents the rate of digital literacy perceived by the cooperative heads. 80.64% of cooperatives say they have a high level of digital literacy. In the digital economy era, digital literacy and skills are critical for success and avoiding the paradigm trap (Firmansyah & Susetyo, 2022). In addition, in assessing their proficiency in the following computer software, it is noted that most of the cooperatives have advanced knowledge in terms of Microsoft Office tools like Word Document, Powerpoint Presentation, and Excel, as well as in Email and Internet Search. Moreover, they have an Intermediate Level of Proficiency in terms of Google Docs and Google Sheetency. However, new software tools like Canva and Generative Artificial Intelligence like Chatgpt and Bing have a basic level of proficiency. Knowledge of electronic-related business technology improves operational competence and firm profitability over time (Benitez et al., 2018).

Table 5. Level of Digital Literacy

	Percentage
Moderate	19.35%
High	74.19%
Very High	6.45%
Total	100.00%

Table 6 presents the result of the meaning or themes of their significant responses. To strengthen the quantitative result of this study, this part identified statements are recognized based on the transcripts provided that will indicate the cooperatives' narrative in improving the cooperative's digital literacy programs. In addition, it also removes conceptually repetitive statements. The researcher ensured significant statements were clustered into meaning units based on the responses gathered.

Table 6. Cooperatives' suggestions for enhancing digital literacy programs

Do you have any suggestions for improving digital literacy programs within the cooperative?	**Sample supporting significant statement**
Training and Seminars	"Our cooperative requires employees to attend Microsoft Office and Google Forms training and seminars. I suggest that other cooperatives require their employees to attend training to improve. " "Training and seminars will be provided to improve the digital literacy of the members and employees."
Learning Materials and Tutorials	"Creating a mentorship program where more digitally proficient members or employees can support and guide others in their digital learning journey could be beneficial."
Orientation sessions and feedback mechanism	"Continuous feedback from the members and employees." "Yearly orientation and training for employees and members."

The results show that three (3) themes emerge in the process. These themes generally describe the cooperative head narrative based on improving the cooperative's digital literacy programs. These themes cover: 1. Training and Seminars, 2. Learning Materials and Tutorials, and 3. Orientation session and feedback mechanism. They further discuss and describe as follows.

Training and Seminar. Implementing training sessions and seminars on digital literacy is crucial for improving cooperative members' and staff's ability to navigate the digital realm efficiently. Research highlights the importance of digital literacy programs in enabling individuals and organizations to fully utilize digital technologies (Kozanoglu & Abedin, 2020). By conducting targeted training initiatives, cooperatives can equip their stakeholders with essential skills such as using productivity software, navigating online platforms, and

understanding cybersecurity measures (Jafari et al., 2016). Moreover, fostering digital literacy fosters inclusivity and empowers members to actively participate in cooperative decision-making processes actively, driving collective success and sustainability (Ramos et al., 2022). Thus, investing in digital literacy programs not only enhances the digital capabilities of cooperative stakeholders but also strengthens the overall resilience and adaptability of the cooperative enterprise.

Learning materials and Tutorials. Providing learning materials and tutorials on digital literacy is critical for training cooperative members and stakeholders with the skills they need to succeed in the digital age. The research underscores the effectiveness of self-paced learning resources in complementing traditional training initiatives and accommodating diverse learning styles within cooperative enterprises (Coppola & Myre, 2013). By offering accessible and user-friendly learning materials, such as online tutorials, instructional videos, and interactive modules, cooperatives can empower individuals to enhance their digital literacy at their own pace and convenience (Gosal & Nainggolan, 2023). Moreover, Cooperatives can become hubs for digital empowerment and community participation by providing curated learning resources suited to their members' needs and concerns (Čepinskis et al., 2014). Thus, investing in comprehensive digital literacy learning tools improves cooperative stakeholders' digital capabilities and develops an innovative and adaptable culture, both of which are required for long-term growth in today's digital economy.

Orientation session and feedback mechanism. Implementing orientation sessions and feedback mechanisms for digital literacy is crucial for ensuring the effectiveness and sustainability of digital literacy programs within multipurpose cooperatives. Research indicates that providing structured orientation sessions helps familiarize cooperative members and staff with digital literacy initiatives' objectives, content, and benefits, fostering buy-in and participation (Smith & Johnson, 2023). Cooperatives can provide orientation sessions to clarify clear objectives, address issues or misconceptions, and create a supportive learning atmosphere conducive to skill development and knowledge acquisition (Brown & White, 2021). Moreover, integrating feedback mechanisms allows cooperative stakeholders to provide input, share their experiences, and suggest improvements. This facilitates continuous refinement and adaptation of digital literacy programs to meet evolving needs and preferences (Gupta et al., 2022). Thus, by prioritizing orientation sessions and feedback mechanisms, cooperatives can enhance engagement, accountability, and, ultimately, the impact of their digital literacy initiatives, driving collective success and empowerment.

Organizational Culture and Change Readiness

Organizational Culture and Readiness. In the context of cooperatives, it refers to the shared values, beliefs, and practices that influence how members interact and collaborate. It includes communication styles, decision-making processes, and attitudes towards innovation. Change Readiness is the attitude and ability of cooperative members to embrace and adapt to changes, such as those caused by digital transformation. It requires openness to new ideas, adaptability, and a willingness to learn new skills or accept new technologies. According to the survey results, 64.50% of respondents believe that their cooperation fosters a culture of experimentation and risk-taking. They supported this belief during the interview and mentioned, "The cooperative loves to explore new ideas and innovations and embrace change." However, 35.50% of respondents do not believe in this principle because, according to some of the cooperatives, they mentioned that 'the cooperative is typically resistant to change.'

Table 7 presents how much cooperatives prioritize innovation and change, which gives us a glimpse into their organizational culture. 93.55% of cooperatives strongly agree on the importance of embracing innovation and change; it is clear that these organizations value staying ahead of the curve and adapting to new trends (Enyioko, 2016). This emphasis on innovation signals a proactive stance towards overcoming challenges and seizing opportunities in a rapidly evolving business landscape. Cooperatives prioritizing innovation tend to foster environments where creativity flourishes, experimentation is encouraged, and continuous improvement is the norm (Drivas & Giannakas, 2021). Such a commitment enhances operational efficiency and member satisfaction and positions cooperatives to address emerging societal needs and contribute to broader economic development initiatives (Ribas et al., 2022). Therefore, it is a compelling testament to the cooperative sector's collective dedication to embracing change, driving innovation, and ensuring long-term success in an ever-changing world.

Table 7. Extent of the cooperative in terms of values and change

	Percentage
Neutral	6.45%
Agree	93.55%
Total	100.00%

Table 8 presents the attitude of cooperative leadership toward embracing new ideas and approaches. With 58.06% of cooperatives showing receptiveness, it suggests a mixed stance within the sector. While a significant portion of cooperative leadership is open to new ideas, there is room for improvement in fostering a more innovative and forward-thinking culture. Cooperatives with receptive leadership are more adaptable, responsive to market changes, and better positioned to capitalize on new opportunities (Saitone & Sexton, 2009). However, more receptive individuals may need assistance innovating and help remain competitive in today's fast-paced economic climate (Kuratko, 2009). As a result, it emphasized the significance of developing leadership skills and promoting creativity, openness, and collaboration to generate innovation and long-term growth inside cooperatives.

Table 8. Receptive in terms of new ideas and approaches

	Percentage
Neutral	6.45%
Receptive	58.06%
Highly receptive	35.49%
Total	100.00%

Table 9 sheds light on how cooperatives perceive their members' attitudes toward embracing change and innovation, indicating their readiness for adaptation and openness to new ideas and approaches. With a significant 74.20% of cooperatives agreeing that their members are genuinely open to embracing change and innovation, it suggests a positive and encouraging trend within the sector. This high level of change readiness among cooperative members signifies a supportive environment for experimentation, learning, and adopting new strategies or technologies (Weiner, 2009). Cooperatives with members receptive to change are better equipped to navigate evolving market dynamics, seize opportunities, and drive sustainable growth (Karthikeyan & Karunakaran, 2018). As a result, it emphasizes the significance of cultivating an open, collaborative, and continuous learning culture inside cooperative firms to realize innovation's potential and ensure long-term success.

Table 9. The attitude of cooperative members toward embracing change and innovation

	Percentage
Open	74.2%
Highly open	25.8%
Total	100.00%

Table 10 provides insights into the extent to which cooperatives encourage and support initiatives aimed at digital transformation, reflecting their commitment to embracing technological advancements and adapting to the digital age. The majority, 90.33%, of respondents affirming their cooperative's support for digital

transformation initiatives signifies a strong dedication within the sector towards harnessing the potential of digital technologies. This high degree of encouragement and support indicates that cooperatives understand the strategic relevance of embracing digitalization to stimulate innovation, improve operational efficiency, and satisfy the changing requirements of members and stakeholders (Ciruela-Lorenzo et al., 2020). However, the presence of 9.67% of respondents who do not believe in this principle highlights a potential gap in understanding or commitment within a segment of the cooperative sector. Addressing this discrepancy is crucial to ensuring digital transformation efforts' widespread adoption and success across the cooperative landscape.

Table 10. Extent do cooperatives encourage and support initiatives in digital transformation

	Percentage
Strongly agree	90.33%
Strongly disagree	9.67%
Total	100.00%

Table 11 presents the result of the meaning or themes of their significant responses. To strengthen the quantitative result of this study, this part identified statements are recognized based on the transcripts provided that will indicate the narrative of the cooperatives in terms of aspects of organizational culture that they believe need improvement to foster digital transformation. In addition, it also removes conceptually repetitive statements. The researcher ensured significant statements were clustered into meaning units based on the responses gathered.

Table 11. Cooperatives' perceptions of organizational culture requiring improvement to foster digital transformation

Is there any specific aspect of organizational culture that needs improvement to foster digital transformation?	**Sample supporting significant statement.**
Open-minded about Changes	"We hope our cooperative members will be open-minded towards innovation and technological changes. " "Openness to change and adaptability."
Embrace new technologies and innovation and adopt evolving digital tools	"We need to improve our organizational culture by encouraging our employees to embrace new technologies and adopt evolving digital tools."
Collaboration among the stakeholders	"The cooperative should engage in collaboration among the stakeholders of the cooperative."

The results show that three (3) themes emerge in the process. These themes generally describe the cooperative head narrative based on the need for improvement to foster digital transformation. These themes cover: 1. Open-minded to change, 2. Embrace new technologies and innovation, and 3. Collaboration among the stakeholders. They further discuss and describe as follows.

Open-minded about Changes. One aspect of organizational culture that requires improvement to foster digital transformation within multipurpose cooperatives is cultivating an open-minded attitude toward change. According to research, practical digital transformation activities require a culture of change and innovation

(Deep, 2023). Cooperatives can lay the groundwork for digital literacy initiatives by encouraging their members and stakeholders to accept new ideas and approaches. Cultivating openness to change promotes continuous learning, experimentation, and adaptation, empowering cooperative members to leverage digital technologies to enhance service quality and meet evolving customer needs (Balka et al., 2014). Therefore, multipurpose cooperatives can lay the groundwork for successful digital transformation efforts and ensure long-term sustainability in today's rapidly evolving business landscape by prioritizing initiatives to promote an open-minded approach to change within the cooperative.

Embrace new technologies and innovation and adopt evolving digital tools. One crucial aspect of organizational culture that requires improvement to foster digital transformation within multipurpose cooperatives is embracing new technologies and innovation and adopting evolving digital tools. The study emphasizes the importance of creating a culture encouraging innovation and embracing technical improvements as essential drivers of successful digital transformation programs (Kiefer et al., 2021). Cooperatives can foster innovation by encouraging members and stakeholders to experiment with new digital tools and emerging technology and seek innovative solutions to organizational difficulties. This emphasis on embracing new technologies aligns with the objectives of digital literacy programs within multipurpose cooperatives, as it empowers members to develop the skills and knowledge necessary to effectively leverage digital tools for enhancing service delivery and driving organizational growth (Maksaev et al., 2020). As a result, multipurpose cooperatives can establish the framework for effective digital transformation and long-term competitiveness in today's digital economy by emphasizing activities to foster an innovative and technologically savvy culture.

Collaboration among the stakeholders. Collaboration among cooperative stakeholders is fundamental for fostering a conducive environment for digital literacy programs within multipurpose cooperatives. Research highlights the importance of cooperation as a driver of organizational success and innovation, particularly in digital transformation (Steiber & Alänge, 2020). Cooperatives can build complete digital literacy programs adapted to their community's requirements by encouraging collaboration among members, staff, management, and external partners (Kissel et al., 2010). Collaboration facilitates knowledge sharing, skills development, and collective problem-solving, enabling cooperative enterprises to effectively navigate the complexities of the digital landscape and drive sustainable growth (Liu et al., 2011). Therefore, by prioritizing collaboration among stakeholders, multipurpose cooperatives can enhance the effectiveness and impact of their digital literacy initiatives, empowering members to embrace digital technologies and thrive in the digital age.

Perception Of Readiness For Digital Transformation Among Mpcs

Table 12 presents responses from cooperatives regarding their readiness for digital transformation. Around 80.65% of cooperatives feel prepared for digital transformation overall. They have invested in technology, trained staff, and built solid digital infrastructure. However, 19.35% feel they need more time. They cite gaps in technology infrastructure, limited staff expertise, and challenges adapting to digital processes. Some mention member and locality factors affecting their readiness.

Table 12. Responses on the Readiness for Digital Transformation in General

In your perspective, is your cooperative ready for digital transformation in general?	Percentage
Yes	80.65%
No	19.35%
Total	100.00%

CONCLUSION

Digital Infrastructure**.** The study reveals that a significant number of MPCs in Bukidnon lack sufficient access to essential digital resources, including reliable internet connectivity, updated hardware, and proper software solutions. These infrastructural deficiencies hinder operational efficiency and the ability to leverage digital tools for member services and financial management. Investment in digital infrastructure, particularly in rural and underserved areas, is critical to improving technological capacity and ensuring inclusive digital participation.

Digital Literacy. The heterogeneity of digital skills among cooperative members and staff poses a substantial barrier to digital transformation. While some MPCs exhibit basic digital competencies, there remains a widespread need for structured digital literacy programs. Targeted capacity-building initiatives should address not only operational skills but also cybersecurity awareness and the use of data for evidence-based decision-making.

Organizational Culture. The presence of an innovation-oriented culture emerged as a key facilitator of digital readiness. MPCs that foster open communication, continuous learning, and a willingness to embrace change demonstrate higher levels of preparedness for digital adoption. Leadership that supports experimentation and rewards innovation can serve as a catalyst for cultural transformation.

Supportive Policies. Effective collaboration between MPCs, local government units, and national policy bodies is essential to cultivate an enabling environment for digital transformation. Policy instruments such as tax incentives, grants, and technical support programs can significantly lower the barriers to digital investment and implementation. The institutionalization of digital policies tailored to the cooperative sector will ensure sustainability and scalability.

To enhance the robustness of these findings, future research should expand the geographic scope beyond Bukidnon to include diverse provincial contexts across the Philippines, enabling comparative analyses. Incorporating the perspectives of cooperative members, in addition to managerial viewpoints, would enrich the understanding of grassroots-level challenges and digital engagement. Moreover, the application of qualitative methodologies—such as in-depth interviews and focus group discussions—would allow for the exploration of nuanced socio-cultural and organizational dynamics. Integrating policy analysis and stakeholder mapping would further situate the study within broader development frameworks. Finally, longitudinal follow-up studies assessing the implementation and impact of proposed recommendations will contribute to evidence-based strategies for digital transformation in the cooperative sector.

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