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APPLYING CAPABILITY APPROACH IN THE CONTEXT OF CREDIT UNION DIGITAL TRANSFORMATION

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ABSTRACT

The digital transformation of credit unions has become an urgent matter as it becomes an important pillar to fulfill ongoing member needs and maintain organizational competitiveness. However, digital transformation influences credit union activities and may have some potential consequences for their performance and, most importantly, the well-being of credit union members, both in a positive and negative direction. A few studies have examined how digitalization affects credit unions. However, they only focus on the impact process on credit union performance, not on the change process on individual credit union member performance. This paper, utilizing Amartya Sen's capability approach, aims to address this gap by providing an alternative operational framework that translates digitalization into members' well-being within the context of credit union operations. This research contributes to the development of an effective and sustainable model of digital transformation for credit unions.

***Keywords**: digital transformation, credit union, capability approach*

1. Introduction

Credit unions are known as community-based financial organizations that focus on helping individuals suffering hardship and poverty by providing access to financial resources as well as space for promoting capabilities. As with other organizations, credit unions must adapt to the era of digitalization. Digital transformation in credit unions may not only offer prospective economic benefits but also lead to problems and, later, potentially influence credit union performance (see Amos & Kadang, 2021; Erowin, 2022; Focardi, 2021; Jerotich & Maina, 2019; Mckillop & Quinn, 2015; Origence, 2020; Roche, 2020; Saldanha et al., 2017; Wanyonyi & Ngaba, 2021).

Most of the studies mentioned above focus on the correlation and influence of digitalization on some credit union performance indicators (financial, social, and perceived member satisfaction). Not many of them focus on the process of how digitalization impacts credit union members' achievement. Only the studies (Focardi, 2021; Origence, 2020; Roche, 2020) explain how the process of digitalization has an impact on credit unions. However, the credit union implemented this change at its organizational level. The author has not yet found a study discussing how digitalization is impacting the credit union at the individual member level. Discussing this issue is important because a credit union's focus is the welfare of its members. It is critical to ensure that individual members can fully access and receive the benefits of the digital transformation when applying it to credit unions. It should be a concern that the members of the credit union have different backgrounds as well as different capabilities to utilize the technology.

This study aims to bridge the gap by developing an operational framework that elucidates how digital transformation in credit unions could impact the welfare of individual members. To do this, we use a capability approach that was first introduced by Amartya Sen in the 1980s and has been extensively employed in human development analysis (Wells, 2012). By applying the capability approach to analyze credit union digital transformation, we can gain insight into how digital features integrated into credit union business and organizational activities serve as the means to enhance the well-being of credit union members. This study will contribute to the development of an effective model of digital transformation in credit unions.

2. Literature Review

In the context of credit union operations, this paper aims to offer an alternative operational framework that translates digitalization into members' well-being. To achieve this goal, this section begins with an explanation of credit unions as a development tool, followed by a discussion of digitalization issues within the credit union context and the capability approach.

2.1. Credit union cooperatives as a development tool

Credit unions are cooperative financial organizations focused on helping members and larger local communities achieve their economic and social goals (McKillop & Wilson, 2012). Cooperatives provide an alternative approach to problem-solving by fostering the development of people's abilities in challenging situations. Cooperatives enable people to gather, generate economic, human, and social capital, and promote a more democratic and people-centered form of development so that they can act as a social structure that contributes to societal fragility reduction (Fernandes & Nunes, 2015). Each member of the cooperative has an equal right and freedom to participate in common decision-making related to the provision and expansion of their capabilities (Fernandes & Nunes, 2015). Vicari (2014) enumerates several potential capabilities that cooperative membership could enhance, including access to high-quality education, healthy nutrition, high-quality healthcare, reliable shelter and sanitation, economic freedoms, decent work, involvement in household decision-making processes, and involvement in community life. However, a bundle of conversion factors, such as physical condition, climatic condition, regulation, and power relations, influence the degree of success of a cooperative in producing those beneficial outcomes.

Credit unions offer access to essential services for small industries, farmers, and rural residents, as well as providing networks both within and outside the community (Al-Zyoud & Ordonez-Ponce, 2022). According to some research (see Kusuma & Pranatasari, 2021; Kusumajati, 2012; Sumarwan et al., 2021), credit unions provide financial intermediation services such as loans and savings, as well as non-financial services such as education related to family financial management and the facilitation of household businesses, as discussed in Kusuma et al. (2022).

There are over 87 thousand credit unions worldwide, serving 393.8 million people in 118 countries (World Council of Credit Unions, 2022). The idea behind credit unions is that all productive-age people can collectively own and control their assets, which might have a revolutionary impact on social change and the advancement of a solidarity economy that benefits individuals and the environment (Pavlovskaya et al., 2019). Credit unions have played a vital role in reducing financial exclusion by providing accessible credit, releasing people from payday lenders' control, and promoting the habit of saving money. By enabling more personal control over finances and boosting the purchasing power of their members, credit unions play a critical role in fostering individual dignity, self-esteem, and social inclusion within local communities (Power et al., 2012).

According to Tulus & Nerang (2020), Indonesian credit unions are a prime example of continuously expanding cooperatives committed to assisting economically disadvantaged members and communities, while also addressing certain strategic considerations. Since their inception in the 1970s, the membership and assets of Indonesian credit unions have continued to grow, supported by the involvement of local communities, led by the elected board of directors (monitored by an elected supervisory committee), and operated daily by the management staff with volunteer assistance (Sumarwan et al., 2021). However, the penetration rate of Indonesian credit unions is still relatively low. According to the latest WOCCU Statistical Report, 970 credit unions in Indonesia could only serve 3.3 million people, or 1.75 percent of Indonesia's total population.

2.2. Digital transformation issues in credit unions

Digital transformation in credit unions may not only offer prospective economic benefits but also lead to problems. In terms of the supply side, the use of digital technology can improve the credit union's ability to reach out to members, control their business, and improve the quality of their services. However, to fully utilize digital technology, it requires reliable technology, accommodating infrastructure, and human resources.

Some previous studies explain how digitalization affects credit union operations in developed countries. A study by Mckillop & Quinn (2015) revealed that credit unions in Ireland that have adopted web-based operations can reduce the interest spread, which indicates higher operational efficiency and benefits to members. A qualitative study by Roche (2020) focusing on six credit unions in Ireland confirmed the findings of some previous studies about the relevance of digital transformation for the credit union sector, especially in fulfilling the ongoing needs of credit union members. However, all participants express concern about of the cost of change (e.g., investment and human resource costs) and the need for collaboration. However, the issue of leadership and attitudes toward change makes the process more complex. Saldanha et al. (2017) conducted a study of 7000 credit unions across the United States and found that more digitized processes of credit union operation positively influence the performance of credit unions (e.g., net income and loans disbursed). The strategy of participating in an inter-organizational network makes the digitalization process more powerful because external actors are more powerful. Furthermore, advertising strategy has a negative impact on performance. A multiple case study conducted by Origence (2020) explains the reasons for three United States credit unions' success in digital transformation. It is reported that those credit unions do not let technology drive their future but instead focus on building a vision that drives the technology that could transform credit unions, as well as placing culture, organization, and a budgeting mindset that support digital transformation as the three most important changes. A study by Focardi (2021) reported the best practices of credit unions in the United States, namely Delta Community Credit Union. It is described that this credit union needs some years (2015–2021) to build IT transformation to achieve resiliency (through the processes of planning, implementing, preparing pivot actions, recruiting new talent, supporting specialists, as well as enhancing business and technology cultures to create an environment of trust and teamwork). The IT transformation in this credit union encourages the achievement of customer and employee satisfaction and engagement, the development of best-in-class credit union technology and operations, and a good reputation in the internal community as well as the broader financial industry community. Moreover, the transformation not only helped this credit union community survive but also grow in the difficult pandemic situation.

Some academics also discussed the digitalization of credit unions in developing countries. A study by Jerotich & Maina (2019) that involved employees in 13 credit unions (SACCOs) in Kenya found a positive relationship between the performance attributes of mobile banking (fund transfers, bill payments, and checking account balance) and sustainable operational performance (lead time, cost efficiency, and reliability). Another study in Kenya was conducted by Wanyonyi & Ngaba (2021) and focused on three credit unions. This study also confirms that the quantitative attributes of digital services (mobile banking, internet banking, credit cards, and digital funds transfer) positively influence the financial performance of credit unions in terms of capital adequacy, management efficiency, and earnings ability. It was also reported that digital services enable members to do transactions without coming to the office and facilitate two-way communication and information updates through the internet platform, while some challenges that exist are system delays, slow processing of transactions, a limit on the amount, and the potential for fraud. Amos & Kadang (2021) conducted a study of Credit Union Mekarsari in Indonesia and discovered that the quality attributes of digital payment and the operating system, namely Escete, had a positive influence on credit union member satisfaction. Another study from Indonesia conducted by Erowin (2022) in Credit Union Muara Kasih found that the perception of the members related to the quality of digital transaction services also positively influenced the decision of credit union members to borrow money from credit unions.

A lesson from some financial institutions that provide similar activities to credit unions (e.g., financial cooperatives and microfinance institutions) provides some consideration in understanding the relationship between digitalization and community-based financial institutions' performance. A study of financial cooperatives in Indonesia conducted by Rustariyuni et al. (2022) reported some benefits of using the core system. They are: (1) ease to record and process transactions and quickly produce accurate financial reports; (2) ease to process transactions and faster operations; (3) manageable data storage; (4) ease to retrieve data and information; (5) more optimal use of human resources; (6) greater financial transparency; (7) minimized error or fraudulent transactions; (8) increase in efficiency, productivity, and opportunities; and (7) the possibility to serve all members more quickly, transparently, and optimally. According to this study, the support of top management, financial capability, accessibility to the internet, performance expectations, hedonic incentive, and innovation had an impact on the sampled respondent's adoption of technology. The Alliance for Financial Inclusion (2018) reports that digital financial services provided by microfinance institutions promote greater financial inclusion in sub-Saharan Africa. Those financial services provide benefits both for clients (with a more convenient, secure, and faster transaction process) and for microfinance providers (with higher operational efficiency, a more diversified customer base, and a lower cost to expand outreach). However, the study of Kandie & Islam (2022) in a Kenyan microfinance institution found that digital microfinancial services excluded the poor and profoundly deteriorated the welfare of the clients because of the high interest rates.

2.3. Capability approach as a tool for human development analysis

Amartya Sen, an Indian economist and philosopher, initially formulated the Capability Approach during the 1980s, and later, Martha Nussbaum and a number of experts in the humanities and social sciences have made substantial advancements in this field (Robeyns & Byskov, 2023; Wells, 2012). The United Nations Development Program has actively utilized it in the realm of human development. Sen's capability approach is based on several articles where he criticizes the inadequate informational foundations of conventional economic models and evaluative accounts, specifically resourcism and utilitarianism (Robeyns & Byskov, 2023). Sen's capability approach is the focus of the discussion that follows.

The capability approach posits that individuals' ability to attain well-being is contingent upon their capacity to act and be, as well as the quality of life they are capable of effectively leading (Robeyns & Byskov, 2023). With the capability approach, the emphasis shifts from the means—the resources and public goods that individuals can access—to the ends—the things they can accomplish and be with such resources and goods. People cannot transform things and resources into real beings by themselves, which warrants this shift in emphasis.

Capability, the set of functional combinations (i.e., beings and doings) from which a person can select, could represent a person's quality of life (Sen, 2017). It symbolizes the potential to accomplish something that a person finds meaningful. People could be educated, economically free, safe in their homes, healthy, alive, and free to move around. Participating in the decision-making process, participating in communal activities, or caring for a child are all examples of actions. To accommodate it, Sen creates a capability approach that assumes the diversity of life options and the complexity of methods for achieving what people have good reason to value, and that focuses on true ends rather than just means (Belda-Miquel et al., 2020).

3. Research Methods

The paper's goal is to build an operational framework that explains how digital transformation in credit unions could improve the welfare of individual members. To achieve this goal, we use Sen's capability approach as the primary conceptual framework framework to derive our operational framework. Consideration to use this framework is the promise of the framework to analyze the process of change (in this case in the context of digitalization) not only until the provision of means (the existence of digitalization attributes) but until the ends (what people get and could explore by using the means). The author believes that the existence of means does not guarantee that people can transform themselves into real beings. Furthermore, this paper adopts the approach of Belda-Miquel et al. (2020), which expands on Sen's capability approach through a multi-level analysis of change.

We execute our research in two main steps. In the first step, this paper explains the key variables and logic of the capability approach we used as the main conceptual framework. Next, the author contextualizes the logic from the previous step within the context of credit union digitalization. This step proposes alternative proxies to analyze the causal relationship between key variables modelled in Sen's capability framework, particularly in the context of credit union digitalization.

4. Research Findings and Discussion

4.1. The component and logic of the capability approach as our reference framework

The capability approach aims to assess people's development in terms of their opportunities, abilities, and choices for utilizing resources to achieve success or create new functions (Fernandes & Nunes, 2015). According to Robeyns and Sen, as explained in Fahmi & Savira (2021), the components of the capability approach are available resources (means), conversion factors, capability sets, and achieved functioning.

The available resources are the resources available in a social context. Conversion factors are personal factors or the socio-spatial environment (external factors) that determine a person's ability to convert resources into valuable functioning. People do not always have easy access to available resources because of personal factors, social factors, and environmental factors. Personal factors refer to characteristics that affect a person's physiological and psychological state, such as age, educational background, and personal experience. Social factors include: with one another in their communities. Environmental factors include public amenities and infrastructure, weather conditions, and geographic attributes. A capability set combines achievable tasks and effective methods to achieve the intended goal. A capability set reflects a personal freedom that relies on a person's competence to see an opportunity and take a risk. Achieved functioning is a condition where the available resources have been converted and the person can select their desired objective in accordance with her or his valuation.

4.2. The operational framework of capability approach in the context of credit union digital transformation

The capability approach's first key element is resources (means). In the context of credit union digitalization, this could be interpreted as all digitalized credit union services that are oriented directly to the members. It consists of loan and savings services, bill payments, education, or any credit union service that elaborates on digital features. Personal factors such as age, educational background, and social communities, as well as environmental factors like geographical location, weather conditions, and infrastructure provision, can hinder or accelerate members' access to digitalized credit union services.

In the credit union's digital transformation case, the knowledge, ability, and preference for using the digital features of its services represent the capability set. It reflects the common members' freedom to choose whether or not to use the digital technology embedded in the credit union's services. Their assessment of whether the technology would help them attain their objectives determines whether or not the use of digital technology is appropriate. If they see it as a worthwhile resource, they will strive to develop the skills to use digital technology, and vice versa if they do not.

In the context of credit union digital transformation, functions are achieved when members see the chance of digitalization and are willing to take the risk of using the available resources (namely, the digital technology built into credit union operations) to help them with their wants, activities, and work. In other words, achieved functioning in the context of credit union digitalization refers to an individual taking real actions based on their knowledge and ability to use digital technology and independently calculating potential outcomes and risks.

Effective functioning entails utilizing digitalized credit union services to make savings and loan management decisions, pay their regular bills efficiently, and promote their business, among other things. Later, these functions lead to the outcomes of digital transformation, including an increase in savings, a decrease in reliance on consumption loans, more efficient billing, and business expansion, all of which reflect the improved well-being of credit union members using digital services. Figure 1 below illustrates the capability approach's operational framework. It shows how digital transformation works, from the means (offering digitalized credit union services) to the end result (members' well-being changing because they use digitalized credit union services).

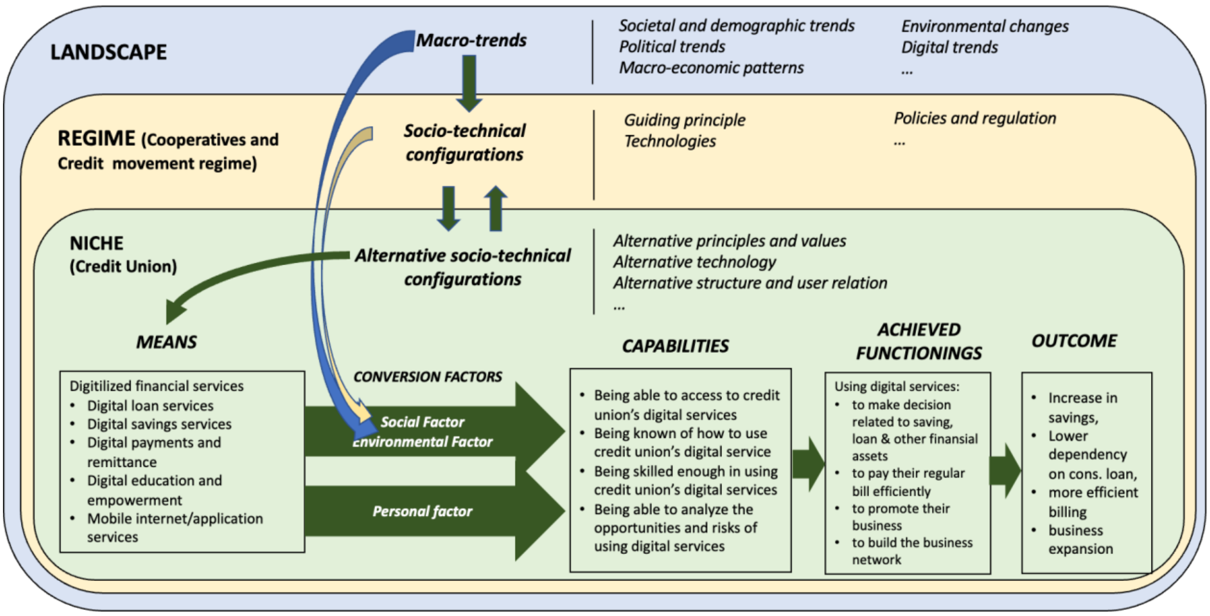

Figure 1. The proposed operational framework of the capability approach in the context of credit union digitalization
Source: Inspired and adapted by the author from Bajmócy et al. (2022), Belda-Miquel et al. (2020), Fahmi & Savira (2021), Fernandes & Nunes (2015); Gébert et al. (2017), Vicari (2014).

We consider the potential importance of the existing structures in influencing the change process, including the digital transformation of credit unions. For this reason, the author draws inspiration from a study by Belda-Miquel et al. (2020), to develop a multi-level analysis of change. This analysis aims to shed light on how the landscape and regime structure both constrain and enable the change that grassroots initiatives like credit unions bring about. The main concept is that the global or national landscape, which encompasses societal and demographic trends, political patterns, macro-economic patterns, environmental changes, and digital trends, has the potential to shape the behavior of credit unions and cooperative movements. This influence can manifest in the form of guiding principles, technologies, and regulations. These factors could drive credit unions' alternative strategies, as well as the external and internal conversion variables that impact the capability process, as previously discussed.

5. Conclusion

Applying the capability approach provides a picture of how digitalization is impacting the credit union at the individual member level. It shed light on the sequential causal process of how digital features of credit union services (as a means) could influence the members' well-being. We suggest conducting additional research to empirically test the proposed operational framework in this paper, specifically in the context of credit union digitalization. Even though the author notes that there is a great possibility that there is some variation between specific credit union cases when using this operational framework, Thus, when using this operational framework, it will be more beneficial to do case studies in a specific credit union or some credit union with similar characteristics.

References

Alliance for Financial Inclusion. (2018). *Digital Transformation of Microfinance and Digitization of Microfinance Services to Deepen Financial Inclusion in Africa*.

Al-Zyoud, H., & Ordonez-Ponce, E. (2022). COVID-19 and credit unions: CSR approaches to navigating the pandemic. *Business and Society Review*, *127*(S1), 171–192. https://doi.org/10.1111/basr.12267

Amos, V., & Kadang, H. (2021). *Pengaruh Kualitas Layanan Aplikasi Escete terhadap Kepuasan Anggota Credit Union Mekar Kasih Kantor Pelayanan Makassar* (Vol. 2, Issue 2).

Bajmócy, Z., Mihók, B., & Gébert, J. (2022). Furthering Social Justice for Disabled People. A Framework Based on Amartya Sen’s Capability Approach. *Studia Universitatis Babes-Bolyai Sociologia*, *67*(1), 69–84. https://doi.org/10.2478/subbs-2022-0003

Belda-Miquel, S., Pellicer-Sifres, V., & Boni, A. (2020b). Exploring the contribution of grassroots innovations to justice: Using the capability approach to normatively address bottom-up sustainable transitions practices. *Sustainability (Switzerland)*, *12*(9). https://doi.org/10.3390/su12093617

Erowin. (2022). Analisis Pengaruh Persepsi Harga, Promosi dan Layanan Transaksi Digital Terhadap Keputusan Anggota untuk Melakukan Pinjaman di Credit Union Muara Kasih. *Seminar Nasional Bisnis Seri VI 2022*, 120–134.

Fahmi, F. Z., & Savira, M. (2021). Digitalization and rural entrepreneurial attitude in Indonesia: a capability approach. *Journal of Enterprising Communities*. https://doi.org/10.1108/JEC-06-2021-0082

Fernandes, T. M., & Nunes, C. (2015). Cooperatives, capability spaces and the idea of justice: A case study of Timor-Leste. *DPU Working Paper: Special Issue on The Capability Approach in Development Planning and Urban Design*, *175*, 1–25. www.bartlett.ucl.ac.uk/dpu

Focardi, C. (2021). *Delta Community Credit Union: IT Transformation Drives Credit Union Reinvention*. www.celent.comorinfo@celent.com

Gébert, J., Bajmócy, Z., & Málovics, G. (2017). How to Evaluate Local Economic Development Projects from A People-Centred Perspective? An analytical framework based on the capability approach. *DETUROPE*, *9*(2), 4–24. https://doi.org/10.32725/det.2017.010

Jerotich, K. L., & Maina, K. E. (2019). Effect of Mobile Banking on Sustainable Operational Performance of Savings and Credit Cooperatives in Uasin Gishu County, Kenya. *International Journal of Economics, Commerce and Management*, *7*(10), 285–297. http://ijecm.co.uk/

Kandie, D., & Islam, K. J. (2022). A new era of microfinance: The digital microcredit and its impact on poverty. *Journal of International Development*, *34*(3), 469–492. https://doi.org/10.1002/jid.3607

Kusuma, S. E., & Pranatasari, F. D. (2021). Kajian Eksploratif Kualitas Penyelenggaraan Pendidikan Lembaga Keuangan Berbasis Pemberdayaan Masyarakat: Studi Kasus Credit Union Kridha Rahardja. *Management Sustainable Development Journal*, *3*(1), 1–21.

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.v23i1.17851

Kusumajati, T. O. (2012). *Faktor Ekonomi dan Kelembagaan Dalam Keberlanjutan Credit Union*. Universitas Gadjah Mada.

Mckillop, D. G., & Quinn, B. (2015). Web Adoption by Irish Credit Unions: Performance Implications. *Annals OfPublic and Cooperative Economics.*, *86*(3), 421–443. https://doi.org/https://doi.org/10.1111/apce.12057

McKillop, D. G., & Wilson, J. O. S. (2012). Credit Unions: A Theoretical and Empirical Overview. *Financial Markets, Institutions & Instruments*, *20*, 79–123. https://doi.org/https://doi.org/10.1111/j.1468-0416.2011.00166.x

Origence. (2020). *Digital Transformation Goes Beyond Just the Technology*.

Pavlovskaya, M., Borowiak, C., Safri, M., Healy, S., & Eletto, R. (2019). The Place of Common Bond: Can Credit Unions Make Place for Solidarity Economy? *Annals of the American Association of Geographers*, *110*(4), 1278–1299. https://doi.org/10.1080/24694452.2019.1685368

Power, C., O'Connor, R., McCarthy, O., & Ward, M. (2012). Credit unions and community in Ireland: towards optimising the principle of social responsibility. *International Journal of Co-Operative Management*, *6*(1), 8–15. https://www.researchgate.net/publication/259061054

Robeyns, I., & Byskov, M. F. (2023). The Capability Approach. In Edward N. ZaltaUri Nodelman (Ed.), *The Stanford Encyclopedia of Philosophy* (Summer 2023 Edition). https://plato.stanford.edu/entries/capability-approach/

Roche, A. (2020). *An Analysis of The Difficulties Experienced by The Credit Union Sector in Ireland Engaging in Digital Transformation*. National College of Ireland.

Rustariyuni, S. D., Pudjihardjo, M., Burhan, M. U., & Satria, D. (2022). *Exploring the Effect of Covid-19 on Cooperative Financial Institutions in Bali*.

Saldanha, T. J. V., Kathuria, A., Khuntia, J., Konsynski, B., Andrade Rojas, M., Saldanha, aisnetorg, Joseph Vinay, T., & Rojas, A. (2017). *Association for Information Systems AIS Electronic Library (AISeL) Leveraging Digitalization of Services for Performance: Evidence from the Credit Union Industry*. http://aisel.aisnet.org/icis2017http://aisel.aisnet.org/icis2017/General/Presentations/3

Sen, A. (2017). *Collective Choice and Social Welfare* (Extended edition). Harvard University Press.

Sumarwan, A., Luke, B., & Furneaux, C. (2021). Managing the Regulatory Space: Examining Credit Union Accountability to Government in a Lightly Regulated Context. *Social and Environmental Accountability Journal*. https://doi.org/10.1080/0969160X.2021.1952886

Tulus, R., & Nerang, M. (2020). Existential challenges of cooperatives and credit unions in Indonesia. In *Waking the Asian Pacific Co-Operative Potential* (pp. 271–282). Elsevier. https://doi.org/10.1016/b978-0-12-816666-6.00025-2

Vicari, S. (2014). The co-operative as institution for human development: The case study of COPPALJ, a primary co-operative in Brazil. *Journal of International Development*, *26*(5), 683–700. https://doi.org/10.1002/jid.3003

Wanyonyi, K. S., & Ngaba, D. (2021). Digital Financial Services and Financial Performance of Savings and Credit Cooperative Societies in Kakamega County, Kenya. *International Journal of Current Aspects in Finance, Banking and Accounting*, *3*(1), 9–20. https://doi.org/10.35942/ijcfa.v3i1.177

Wells, T. R. (2012). Sen's Capability Approach. In J. Feiser & B. Dowden (Eds.), *Internet Encyclopedia of Philosophy.*

World Council of Credit Unions. (2022). *World Council of Credit Unions 2021 Statistical Repor*