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| RESEARCH ARTICLE

Building Economic Empowerment through Cooperative Trust: A Model Based Analysis in Siquijor

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| ABSTRACT
Cooperatives play a critical role in promoting economic empowerment among micro, small, and medium enterprises (MSMEs) in underserved and geographically isolated areas by improving access to finance, enhancing financial literacy, and supporting income generation through trust-based and contractual mechanisms. Anchored on Agency Theory and Social Capital Theory, this study examines how cooperative surety bonds can reduce lending risks, address structural and financial constraints, and strengthen the credibility and growth potential of MSMEs in island economies such as Siquijor. The study employed descriptive and inferential statistical methods, including weighted mean and Pearson Product–Moment Correlation, with significance testing using p-values. Results were further presented through a correlation-based path diagram to analyze relationships among variables without implying causality. Data were collected from 187 respondents across registered cooperatives in Siquijor through voluntary participation, ensuring informed consent, anonymity, confidentiality, and the right to withdraw at any stage. Findings reveal that cooperatives significantly contribute to economic empowerment across multiple dimensions, with access to finance emerging as the most prominent factor, alongside positive outcomes in income generation, financial literacy, ownership, market participation, control over resources, and risk mitigation. Furthermore, cooperative trust influences these outcomes through both risk reduction and collective trust pathways, with incentive-based mechanisms demonstrating stronger relationships compared to governance and risk-related factors. The study concludes that economic empowerment is more effectively driven by aligned incentives and shared economic benefits. It recommends that cooperative federations institutionalize incentive alignment systems, expand financial inclusion programs, standardize capacity-building initiatives, strengthen governance through monitoring and incentives, and develop collective risk management mechanisms to support sustainable and inclusive development.

| KEYWORDS

Economic Empowerment, Cooperative, Trust, Social Development, Collective Risk.

| ARTICLE INFORMATION

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1. Introduction

Cooperatives have become increasingly central to strategies aimed at enhancing economic empowerment, particularly among micro, small, and medium enterprises (MSMEs) in underserved areas. Recent literature (Grace et al., 2024; Waheed et al., 2023; Patel, 2024) underscores the role of cooperatives in expanding access to credit, improving financial literacy, supporting income generation, and fostering resilience through mechanisms such as surety bonds. These trends are supported by theoretical perspectives such as Agency Theory (Jensen & Meckling, 1976) and Social Capital Theory (Putnam, 1993; Coleman, 1988), which together frame cooperative surety bonds as tools that combine contractual safeguards with trust-based systems. In this context, cooperatives are not only financial intermediaries but also social institutions that promote trust, mutual accountability, and inclusive growth, especially in geographically isolated economies.

However, despite these promising trends, significant issues persist. At the core is the challenge of information asymmetry and moral hazard in borrower-lender relationships, as identified by Jensen and Meckling (1976). Many MSMEs, especially in rural or remote areas, operate outside formal financial systems, limiting their access to credit due to the absence of credit histories or collateral. Compounding these are structural issues within cooperatives themselves, including weak governance, limited technical capacity, and lack of dynamic risk-sharing frameworks (Shi & He, 2023; Geng et al., 2024). These constraints hinder cooperatives from fully leveraging tools like surety bonds to mitigate risk and align incentives. Moreover, unequal access to financial resources—particularly for women and marginalized entrepreneurs—continues to limit the inclusive potential of cooperative finance (Acharya & Kumar, 2025; Bhagawati & Jagadish, 2025).

In the case of Siquijor, a remote island province in the Philippines, these challenges are particularly pronounced. MSMEs in the region struggle with limited access to institutional finance due to weak credit systems, scarce collateral, and geographic remoteness. While cooperatives exist, many lack the financial and organizational capacity to offer credible surety bond guarantees. Issues such as low financial literacy, inadequate risk management systems, and informal lending practices further weaken the local financial ecosystem (Sirait & Cece, 2023; Khair et al., 2024). Additionally, while social capital is present, it is often underutilized in formal cooperative governance structures, limiting its potential to reduce transaction costs and foster collective credibility (Putnam, 1993; Coleman, 1988). As a result, Siquijor's MSMEs remain highly vulnerable to financial instability and are often excluded from growth opportunities.

This research seeks to address these gaps by applying Agency Theory and Social Capital Theory as a dual framework for understanding how cooperative surety bonds can be more effectively implemented in island economies like Siquijor. Specifically, it investigates how structured contractual arrangements and trust-based networks can jointly reduce lending risks, align borrower-lender incentives, and enhance the credibility of MSMEs. The study builds on emerging evidence from cooperative models globally (Dharma et al., 2023; Otaokpukpu et al., 2024; Hido & Koori, 2025), offering practical insights into designing financial systems that are inclusive, resilient, and responsive to the realities of remote communities. By doing so, the research contributes to the development of scalable, cooperative-based financial strategies that can foster sustainable local enterprise development.

1.1 Theory

The study is anchored on Agency Theory (Jensen & Meckling, 1976), which posits that relationships between principals (lenders) and agents (borrowers) are marked by information asymmetry and moral hazard. In the context of MSME financing, lenders face uncertainties regarding repayment behavior, particularly in remote island settings where credit histories and collateral are limited. Cooperative surety bonds serve as a risk-mitigating mechanism by aligning incentives and reducing monitoring costs, since the cooperative guarantees repayment in case of default. This arrangement enhances borrower credibility and builds lender confidence, thus expanding access to finance.

Complementing this, Social Capital Theory (Putnam, 1993; Coleman, 1988) emphasizes the role of trust, norms, and networks in enabling collective action. Cooperatives function as repositories of social capital, where interpersonal trust and shared norms underpin mutual support systems. By pooling resources through a surety bond, members collectively extend their credibility and trustworthiness to individual borrowers. This social capital not only strengthens cooperative governance but also translates into tangible economic benefits by making MSMEs more bankable.

Together, these theories suggest that cooperative surety bond's function both as a contractual safeguard (agency perspective) and as a social trust mechanism (social capital perspective). The interplay between formal guarantees and informal networks lowers transaction costs, increases lender confidence, and provides MSMEs with improved access to financial resources. This dual theoretical grounding provides a robust lens for examining the viability and impact of cooperative surety bonds in promoting sustainable local enterprise development in remote island economies such as Siquijor.

1.2 Conceptual Framework

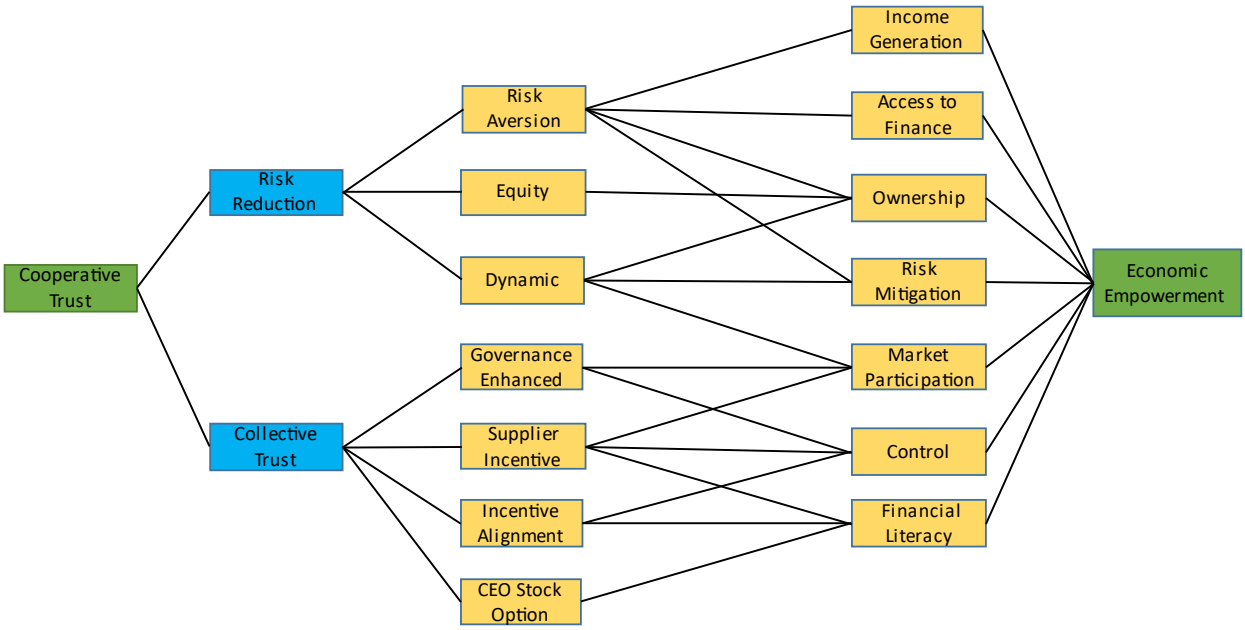


Figure 1 Asunto CTEE Model (2026)

1.3 Related Literature

1.3.1 Cooperative Trust

The dimension of cooperative trust can be understood as having two core sub dimensions: (1) risk reduction and (2) collective trust. Risk reduction reflects how trust lowers the likelihood of failure and opportunism in collaborative settings, as shown by research demonstrating that high trust allows organizations to rely on shared values instead of heavy monitoring (Waerness et al., 2023), supports cooperation by shaping risk attitudes in group decision making (Ji et al., 2025), sustains ethical collaboration in startups even under potential opportunism (Costa et al., 2022), and manages uncertainty in legal cooperation frameworks (Bonelli & Carvalho, 2024). The second sub dimension, collective trust, captures the shared, group level belief that others will act fairly and cooperatively. Studies show that collective trust reduces stress and encourages supportive behavior at work (Kaźmierczyk, 2022), increases investment in collective solutions (Lo Iacono et al., 2024), strengthens cooperation through shared ownership structures (Kaur et al., 2023), supports collective efficacy and citizenship behavior in schools (Choong et al., 2023), aligns member identity with cooperative goals (Chandran & Kumar, 2025), and enables coordinated action across organizations through familiarity and trusted leadership (Diani, 2023). Together these findings show that cooperative trust rests on both the mitigation of risk and the shared confidence that groups can rely on one another.

1.3.1.1 Risk Reduction

Risk Reduction and Incentive Alignment, as sub-dimensions of agency theory, are essential in cooperative structures and contract-based arrangements like surety bonds. Risk Reduction primarily centers on managing (1) risk aversion, where cooperatives serve as stabilizing institutions—especially for agricultural producers seeking to mitigate income variability (Franken et al., 2022). This dimension also includes (2) equity-based risk-sharing in public-private partnerships, where internal agency problems are addressed by restructuring ownership to improve alignment (Shi & He, 2023). Additionally, (3) dynamic contracting with insurers helps mitigate moral hazard in large-scale projects by distributing risk through adaptive incentive structures (Shi et al., 2024).

1.3.1.1.1 Risk Aversion

Risk aversion works as a broad decision-making dimension shaped by three connected subdimensions: (1) protecting against income shocks, (2) securing stable earnings, and (3) reducing exposure to financial uncertainty. People try to guard against sudden income loss because losses feel stronger than equivalent gains, a pattern confirmed across recent studies. Research shows that loss aversion drives people to avoid risky choices (Thrailkill et al., 2022), invest to prevent future income declines (Xue et al., 2022), save as a buffer against volatility (Dhami and Hajimoladarvish, 2023), and buy insurance to hedge both income and health risks (Giannikos et al., 2024). A second facet of risk aversion is the desire for stable income, with evidence showing that

instability lowers satisfaction and fuels conservative financial behavior (Leites and Ramos, 2022). People with higher risk aversion tend to secure insurance for stability (Kagaigai and Grepperud, 2023), and those with steady work and income are more likely to adopt additional forms of financial protection (Lim and Oh, 2023). The final subdimension involves reducing financial risk in day to day money management. Financial risk aversion shapes how people build their portfolios and favor safer options (Grable et al., 2024), influences investment intentions through perceived control (Matha et al., 2023), and aligns with loss aversion to produce cautious investment preferences across groups (van Dolder and Vandenbroucke, 2024). Together these three subdimensions define how individuals respond to uncertainty and why many lean toward safety even when potential rewards are higher.

1.3.1.1.2 Equity – Based Risk Sharing

Equity based risk sharing rests on three connected ideas, and the evidence strongly supports them. First, (1) risks and benefits must be shared fairly. Recent studies show that PPPs work best when rewards and responsibilities are distributed equitably, which strengthens stability, efficiency, and trust among partners (Xiang et al., 2022; Liu et al., 2023). This aligns with broader public policy trends that emphasize justice in how resources and risks are allocated, and with research showing that fair benefit sharing builds long term sustainability in collaborative projects (Kapiriri & Razavi, 2022; Karuga et al., 2023). Second, (2) no single group should carry all the risk. Work using game theory, utility models, and allocation frameworks demonstrates that balanced risk distribution improves project success, while Shapley value models show that mixed sharing prevents either party from being overburdened (Mazher et al., 2022; Fathi, 2024; Huo et al., 2024; Liu et al., 2023). Evidence from infrastructure and renewable energy PPPs also confirms that equitable risk allocation attracts investment and reduces project failure (Fleta Asín & Muñoz, 2024). Third, (3) public private partnerships (PPP) provide more security when they embed shared governance and joint accountability. Reviews of PPPs highlight that structured risk sharing and government guarantees improve continuity, resilience, and innovation, and PPP based equity models such as musharaka reinforce fairness in both financing and operations (Yang et al., 2024; Mazher, 2025; Hadizada & Nippel, 2023). Together, these findings show that Equity Based Risk Sharing is defined by fair sharing of risks and benefits, balanced responsibility, and the added security created through well designed PPPs.

1.3.1.1.3 Dynamic Contracting

Dynamic Contracting strengthens resilience by giving organizations flexible ways to share and manage uncertainty across partner networks. **(1)** Insurance or contracts formed through cooperatives reduce financial risks because they distribute exposure across members and build predictable commitments. Studies show this clearly. Hospital–insurer contracts in the Netherlands reduce uncertainty through cooperative allocation of financial risk (Gajadien et al., 2022). Written contracts and insurance in agrifood supply chains lower smallholder risk and improve cooperation (Pardaev et al., 2023). Contractual insurance tools in Polish enterprises also help firms limit operational and credit related losses (Olejniczak and Kurdyś-Kujawska, 2023). **(2)** Cooperative insurance protects members from financial losses by providing shared buffers that keep individuals and firms solvent during shocks. Reinsurance contracts reduce ruin probability and improve solvency (Euphasio and Carvalho, 2022). Cooperative insurance in Kenya's liquid milk model shields farmers from health and income shocks and reduces emergency side selling (Geng et al., 2023). Drought indexed insurance systems support irrigators in recovering from drought related income losses (Valenzuela-Mahecha et al., 2022). **(3)** Cooperative agreements with outside partners distribute risks fairly, improving equilibrium within broader systems. Centralized oversight in cooperative investment settings leads to more balanced risk allocation among partners (Anwar, 2022). Enhanced Shapley based cooperative models in energy conservation projects help share risks and benefits in equitable ways (Luo et al., 2024).

1.3.1.2 Collective Trust

On the (1) Incentive Alignment side, agency theory emphasizes designing contracts that adjust behavior: (2) supplier incentives, such as subsidies, enhance performance and coordination in supply chains (Zhang & Xu, 2024); (3) governance-enhanced incentives, like executive monitoring paired with equity contracts, reduce harmful risk-taking while encouraging innovation (Geng et al., 2024); and (4) CEO stock options align leadership interests with productivity outcomes (Zolotoy & O'Sullivan, 2022). Together, these mechanisms show how thoughtful contract design, ownership structure, and institutional support reduce risk and align incentives across cooperative and contractual settings.

1.3.1.2.1 Incentive Alignment

Incentive alignment works as a core organizational dimension because it creates conditions where members are motivated to support shared goals, strengthen relationships, and limit internal friction. **(1) Cooperative contracts help guide members and leaders to act responsively**, since well-structured agreements create clear and mutually beneficial expectations. This is evident in hydropower collaborations where inter organizational incentive schemes improve coordination and overall performance (Wang et al., 2023), in blockchain smart contracts that align supply chain incentives and make cooperation economically appealing (Allenbrand, 2023), and in voluntary commitment systems that encourage responsible negotiation and efficient

agreements (Zhu et al., 2025). **(2) Incentive alignment also improves trust among members**, because when incentives encourage collaboration, parties experience less risk and more reliability. Partnering contracts in construction build trust and reduce adversarial attitudes (Sabri and Kristiansen, 2025), trust strengthens the effect of cooperative conflict management on organizational performance (Soressa and Birbirsa, 2025), and blockchain incentive models embed trust into information verification processes (Barbosa and Kirshner, 2025). **(3) Finally, aligned incentives reduce conflicts between members**, since shared gains and transparent expectations limit zero sum behaviors. Collaborative revenue and investment sharing structures help settle incentive disputes under regulatory pressure (Kuiti et al., 2022), trust paired with information support reduces peer conflict through more integrative behaviors (Sims et al., 2023), and strong team trust lowers interpersonal tensions while supporting cooperation (Mohsen et al., 2023).

1.3.1.2.2 Supplier Incentive

Supplier Incentive strengthens supply chain performance by ensuring that suppliers are treated fairly and motivated to collaborate. First, **(1) provides fair benefits to suppliers**, since fair and cooperative gain sharing builds trust and participation (Keränen et al., 2023), retainage mechanisms reward suppliers in proportion to quality outcomes (Walker et al., 2022), and CSR based revenue sharing ensures equitable benefits in emerging markets (Zhang et al., 2024). Second, **(2) supplier support improves product quality and delivery**, because incentive structures under carbon cap and quota systems enhance product quality (Kuiti et al., 2022; Liu and Wang, 2024), blockchain based incentives reduce delivery disputes and boost reliability (Wu et al., 2024), and coordinated cold chain incentives raise freshness and delivery performance (Zeng et al., 2024). Third, **(3) cooperative incentives make suppliers more willing to work**, as financial and non-financial rewards increase cooperation in international projects (Abdalla et al., 2023), joint promotional incentives improve both revenue and social performance (Cheng et al., 2024), government tax supports encourage green innovation collaboration (Zeng et al., 2022), and cost sharing models align supplier and manufacturer interests (Wang et al., 2022). Together, these findings show that structured supplier incentives consistently increase motivation, quality, reliability, and long-term cooperation across industries.

1.3.1.2.3 Governance Enhance incentives

Governance incentives strengthen a cooperative when leaders are held accountable, rewarded fairly, and supported by systems that reduce misuse of shared resources. **First**, (1) cooperatives function better when leaders are properly monitored to ensure they act in members' best interest. Studies show that oversight improves governance efficiency when members understand monitoring mechanisms and leadership behavior is tracked with precision (Hendrikse and Wei, 2022). Visible accountability frameworks with graduated sanctions also enhance compliance and cooperation (Botta et al., 2024), and incentive-based oversight models help sustain strict enforcement in cooperative governance settings (Ding and Ren, 2024). **Second**, (2) incentives are stronger when rewards for leaders are tied to cooperative performance. Fair and transparent, performance-linked rewards prevent inequality and encourage ongoing collaboration (Lin et al., 2023). Balanced reward-punishment systems also improve cooperation at lower cost (Wang et al., 2023), while transparent reward structures strengthen trust and recognition within organizations (Tang et al., 2024). Evidence from federated and blockchain systems shows that contribution-aligned rewards support stable cooperative behavior (Ndolo et al., 2023). **Third**, (3) strong governance requires protecting shared resources through monitoring and fair rewards. Hybrid reward-punishment mechanisms promote sustainable resource use and limit exploitation (Lu et al., 2024). Threshold-based incentive systems help maintain cooperation while keeping oversight costs manageable (Wang et al., 2024), and fair incentive designs reduce misbehavior by rewarding compliance and discouraging selfish actions (Sultan et al., 2022). Game-theoretic work also shows that balanced incentives preserve integrity in decentralized networks (Mssassi and Kalam, 2024). Together, this research confirms that clear monitoring, performance-based rewards, and fair incentives create stronger, more accountable cooperative governance.

1.3.1.2.4 CEO Stock Option

CEO stock options function as a key dimension of cooperative governance because they tie executive incentives to collective outcomes in clear and measurable ways. When cooperative leaders' rewards are linked to overall cooperative success (1), performance tends to rise since stock option packages align leader interests with long-term organizational health, as seen in findings that CEO options moderately improve firm results (Jallow, 2023; Nzunga, 2022) and act as substitutes for direct oversight in foundation-controlled firms (Diem and Reda, 2024). Leaders also work harder when their personal benefits depend on cooperative performance (2), supported by evidence that executives view productivity as a way to safeguard option value (Zolotoy et al., 2022), that performance-based incentives significantly boost managerial effort (Usman and Halidu, 2025), and that pay-performance sensitivity has strengthened over time (Aaen and Lueg, 2022). Finally, leader benefits that grow with cooperative success improve overall productivity (3), with stock option wealth shown to increase firm efficiency (Zolotoy et al., 2022), unexpectedly high incentives driving stronger performance (Brown and Hillegeist, 2024), and informative stock prices amplifying the innovation and productivity effects of such incentives (Xiang, 2022).

1.3.2 Economic Empowerment

Economic empowerment is a multidimensional process that extends beyond income to encompass access, control, and resilience within economic systems. Recent literature (2022–2025) identifies seven core dimensions that cooperatives directly influence. First, (1) **access to finance**—through credit, savings, microloans, and surety bonds—enables members, especially women and small enterprises, to invest and grow (Grace et al., 2024; Waheed et al., 2023; Patel, 2024). Second, (2) **income generation** is bolstered as cooperatives create new avenues for employment and entrepreneurship, leading to increased financial independence (Pokharel, 2023; Minzar & Mishra, 2024). Third, (3) **financial literacy and decision-making** improve through cooperative-led training in budgeting and planning (Basnet, 2023). Fourth, (4) **ownership and asset building** are achieved via collective savings and investment mechanisms (Dhakal, 2024). Fifth, (5) **market participation** is enhanced as cooperatives help members integrate into value chains and strengthen their market position (Grace et al., 2024). Sixth, (6) **control over economic resources** grows as members gain a voice in how income and funds are allocated, often through participatory processes (Acharya & Kumar, 2025). Finally, (7) **risk mitigation and economic security** are supported through group savings, insurance, and guarantee schemes that shield members from financial shocks (Patel, 2024; Waheed et al., 2023). Together, these dimensions form a comprehensive framework for understanding and advancing economic empowerment through cooperative models.

1.3.2.1 Income Generation

Income generation as a dimension reflects how programs, environments, or support systems strengthen a person's ability to earn and sustain financial gains. It includes several sub-dimensions that show how individuals build economic stability and long-term security. First, it involves helping members find new ways to earn income (1), which can be seen in studies showing how digital entrepreneurship ecosystems open income pathways and encourage entrepreneurial intentions among low-income learners (Adam et al., 2025), how microfinance improves income steadiness for small store owners (Apat and Bawica, 2022), and how merging professional skills with entrepreneurial strategies creates passive income options (Kaur et al., 2022). Second, it supports members in becoming more financially independent (2). Research highlights how self-earning and investing habits push Gen Z toward greater financial independence (Dugar and Madhavan, 2023), how fintech and financial literacy strengthen inclusion and autonomy (Chikmah and Karsono, 2024), and how basic income support can boost self-sufficiency and entrepreneurial readiness (Makole and Ntshangase, 2025). Third, income generation means creating opportunities to start and grow small businesses (3). Access to credit and government support shape MSME growth and income potential (Ayobade et al., 2024), while strong financial capability helps small business owners maintain stability and expand (Guo and Huang, 2023), and school-based entrepreneurial projects show how structured initiatives can improve sustainability and management skills (Anonymous, 2024). Broader studies also reinforce this dimension, including frameworks for diversifying revenue streams in nonprofits (Richardson et al., 2022) and insights into how digital labor platforms shape income opportunities for self-employed workers (McDonald et al., 2023).

1.3.2.2 Access to Finance

Access to finance in cooperatives encompasses three interrelated dimensions: (1) ease of borrowing, (2) the ability to save regularly, and (3) fair access to credit. Cooperatives make it easier for members to borrow money when needed by offering simplified and inclusive lending procedures. For instance, Nasari Savings and Loan Cooperative provides collateral-free loans, especially benefiting retirees (Dharma et al., 2023), while BMT Bina Tanjung, a Sharia-based cooperative, recorded a financing disbursement rate of 105.5%, reflecting high accessibility (Edi Budiono, 2022). In Nigeria, cooperatives have proven effective in delivering low-interest loans to underserved rural populations (Otaokpukpu et al., 2024), and in Indonesia, they provide credit to microbusinesses with minimal requirements (Khair et al., 2024). Alongside borrowing, cooperatives foster regular saving habits through structured financial systems. In India, cooperative banks in Maharashtra and Karnataka have helped self-help groups (SHGs) develop consistent savings and lending practices (Bhagawati & Jagadish, 2025), while financial cooperatives in rural Nigeria actively mobilize savings and encourage member contributions (Otaokpukpu et al., 2024). Kenyan livestock cooperatives further demonstrate this by implementing disciplined budgeting and investment practices that reinforce consistent saving behavior (Hido & Koori, 2025). Finally, cooperatives promote fair access to loans, particularly for women and small enterprises. SHGs linked to District Central Cooperative Banks in India report increased loan access and empowerment through inclusive lending practices (Bhagawati & Jagadish, 2025). In Indonesia, cooperatives support MSMEs despite obstacles like limited capital and low financial literacy (Sirait & Cece, 2023), while in the U.S., credit unions and community development financial institutions (CDFIs) have expanded their reach to marginalized borrowers, offering favorable loan terms and achieving high satisfaction rates (Chandler & Wial, 2022).

1.3.2.3 Ownership

Ownership functions as a core dimension of cooperative development because it gives members a direct stake in their financial future. It operates through three connected sub-dimensions. (1) Members are able to build assets through cooperative savings,

which studies show can lead to the acquisition of homes, vehicles, and land in Nigeria (Akarara et al., 2024), stronger savings participation in Ethiopia due to social capital (Yayeh & Mulugeta, 2024), and affordable credit through pooled funds in Nigerian financial cooperatives (Otaokpukpu et al., 2024). (2) Cooperatives help members invest in long-term growth by offering ownership structures that support stability and commitment, as seen in worker cooperatives in Italy and Spain (Lomuscio et al., 2023; Marcuello, 2023). Research also shows that profit-linked dividends can strengthen member investment incentives (Tortia, 2024), while Indonesian savings and credit cooperatives highlight the need for effective long-term financial management to sustain member benefits (Fransu et al., 2023). (3) Membership in a cooperative increases the wealth and security of families, with income gains documented in Zanzibar households (Ali et al., 2024), improved welfare and economic empowerment in Uganda and Nepal (Canelas et al., 2024; Basnet, 2023), and broader resilience and inclusion supported by cooperative structures (Grace et al., 2024; Poli, 2022). Together these sub-dimensions show that cooperative ownership strengthens assets, supports long-horizon investment, and boosts family stability across regions.

1.3.2.4 Risk Mitigation

Risk mitigation in cooperatives reflects how collective systems reduce individual exposure to shocks and uncertainty. This dimension shows how shared structures make members safer and more resilient. (1) Cooperatives provide safety nets like insurance and group savings, which lower members' vulnerability and help them withstand emergencies. Studies show that cooperative-linked insurance reduces financial strain for Kenyan dairy farmers by giving them alternatives to distress sales (Geng et al., 2023). Digital peer-to-peer insurance models also create pooled protection systems that act as financial buffers (Levantesi and Piscopo, 2022). Cooperative takaful structures in Saudi Arabia strengthen resilience by sharing risk across members while maintaining financial stability (Savai and Pjanić, 2025). (2) Members feel more secure against unexpected financial problems because cooperatives use tools like risk monitoring and internal audits, boosting confidence and reducing default risks (Journal of Finance and Accounting, 2023). Strong oversight practices in Nepalese cooperatives reinforce members' sense of stability (Bhandari, 2025), and shared accountability in Indonesian women-led groups builds a culture of collective financial security (Harjanti et al., 2024). (3) Cooperatives protect members from serious losses during crises by offering emergency plans, welfare mechanisms, and diversified risk strategies. During the COVID-19 pandemic, these measures softened economic shocks for cooperative members in Nueva Ecija (Dalde, 2025). Cooperative models also shield communities from climate and economic disruptions through solidarity-based structures (Vathi-Sarava and Nikolopoulos, 2023), while insurance and diversification tools reduce exposure to market and environmental risks for farmers (Ningsih and Rasyid, 2025).

1.3.2.5 Market Participation

Market participation as a dimension reflects how cooperatives help members engage in markets more effectively and with stronger economic outcomes. (1) Helping members sell their products at better prices is a core function, since cooperative membership allows farmers to secure higher and fairer prices by pooling output and negotiating collectively. Studies show that Nepali goat farmers selling through cooperatives earn significantly better prices than those relying on local markets (Neupane and Paudel, 2023), while wheat growers in China gain higher net income through cooperative participation because of better productivity and stronger bargaining positions (Zhang et al., 2023). Similar pricing gains occur when cooperatives deploy structured pricing interventions that support fair profit distribution and long-term sustainability (Han and Sun, 2024). (2) Getting access to larger markets through cooperatives is another important sub dimension. Evidence from India shows that cooperative led market diversification strategies widen market reach and boost competitiveness (Wadkar et al., 2024), and maize producers in Benin who sell through cooperatives reach more stable and structured buyers than those selling to informal collectors (Ibikoule and Lee, 2024). Ethiopian maize and dairy producers also benefit from stronger market linkages when they participate in cooperatives, reducing isolation and expanding opportunities to trade (Galtsa et al., 2022; Zeleke and Tolesa, 2023). (3) Increasing members' bargaining power with buyers completes the dimension, as cooperatives amplify negotiation strength through shared information and collective action. Findings from China indicate that cooperative membership improves bargaining power, reduces information gaps, and broadens sales channels (Li and Li, 2025). Collective negotiation models further enhance pricing leverage (Maflahah et al., 2024), and revenue sharing systems within cooperatives help balance risk and distribute profits more fairly between farmers and retailers (Shi and Wang, 2023).

1.3.2.6 Control

The **Control** dimension is strengthened when members are given real influence over how their cooperative is run. When members have a say regarding cooperative funds **(1),** they gain clearer oversight and contribute to better financial performance, as shown by improvements in loan outcomes when members participate in governance processes (Naome et al., 2025). Encouraging members to join important decisions **(2)** supports stronger development results and helps sustain the cooperative over time, since active involvement in management is linked to improved organizational outcomes (Mugwe, 2024). Members are also more willing to engage when they feel their voices are respected in financial matters **(3)**, because trust between leaders and members increases participation and ensures decisions are viewed as fair and member driven (Kinikli & Yercan, 2023). Respect

for member voice builds loyalty and strengthens democratic governance, further reinforcing cooperative stability (Mori & Cavaliere, 2024; Mori & Cavaliere, 2024).

1.3.2.7 Financial Literacy

Financial Literacy helps build stronger financial habits by shaping how individuals manage, plan, and decide. It first **(1) provides training on money management**, as shown in studies where literacy programs improved financial behavior among university students (Abro et al., 2024), increased confidence and reduced reliance on informal lending in rural communities (Iqbal, 2024), strengthened managerial money-handling skills (Adewumi, 2024), and supported MSME owners in managing savings and debt more effectively (Bancoro, 2023). It also **(2) helps people learn to plan and budget better,** with evidence that financial discipline boosts budgeting skills (Sari and Putri, 2025), digital budgeting tools enhance responsibility and expense control (Dwivedi, 2025), financially knowledgeable students are more likely to set goals and plan consistently (Jurkševičiūtė et al., 2023), and microbusinesses with budgeting literacy show stronger financial performance (Takoutio, 2025). Finally, it **(3) makes members more confident in making financial decisions,** as learners with higher literacy demonstrate greater decision-making confidence (Reddy and Taj, 2024), show stronger financial behavior linked to education (Kee Xuan, 2025), benefit from experiential learning that builds planning confidence (Goel, 2025), and report higher financial contentment when they apply budgeting and saving practices (Valdez, 2022).

2. Methodology

2.1 Statistical Treatment of Data

Descriptive and inferential statistical techniques were employed to analyze the data. (1) The **weighted mean**, accompanied by corresponding verbal interpretations, was used to describe respondents' perceptions across the measured constructs. To examine the relationships among variables, the (2) **Pearson Product–Moment Correlation Coefficient (r)** was utilized, enabling the assessment of both the strength and direction of linear associations. The statistical significance of the correlations was determined using **p-values**, providing a basis for evaluating the reliability of the observed relationships. To further elucidate the interrelationships among constructs, the results were presented through a (3) **correlation-based path diagram**, which illustrates the directional linkages among variables. This approach represents a **simplified form of path analysis**, allowing for the visualization of associative patterns among constructs. It should be noted, however, that the analytical approach is correlational in nature and does not establish causal relationships.

2.2 Ethical Considerations

The study adhered to established ethical standards governing research involving human participants. Participation was strictly (1) **voluntary**, and (2) **informed consent** was obtained from all respondents prior to data collection. To ensure (3) **confidentiality and anonymity**, respondents were not required to disclose personal identifiers; instead, responses were recorded using a coding system to facilitate data organization while protecting participant identity.

No monetary or material compensation was provided to participants. Furthermore, respondents were informed of their right to (4) **withdraw from the study at any stage without any form of penalty**, thereby upholding the principle of autonomy throughout the research process.

2.3 Data Gathering Procedure

Data were collected from **187 respondents** who voluntarily participated in the study. The researcher conducted on-site visits to **registered cooperatives within the Province of Siquijor** to administer the survey instrument. Prior to distribution, the purpose of the study was clearly explained, and instructions for completing the questionnaire were provided to ensure accurate and consistent responses. The researcher remained available during the administration process to address clarifications and ensure completeness of responses. Completed questionnaires were then collected and prepared for subsequent analysis.

3. Results and Discussion

3.1 Economic Empowerment

3.1.1 Access to Finance

Table 1 Access to Finance

Statements	Mean	Verbal Description
It is easier for members to borrow money when needed	4.11	Agree
Members can save regularly	4.10	Agree
Women and small businesses have fair access to loans from other cooperatives	4.00	Agree
Composite Mean	4.07	Agree

Legend: 1.00 – 1.80 Strongly Disagree; 1.81 – 2.60 Disagree; 2.61 – 3.40 Neutral; 3.41 – 4.20 Agree; 4.21 – 5.00 Strongly Agree

The result shows that in Siquijor members of cooperatives agrees (4.07) that they gain access to finance enabling members to borrow money when needed. This result is similar to the study of Yu et al. (2023) in China that cooperative members are more likely to obtain bank loans, especially those without prior financial connections. Similarly, Bonnke et al. (2022) study in Democratic Republic of Congo showed that membership in cooperatives significantly increase the probability of accessing credit.

3.1.2 Income Generation

Table 2 Income Generation

Statements	Mean	Verbal Description
Cooperatives helps members find new ways to earn income	3.99	Agree
Members become more financially independent because of the cooperative	3.87	Agree
The cooperative creates opportunities for members to start or grow a small business	4.06	Agree
Composite Mean	3.97	Agree

Legend: 1.00 – 1.80 Strongly Disagree; 1.81 – 2.60 Disagree; 2.61 – 3.40 Neutral; 3.41 – 4.20 Agree; 4.21 – 5.00 Strongly Agree

Table shows that cooperatives increase income generation more on creating opportunities for members to start or grow small business. This result is the same as the study of Dibihantoro et al. (2024) in Indonesia where they found that cooperative financing supports capital for small businesses, enabling their expansion and job creation. Similarly, the study of Van Steenberghe et al. (2025) in Belgium showed cooperative members has higher income and financial capacity enabling them to support investment and business opportunities.

3.1.3 Financial Literacy

Table 3 Financial Literacy

Statements	Mean	Verbal Description
The cooperative provides training on how to manage money	4.04	Agree
Members learn how to plan and budget better through cooperatives	3.94	Agree
Cooperative programs make members more confident in making financial decisions	3.94	Agree
Composite Mean	3.97	Agree

Legend: 1.00 – 1.80 Strongly Disagree; 1.81 – 2.60 Disagree; 2.61 – 3.40 Neutral; 3.41 – 4.20 Agree; 4.21 – 5.00 Strongly Agree

Result shows that being a member of cooperatives provides financial literacy with the highest on training on how to manage money. This study is similar in China, where the study of Liu et al. (2025) showed cooperative members, financial literacy

including decision making, budgeting and use of financial information varies, and that cooperatives play a key role in providing financial education to improve money management skills. Further, in Uganda a similar study by Walugembe et al. (2025) where cooperatives provide structured programs on savings, budgeting, investing, and debt management improved members personal financial management skills.

3.1.4 Ownership and Asset Building

Table 4 Ownership and Asset Building

Statements	Mean	Verbal Description
Members build Assets (like land, livestock, or equipment) through cooperative savings	3.75	Agree
The cooperative helps members invest in long – term growth	3.92	Agree
Membership in the cooperative increases the wealth and security of families	3.85	Agree
Composite Mean	3.84	Agree

Legend: 1.00 – 1.80 Strongly Disagree; 1.81 – 2.60 Disagree; 2.61 – 3.40 Neutral; 3.41 – 4.20 Agree; 4.21 – 5.00 Strongly Agree

Result shows that cooperatives in Siquijor helps members invest in long – term growth thru ownership and asset building. Similarly, Akarara et al. (2024) pointed that cooperative in Nigeria help members acquire long – term assets (land, buildings, vehicles, equipment), showing clear evidence of wealth building and long – term investment through ownership. Further, in Kenya the study of Mwanzia and Makori (2023) showed cooperatives investment in fixed assets (land, buildings, equipment) significantly improve returns and long – term financial growth, highlighting the role of cooperatives in building member wealth through asset ownership.

3.1.5 Market Participation

Table 5 Market Participation

Statements	Mean	Verbal Description
The cooperative helps members sell their products at better prices.	3.88	Agree
Members get access to larger markets through the cooperative	3.87	Agree
The cooperative increases members' bargaining power with buyers.	3.75	Agree
Composite Mean	3.83	Agree

Legend: 1.00 – 1.80 Strongly Disagree; 1.81 – 2.60 Disagree; 2.61 – 3.40 Neutral; 3.41 – 4.20 Agree; 4.21 – 5.00 Strongly Agree

Result shows that cooperatives encourage market participation with cooperatives helps members sell their products at better prices. In a similar sense, Ibikoule et al. (2024) made an analysis of marketing channels to improve the role of cooperatives in Benin and found that cooperatives offer higher selling prices compared to other buyers and strengthening cooperative marketing helps farmers participate in better markets and improve bargaining power. Moreover, Habiyaremye et. al (2023) while studying cooperative membership effects on farmers' choice of milk marketing channels in Rwanda found that cooperative-managed market channels offer higher prices and better-quality based payments, encouraging farmers to sell through cooperatives instead of lower – paying buyers.

3.1.6 Control Over Economic Resources

Table 6 Control Over Economic Resources

Statements	Mean	Verbal Description
Members have a say in how cooperative funds are used	3.89	Agree
The cooperative encourages members to join in important decisions	3.99	Agree
Members feel that their voices are respected in financial matters	4.0	Agree
Composite Mean	3.96	Agree

Legend: 1.00 – 1.80 Strongly Disagree; 1.81 – 2.60 Disagree; 2.61 – 3.40 Neutral; 3.41 – 4.20 Agree; 4.21 – 5.00 Strongly Agree

Results shows that in terms of Control over economic resources members of cooperatives feel that their voices are respected in financial matters. This result is the same in the study of Pandey et al. (2024) in Nepal where the researcher looked into the application of universal cooperative principles and found that they cooperatives indeed follow democratic member control. This ensures that members actively participate in decision making which builds a strong sense that their voices are heard and respected in financial and organizational matters. Similarly in Europe, Wegner et al. (2024) mapped out cooperative digital platforms and found that cooperative structures allow members to voice opinions and participate directly in organizational decisions, leading to inclusive financial governance where members have influence and control.

3.1.7 Risk Mitigation and Economic Security

Table 7 Risk Mitigation and Economic Security

Statements	Mean	Verbal Description
The cooperative provides safety nets like insurance or group savings	3.90	Agree
Members feel more secure against unexpected financial problems because of the cooperative	3.92	Agree
Cooperative programs protect members from serious losses during crises (illness, disasters)	3.94	Agree
Composite Mean	3.92	Agree

Legend: 1.00 – 1.80 Strongly Disagree; 1.81 – 2.60 Disagree; 2.61 – 3.40 Neutral; 3.41 – 4.20 Agree; 4.21 – 5.00 Strongly Agree

In terms of Risk Mitigation, result shows agreement with cooperative programs that protect members from serious losses during crises like illness or disasters. In Asia, Latin America, and Caribbean the study of Valcin et. al (2024) where cooperative insurance system operates allow members to share risks and receive financial protection during disasters reducing major economic losses. Similarly, Liao et al. (2024) focused on collective insurance regime to govern food insecurity and nitrogen pollution under risk. Cooperative systems act as risk buffer mechanisms, providing support (food and resources) when members face shocks like disasters or crises preventing severe losses.

3.1.8 Summary of Economic Empowerment

Table 8 Summary of Economic Empowerment

Dimensions	Mean	Verbal Description
Income Generation	3.97	Agree
Access to Finance	4.07	Agree
Ownership	3.84	Agree
Risk Mitigation	3.92	Agree
Market Participation	3.83	Agree
Control	3.96	Agree
Financial Literacy	3.97	Agree
Grand Mean	3.94	Agree

Legend: 1.00 – 1.80 Strongly Disagree; 1.81 – 2.60 Disagree; 2.61 – 3.40 Neutral; 3.41 – 4.20 Agree; 4.21 – 5.00 Strongly Agree

Among the dimensions of economic empowerment, access to finance appears to be the most visible factor. This finding coincides with several studies, such as that of Yu et al. (2023) in China, where cooperative membership significantly improves access to bank credit, highlighting financial access as a central and observable driver of economic empowerment. Similarly, Bonnke et al. (2022) in the Democratic Republic of Congo found that cooperative membership increases access to credit, which in turn enhances farmers' participation in economic activities, making it one of the most evident aspects of empowerment. Further, Pandey et al. (2024) in Nepal identified member economic participation—particularly through financial contributions and access to cooperative resources—as a core and visible dimension of empowerment.

From a local perspective, the findings of Pelegrin, Nayve and Mansueto (2022) on proactiveness, innovativeness, and risk-taking propensity further reinforce this result, as they demonstrated that access to financial resources enables micro-business owners to adopt entrepreneurial behaviors that significantly improve sales, growth, and overall performance. This suggests that financial access does not only serve as a support mechanism but also acts as a catalyst for entrepreneurial activity, thereby strengthening its role as the most visible and impactful dimension of economic empowerment.

3.2 Cooperative Trust
3.2.1 Risk Reduction
3.2.1.1 Risk Aversion

Table 9 Risk Aversion

Statements	Mean	Verbal Description
The cooperative helps protect members from sudden income losses	3.84	Agree
The cooperative makes farming or small business income more stable	3.90	Agree
Members feel less worried about financial risks because of cooperative support	3.84	Agree
Composite Mean	3.86	Agree

Legend: 1.00 – 1.80 Strongly Disagree; 1.81 – 2.60 Disagree; 2.61 – 3.40 Neutral; 3.41 – 4.20 Agree; 4.21 – 5.00 Strongly Agree

The result shows that cooperatives enable small businesses income become stable. This aligns with the findings of Wu et al. (2023) in China that cooperative membership significantly increases farmers' income through services like marketing, information and technology mechanism that reduce uncertainty and income fluctuations. Likewise, that of Imami et al. (2025) in Armenia where they found out that cooperatives act as a risk – sharing mechanism that help stabilize outcomes for those sensitive to uncertainty. Joining cooperatives leads to better performance especially for vulnerable groups which are more risks averse.

3.2.1.2 Equity – Based Risk Sharing

Table 10 Equity – Based Risk Sharing

Statements	Mean	Verbal Description
Risks and benefits are shared fairly among cooperative members	3.92	Agree
Cooperative projects make sure no single group carries all the risks.	3.86	Agree
Public – Private partnership supported by the cooperative give members more security.	3.79	Agree
Composite Mean	3.86	Agree

Legend: 1.00 – 1.80 Strongly Disagree; 1.81 – 2.60 Disagree; 2.61 – 3.40 Neutral; 3.41 – 4.20 Agree; 4.21 – 5.00 Strongly Agree

The table shows that members agree that risks and benefits are shared fairly among cooperatives. Similar findings can be observed in the study of Shi and Wang (2023) which shows cooperatives are structured to ensure balanced and equitable sharing. Cooperatives redistribute profits and risks among members and with proper contracts they can achieve equivalence of risk and benefit. Thus, implicating fair allocation across all participants. Moreover, Zhong et al. (2022) also argued that cooperative success and longevity depend on aligning risk sharing with benefit distribution, following the principle of risk-benefit equivalence. The fairness between what members risk and what they gain confirms that fair sharing is not just theoretical but essential for cooperatives to function well.

3.2.1.3 Dynamic Contracting

Table 11 Dynamic Contracting

Statements	Mean	Verbal Description
Insurance or contracts arranged through the cooperative reduce members financial risks	3.86	Agree
Cooperative insurance or guarantee schemes protect members from unexpected losses	3.85	Agree
Cooperative agreements with outside partners help distribute risks fairly	3.79	Agree
Composite Mean	3.83	Agree

Legend: 1.00 – 1.80 Strongly Disagree; 1.81 – 2.60 Disagree; 2.61 – 3.40 Neutral; 3.41 – 4.20 Agree; 4.21 – 5.00 Strongly Agree

On the statement Insurance or contracts arranged through the cooperative reduce members financial risks. This finding aligns with Geng et al. (2023) reduce farmers' need to engage in risky coping strategies showing that insurance stabilizes income and lowers financial risk. Their study highlights how contractual insurance arrangements within cooperatives improve financial resilience. Further, Pardaev et al. (2023) findings reveal that the use of formal contracts and insurance in cooperative supply chains significantly reduces financial and operational risks, demonstrating their effectiveness as risk mitigation tools in dynamic agreements.

3.2.1.4 Summary of Risk Reduction

Table 12 Summary of Risk Reduction

Dimensions	Mean	Verbal Description
Risk Aversion	3.86	Agree
Equity Based Risk Sharing	3.86	Agree
Dynamic Contracting	3.83	Agree
Grand Mean	3.85	Agree

Legend: 1.00 – 1.80 Strongly Disagree; 1.81 – 2.60 Disagree; 2.61 – 3.40 Neutral; 3.41 – 4.20 Agree; 4.21 – 5.00 Strongly Agree

The summary shows that among the dimensions, Risk Aversion and Equity Based Risk Sharing are the highest. This result is also similar to the findings of Dinh et al. (2025) that risk aversion significantly shapes decision – making and outcomes in contracting systems, influencing whether actors engage in risk reducing arrangements and how resources are allocated. In their study risk aversion account for a large share of variation in financial decisions which is over 60%. Similar result was also communicated by Meng et al. (2025) their findings suggest that in dynamic principal – agent and cooperative systems, risk aversion and equity structure (risk – sharing arrangements) are identified as critical factors for managing risks and achieving optimal outcomes. They further argued that effective systems require balancing risk-sharing fairness and agents' risk preferences showing both are core dimensions of risk reduction.

3.2.2 Collective Trust

3.2.2.1 Governance Enhanced

Table 13 Governance Enhanced

Statements	Mean	Verbal Description
Cooperative contracts help guide members and leaders to act responsibly	4.02	Agree
Written agreements in the cooperative improve trust among members	4.07	Agree
Clear contracts reduce conflicts between members and leaders.	4.10	Agree
Composite Mean	4.06	Agree

Legend: 1.00 – 1.80 Strongly Disagree; 1.81 – 2.60 Disagree; 2.61 – 3.40 Neutral; 3.41 – 4.20 Agree; 4.21 – 5.00 Strongly Agree

The highest in the table is the statement clear contracts reduce conflicts between members and leaders. This study is similar to the findings of Latilo et al. (2024) where they suggested that a well-defined contractual agreement that clearly specify roles, responsibilities and risk allocation reduce ambiguity and prevent misunderstandings and conflicts among parties. Similarly, they added that clear contracts foster smoother implementation and better cooperation. In another study by Wei et al. (2022) their findings showed that contracts that clearly define obligations and are properly enforced reduce opportunistic behavior, which in turn lowers conflict between parties. This shows that clarity in contracts directly contributes to conflict mitigation.

3.2.2.2 Supplier Incentive

Table 14 Supplier Incentive

Statements	Mean	Verbal Description
The cooperative provides fair benefits to suppliers for good performance	3.83	Agree
Supplier support from the cooperative improves product quality and delivery	3.89	Agree
Cooperative incentives make suppliers more willing to work together for success	3.90	Agree
Composite Mean	3.87	Agree

Legend: 1.00 – 1.80 Strongly Disagree; 1.81 – 2.60 Disagree; 2.61 – 3.40 Neutral; 3.41 – 4.20 Agree; 4.21 – 5.00 Strongly Agree

The table shows that among the statements, the highest is cooperative incentives makes suppliers more willing to work together for success. The same result was obtained by Abdalla et al. (2023) both financial and non-financial incentives significantly increase cooperation levels between suppliers and project partners, which then improves overall performance. Further, this shows that incentives actively encourage willingness to collaborate. Research by Cheng et al. (2024) also showed that cooperative incentive mechanisms generate higher profits for all participants and pareto improvements, making all parties including suppliers more motivated to cooperate. Thus, demonstrate that incentives align interests toward shared success.

3.2.2.3 Incentive Alignment

Table 15 Incentive Alignment

Statements	Mean	Verbal Description
Cooperative leaders are properly monitored to make sure they act in members best interests.	4.07	Agree
Rewards or benefits for leaders are linked on how well the cooperative performs	4.03	Agree
Monitoring and fair rewards help reduce misuse of cooperative resources	4.09	Agree
Composite Mean	4.06	Agree

Legend: 1.00 – 1.80 Strongly Disagree; 1.81 – 2.60 Disagree; 2.61 – 3.40 Neutral; 3.41 – 4.20 Agree; 4.21 – 5.00 Strongly Agree

The table shows that among the statements, monitoring and fair rewards help reduce misuse of cooperatives resources. Krisnawati & Prakasa (2025) has similar results that monitoring mechanisms help detect violations early, increase transparency and prevent misuse of resources. Thus, the study shows that active monitoring directly reduces misuse and corruption risks. In a similar sense, Kidzir and Kadri (2022) findings shows that incentives combined with enforcement mechanism significantly improve effectiveness of corruption control. Thus, they reduce misuse and promote proper resource use while fair rewards encourage compliance and discourage opportunistic behavior.

3.2.2.4 CEO Stock Option

Table 16 CEO Stock Option

Statements	Mean	Verbal Description
Cooperative leaders' rewards are tied to the overall success of the cooperative	4.07	Agree
Leaders work harder when their personal benefits depend on cooperative performance	3.99	Agree
Aligning leader benefits with cooperative success improves productivity for all members.	4.09	Agree
Composite Mean	4.05	Agree

Legend: 1.00 – 1.80 Strongly Disagree; 1.81 – 2.60 Disagree; 2.61 – 3.40 Neutral; 3.41 – 4.20 Agree; 4.21 – 5.00 Strongly Agree

The table shows that cooperative members agree that Aligning leader benefits with cooperative success improves productivity for all members. This result is similar to the result of the study of Wang et al. (2023) in China where they found out that inter-organizational incentive systems that align stakeholders' benefits with shared goals significantly improve cooperation and project performance. Thus, this shows that when leaders' rewards are tied to collective success, it enhances productivity and outcomes for all participants. Another study by Villamor et al. in the Philippines findings shows that in cooperatives, fair compensation and incentives tied to organizational outcomes improve job satisfaction, which leads to higher productivity and better performance among members.

3.2.2.5 Summary for Collective Trust

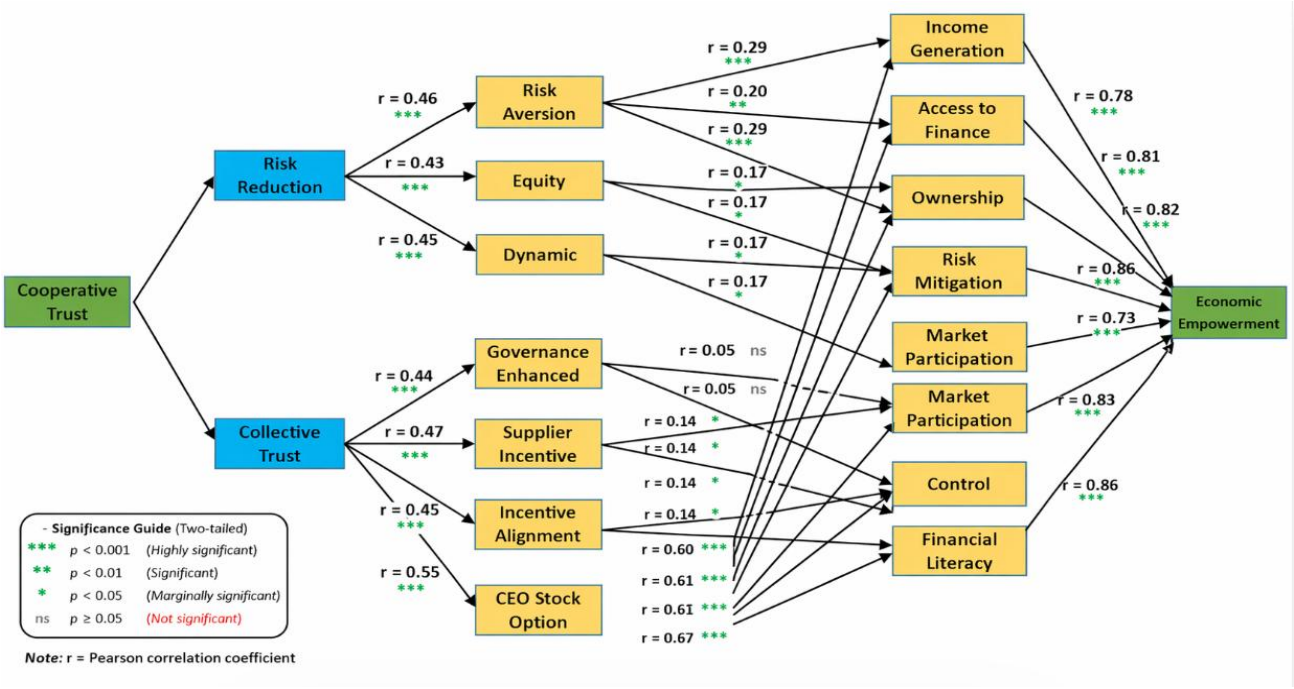
Table 17 Summary of Collective Trust

Dimensions	Mean	Verbal Description
Governance Enhanced	4.06	Agree
Supplier Incentive	3.87	Agree
Incentive Alignment	4.06	Agree
CEO Stock Option	4.05	Agree
Grand Mean	4.01	Agree

Legend: 1.00 – 1.80 Strongly Disagree; 1.81 – 2.60 Disagree; 2.61 – 3.40 Neutral; 3.41 – 4.20 Agree; 4.21 – 5.00 Strongly Agree

The findings of the study indicate that governance enhancement and incentive alignment are the most significant dimensions of collective trust. This is supported by the concept of institutional carrying capacity, which emphasizes that strong governance structures—such as clear policies, regulation, and effective management—are essential in maintaining order, coordination, and trust among stakeholders. For instance, Mansueto, Sabado, and Sarmiento (2025) highlight that effective governance mechanisms in managing tourist capacity contribute to better coordination and sustainable outcomes, reflecting higher levels of collective trust among participants. Additionally, aligning incentives among members or stakeholders ensures that individual goals are consistent with collective objectives, thereby promoting cooperation and reducing conflicts. Wang et al. (2023) found that incentive alignment significantly improves goal congruence and collaborative performance among organizations. Together, these studies demonstrate that both governance capacity and incentive alignment play a crucial role in strengthening collective trust and enhancing overall group performance.

3.3 Significant Relationships



The results show that Cooperative Trust influences Economic Empowerment through two distinct pathways—Risk Reduction and Collective Trust—but with clearly different strengths of effect. Within the risk reduction pathway, the relationships from Risk Reduction to its components (risk aversion, equity, and dynamic capability) are moderate and significant, suggesting that a cooperative environment fosters awareness of risk, fairness, and adaptability. However, when these variables are linked to economic outcomes, the effects become weaker (r ≈ 0.17–0.29), although still statistically significant in most cases. This indicates that while behavioral and adaptive mechanisms (such as risk aversion and flexibility) contribute to empowerment outcomes like income generation, ownership, and risk mitigation, their influence is supportive rather than dominant. In practical terms, reducing uncertainty and improving perceptions of fairness can help members engage economically, but these alone are not sufficient to drive strong empowerment outcomes.

In contrast, the collective trust pathway—particularly incentive-based mechanisms—emerges as the strongest driver of economic empowerment. CEO Stock Option, as a proxy for incentive alignment and shared economic interest, demonstrates moderate to strong correlations across all outcome variables (r ≈ 0.60–0.73), making it the most influential factor in the model. This suggests that when members perceive direct economic benefits tied to collective success, there is a substantial improvement in financial literacy, access to finance, control over resources, and risk mitigation. Meanwhile, supplier incentives and incentive alignment show weaker but still significant relationships (r ≈ 0.14), reinforcing the importance of reward systems, albeit at a lower magnitude. Notably, governance-enhanced mechanisms exhibit negligible and non-significant relationships (r ≈ 0.05), implying that formal structures alone may not directly translate into empowerment unless coupled with tangible economic incentives. Overall, the findings highlight that economic empowerment is more strongly driven by aligned incentives and tangible benefits than by governance structures or risk-reduction mechanisms alone, pointing to the central role of motivation, ownership, and shared gains in cooperative systems.

4. Conclusion

This study affirms that cooperatives in the Province of Siquijor serve as critical instruments for advancing economic empowerment, as reflected in consistently positive outcomes across key dimensions, including access to finance, income generation, financial literacy, ownership, market participation, control over resources, and risk mitigation. Among these, access to finance emerged as the most salient and observable driver, reinforcing the notion that financial inclusion remains foundational to enabling members' participation in economic activities. Beyond financial access, cooperatives also function as platforms for capability development, participatory governance, and economic security, thereby contributing to both individual welfare and community-level development.

Furthermore, the findings demonstrate that cooperative trust influences economic empowerment through two distinct pathways—risk reduction and collective trust—with varying magnitudes of effect. While risk reduction mechanisms contribute to economic stability and resilience, their influence on empowerment outcomes is relatively moderate. In contrast, collective trust—particularly through incentive-based mechanisms such as incentive alignment and leadership-linked rewards—exerts stronger and more consistent relationships with empowerment indicators. This suggests that empowerment is more effectively driven by systems that align individual incentives with collective performance, rather than by governance structures or risk mitigation strategies alone. These results underscore the importance of integrating trust, incentives, and economic participation mechanisms in cooperative systems to achieve sustainable and inclusive development outcomes.

5. Recommendation

1. Institutionalize Performance-Based Incentive Frameworks at the Federation Level Cooperative. Federations should develop standardized incentive alignment frameworks that link leadership performance and member benefits to cooperative outcomes. This may include federation-wide guidelines on profit-sharing, dividend structures, and performance-based compensation systems to strengthen accountability and motivation across affiliated cooperatives.

2. Expand Federated Financial Inclusion Programs. Federations should serve as financial hubs by facilitating pooled funds, credit guarantee schemes, and inter-cooperative lending mechanisms. Strengthening access to finance at the federation level can reduce risk exposure and improve capital availability, especially for smaller or emerging cooperatives.

3. Standardize Financial Literacy and Capacity-Building Programs. Cooperative federations should design and implement uniform training modules on financial literacy, entrepreneurship, and investment planning. By institutionalizing education programs across member cooperatives, federations can ensure consistent capability development and improve members' long-term financial decision-making.

4. Strengthen Governance Through Monitoring and Incentive Integration. Federations should enhance governance by combining regulatory oversight with incentive-based compliance mechanisms. This includes establishing monitoring systems, audit support, and transparency frameworks while ensuring that compliance is reinforced through rewards and sanctions aligned with cooperative performance.

5. Develop Federation-Led Risk Management Systems. Cooperative federations should establish collective risk management mechanisms, such as insurance pooling, disaster resilience funds, and emergency credit facilities. These systems can enhance members' protection against economic shocks and ensure sustainability, particularly in vulnerable and disaster-prone regions.

Declaration: This study was fully funded by the researcher. All procedures involving human participants were conducted in accordance with established ethical standards. Participation in the study was strictly voluntary, and **informed consent** was obtained from all respondents prior to data collection. To ensure **anonymity and confidentiality,** no personal identifiers were recorded, and responses were coded to maintain **traceability** for research purposes while protecting participants' identities. Respondents were likewise informed of their right to withdraw from the study at any time without penalty.
Conflicts of Interest: The authors declare no conflict of interest.
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