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Member Welfare as a Driving Force for the Survival of Agricultural Institutions:Empirical Evidence from Thailand's Major Rubber-Producing Areas

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ABSTRACT

This study examined the impact of member welfare programs on the business survival of agricultural institutions in Southern Thailand using structural equation modeling (SEM). Data were collected from 450 cooperative executives representing 150 cooperatives across five southern provinces. The welfare program framework was developed through in-depth interviews with 30 cooperative leaders. Results from exploratory and confirmatory factor analyses indicated that both member welfare provision and business survival were unidimensional constructs, with all indicators showing factor loadings greater than 0.60. Reliability and convergent validity met acceptable thresholds, with composite reliability (CR) and average variance extracted (AVE) values of 0.843 and 0.519 for member welfare, and 0.901 and 0.506 for business survival, respectively. The structural model demonstrated an excellent fit with the empirical data (χ^2 = 88.907, df = 76, p = 0.148, RMSEA = 0.019, CFI = 0.997, TLI = 0.997, SRMR = 0.025). Member welfare programs had a significant positive effect on business survival (β = 0.574, $p < 0.001$), explaining 33% of the variance. The findings confirm that welfare provision is a crucial determinant of the business survival of agricultural institutions. Furthermore, the study proposes an appropriate welfare model tailored to the southern agricultural context, which can serve as a practical framework to strengthen the survival of cooperative institutions in the future.

Keywords: Farmers' institutions, Welfare, Survival.

INTRODUCTION

Thailand, one of the world's leading natural rubber producers with over 22 million rai under cultivation, contributes approximately 210–220 billion baht annually to the economy (Office of Agricultural Economics, 2023). However, the sector faces persistent challenges including soil degradation, irregular rainfall, market concentration, price volatility, and trade barriers (Wang & Smith, 2022; He et al., 2023; Post Today, 2014; Pisitsupakun, 2014; Chetchaimonkul, 2014), all undermining farmers' income stability and institutional sustainability. Government initiatives promoting agricultural cooperatives aim to enhance collective bargaining and value addition (Cooperative Promotion Department, 2021), yet many remain financially fragile, with high closure rates (Cooperative Promotion Department, 2024). Survival disparities among provinces ranging from 78.95% in Nakhon Si Thammarat to 27.66% in Krabi reflect underlying organizational issues such as weak leadership, poor management, and declining member engagement (Thailand Research Fund, 2019; Weerathamrongsak & Wongsurawat, 2013). Agricultural institutions encountering both external pressures and internal challenges face heightened risks to their competitiveness and long-term viability. The survival of agricultural institutions reflects their capacity to adapt and sustain operations in uncertain environments (Duchek, 2020; Walker et al., 2004). It

involves three interrelated dimensions financial stability, organizational structure, and competitiveness each influenced by factors such as leadership, management effectiveness, organizational culture, trust, and member participation (Weerathamrongsak & Wongsurawat, 2013; Nuanphromsakul et al., 2023; Chumpanya & Panpakdee, 2025). Effective welfare provisions such as dividends, scholarships, crop insurance, and emergency assistance foster member motivation, satisfaction, and trust, which are key determinants of organizational sustainability (Nuanphromsakul et al., 2023; Chumpanya & Panpakdee, 2025). This perspective aligns with human capital and resource dependence theories, emphasizing that investment in members and internal resource management are essential for institutional continuity (Pfeffer & Salancik, 1978).

Nevertheless, prior research on Thai agricultural institutions has predominantly emphasized external determinants. Studies reveal that rubber price fluctuations are shaped by both internal factors such as supply and stock levels and external influences, including oil prices, exchange rates, and global market dynamics (Wanaset & Jatuporn, 2020; Sungkaew, 2024). However, limited attention has been given to internal drivers, particularly welfare management, as a determinant of business survival. While previous works have examined leadership and governance (Hejkrlik, Chaloupkova, & Sokolska, 2021), the impact of welfare systems remains underexplored, despite being an internal, controllable mechanism that organizations can strategically design to strengthen resilience.

The strength of this study lies in its focus on exploring various forms of member welfare provision derived from both an extensive literature review and interviews with members of agricultural institutions. The purpose is to identify concrete welfare models and examine the relationship between member welfare and the business survival of agricultural institutions in Southern Thailand. Structural equation modeling (SEM) was employed to generate empirical findings. The results of this research can be utilized to formulate strategies and policies that enhance the sustainability of agricultural institutions, enabling them to survive and remain competitive within the volatile and highly competitive natural rubber economy.

LITERATURE REVIEW AND CONCEPTUAL FRAMEWORK DEVELOPMENT

Concepts Related to Agricultural Institutions

The International Cooperative Alliance (ICA, 1995) defines agricultural institutions as voluntary associations established to meet members' common economic, social, and cultural needs through democratic management. Similarly, the Food and Agriculture Organization (FAO, 2007) highlights their role in providing financial services that reduce income risks and alleviate poverty, while Malaysia's Farmers' Organization Authority (FOA, 1973) underscores the importance of management structures and state supervision. In Thailand, the Royal Institute (2020) defines an "institution" as a social structure created to serve public needs. Within the agricultural context, this concept aligns with the self-reliance approach embedded in the Seventh to Ninth National Economic and Social Development Plans which emphasize farmers' collective capacity in resource management and economic collaboration. Thai agricultural institutions take diverse forms such as cooperatives, water user groups, and young farmer associations (Faysse & Onsamrarn, 2018) all contributing to product aggregation, bargaining power, and member empowerment. Prior studies affirm that such collective organizations enhance stability and sustainability (Iba et al., 2024). Accordingly, this study focuses on agricultural institutions engaged in the rubber sector, including rubber plantation fund cooperatives, agricultural cooperatives, and legally registered farmer groups.

Concepts and Theories of Organizational Survival (Survival Likelihood)

The concept of *"survival"* originates from Darwin's theory of evolution, (Darwin, 1859) which explains that those who can best adapt to their environment are most likely to survive. This principle has been applied in economics, sociology, and management to explain that competition, development, and adaptation are essential conditions for an organization's existence in a complex and uncertain environment. A large body of organizational management research has synthesized key criteria and indicated that organizational survival can be understood through three interrelated components. The first component is organizational effectiveness, which refers to the ability to achieve objectives and manage resources systematically. Organizations that maintain high effectiveness can sustain performance and reinforce long-term stability (De Waal, 2007; Esteve-Perez & Mariez-Castillejo, 2008). The second component is competitive advantage, which derives from the development of strategies and innovations that create differentiation and maintain market share. The capability within this dimension is considered a key mechanism enabling organizations to survive amid intense competition (Chaharbaghi & Willis, 1998; Murat & Baki, 2011; Koohang, Paliszkiewicz & Gołuchowski, 2016; Tischler, Biberman & Alkhafaji, 1998). The third component is adaptation to change, reflecting an organization's flexibility in responding to crises and continuous transformations in technology or strategy (Donaldson, 1995; Salancik & Pfeffer, 1978; Thongchalerm, Nachairit & Tontiset, 2016; Waranya Yaowarat Lee et al., 2017).

In summary, organizational survival does not merely refer to short-term existence, but rather to the capacity to generate effectiveness, maintain competitive advantage, and continuously adapt in order to confront competition and uncertainty in a stable and sustainable manner over the long term.

Factors Influencing the Survival of Agricultural Institutions

Numerous studies have shown that the sustainability of agricultural institutions depends on multiple factors, including financial stability, effective leadership, sound management, and strong member relations. Duchek (2020) and Walker et al. (2004) emphasize adaptability and resilience as core elements of organizational sustainability, while Weerathamrongsak and Wongsurawat (2013) highlight the role of visionary leadership and competent management in strengthening cooperatives. Similarly, Nuanphromsakul et al. (2023) and Chumpanya and Panpakdee (2025) identify trust and member participation as key drivers of long-term viability. According to Human Capital Theory, Becker (1993) views welfare as an investment in human resources that enhances member performance and commitment. Supporting this view, Siddiq (2022) found that the financial literacy and ethics of board members directly affect cooperative performance. International evidence aligns with these findings: Zeuli and Radel (2005) assert that member-oriented cooperatives are more sustainable; Birchall (2014) links management practices to member loyalty; and Barbieri et al. (2021) show that comprehensive welfare and services foster trust and engagement. Therefore, welfare should be regarded as a strategic mechanism that builds social capital, trust, and participation—key elements sustaining agricultural institutions amid economic volatility. These insights inform the development of research hypotheses and the conceptual framework illustrated in Figure 1.

Research Hypothesis: The facilitation of member welfare significantly influences the survival of agricultural institutions.

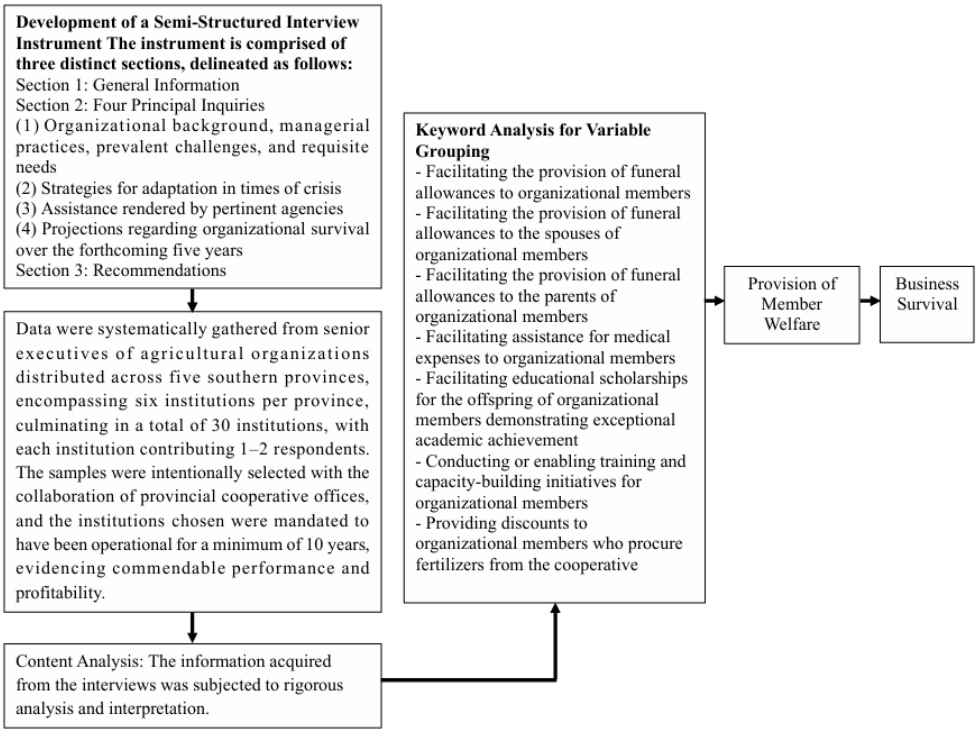

Figure 1. Research Conceptual Framework.
Source: Author's own work.

Research Methodology

This study employed a mixed-methods research design comprising two sequential phases: a qualitative exploration followed by a quantitative validation. The primary objective was to examine the influence of member welfare provisions on the survival of agricultural institutions in Southern Thailand using Structural Equation Modeling (SEM). The research covered Thailand's major rubber-producing provinces, namely Trang, Krabi, Surat Thani, Nakhon Si Thammarat, and Songkhla.

In the qualitative phase, 30 agricultural institutions with at least ten years of continuous operation, proven profitability, and recognized cooperative performance were purposively selected in collaboration with provincial cooperative offices. In-depth interviews were conducted to explore welfare management practices, and the data were analyzed through content analysis. Credibility was established via triangulation (Denzin, 2017). To verify and refine the findings, 15 cooperative executives participated in a validation session categorized by institutional

survival rate: high (80–100%), moderate (60–79%), and low (below 60%). A criterion-referenced evaluation framework adapted from Bloom (1971) guided this validation. The verified results yielded key welfare components forming a seven-item construct, while an eleven-item business-survival construct was developed based on an extensive literature review (Table 1).

The quantitative phase involved 450 cooperative executives drawn from 150 cooperatives (three per cooperative). Samples were obtained through stratified random sampling by province and complemented by accidental sampling. The questionnaire's content validity was reviewed by three experts and pilot-tested with 30 respondents; all constructs achieved Cronbach's alpha values above 0.70, indicating satisfactory reliability. Data collection utilized online surveys, LINE-application questionnaires, and field administration, following ethical research protocols. Official permissions were obtained from cooperative authorities, and participants provided informed consent. Confidentiality and voluntary participation were strictly maintained.

Data were analyzed using descriptive statistics and SEM via Mplus Version 8.7. Model fit was assessed according to the criteria proposed by Hu & Bentler (1999) and Schermelleh-Engel et al. (2003).

The development of the member welfare measurement instrument was grounded in insights from the qualitative phase, integrating findings from in-depth interviews and a comprehensive literature review to identify and refine key indicators.

Table 1. The development of measurement constructs for the provision of member welfare and the survival of agricultural institutions.

Variable	Dimension/Indicator	Based on interview data	Theoretical and Literature References
Welfare Provision for Members	1. Facilitate a funeral stipend for constituents. 2. Facilitate a funeral allowance for the spouses of members. 3. Facilitate a funeral allowance for the parents of members. 4. Facilitate medical expense coverage for members in instances of illness. 5. Facilitate scholarship opportunities for the offspring of members exhibiting commendable academic achievement. 6. Organize training and professional development initiatives for members. 7. Provide financial concessions on fertilizers and various other products.	1. Nong Pong Rubber Farmers' Cooperative 2. Nam Chan Samakkhi Rubber Farmers' Cooperative 3. Ban Nabo n Agricultural Cooperative 4. Khlong Chang Rubber Farmers' Cooperative 5. Nong Khla Rubber Farmers' Cooperative 6. Nong Khrok Rubber Farmers' Cooperative 7. Ban Pa Ko Agricultural Cooperative 8. Yan Ta Khao Agricultural Cooperative 9. Ban Nong Srichan Rubber Farmers' Cooperative 10. Thung Yai Rubber Farmers' Cooperative 11. Ratsadanu Son Rubber Farmers' Cooperative 12.Ban Khlong Chanuan Rubber Farmers' Cooperative 13. Phuang Phromkhra Agricultural Cooperative 14.Sai Krut Rubber Farmers' Cooperative 15.Khlong Thom Nuea Rubber Farmers' Cooperative 16.Sot Pracha Rubber Farmers' Cooperative 17.Song Phi Nong Khlong Sila Rubber Farmers' Cooperative	Becker (1993); Teixeira & Werther (2013); Kamim (2017); Siddek Laliwan (2022)

Variable	Dimension/Indicator	Based on interview data	Theoretical and Literature References
		18.Nong Khla Rubber Farmers' Cooperative	

Variable	Dimension/Indicator	Based on interview data	Theoretical and Literature References
		*(duplicate)*19.Thung Song Settlement Cooperative	
Business Survival	1. Effectiveness Dimension: Attainment of objectives, financial viability, distribution of dividends, market penetration. 2. Competitive Advantage Dimension: Decision-making oriented towards market dynamics, fostering innovation, leveraging technological advancements, enhancement of customer contentment. 3. Adaptation to Change Dimension: Adjustment to ecological circumstances, management of crises, integration of feedback for organizational advancement.		Effectiveness Dimension: 1. De Waal (2007) 2. Esteve-Perez & Mariez-Castillejo (2008) 3. Salancik & Pfeffer (1978) 4. Thongchalerm, Nachairit & Tontiset (2016) 5. Waranya Yaowarat Lee et al. (2017) Competitive Advantage Dimension: 1. Chaharbaghi & Willis (1998) 2. Koohang, Paliszkiewicz & Goluchowski (2017) 3. Murat & Baki (2011) 4. Salancik & Pfeffer (1978) 5. Tischler, Biberman & Alkhafaji (1998) 6. Siwanant Sivapitak (2014) 7. Sorasak Khawluang (2014) 8. Wilasinee Thongchalerm (2012) 9. Waranya Yaowarat Lee et al. (2017) Adaptation to Change Dimension: 1. Donaldson (1995) 2. Salancik & Pfeffer (1978) 3. Thongchalerm, Nachairit, & Tontiset (2016) 4. Waranya Yaowarat Lee et al. (2017) 5. Sorasak Khawluang (2014) 6. Khlong Chang Rubber Farmers' Cooperative 7. Nong Khla Rubber Farmers' Cooperative 8. Nong Khrok Rubber Farmers' Cooperative 9. Ban Pa Ko Agricultural Cooperative

Source: Author's own work.

Structural Equation Model (SEM)

The Structural Equation Model (SEM) is an advanced statistical approach introduced by Sewall Wright (1921) and Trygve Haavelmo (1943), and later refined by Herbert A. Simon (1953), to analyze causal relationships among variables. SEM integrates three key analytical methods—Factor Analysis, Path Analysis, and Multiple Regression Analysis. Factor Analysis consists of Exploratory Factor Analysis (EFA), used to identify latent structures, and Confirmatory Factor Analysis (CFA), employed to validate relationships between observed and latent variables (Surasak Wongsa, 2020). Path Analysis examines direct, indirect, and total effects, while Multiple Regression predicts dependent variables from independent ones. Model fit is typically assessed using χ^2 ($p > .05$, $\chi^2/df < 2.00$), GFI and AGFI $\geq .90$, RMSEA and SRMR $< .08$, NFI, IFI, CFI, and TLI $\geq .90$, and PNFI and PGFI $> .50$ (Hair et al., 2019).

Moreover, it is imperative that theoretical assumptions are duly satisfied, encompassing linearity, the absence of multicollinearity among variables, and a sufficient sample size of no less than 200 observations to guarantee the dependability of the analytical outcomes (Teeraphat Kulophas, 2013).

RESULT

The cohort comprised 450 individuals who provided complete datasets without any omissions. Of this group, 72.0% identified as male, while 28.0% identified as female. A significant proportion, specifically 71.1%, fell within the age range of 41 to 60 years, with the highest prevalence observed among those aged 51 to 60 years at 38.2%. Individuals under the age of 40 constituted 14.9% of the sample, whereas those exceeding 60 years represented 14.0%.

Opinions on Member Welfare and Organizational Survival

A comprehensive analysis encompassing the perspectives of 450 respondents concerning factors pertinent to the provision of member welfare has elucidated that, in general, the welfare programs were evaluated at a moderate level ($\overline{X}$ = 3.33, S.D. = 0.87). The respondents assigned the highest significance to funeral allowances designated for deceased members ($\overline{X}$ = 4.13, S.D. = 1.35), succeeded by training and capacity development initiatives ($\overline{X}$ = 3.89, S.D. = 0.96) and funeral allowances allocated for the spouses of members ($\overline{X}$ = 3.66, S.D. = 1.62). Welfare components that received moderate evaluations encompassed support for medical expenses during illness ($\overline{X}$ = 3.21), scholarships for the progeny of members ($\overline{X}$ = 2.84), discounts on fertilizers ($\overline{X}$ = 2.80), and funeral assistance for the parents of members ($\overline{X}$ = 2.75). In conclusion, members exhibited a greater prioritization of financial assistance and capacity development welfare programs in comparison to alternative forms of welfare. Concurrently, medical, educational, and product discount benefits were appraised at a moderate level, thereby highlighting domains in which agricultural institutions may enhance their efforts to fortify member engagement and ensure long-term sustainability. Concerning organizational survival, cooperatives situated within the study area demonstrated a moderate degree of survival amidst the challenges posed by declining rubber prices. The most notable mean score was observed in the realm of organizational effectiveness ($\overline{X}$ = 3.05), followed closely by competitive advantage ($\overline{X}$ = 3.04), and adaptation to change ($\overline{X}$ = 3.02). These findings suggest that cooperatives are capable of maintaining operational continuity despite adversities, although there remains a pressing need for advancements in the areas of innovation and responsiveness to the swiftly evolving economic landscape.

Results of Factor Analysis

1) Welfare Provision (WBL)

The findings derived from the Exploratory Factor Analysis (EFA) concerning the welfare provision construct, which incorporated a total of seven items, revealed a Kaiser-Meyer-Olkin (KMO) statistic of .902 alongside a Bartlett's Test of Sphericity statistic yielding an approximate Chi-Square value of 1005.856, with degrees of freedom (df) equating to 21, and a significance level of $p < .001$, thereby demonstrating that the dataset was appropriate for the execution of factor analysis.

Table 2. Eigenvalues and Percentage of Variance Explained for the Welfare Provision Variable.

Factor	Eigenvalues	% of variance	%Cumulative variance
1	3.634	51.907	51.907
2	.693	9.901	61.809
3	.620	8.862	70.671
4	.612	8.737	79.409
5	.530	7.573	86.981
6	.484	6.915	93.897
7	.427	6.103	100.000

Source: Author's own work.

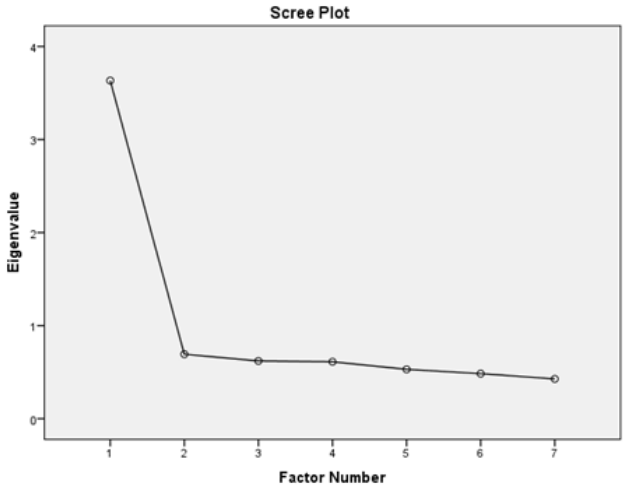

Figure 2. Scree Plot of the Welfare Provision Variable.
Source: Author's own work.

The analysis demonstrated that the eigenvalue surpassed the threshold of 1, while the scree plot illustrated a clear inflection point at a singular component. This particular component was responsible for 44.094% of the overall variance associated with the indicators. Consequently, it can be inferred that a singular component was successfully extracted.

Table 3. presents the findings derived from the Exploratory Factor Analysis (EFA) concerning the Welfare Provision Variable amidst the context of diminishing rubber prices.

item	**F1**
wbl1	.746
wbl2	.711
wbl3	.682
wbl4	.617
wbl5	.601
wbl6	.702
wbl7	.572
Component Name	Provision of Member Welfare

Source: Author's own work.

Upon examination of the factor loadings, it was determined that the welfare provision variable consisted exclusively of a singular component, identified as "Welfare Provision for Members." Each item within the questionnaire demonstrated factor loadings that fulfilled the predetermined criteria.

2) Organizational Survival (SUR)

The findings derived from the Exploratory Factor Analysis (EFA) concerning the organizational survival construct, which encompassed a total of 11 items, revealed a Kaiser-Meyer-Olkin (KMO) statistic of .946 and a Bartlett's Test of Sphericity statistic represented by Approx. Chi-Square = 1905.977, df = 55, $p < .001$, thereby confirming the appropriateness of the data for the execution of exploratory factor analysis (EFA).

Table 4. Eigenvalues and Percentage of Variance Explained for the Organizational Survival Variable.

Factor	**Eigenvalues**	**% of variance**	**%Cumulative variance**
1	5.351	48.648	48.648
2	.765	6.954	55.602
3	.713	6.485	62.087
4	.691	6.279	68.366
5	.623	5.661	74.027
6	.600	5.456	79.482
7	.528	4.797	84.279
8	.475	4.320	88.599
9	.450	4.092	92.690
10	.414	3.763	96.454

11	.390	3.546	100.000

Source: Author's own work.

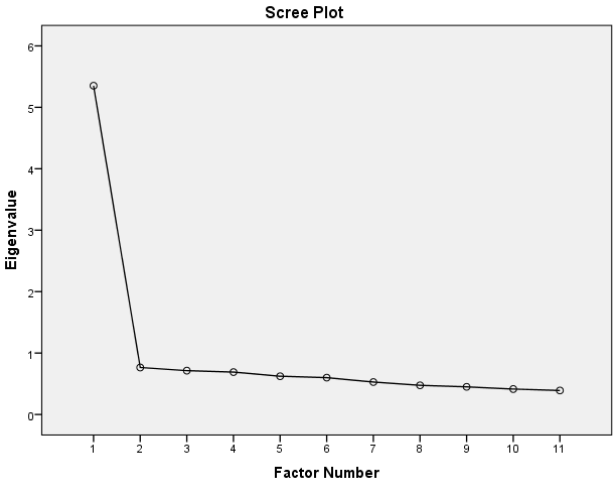

Figure 3. Scree Plot of the Organizational Survival Variable.
Source: Author's own work.

The examination indicated that the eigenvalue surpassed the threshold of 1, and the scree plot illustrated a notable elbow point at a singular component. This solitary component accounted for 43.692% of the overall variance of the indicators. Consequently, it can be inferred that one component was extracted, as delineated below.

Table 5. Results of the Exploratory Factor Analysis (EFA) of the Organizational Survival Variable.

item	**F1**
sur1	.758
sur2	.655
sur3	.674
sur4	.676
sur5	.724
sur6	.738
sur7	.719
sur8	.573
sur9	.575
sur10	.569
sur11	.566
Component Name	Business Survival

Source: Author's own work.

Upon a thorough analysis of the factor loadings, it was determined that the variable pertaining to organizational survival was composed of a singular component, specifically referred to as "Organizational Survival." Each item within the questionnaire demonstrated factor loadings that adhered to the established criteria.

Table 6. presents the outcomes of the evaluation of the measurement model's quality concerning the indicators associated with member welfare provision and the variables pertaining to business survival.

construct	**Indicator**	**Std. Loading (λ)**	**R^2**
Provision of Member Welfare	wbl1	0.789	0.62
	wbl2	0.779	0.61
	wbl3	0.665	0.44
	Wbl5	0.641	0.41
	Wbl6	0.716	0.51
business survival.	sur1	0.776	0.60
	sur2	0.695	0.48
	sur3	0.715	0.51
	sur4	0.698	0.49
	sur5	0.743	0.55
	sur6	0.769	0.59

	sur7	0.748	0.56
	sur8	0.621	0.39
	sur9	0.615	0.38

Source: Author's own work.
Note: A factor loading (λ) ≥ 0.50 is considered acceptable (Hair et al., 2019).

wbl1: Funeral support for members and families wbl2: Medical support for members wbl3: Education support for members and children wbl5: Member training and development wbl6: Economic benefits and discounts

sur1: Achieves set objectives and goals. sur2: Shows good performance and profit. sur3: Provides annual dividends and market share. sur4: Makes marketing-focused decisions. sur5: Promotes innovation and new technology. sur6: Ensures customer satisfaction. sur7: Adapts to environmental and strategic changes. sur8: Responds effectively to crises. sur9: Uses customer feedback for improvement.

From Table 6, the findings of the assessment concerning the quality of the measurement model indicated that the Member Welfare Provision variable was constituted by five indicators, which exhibited standardized factor loadings (λ) that varied from 0.641 to 0.789 and R^2 values ranging from 0.41 to 0.62, all of which surpassed the minimum threshold as advised by Hair et al. (2019) (λ ≥ 0.50). This finding underscore that all indicators were reliable and suitably represented the underlying latent construct. The Organizational Survival variable was composed of nine indicators, with standardized factor loadings (λ) spanning from 0.615 to 0.776 and R^2 values ranging from 0.38 to 0.60. Despite the presence of some indicators that displayed R^2 values marginally below 0.40, the overall model remained acceptable as per the standards set by Hair et al. (2019).

Table 7. Reliability Values of the Components or Measurement Model of the Indicators.

Construct	**CR**	**AVE**	**Cronbach's α**
Provision of Member Welfare	0.843	0.519	0.73
business survival.	0.901	0.506	0.88

Source: Author's own work.
Note: CR ≥ 0.70, AVE ≥ 0.50, and Cronbach's α ≥ 0.70 indicate an acceptable level of measurement model quality (Hair et al., 2019).

From Table 7, the findings of the measurement model reliability evaluation revealed that the Member Welfare Provision variable achieved a Composite Reliability (CR) of 0.843, an Average Variance Extracted (AVE) of 0.519, and a Cronbach's α of 0.73. The Organizational Survival construct recorded a CR of 0.901, an AVE of 0.506, and a Cronbach's α of 0.88. All metrics satisfied the established benchmark criteria (CR ≥ 0.70, AVE ≥ 0.50, α ≥ 0.70), indicating that both constructs demonstrated robust internal consistency and satisfactory convergent validity.

In conclusion, all goodness-of-fit indices suggested that the measurement model employed in this inquiry was appropriate and could be effectively utilized for subsequent structural model analysis.

Results of the Structural Equation Model (SEM) Analysis

Table 8. Presents the findings derived from the Structural Influence Assessment of the SEM Model.

Relationships among Variables	β	**S.E.**	**Z (t-value)**	**p**	**R^2**
WBL → SUR	0.574	0.041	14.011	.001	0.33

Source: Author's own work.
Note: *p < .05, **p < .01, ***p < .001.

The findings derived from the Structural Equation Modeling (SEM) analysis revealed that the proposed model exhibited an exceptional alignment with the empirical data. The model produced a Chi-square statistic of 88.907, with degrees of freedom equal to 76, and a p-value of .148, indicating no statistically significant divergence from the observed data. The RMSEA value was calculated to be 0.019 (90% CI = 0.000–0.034, Probability RMSEA ≤ .05 = 1.000), signifying an outstanding level of fit. Furthermore, the Comparative Fit Index (CFI) and the Tucker-Lewis Index (TLI) both attained values of 0.997, surpassing the suggested benchmarks, whereas the Standardized Root Mean Square Residual (SRMR) value was found to be 0.025, which is below the 0.08 criterion. Collectively, these findings imply that the model was markedly congruent with the observed data. The hypothesis testing demonstrated that the provision of welfare exerted a positive and statistically significant effect on the organizational survival of agricultural institutions (β = 0.574, S.E. = 0.041, t = 14.011, p < .001). Robust welfare programs encompassing financial support, educational grants, and an array of member benefits fostered enhanced motivation, commitment, and trust among members, thereby directly facilitating the stability and enduring viability of agricultural institutions.

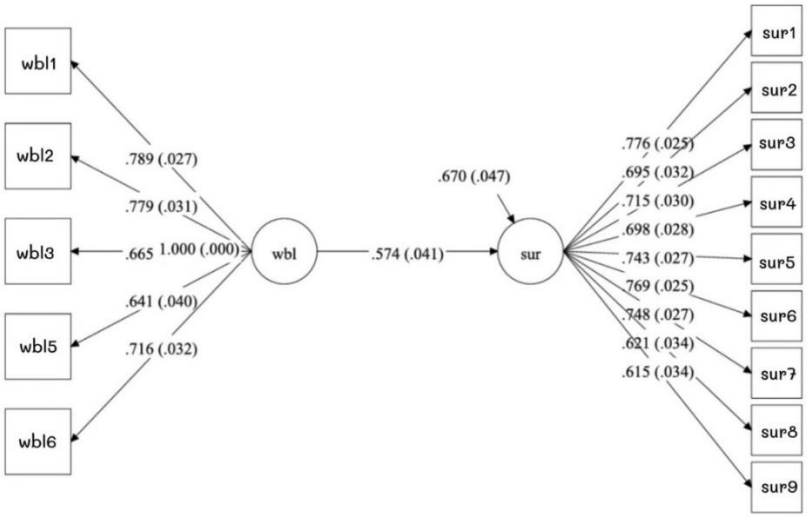

Figure 4. Results of the Structural Equation Model (SEM) Analysis.
Source: Author's own work.

Drawing upon the previously discussed analysis outcomes, the investigator is positioned to articulate the results pertinent to the research hypothesis, as illustrated in the subsequent table.

Table 9. Summary of the Research Hypothesis Testing Results.

Order	Hypothesis	Test Results
Hypothesis	The provision of welfare for members significantly influences the survival of agricultural institutions.	Consistent with the hypothesis

Source: Author's own work.

DISCUSSION OF RESEARCH FINDINGS

The Structural Equation Modeling (SEM) results indicated an excellent model fit ($\chi^2(76) = 88.907$, $p = .148$; RMSEA = .019, 90% CI = .000–.034; CFI = .997; TLI = .997; SRMR = .025), confirming both theoretical soundness and empirical validity. The measurement model demonstrated satisfactory reliability and convergent validity (Hair et al., 2019), verifying that the constructs of Member Welfare Provision and Organizational Survival met established quality criteria.

Hypothesis testing revealed that member welfare provision had a positive and significant effect on organizational survival ($\beta = .574$, $p < .001$), explaining 33% of the variance. The most influential welfare initiatives were, in order: funeral assistance for members, training and capacity development, funeral assistance for spouses, medical expense support, educational scholarships, fertilizer discounts, and funeral assistance for members' parents. These results align with Birchall (2014), Zeuli and Radel (2005), and Barbieri et al. (2021), affirming that social protection, human capital development, and economic incentives are key drivers of member engagement and organizational resilience.

The findings establish welfare provision as a strategic mechanism rather than a supplementary activity. Three core dimensions underpin this mechanism:

1. Social Security Dimension – funeral and medical support that reduce household vulnerability and strengthen member affiliation (Birchall, 2014);

2. Human Capital Investment Dimension – scholarships and training that enhance competitiveness and build social capital (Putnam, 2000; Nuanphromsakul et al., 2023)

3. Economic Benefit Dimension – input discounts that lower costs and improve financial flexibility (Zeuli & Radel, 2005).

Consistent with Thanisorn Srikokcharoen (2024), the integration of these dimensions fosters organizational stability, reduces vulnerability, and strengthens cooperative resilience through trust, loyalty, and reciprocity hallmarks of sustainable social capital (Duchek, 2020).

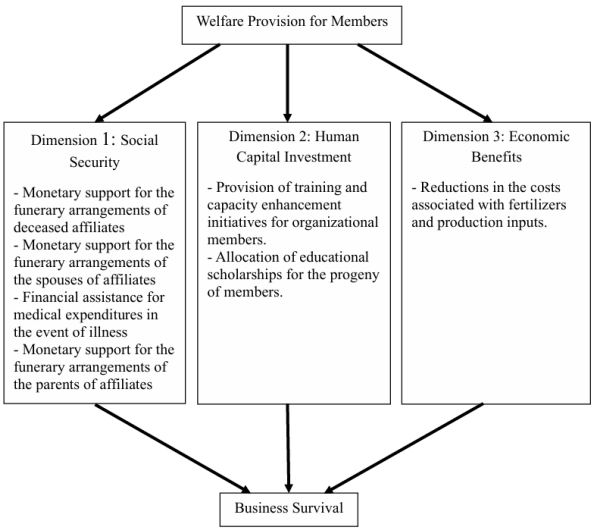

Figure 5. Three-Dimensional Model of Member Welfare Provision.
Source: Author's own work.

These findings reinforce the Organizational Survival Theory (Hannan & Freeman, 1977), which posits that organizational longevity depends on adaptive capacity to institutional and environmental pressures. Consistent with Resource Dependence Theory (Pfeffer & Salancik, 1978), members constitute vital internal resources; thus, prioritizing their welfare reduces external dependence and strengthens internal resilience. The results also confirm that well-structured welfare systems enhance adaptability and crisis resilience (Walker et al., 2004; Holling, 1973; García-Valenzuela et al., 2023; Liang & Li, 2024; Sharma, 2024; Kayyali, 2025).

The study contributes three theoretical insights: (1) establishes member-welfare provision as a validated latent construct derived through EFA–CFA–SEM; (2) integrates human-capital investment within cooperative contexts, showing that member-focused resource allocation strengthens resilience; and (3) identifies key welfare components influencing organizational longevity, addressing research gaps in Thailand and informing policy for cooperative development in emerging economies. Overall, investing in member welfare represents a strategic pathway to organizational endurance, fostering motivation, trust, and social capital while enhancing competitiveness and long-term sustainability.

CONCLUSION

This study provides empirical evidence that member welfare serves as a critical driver for the survival and resilience of agricultural institutions within Thailand's rubber-based economy. The Structural Equation Modeling (SEM) results reveal that welfare provision exerts a strong and significant effect on organizational survival ($\beta = 0.574$, $p < 0.001$), accounting for 33% of the variance. Welfare practices encompassing social security, human capital development, and economic incentives collectively nurture trust, reciprocity, and a sense of belonging among members elements that constitute the social fabric of cooperative life. Beyond its economic significance, member welfare reflects a cultural mechanism that reinforces solidarity, moral obligation, and collective identity within rural communities. These findings extend the understanding of cooperative sustainability beyond managerial efficiency toward a socio-cultural framework where welfare acts as a moral economy sustaining community resilience. Theoretically, this research strengthens the link between human capital theory, resource dependence theory, and social capital theory, illustrating that investment in members' well-being enhances both organizational adaptability and community cohesion. Practically, the study calls for welfare integration into cooperative governance and public policy as a means to cultivate enduring social capital, reduce vulnerability to market fluctuations, and preserve local identity. Ultimately, the welfare-driven cooperative model exemplifies how economic organizations can also function as agents of cultural continuity and social transformation**.**

RECOMMENDATIONS

At the policy level, government agencies should institutionalize core welfare provisions across three key dimensions to strengthen the stability and longevity of agricultural organizations:

1. Social Security: Establish assistance funds for funeral expenses, medical care, and quality-of-life programs to ensure members' basic security.

2. Human Capital Investment: Promote training, capacity-building, and educational scholarships for members' children to enhance organizational competence.

3. Economic Benefits: Provide subsidies for production inputs and develop a public–private welfare co-contribution fund to reduce costs and incentivize welfare participation.

Additionally, welfare policies should be integrated with pricing and product-quality regulations and supported by a monitoring and evaluation framework based on indicators of organizational continuity, member engagement, and financial sustainability.

At the practical level, cooperatives should develop integrated welfare packages encompassing social security, human capital, and economic dimensions. A monitoring system for welfare investments should be implemented to assess effectiveness and returns while fostering member engagement to strengthen ownership, cohesion, and organizational harmony.

At the academic level, this study demonstrates that member welfare provision significantly influences organizational viability and identifies welfare models suited to agricultural institutions, providing a foundation for future research on welfare optimization. Subsequent studies should employ longitudinal or quasi-experimental designs to validate causal relationships and compare the effects of different welfare types—such as funeral assistance, medical support, and educational scholarships—on organizational endurance. Moreover, integrating insights from international research (Birchall, 2014; Zeuli & Radel, 2005; Mat Khairi et al., 2024) could advance understanding of how welfare mechanisms foster resilience and sustainability in agricultural institutions.

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