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Causal Factors to a Member of Saving Cooperative Commitment

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Abstract This study uses the stractural equation model to explain causal factors and other factors related to commitment as a member of Thai saving cooperatives. The sample information was collected from 416 members of Thai saving cooperatives. There were 367 members' data remaining to obtain the appropriate model. In this sample group, most members are females between 50 and 59 years old, and 33.8% are at the preliminary management level such as the department head. Over 57% have been cooperative members for over 20 years and 28.9% of the respondents came from corporate saving cooperatives. The model of the relationship between causal factors and saving cooperative members' commitment shows adequate results. Trust, satisfaction, value co-creation, and social determinants impact the participation of members. The more members participate in cooperatives, the more members' commitment tends to increase. However, economic determinants or the demand for financial compensation are not related to collaborations of members in Thai saving cooperatives. Hence, building cooperative credibility, enhancing member satisfaction, and creating a sense of community can increase member participation and instill pride in being a cooperative member.

Keywords Cooperative member; Saving cooperatives; Member commitment

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Introduction

The creation of customer commitment, customer engagement, or customer loyalty is an important marketing concept that ties customers to products, brands, or organizations using emotional attachment, which is not a short-term demand (Tharkar, 2018). It leads to developing relationships with consumers and creates sustainable competitive advantages. Marketing studies show that customer commitment and customer engagement can stem from many complex relationships. It is also found in many models that factors impacting relationships and commitment are satisfaction, trust, commitment, identity, consumption goals, resources, perceived costs, perceived benefits, cognitive attitudes, and emotional affective factors (Bowden, 2009; Thakur, 2018; Techathamrong & Chansanam, 2020). Furthermore, Vivek et al. (2012) bonding model shows that the creation of commitment and customer engagement can come from other factors, such as participation and involvement between customers and organizations, and between current customers and potential customers. Outcome factors from customer engagement include value, word-of-mouth marketing, and loyalty.

"A cooperative is an autonomous association of persons united voluntarily to meet their common economic, social, and cultural needs and aspirations through a jointly-owned and democratically-controlled enterprise" is defined by the International Cooperative Alliance (ICA, n.d.). Like international cooperatives, cooperatives in Thailand aim to develop a quality of life for cooperative members through cooperative credit, saving, sourcing business, and other related businesses. For saving cooperatives, the members are the main customers who create the cooperative's income via the credit business. Therefore, members of cooperatives should be treated equally to customers in other forms of business organizations. Therefore, cooperatives must understand the factors that create customer commitment and engagement to create such commitment and engagement within themselves, including operating sustainably in the long run. International studies investigating causal factors impacting the commitment and engagement of cooperative members view members as partial owners of cooperatives. Therefore, the roles of members are not only about relationship creation but also about their participation from internal, continuous feelings. It has been found that factors impacting cooperative members can vary, such as the benefits, privileges, and dividends (Fulton & Adamowicz, 1993), commitment in various forms that impact trust (Hao, 2018), or cooperative management efficiency (Awoke, 2021). However, the initial study found that there has yet to be any research study related to causal factors that impact cooperative members' commitment in Thailand.

This study aims to analyze causal factors and related factors that impact the commitment of cooperative members. The study's results should benefit saving cooperatives in improving cooperative management, especially in the processes related to customer engagement creation. This should result in the sustainable and acceptable existence of cooperatives.

Literature review

The causal explanation requires a comprehensive examination of the flow networks and hierarchical relationships that define a system and the context within which it exists to understand and whenever possible predict events in the natural world (Coffman, 2011). Most social scientific studies attempt to provide some causal explanation. Causality refers to the idea that one event, behavior, or belief will result in another subsequent event, behavior, or belief. In other words, it is about cause and effect (Carlo, 2018).

Commitment and engagement are defined as ways to create sustainable emotional relationships with brands, which go beyond product purchases and instead focus on interactions between brands and individual customers (The Marketing Science Institute, 2006 as cited in Sribhopithpaisan & Chaihanchanchai, 2018). Thakur (2018) states that engagement is a psychological status characterized by emotional attachment that leads to repeated interactions with a product. Various models have

studied the factors that contribute to engagement. For instance, Techathamrong and Chansanam (2020) conducted document research on causal factors that impact engagement, such as satisfaction, participation, value co-creation, relations, trust, and social determination. The continuous impact of these factors results in customer loyalty. Furthermore, some studies examine the relationship between engagement and value creation in response to individual customer demands, which have been found to have a strong positive correlation with customer engagement (Sribhopithpaisan & Chaihanchanchai, 2018).

However, in Thailand, there has yet to be a case study on cooperative members as clients of cooperatives. Most research studies related to members in Thailand are on participation, management, business, or satisfaction, without members' long-term commitment. At the same time, international studies have explored customer engagement and member commitment to cooperatives. For example, a study on cooperative members in Alberta Wheat Pool found that factors such as profit-sharing ability through dividends, sourcing of agricultural products to support members' businesses (e.g., chemicals and high-quality fertilizer), and increases in farmers' income were found to impact members' commitment and support. Additionally, commitment and support were positively related to competitive grain prices but negatively related to members' or community's enthusiasm. The age of farmer members was also significantly related to profit-sharing ability through dividends (Fulton & Adamowicz, 1993).

Hao (2018) conducted a study on trust among cooperative members in China and found that trust was positively related to members' affective, continuance, and normative commitment. The study also revealed that social pressure was positively related to normative commitment, while participation was related to trust, social pressure, and member commitment. Building on this, Puusa et al. (2018) examined the relationship between member engagement and commitment in a framework similar to Hao's (2018) study. Puusa et al. (2018) explored three commitment forms - affective, continuance, and normative commitments - and trust and satisfaction as causal factors. The studies analyzed the impact on loyalty creation. They found that trust and satisfaction positively influenced on affective, continuance, and normative commitments, although satisfaction was negatively related to normative commitment. Affective and continuance commitments were positively related to loyalty, while engagement was negatively related to loyalty. The data suggested that trust was a more significant positive driver of engagement than satisfaction, and this type of relationship was also observed in cooperative customers.

In addition to social determinants, financial performance of cooperatives, and member participation, Awoke (2021) found that members of Ethiopian agricultural cooperatives were influenced by factors such as economics, physical appearance, satisfaction, gender, social status, and distance to cooperatives, while social determinants and types of cooperatives did not impact member's commitment. In Awoke's (2021) study, commitment was built by loyalty, identity, and participation. The determination of cooperative members can be explained as follows.

Commitment

Commitment refers to a continuous relationship with something that leads to efforts to retain such a relationship. It is a relationship that holds sentimental value. In business, this enduring relationship is utilized to create business returns. Commitment also relates to other components, such as brand loyalty and the pride of using a particular brand (Park et al., 2010). Therefore, commitment is the sustainable desire to retain a positive relationship between customers and the organization. It involves mutual willingness, where both parties sacrifice short-term personal benefits for long-term mutual benefits in a sustainable relationship. The research studies on cooperative member commitment analyzed the behavior and attitude of members in maintaining their membership or willingly supporting the cooperatives (Fulton & Adamowicz, 1993; Fulton, 1999). On the other hand, cooperative member commitment refers to the harmonious state of affective goals and values between

organizations and members (Jussila et al., 2012). Fulton and Adamowicz (1993) and Fulton (1999) also stated that member commitment includes characteristics that ensure a member's willingness to maintain their membership. In conclusion, cooperative member commitment encompasses the behavior and attitude of a member to maintain their membership or willingly support the cooperative, and it is the driving force that binds a member to develop attitudes and behaviors aligning with the cooperative's objectives.

Loyalty

Loyalty is a deep commitment in response to something sentimental. It represents the level of relationship between a customer and a product. Loyalty causes a customer to repeatedly purchase the same brand or product, which may last indefinitely. Although situational factors and marketing attempts from other brands may influence behavior, once loyalty is established, it becomes harder for a customer to switch to a substitute brand (Tungpradit et al., 2017). An organization with loyal customers tends to have higher profits (Martínez & Bosque, 2013), and it also impacts the organization's operations. Furthermore, Verhoef et al., (2002) defined loyalty as an emotional covenant or obsession that arose from personal preference and reflected emotional bonding. It is created by organizations or brands to foster a deep emotional connection with customers, resulting in high customer involvement and emotional bonding with the organizations.

Member participation or interaction

Member participation or interaction is a crucial aspect that motivates customers to feel satisfied and fosters loyalty. When customers participate as members, they become part of the value-add creation process with sellers, which enhances their knowledge and engagement with the product or service (Sashi, 2012). Member participation encompasses various perspectives, including the decision-making process within a cooperative, the significance of membership determined by cooperative characteristics, cooperative ownership, and the control and support of a cooperative (Agarwal, 2001). It can be categorized into member participation in decision-making and cooperative control, member participation in continuous financial support of the cooperative, and member participation in cooperative principles, such as participation in opinion sharing (Osterberg & Nilsson, 2009). In conclusion, member participation means that members feel and behave like owners of cooperatives, participate in decision-making, exercise control over cooperatives, continuously support cooperatives financially, and participate in voicing opinions in line with cooperative principles.

Satisfaction

Satisfaction is the perception of the quality of service or goods received. It arises from comparing the expectations and perceived quality of the service or product. The expected quality is influenced by various factors such as marketing communication from sellers, information received from former users (word of mouth), and price. The perceived quality is shaped by the experiences of using the product or service from the decision to buy until after using the product or service. Satisfaction enhances customer engagement with the organization, whereas dissatisfaction can lead to customer rejection. Satisfaction is a crucial factor that drives customer engagement (Sashi, 2012).

Value Co-creation

Value Co-creation is a critical component of business operations and marketing management. Organizations should prioritize and understand the importance of stakeholders, particularly customers. Perceived value refers to the benefits customers receive from a product or service, which results in satisfaction. This perception of value impacts long-term trust and relationships between customers and organizations. It also positively influences customer buying decisions, fosters brand loyalty, and creates a competitive advantage in the long run (Kim et al., 2006; Moliner et al., 2007). The value of cooperatives is not only derived from the perceived value created by the cooperatives but also from the contributions of members as owners. Members' perception of value includes Value Co-creation, shared ideas, cooperation in problem-solving, application of skills, knowledge and expertise, method,

decision-making, and resource support for the cooperatives (Aarikka-Stenroos & Jaakkola, 2012). Interaction and collaboration among members can impact the creation of meaningful experiences for organizations and enhance their competitiveness (Prahalad & Ramaswamy, 2004). Furthermore, the ownership status of cooperative members is a key mechanism that fosters their continued membership in the organization (Singh, 2017).

Trust

Trust plays a crucial role in influencing actions and decisions. When customers trust a product or service, they are confident in choosing and using it. Trust is the belief that the other party's future actions will be beneficial or at least not harmful. Trust can be created through various factors, such as building good relationships and fulfilling promises (Borgen, 2001). In a cooperative, trust can serve as internal motivation for members to keep their commitments and foster member commitment to the cooperative. Trust can be defined as a psychological condition or acknowledgment of risk arising from uncertainty about a cooperative's motivation, determination, and future actions about buying or using its products/services. Trust determines the attitude and behavior of a customer (Kramer, 1999). However, distrust, skepticism, or vulnerability of members to the cooperative can be understandable due to limited access to information about the organization's operations and incomplete information (Barraud et al., 2012). Changes in behavior or inconsistencies in operations can impact member trust, including trust in leaders to set the direction of the cooperative and their motivation for members' benefits and ability to manage the cooperative business.

Economic determinant

Another significant determinant of member commitment in a cooperative is the economic factor. To succeed, cooperated are economic and social entities whose main objective is to support members' economic well-being. Economic determinants in cooperative perspectives can be categorized into four components: price, dividend, performance, and other benefits. It has been found that the economic benefits of being a cooperative member should exceed the costs. If the costs incurred by a member exceed the benefits, agricultural members may choose to discontinue business with the cooperative, even if they maintain their membership. This includes the ability or limitation of a member to access economic benefits as well (Pascucci et al., 2011). In the case of agricultural cooperatives, the price of agricultural products sold by members or through cooperative transactions includes the costs that farmers pay for factors of production and services. For savings cooperatives, the price refers to the financial benefits that members incur such as savings interest and loan. Members tend to compare prices with other organizations offering substitute services. The size of dividends paid to members also tends to influence commitment (Fulton & Adamowicz, 1993). The performance and financial health of the cooperative, as well as the absence of problems or abnormalities in its operations, contribute to member satisfaction and trust, thereby influencing member commitment (Österberg & Nilsson, 2009; Trechter et al., 2002). Cooperatives may also provide additional benefits to members, and the availability of such benefits can increase the likelihood of members' continued participation.

Social determinant

A social determinant is another important factor influencing individuals' feelings, thoughts, and behavior and, hence, member commitment in a cooperative. It encompasses the pressures from the external environment, such as the community or society to which the cooperative belongs. Cooperatives are economic and social organizations that need acceptance from the community or society, including members and stakeholders. Therefore, social determinants of member commitment, particularly in cooperatives should be studied. This is because cooperatives provide a platform for farmer members to discuss and address market trends, technological advancements, and social changes related to farming. Cooperatives serve as social networks, and having strong social networks can increase member commitment (Karantininis, 2007). Furthermore, when cooperatives engage in social

services, members tend to admire the cooperative, leading to increased emotional bonds, especially among members involved in social or community activities (Fulton, 1999).

In conclusion, trust, economic determinants, member participation or interaction, satisfaction, value co- creation, economic determinants, and social determinants are crucial perspectives that contribute to customer engagement and loyalty in the context of cooperatives. By fostering active member participation, ensuring customer satisfaction, and promoting value co- creation, cooperatives can build long-term relationships with their customers and gain a competitive advantage in the market. From those mentioned above, determinants that impact the creation of engagement, commitment, or loyalty for cooperatives can be determined from the following framework.

1) Member internal factor which is an economic determinant

2) Cooperative- related factors include co- value perception, satisfaction, and trust in cooperative service.

3) Outside pressure factor which is a social determinant

The findings obtained from the literature reviews provided support for this idea. Thus this research proposes the following hypotheses and research framework.

H1: Trust is positively related to member participation.

H2: Satisfaction is positively related to member participation.

H3: Economic determinant is positively related to member participation.

H4: Social determinant is positively related to member participation.

H5: Value co-creation is positively related to member participation.

H6: Member participation is positively related to member commitment.

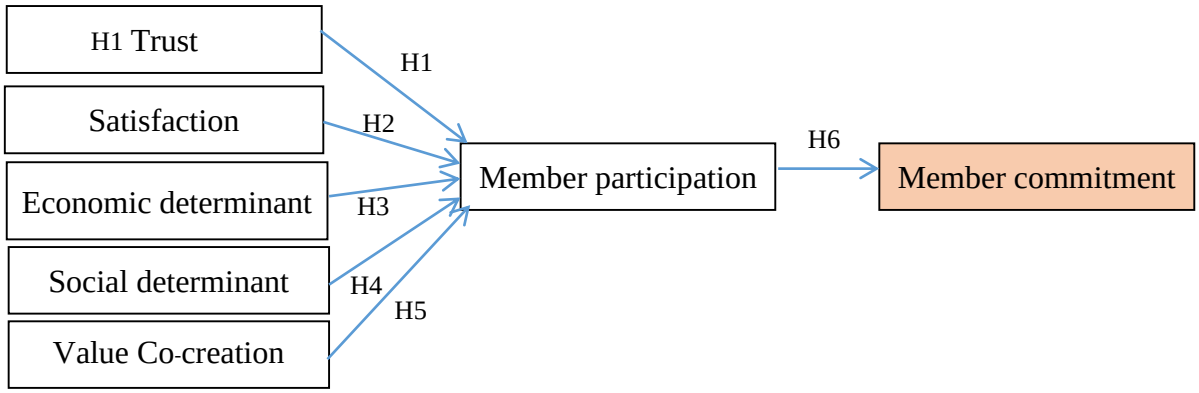

Figure 1 Research Framework

Research methodology

This research aims to study and analyze the framework for commitment creation for members of Thai savings cooperatives. The primary data used are collected to determine the level of commitment or engagement of cooperative members and other factors according to the framework. The data were analyzed using a Structural equation model to conclude the results and create a framework for the commitment creation process for Thai savings cooperative members.

The structural equation model (SEM) is the statistical technique for hypothesis confirmation caused by indirect and direct effects. These relationships can be displayed as path diagrams. SEM combined many statistical techniques – path analysis, confirmatory factor analysis (CFA), causal modeling with latent variables, even analysis of variance, and multiple linear regression analysis. SEM

results show a causal coefficient to explain the effect of direct and indirect factors and the relationship for the complex structure model (Vanichbuncha, 2021).

A questionnaire was used as a tool in this study. The questions were derived from a literature review based on the research framework, using a 5-point Likert scale. The questions on commitment level and causal factors consisted of 7-factor groups: Trust, Satisfaction, Economic determinants, Social determinants, Value co-creation, Member participation, and Commitment. There were 4 questions in each of the 7-factor groups, for a total of 28 questions. A Reliability test was conducted on a sample of 30 target group members, and it was found that the assessment could assess the same content consistently in every factor, according to Cronbach's Alpha criterion. The values received ranged from 0.802 to 0.913, indicating that the assessment of every question group was at a good to excellent level.

The population of the research consists of members of Thai savings cooperatives. According to data from the Cooperative Promotion Department as of December 31, 2021, there were 1,403 savings cooperatives with 3,146,326 members. The researcher chose a sample group using the Nonprobability Sampling method. The questionnaires were distributed through informal social network groups of many organizations to saving cooperatives and various occupations. The data were collected from 416 saving cooperative members through an online questionnaire from July to August 2022 and then analyzed for introductory statistics and relationships among causal factors. After testing the data quality via stem and leaf analysis to eliminate data with abnormal distribution and adjusting the model to obtain the most suitable index, it was found that data from 367 members were qualified and could be used in the model. To control for common method bias which refers to a type of error that can inflate the observed relationships between variables when they're measured using the same method, this study conducted a confirmatory factor analysis to check for the presence of a single overarching factor. After that, the relationship between commitment and causal factors was analyzed using the structural equation model to find the relationship of causal factors and tested for the harmony of the model according to hypothesis and empirical data.

Results

This statistical analysis explains the relationship of variables according to the initial structural model using the structural equation model (SEM). It emphasizes testing causal factors related to Thai saving cooperative member commitment. The analysis of causal factors and factors related to Thai saving cooperative member commitment can be explained as follows.

Sample group descriptive statistic and data characteristics

A total of 416 qualified surveys were collected from the sample questionnaire survey. After analyzing the data for quality and eliminating data with abnormal distribution to obtain the most suitable model, only 367 samples remained. Out of the total sample, there were 223 female respondents, accounting for 60.8% of the total respondents. The largest group of respondents was 50-59 years old, with 124 respondents, or 33.8% of the total. Most respondents were in junior management positions or department heads, with 122 respondents, or 33.2% of the total. Since the major sample group was in an older age range, more than half of the sample group was members longer than 20 years, with 212 respondents, or 57.8%. When considering the types of saving cooperatives of the sample members, the majority were from corporate saving cooperatives, with 106 respondents, or 28.9% of the total. The second most common type was university saving cooperatives, with 84 respondents, or 22.9% of the total, followed by state enterprise saving cooperatives, with 67 respondents, or 18.3%.

The primary statistical tests of causal factors and commitment determinants show that value co-creation has the highest score, with an average score of 4.41. The factor with the second-highest

score is Member determination, with an average score of 4.27, followed by the Satisfaction factor, with a score of 4.26. The factor with the lowest score is the economic determinant, which has a score of 3.89. After conducting a skewness analysis of each variable, the values range from -1.511 to -0.230, not exceeding ±2. Therefore, it is considered acceptable at a confidence level of 0.05. After conducting a kurtosis analysis of most variables, the values range from -0.636 to 2.39, not exceeding ±3. Therefore, it is considered acceptable, except for the skewness of one commitment variable (Vanichbuncha, 2021) (Comm3: You want to continue your membership indefinitely, which shows an abnormally high skewness of 3.799). Such data were considered for model adjustment to obtain the most suitable structural equation model.

Factor analysis

When examining the relationship of the variables, it was found that after re-testing all variables for data suitability using KMO (Kaiser-Meyer-Olkin) and Bartlett's Test of Sphericity, the KMO of all variables remained above 0.50, with a value of 0.892, indicating that the analysis is suitable for the data and can categorize the operational characteristic variables of saving cooperative commitment and causal factors. The Bartlett's Test of this data analysis yielded a significant value of 0.000 for every dataset, indicating that the variables used are related and suitable for analyzing the components (Vanichbuncha, 2021).

Factor analysis is a method used to analyze the relationship between variables or factor loadings. The factor loadings should have a single possibility or remain as one factor after orthogonal factor rotation using Varimax, which makes interpretation easier. It was found that factor loadings changed compared to before the rotation. Factor rotation was performed to obtain 7 factors from the collected data to test for relationships as a group of representatives for testing factors by the structural equation model. The test results showed that most of the collected data could be categorized similarly to the initial structural equation model variables. However, there were some sets of data that needed to be more consistent with the initial model. Three factors could be categorized according to the initial model: factor 1: Satisfaction, factor 2: Trust, and factor 3: Economic determinants.

Four factors did not have a complete set of data. The first one was factor 4: Participation, which had one question: asked for "The continuous usage of cooperative services both onsite and online". When categorized, it had a categorized score that was inconsistent with factor Participation. The second one was factor 5: Value co-creation had one question: "Willingness to support cooperative operation that helps members fully". When categorized, it had a categorized score that was inconsistent with factor Value co-creation. The third one was factor 6: Social determinants, which had one question: "Being a cooperative member helps gain better acceptance from colleagues". When categorized, it had a categorized score that was inconsistent with the Social determinants. The last factor was factor 7: Member determination, which had one question: "Choosing to use the service of the cooperative that you are a member of before choosing to use the service of other financial institutions". When categorized, it had a categorized score that was inconsistent with factor Member determination. However, the 3 sets of questions had factors similar to the factor of Trust.

The data from this factor analysis will be used as input to adjust the structural model.

Structural equation model analysis

Using structural model equations, this study framework analyzes the relationship between causal factors and saving cooperative member commitment. There are a total of 5 latent variables - Satisfaction, Value co-creation, Trust, Economic determinant or Financial compensation, and Social determinant. These variables are expected to impact Member participation, which serves as the mediator variable, and ultimately impact Member commitment. However, after initial structural model testing, it was found that the model needed to be more suitable. Therefore, it was adjusted and tested using the Stem and Leaf method

to adjust the error relation and factor analysis to obtain the most suitable model. The data sets used in the structural model equation analysis for each factor are as follows:

- Member Commitment: Member commitment consists of 2 sets of data, which are Comm2: "You are proud that cooperative operation truly supports member's well-being" and Comm3: "You want to continue your membership indefinitely".
- Member Participation: Member participation consists of 3 sets of data, which are Mpar2: "You regularly follow the news from the cooperative," Mpar3: "You often participate in cooperative activities," and Mpar4: "You regularly follow up and monitor cooperative operations".
- Satisfaction: Satisfaction consists of 3 data sets, which are Satf1: "The quality level of the service you received from the cooperative meets expectations," Satf2: "You feel satisfied with the services received from your cooperative," and Satf3: "You always have good experiences from cooperative services".
- Value Co-creation: Value co-creation consists of 3 sets of data, which are Val1: "You agree that cooperative operation must improve member's quality of life," Val2: "You agree that the cooperative system should remain so that it can be a social and economic supporter for cooperative members," and Val3: "You know that 'cooperative members are also cooperative owners,' therefore, participation in cooperative activities is important to you".
- Trust: Trust consists of 3 sets of data, which are Trust1: "You do not worry when doing business with your cooperative," Trust2: "You trust that your cooperative operation is in your and your fellow members' best interests," and Trust4: "You trust that, in the long run, your cooperative can help improve member's quality of life".
- Economic determinant: Economic determinant consists of 3 sets of data, which are Econd1: "You think that your cooperative sets the saving interest rate and dividend at the appropriate level," Econd3: "You think that the benefits provided by the cooperative are at an appropriate level," and Econd4: "You think that cooperative operation generates an appropriate turnover".
- Social determinant: Social determinant consists of 3 sets of data, which are Socd1: "Most of your close colleagues are also members of your cooperatives," Socd2: "You and your fellow members talk and persuade one another to participate in cooperative activities," and Socd3: "You do not feel any pressure from your colleagues to maintain member status".

Table 1 Testing measurement invariance result of causal factors and cooperative member commitment

	GFI	CFI	CMIN	RMSEA	HOELTER 0.05	HOELTER 0.01
Default model	0.816	0.868	958.676	0.123	68	73
Saturated model	1.000	1.000	0.000			
Independence model	0.183	0.000	6337.100	0.297	13	14

Source: Calculated by researchers

The above model was tested for the suitability of measuring the relationship of causal factors and saving cooperative member commitment by adjusting the model with GFI, CFI, and RMSEA. The results show that GFI = 0.816, CFI = 0.868, and RMSEA = 0.123. GFI and CFI values less than 0.90 but more than 0.80, and RMSEA values less than 0.20 do not agree with empirical data but are acceptable. (Baumgartner & Homburg, 1996; Doll et al., 1994; Diamantopoulos & Siguaw, 2000). The model determining the relationship between causal factors and participation, satisfaction, value co-creation, trust,

economic determinant, and social determinant can explain the impact of causal factors on cooperative member commitment at a not very good level.

When tested with Composite Reliability (C.R.), Cronbach Alpha (C.A.), and Average Variance Extraction (AVE) by using factor loading on sub-data for each component, it is found that the component that has the highest C.R., C.A. and AVE is Trust where C.R. = 0.920, C.A. = 0.918 and AVE = 0.821. The second highest are Economic determinant and Satisfaction where C.R. = 0.907, C.A. = 0.906 and AVE = 0.767, and C.R. = 0.894, C.A. = 0.894 and AVE = 0.748 respectively. The component with the least C.R., C.A., and AVE is Member commitment where C.R. = 0.745, C.A. = 0.742, and AVE = 0.593. It is also found that almost all components have AVE higher than 0.5, except for Member participation, where R. = 0.864, C.A. = 0.861, and AVE = 0.405, which AVE is lower than 0.5.

Table 2 Composite Reliability (C.R.) ,Cronbach Alfa (C.A.) and Average Variance Extraction (AVE) Testing result of causal factors and member commitment model

Factor loading			**Loading**	**S.E.**	**C.R.**	**P**	**C.R.**	**C.A.**	**AVE**
Commitment							0.745	0.742	0.593
C1_2Comm2	<---	Commitment	0.778						
C1_3Comm3	<---	Commitment	0.762	0.061	14.494	***			
Participation							0.864	0.861	0.405
B2_2Mpar2	<---	Participation	0.618						
B2_3Mpar3	<---	Participation	0.721	0.107	13.572	***			
B2_4Mpar4	<---	Participation	0.560	0.074	13.128	***			
Satisfaction							0.894	0.894	0.748
A3_1Satf1	<---	Satisfaction	0.779	0.040	20.458	***			
A3_3Satf3	<---	Satisfaction	0.834	0.039	23.442	***			
A3_2Satf2	<---	Satisfaction	0.970						
CoValue							0.836	0.832	0.507
A4_3Val3	<---	CoValue	0.733	0.147	10.208	***			
A4_2Val2	<---	CoValue	0.820	0.115	12.813	***			
A4_1Val1	<---	CoValue	0.559						
Trust							0.920	0.918	0.821
A5_4Trust4	<---	Trust	0.912						
A5_2Trust2	<---	Trust	0.947	0.037	29.839	***			
A5_1Trust1	<---	Trust	0.857	0.051	20.948	***			
Economic							0.907	0.906	0.767
A6_4Econd4	<---	Economic	0.919						
A6_3Econd3	<---	Economic	0.817	0.044	21.337	***			
A6_1Econd1	<---	Economic	0.889	0.042	25.214	***			
Social							0.827	0.823	0.590
A7_3Socd3	<---	Social	0.748	0.089	13.822	***			
A7_2Socd2	<---	Social	0.869	0.127	12.934	***			
A7_1Socd1	<---	Social	0.675						

Source: Calculated by researchers

Relationship testing

The relationship between independent and dependent variables can be explained using the Coefficient of Determination or R^2 (or R-squared). In this study, the latent variables for the component Participation, which explain Satisfaction, Value co-creation, Trust, Economic and Social determinants, have a coefficient of determination as high as 93.2%. Additionally, the latent variables for Member commitment and the independent latent variables have a coefficient of determination of 86.1%. This indicates that the independent variables can explain a significant proportion of the variance in the latent variables, as shown in Table 3.

Table 3 Coefficient of structural equation prediction

Prediction of structural equation	SMC
Participation – Member participation	0.932
Commitment – Member commitment	0.861

Source: Calculated by researchers

Calculation of coefficient determinant

Relationship testing to evaluate the structure model of saving cooperative member commitment can be shown in Table 4, where the path coefficient can be explained by a group of relationships as follows.

Table 4 Path coefficient explained by a group of relationships.

Tested hypothesis			Estimate standardized regression (β)	S.E.	t-value	P	Hypothesis testing result
H_1 Participation	<---	Trust	0.448	0.051	5.607	**	Relate
H_2 Participation	<---	Satisfaction	0.351	0.043	6.351	**	Relate
H_3 Participation	<---	Economic	-0.034	0.038	-0.546	0.585	Not Relate
H_4 Participation	<---	Social	0.170	0.082	2.191	0.028*	Relate
H_5 Participation	<---	CoValue	0.192	0.128	2.120	0.034*	Relate
H_6 Commitment	<---	Participation	0.928	0.101	11.460	**	Relate

Remark: * shows P-Value with value < 0.05, ** shows P-Value with value < 0.05
Source: Calculated by researchers

The results of the six relationship tests from the initial research framework show that all components are significantly related, except for the relationship between Economic determinant and Member participation, where the p-value is lower than 0.05. The relationships in the model can be explained as follows:

1. **Satisfaction has a direct positive relationship with Member participation.** The Path Coefficient is 0.351, and the p-value is less than 0.001. This indicates that Satisfaction has a direct positive relationship with Member participation.
2. **Value co-creation has a direct positive relationship with Member participation.** The Path Coefficient is of 0.192, and the p-value is at 0.034. This indicates that Value co-creation has a direct positive relationship with Member participation.

3. **Trust has a direct positive relationship with Member participation.** The Path Coefficient 0.448, and the p-value is less than 0.001. This indicates that Trust has a direct positive relationship with Member participation.
4. **Economic determinants or Financial compensation have no direct relation with Member participation.** The Path Coefficient is at -0.034, and the p-value is at 0.585. This indicates that Economic determinant or Financial Compensation has no direct relationship with Member Participation.
5. **Social determinants have a direct positive relationship with member participation.** The Path Coefficient is at 0.170, and the p-value is at 0.028. This indicates that Social determinants have a direct positive relationship with member participation.
6. **Member participation has a direct positive relationship with Member commitment.** The Path Coefficient is 0.928, and the p-value is less than 0.001. This indicates that Member participation has a direct positive relationship with Member commitment.

From the analysis above, the influences of causal factors on saving cooperative member commitment can be summarized in Figure 2.

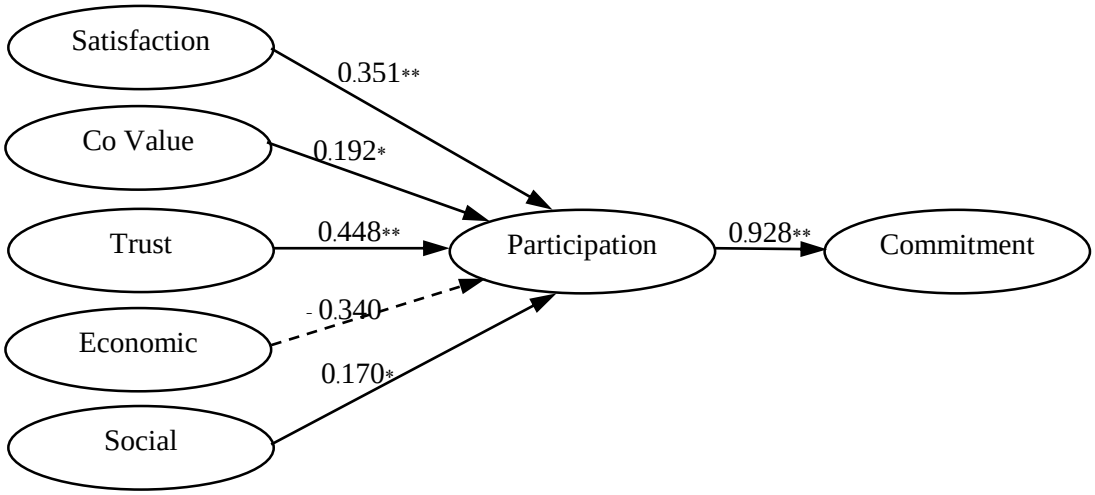

Figure 2 Structural model of causal factor influences on Thai saving cooperative member commitment
Remark: shows P-Value with value < 0.05
** shows P-Value with value < 0.001

Conclusion and discussion

From the statistical relationship testing, trust, satisfaction, value co-creation, and social determinants influence member participation in saving cooperative activities. Member participation can lead to member commitment to maintaining membership status. The results found are consistent with prior studies, such as Thechathamrong and Chansanam (2020) and Thakur (2018), which suggested that to create member commitment from customers, there must be Satisfaction, Participation, Value Co-creation, Engagement, and Trust. This emphasizes that cooperative member commitment is influenced by the same factors as regular business customer commitment.

The direct studies of cooperative member commitment creation, such as Hao (2018) study, which examined commitment in agricultural cooperatives in China, Puusa et al. (2018) study, which studied member commitment in Finnish cooperatives, and Awoke (2021) study, which studied member commitment in Ethiopian agricultural cooperatives, have provided more perspectives on how to analyze determinants that influence cooperative member commitment. Commitment can come from correlations or participation in various activities with cooperatives. It also comes from social

determinants, the realization of cooperative value, and the ownership as a role of a cooperative member. This study shows that these determinants also influence member participation, and participation is essential for the cooperative's development of commitment and engagement of its members. The determinants can be sorted by the level of influence on member commitment as follows: trust, satisfaction, value co-creation, and social determinants. In the case of Thailand, trust and satisfaction have the highest effect compared with other factors. These may caused by the news of corruption in some saving cooperatives by cooperative committees or staff. Therefore, to increase members' commitment, members must trust and be satisfied with their cooperation.

However, the economic determinant or the requirement of financial compensation from saving cooperatives in Thailand does not show any relation with saving cooperative member participation and it does not indirectly impact saving cooperative member commitment either. This is inconsistent with the study of Awoke (2021), which studied Ethiopian agricultural cooperatives. In the case of economic consumers, consumers with high price elasticity would change the quantity of consumption at a high level when the price changes. Part of the change in demand comes from the price comparison with other sellers. In the case of Thailand, people who apply to be cooperative members expect financial benefits such as higher returns on deposit accounts or lower interest-rate loans. Then, price-sensitive cooperative members might compare cooperative economic benefits with other substitute financial institutions instead of evaluating other factors such as cooperative value, trust, or prior satisfaction.

Suggestions

Suggestions from this study

1) This study demonstrates that member participation is crucial in creating member commitment in saving cooperatives. Therefore, management should prioritize creating opportunities for thorough and broad member participation through on-site and online continuous activities. Members can participate in their cooperative through training, welfare, and cooperative service that is appropriately designed according to the occupation of cooperative members.

2) Member participation is influenced by other factors such as cooperative value, trust, satisfaction, and social determinants. Hence, cooperative operations in other aspects, such as building credibility in cooperative operations to foster member trust, delivering services that meet member expectations to enhance member satisfaction, creating cooperative value and a sense of community for members by explaining cooperative objectives, and communicating about operational improvements and community development, can serve as communication channels for promoting cooperative values to members. These behaviors can lead to increased member participation and instill pride in being a cooperative member.

Suggestions for future studies

1) The sample size should be increased to obtain a higher quality data selection. A larger sample size would also enable a more comprehensive analysis of factors and reduce statistical errors.

2) In-depth interviews with members using qualitative research methods such as Ethnography could be added to gain a deeper understanding of member perspectives, engagement, and commitment toward saving cooperatives.

3) Inconsistent factors should be tested with members from other types of cooperatives especially agricultural cooperatives in Thailand to confirm the relationship between these factors in Thailand.

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