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FACTORS AFFECTING MEMBERS' SATISFACTION WITH HIGH-TECH AGRICULTURE COOPERATIVES IN VIETNAM'S NORTHERN KEY ECONOMIC REGION

Tran Tuan Anh [A]

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ABSTRACT

Purpose: This study aims to determine the factors affecting cooperates' satisfaction when joining high-tech agricultural cooperatives in Vietnam's Northern Key Economic Region.

Theoretical framework: The study absorbed previous studies and expert opinions to determine the member' satisfaction coming to high-tech agricultural cooperatives.

Design/methodology/approach: Primary data was collected through a direct survey of 395 members participating in high-tech agricultural cooperatives. Then, the study uses the method of partial least squares structural equation modeling to test the hypothesis and assess the satisfaction level of the members.

Finding: The research results show that the factors affecting the satisfaction of cooperative members include 7 factors: working environment, trust, managers, level of participation, perceived benefits, support policies, and service capacity.

Research, Practical & Social Implication: Based on the results of this study, several solutions to improve the current association activities with the role of the cooperative model as the core are proposed. People are encouraged to participate more in the association by improving the management skills of cooperatives, strengthening support activities, creating jobs, and raising incomes for people.

Originality/value: Members' satisfaction will promote the activities of linking production and consumption with the main role of the cooperative, not just stopping at the immediate propaganda activities. Since then, these activities also improve people's confidence when participating in the association. Specifically, collective economic development must come from the needs of the people and participating organizations.

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FATORES QUE AFETAM A SATISFAÇÃO DOS MEMBROS COM AS COOPERATIVAS AGRÍCOLAS DE ALTA TECNOLOGIA NA REGIÃO ECONÔMICA CHAVE DO NORTE DO VIETNAMITA

RESUMO

Objetivo: Este estudo tem como objetivo determinar os fatores que afetam a satisfação dos cooperados ao ingressar em cooperativas agrícolas de alta tecnologia na Região Econômica Principal do Norte do Vietnã**.**

Estrutura teórica: O estudo absorveu estudos anteriores e opiniões de especialistas para determinar a satisfação dos cooperados ao ingressarem em cooperativas agrícolas de alta tecnologia.

Desenho/método/abordagem: Os dados primários foram coletados através de uma pesquisa direta com 395 membros que participavam de cooperativas agrícolas de alta tecnologia. Em seguida, o estudo utiliza o método de modelagem da equação estrutural de mínimos quadrados parciais para testar a hipótese e avaliar o nível de satisfação dos membros.

[A] *PhD Candidate, National Economics University, Ha Noi, Vietnam. Lecturer, Faculty of Business Administration, East Asia University of Technology, Hanoi, Vietnam. E-mail: anhtt@eaut.edu.vn*
Orcid: https://orcid.org/0000-0002-3104-8555

Encontrando: Os resultados da pesquisa mostram que os fatores que afetam a satisfação dos membros da cooperativa incluem 7 fatores: ambiente de trabalho, confiança, gerentes, nível de participação, benefícios percebidos, políticas de apoio e capacidade de serviço.
Pesquisa, Implicação prática e social: Com base nos resultados deste estudo, várias soluções para melhorar as atuais atividades de associação com o papel do modelo cooperativo como núcleo são propostas. As pessoas são encorajadas a participar mais na associação, melhorando as habilidades de gestão das cooperativas, fortalecendo as atividades de apoio, criando empregos e aumentando a renda das pessoas.
Originalidade/valor: A satisfação dos membros promoverá as atividades de vincular a produção e o consumo com o papel principal da cooperativa, e não apenas parar nas atividades de propaganda imediata. Desde então, estas atividades também melhoram a confiança das pessoas ao participar da associação. Especificamente, o desenvolvimento econômico coletivo deve vir das necessidades do povo e das organizações participantes.

Palavras-chave: Satisfação, Cooperativas Agrícolas de Alta Tecnologia, Região Econômica Chave do Norte do Vietnã.

FACTORES QUE INFLUYEN EN LA SATISFACCIÓN DE LOS SOCIOS CON LAS COOPERATIVAS AGRÍCOLAS DE ALTA TECNOLOGÍA DE LA REGIÓN ECONÓMICA CLAVE DEL NORTE DE VIETNAM

RESUMEN
Objetivo: Este estudio tiene como objetivo determinar los factores que afectan a la satisfacción de los cooperativistas cuando se afilian a cooperativas agrícolas de alta tecnología en la Región Económica Clave del Norte de Vietnam.
Marco teórico: El estudio absorbe estudios previos y opiniones de expertos para determinar la satisfacción de los socios que se incorporan a cooperativas agrícolas de alta tecnología.
Diseño/metodología/enfoque: Los datos primarios se recogieron mediante una encuesta directa a 395 socios participantes en cooperativas agrícolas de alta tecnología. A continuación, el estudio utiliza el método de modelización de ecuaciones estructurales por mínimos cuadrados parciales para comprobar la hipótesis y evaluar el nivel de satisfacción de los socios.
Conclusiones: Los resultados de la investigación muestran que los factores que afectan a la satisfacción de los socios de las cooperativas incluyen 7 factores: entorno de trabajo, confianza, directivos, nivel de participación, beneficios percibidos, políticas de apoyo y capacidad de servicio.
Investigación e implicaciones prácticas y sociales: A partir de los resultados de este estudio, se proponen varias soluciones para mejorar las actividades asociativas actuales con el papel del modelo cooperativo como núcleo. Se anima a la gente a participar más en la asociación mejorando la capacidad de gestión de las cooperativas, reforzando las actividades de apoyo, creando empleo y aumentando los ingresos de la gente.
Originalidad/valor: La satisfacción de los socios fomentará las actividades de vinculación de la producción y el consumo con la función principal de la cooperativa, sin detenerse únicamente en las actividades de propaganda inmediatas. Desde entonces, estas actividades también mejoran la confianza de la gente a la hora de participar en la asociación. En concreto, el desarrollo económico colectivo debe surgir de las necesidades de las personas y de las organizaciones participantes.

Palabras clave: Satisfacción, Cooperativas Agrícolas de Alta Tecnología, Región Económica Clave del Norte de Vietnam.

INTRODUCTION

The Northern key economic region with its role is defined as "the political, economic, cultural and scientific center of the whole country" in Vietnam. This is a place with a lot of natural and social potential, a lot of agricultural cooperatives with tens of thousands of skilled workers. After the Law on Cooperatives 2012 took effect, many preferential and supportive policies for cooperatives were issued, effectively contributing to and supporting the development of agricultural cooperatives. Most agricultural cooperatives, after converting from

the old cooperative model to the new cooperative model, have made positive changes, operating quite stably. However, the application of high technology in agriculture in cooperatives is still small and scattered, and the application rate is not high and not synchronized (Duong Huu Buong, 2020). High technology is only applied in one stage or several stages in the production process. The reality shows that cooperatives are facing many challenges such as lack of capital, lack of production land funds to apply high technology, lack of market information... (Chung Do Kim, 2021; Hai Tranh et al., 2021). Pressure from the lack of necessary resources, and increasingly difficult trade conditions, the government must find and come up with solutions to develop the economy. The high-tech agricultural cooperative is an exploitation system based on the principle of cooperation, through collective farming so that farmers can promote their capacity. The participation of farmers in cooperatives is also considered a mechanism to promote socio-economic development in villages and communes (Bao Nguyen Ngoc, 2020). However, the reality is that the number of members and regular workers in cooperatives has decreased sharply but the number of agricultural cooperatives has increased (Chung Do Kim, 2021). This has become a barrier to the success of agricultural cooperatives.

Vietnam Union of Cooperatives report (2021) pointed out the difficulties in agricultural production in the area such as small scale, scattered, slow development of linkage model, and lack of sustainability. Cooperatives' function has not been adequately pushed, and their operational status in the community is problematic. Farmers do not believe in cooperatives, do not recognize their value, and do not comprehend the cooperative business model. So far, farmers have been reluctant to link concentrated output using the cooperative and cooperative group models. The people's will must be the source of this in the meantime. To comprehend the main reasons why farmers in Vietnam's Northern Key Economic Region did not or did not participate, it is vital to ascertain the degree of satisfaction and factors affecting the satisfaction of individuals when engaging in cooperatives. Finding long-term solutions to increase linkage awareness and encourage individuals to join cooperatives will be made easier with the aid of this knowledge. Additionally, statistics show that there are not many farmers who participate in cooperatives, and the cooperatives have not provided incentives for farmers to produce and consume in the linked models. This is because the majority of cooperatives are not profitable despite being still operational and legally recognized (Duong Ngoc Thanh et al., 2018). The majority of these cooperatives are modest in size, run without guidance from development plans, and lack legal self-determination and self-responsibility. People are apprehensive to join cooperatives for these reasons. To determine the level of satisfaction among farmers who participate in cooperatives, this study was carried out. Providing solutions to encourage farmers

to join agricultural cooperatives, will help farmers have a stable income and will consolidate and further develop cooperative activities in the future. The level of satisfaction of the farmers themselves when joining the cooperative, however, was not examined in prior studies, which primarily concentrated on assessing the reasons influencing the decision to join the cooperative. It is anticipated that this study will advance the field of satisfaction research. These are also scientific justifications for suggesting measures to raise cooperatives' operational effectiveness and increase their growth and membership in the future.

LITERATURE REVIEW

An agricultural cooperative is a voluntary organization built to increase the economic benefits of its members through business activities with two important criteria of cooperation and self-support (Lele, 1981). An agricultural cooperative is an economic organization based on voluntary and democratic control, run by its members and pursuing self-interest (Flygare, 2006). Agricultural cooperatives are autonomous organizations of people who voluntarily participate to meet common economic, social, and cultural needs and aspirations through capital contribution and democratic management (International Cooperative Alliance, 2007). Agricultural cooperatives will implement 7 operating principles: (1) cooperatives are voluntary and open to everyone to be able to use their services; (2) members have the same rights and responsibilities; (3) equal participation in economic activities of cooperative members; (4) autonomy and independence; (5) The cooperative provides education and training to its members and informs all members about the situation and profits of the cooperative; (6) working together for efficiency; (7) cooperatives make sustainable contributions to their communities.

Most of the participants in agricultural cooperatives are farmers with limited market access, which shows that this is a place to improve their lives by providing jobs and income from agricultural cooperatives. The reasons for participating can be finance, benefits, career opportunities, guaranteed input, and output. Barton (2005) gives six reasons why farmers participate in agricultural cooperatives: (1) to have fair and efficient prices; (2) to reduce costs through economies of scale and coordination; (3) to provide the market with products that are in danger of disappearing; (4) risk sharing; (5) receive profits in other fields; (6) benefits from increased market capacity. In general, there are two types of benefits that participants of agricultural cooperatives expect: material benefits and non-material benefits. Material benefits are expressed through the results and distribution of the agricultural cooperative's activities to its members. Non-material benefits show that cooperative members can be trained in

management, finance, and production…with the support of external organizations associated with the cooperative's programs.

Research on agricultural cooperatives in the world has been carried out by many authors (Rankin, 2004; Flygare, 2006; Vishwas Satgar, 2008). These studies all found that the success of agricultural cooperatives is due to many factors. The success not only comes from internal factors such as the relationship between cooperative members, cooperative members with managers, fairness, and transparency in benefit sharing. Besides, there are external factors such as support from the state, economic environment, and market mechanism.

An effective cooperative brings many factors together to increase farmer satisfaction when they participate. Many previous studies have found that many factors influence farmer satisfaction, including trust, facilities, capacity, attitude, empathy, procedures, assurance, empathy, and tangible means (Nguyen Quoc Nghi et al., 2011). Nguyen Quoc Nghi (2014) shows that variables affecting satisfaction include demographic characteristics such as age, presentation, education, and occupation. However, Do Minh Hoang & Tran Hoai Nam (2018) shows that two variables, tangible means, and responsiveness, have no influence. Still, satisfaction is influenced by trustworthiness, assurance, and sympathy. Thus, the impact level of the factors is different; in other words, the factors are arranged in different order of impact in different studies on the subjects and research areas. In general, although there are different impacts, these are still the main factors used to assess the influence on satisfaction. Using the results of these studies, farmers' satisfaction is their perception of the cooperative after using the service or participating in the behavior. Satisfaction is determined based on a comparison between perceived service outcomes and expectations (Kotler, 2000). In other words, service quality and satisfaction have a close relationship, in which service quality is created first and the satisfaction decision is measured by perceived level (Cronin et al. & Taylor, 1992). From there, 07 hypotheses are proposed to build as follows (See figure 1):

H1: Working environment has a direct influence on cooperates' satisfaction

H2: Trust has a direct influence on cooperates' satisfaction

H3: Managers have a direct influence on cooperates' satisfaction

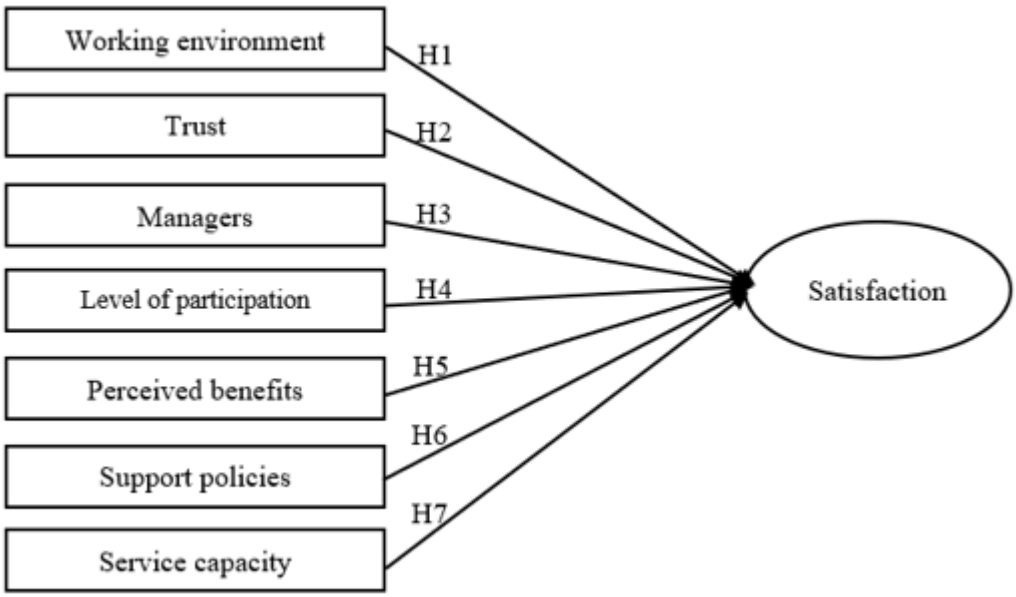
H4: Level of participation has a direct influence on cooperates' satisfaction

H5: Perceived has a direct influence on cooperates' satisfaction

H6: Support policies have a direct influence on cooperates' satisfaction

H7: Service capacity has a direct influence on cooperates' satisfaction

Figure 1. Proposed research model



MATERIALS AND METHODS

(1) Sample and procedure

We directly contacted high-tech agricultural cooperatives to contact and guide each member to complete the survey to gather reliable data. The survey is broken up into two sections: the first part examines respondents' perceptions of the working environment; trust; managers; level of participation; perceived benefits; support policies; and service capacity of members in high-tech agricultural cooperatives; the second part examines personal data like gender, age, education, and job tenure.

The survey collected data from 423 members at 47 high-tech agricultural cooperatives in Vietnam's Northern Key Economic Region. After screening, 395 questionnaires were used for the study. Sample statistics show that 208 male and 187 female employees participated in the survey, 53.7% and 47.3% of the total, respectively. Out of 395 surveys, 48.6% of employees are between 25 and 35 years old; 34.9% of employees are between the ages of 36 and 45; other age groups were insignificant, regarding the distribution of sampling locations as Hanoi (22.5%), Hai Phong (13.4%), Quang Ninh (13.9%), Hai Duong (10.6%), Bac Ninh (10.9%), Hung Yen (16.5%), Vinh Phuc (12.2%).

(2) Measures

The study inherits the scales from previous studies and has changed them to fit the research context. The scales are quantified on a Likert scale, with 1 strongly disagreed to 5 strongly agree. (See table 1)

Table 1. Measures

Code	Variable	Outer loadings	t-value	VIF
Working environment (Cronbach's alpha: 0.845; CR: 0.896; AVE: 0.684)				
W1	The working environment at the agricultural cooperative is very comfortable	0.827	32.578	2.084
W2	When I'm in trouble, I always get help	0.877	61.592	2.513
W3	Agricultural cooperatives always grasp the needs of their members	0.816	31.942	1.900
W4	The division of work and finances is always clear	0.785	33.806	1.648
Trust (Cronbach's alpha: 0.815; CR: 0.877; AVE: 0.642)				
T1	Agricultural cooperatives comply with regulations with committed services	0.804	47.422	1.733
T2	Agricultural cooperatives care for and support solving problems and obstacles satisfactorily	0.852	61.477	2.021
T4	Agricultural cooperatives help members when facing difficulties in technology, materials, and seeds	0.731	21.605	1.682
T5	Agricultural cooperatives will help when members have difficulties with the consumption market	0.812	35.648	1.956
Managers (Cronbach's alpha: 0.867; CR: 0.910; AVE: 0.716)				
M1	The manager of agricultural cooperatives has good capacity and skills in managing activities	0.870	57.620	2.525
M2	The agricultural cooperative manager is very fair and transparent	0.877	61.732	2.615
M3	The agricultural cooperative manager is very responsible, caring, and helps the members	0.822	37.041	1.881
M4	Managers of agricultural cooperatives regularly learn and improve their management skills	0.816	35.158	1.826
Level of participation (Cronbach's alpha: 0.851; CR: 0.893; AVE: 0.626)				
L1	Participation in the cooperative is completely voluntary	0.795	26.462	1.952
L2	You are involved in the decision-making process of the cooperative	0.830	51.742	1.908
L3	Participate in the cooperative market process	0.728	26.470	1.576
L4	Participate in agriculture cooperative announcements	0.766	24.417	1.955
L5	Participating in the transfer of modern science and technology	0.832	39.854	2.256
Perceived benefits (Cronbach's alpha: 0.875; CR: 0.909; AVE: 0.666)				
B1	When you join an agricultural cooperative, your income is more stable	0.834	42.265	2.682
B2	When you join an agricultural cooperative, your income is more stable	0.807	37.316	1.887
B3	When you join an agricultural cooperative, your income is more stable	0.850	50.855	2.321
B4	When you join agricultural cooperatives, you can access modern science and technology	0.786	33.384	1.704
B5	When you join an agricultural cooperative, you will get more help when you get a loan	0.801	28.290	2.303
Support policies (Cronbach's alpha: 0.863; CR: 0.901; AVE: 0.647)				
P1	Agricultural cooperatives will receive capital support from the state when needed	0.758	27.380	1.622
P2	Agricultural cooperatives will be guaranteed prices by the state when the season is good	0.843	47.482	2.236
P3	Agricultural cooperatives will receive land support from the state	0.872	55.372	2.948
P4	Agricultural cooperatives will be supported by the state in case of crop failure or natural disaster	0.820	40.908	2.387

P5	Agricultural cooperatives will be provided with information from domestic and foreign markets by the state.	0.721	20.885	1.613
Service capacity (Cronbach's alpha: 0.822; CR: 0.882; AVE: 0.653)				
C1	You are informed by officials and staff of the agricultural cooperative exactly when the services are performed	0.812	42.737	1.769
C2	You see officials and employees of agricultural cooperatives never show indifference or appear too busy to meet the requirements of members.	0.838	39.173	2.120
C3	You see officials and employees of agricultural cooperatives are always willing, and ready to help members.	0.795	31.061	1.914
C4	You see that the services of agricultural cooperatives are always fully and timely met.	0.785	34.417	1.670
Satisfaction (Cronbach's alpha: 0.883; CR: 0.911; AVE: 0.632)				
S1	You intend to have a long-term association with agricultural cooperatives	0.803	32.134	2.072
S2	You are satisfied with your family's current life with changes when joining agricultural cooperatives	0.805	25.036	2.171
S3	Joining an agricultural cooperative has a more positive impact on all aspects of your life	0.805	31.321	2.679
S4	You are satisfied with using the services of agricultural cooperatives	0.833	43.341	3.070
S5	I will recommend to many other people to join agricultural cooperatives	0.808	36.914	2.364
S6	You are satisfied with the facilities and equipment of the agricultural cooperative	0.710	22.956	1.539

RESULTS

(1) Measurement model

All 7 scales have the satisfactory Cronbach's Alpha coefficient since they are greater than 0.6, and the correlation coefficients of the total variables are higher than 0.3; all remaining observations for 7 scales were retained for EFA analysis.

Testing the reliability test construct using composite reliability (CR), the average variable extracted (AVE) is 0.50 or more (Hair Jr et al., 2017), shown in Table 1.

(2) Hypothesis test

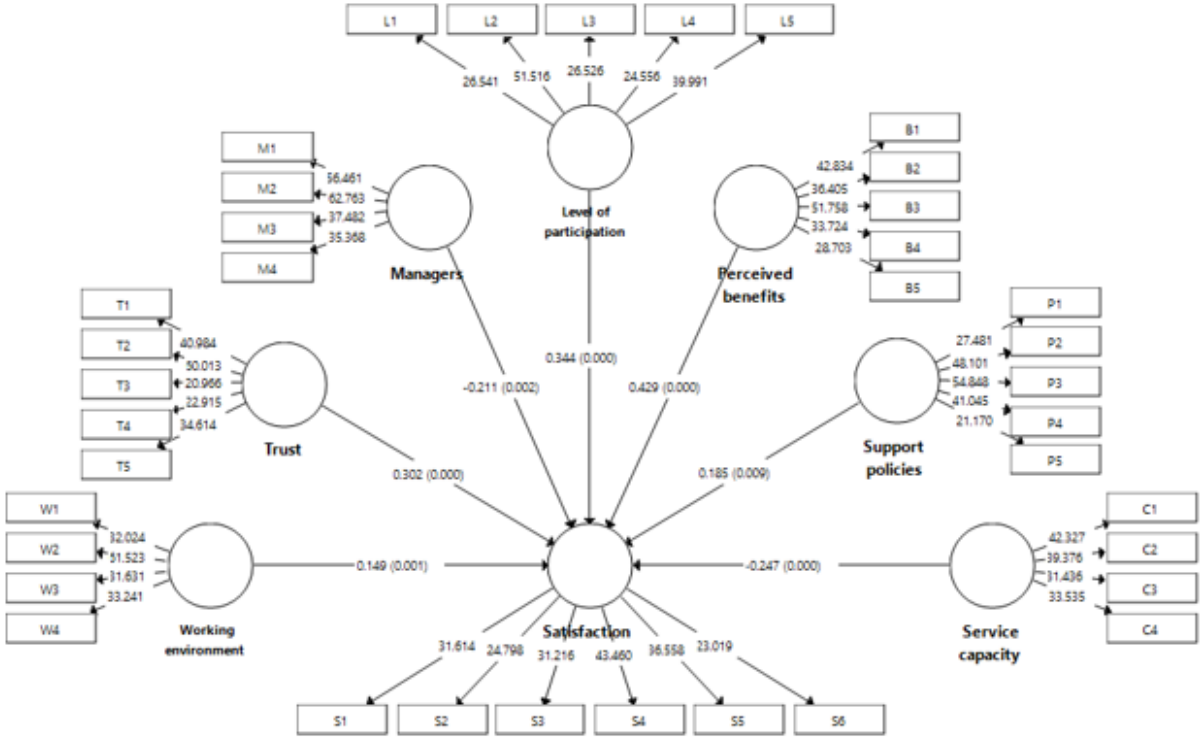
So, the overall evaluation research model can be expressed well, and we can further proceed with the analysis of hypothesis testing.

Table 2: Hypothesis Testing (Bootstrapping)

Hypothesis test		Original Sample (O)	Standard Deviation (STDEV)	T Statistics	P values	Results
H1	Working environment → Satisfaction	0.163	0.046	3.566	0.000	Supported
H2	Trust → Satisfaction	0.304	0.065	4.689	0.000	Supported
H3	Managers → Satisfaction	-0.212	0.068	3.121	0.002	Supported
H4	Level of participation → Satisfaction	0.354	0.061	5.816	0.000	Supported
H5	Perceived benefits → Satisfaction	0.424	0.079	5.392	0.000	Supported
H6	Support policies → Satisfaction	0.176	0.072	2.443	0.015	Supported
H7	Service capacity → Satisfaction	-0.260	0.049	5.343	0.000	Supported

Based on the results of the direct relationship analysis from Table 3, indicates that the hypothesis (H1, H2, H3, H4, H5, H6, and H7 are accepted). (See Figure 2)

Figure 2. Bootstrapping Result



CONCLUSIONS

Based on the results of this study, relevant agencies and sectors need to take practical and closer support measures to attract farmers to join high-tech agricultural cooperatives. It is necessary to promote the activities of linking production and consumption with the role of the cooperative as the key, not just stopping at propaganda activities in the short term. Since then, these activities have also helped increase people's trust when participating in the association. Specifically, collective economic development must derive from the needs of the people and participating organizations. It must respect the values and operating principles of cooperative

organizations by the conditions, characteristics, and objectives of the socio-economic development of each locality and the whole country. High-tech agricultural cooperatives develop in a long-term direction, with sustainable sharing of benefits among cooperative members (employees - customers - consumers - partners) and innovation based on modern management organization according to the basic principles of the management market regime. In the coming time, based on the analysis results of this topic, policymakers need to take measures to support direct actors including cooperatives and farmers. Specifically:

For high-tech agricultural cooperatives, it is necessary to: (i) Expand the scale of service activities to meet the needs of members by providing many input services such as irrigation, tillage, harvesting, preservation and processing, pressure application science and technology to production; (ii) All revenue and expenditure reporting activities must be transparent and regular throughout the cooperative; (iii) The management board of the cooperative must continuously improve its management level, skills, and knowledge; (iv) Connect with the market, and produce according to the needs of the market, then apply appropriate strategies to develop and guide the production diary to cooperative members; (v) Paying attention to the needs of farmers in the cooperative, being close, friendly, and sympathetic to farmers' difficulties; (vi) Simplify procedures and contracts for purchasing agricultural products.

Farmers need to: (i) actively participate in regular activities of the cooperative, support and learn together in the production process; (ii) Giving up the habits and habits of small and spontaneous production, actively participate in refresher courses, apply science and technology to the production process to increase productivity and quality of agricultural products; (iii) Actively explore policies to support the State for cooperatives to be able to realize the benefits when participating in high-tech agricultural cooperatives, as a premise to form a cross-link in the agricultural production chain.

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