EFFICIENCY AND EFFECTIVENESS FORMATION OF THAILAND'S SOUTHERN AGRICULTURAL COOPERATIVE CONNECTION WITH VEGETABLE VALUE CHAIN

Theerawat Hungsapruek, Prince of Songkla University

ABSTRACT

This study proposes descriptive research on management of cooperative, process, benefit, problems/solutions, efficiency, and causal relationship to efficiency in cooperative with businesses along the vegetable value chain. The 21 Experts-Delphi technique research, and factor conclusion with 130 samples are used in qualitative research to confirm relationship, and effects between the factors by Path analysis and hypothesis test on AMOS. The study shows (1) The condition factors to join as cooperative the first time (CFT) has negative effect on the VC-Up and VC-Down, but positive effect on VC-Mid in the vegetable value chain. Conversely, factors information of the Cooperative initial causing (CIC) and Government and leadership support (GLS) have positive impact on the value chain process, and (2) the value chain processes express positive effect through intermediary factors, guideline for Solution of problems in cooperative (SPC) and transfer Benefit division factors (BDF) to Efficiency factors (CEF), and CEF has positive effect on efficiency of the cooperative (COP).

Keywords: Agricultural Cooperative, Southern Thailand, Vegetable Value Chain, Efficiency and Performance.

INTRODUCTION

The cooperative is used as a tool in solving socioeconomic problems and eradicating poverty in the people with economic distress (Candemir et al., 2021; Ministry of Agriculture and Cooperatives, 2020). It is accepted that cooperative partially solves occupation and income problems, elevating quality of life (Saiphath & Tansuwannond, 2019). As a result, formation of cooperative as juristic person is on the constant rise through support and promotion from the government in accordance with the goal to solve problems and mutually support members of the cooperative. Over a century in history of cooperative, the number of cooperative constantly increases according to the goal placed by the management (Saiphath & Tansuwannond, 2019) and concept of meeting the needs of members that share a common socioeconomic, cultural, democratic, equal, and fair goal based on the norm of mutual support, self-responsibility, unity among the members, which would lead to various benefits. However, nowadays most farmers still retain their old method of farming, especially monocultural cultivation, which has low productivity, low reward with high risk, in addition to risk of oversupply and increasing production cost. This results in low net income and debt for many farmers (Oliveira & Wander, 2021). There are issues concurring with many cooperative members that remain poor, not consistent with the intent and expectation of the member and cooperative itself that seeks wealthy life, necessitating efforts to quickly find a guideline according to promotion and support of the cooperative. However, these community enterprises usually have problems such as lack of

means of production, high production cost, presence of intermediaries, problems with seed cultivation which occur throughout the value chain from the upstream, downstream, and everywhere in between. Thus, an idea to use value chain management as a guideline to solve this problem is formed, with the goal to increase production capacity and competitiveness (Oliveira & Wander, 2021) through agricultural cooperation into a large group that has higher bargaining ability and productivity (Moreira et al., 2016), relying on the concept of connection with the value chain, and finding more support guidelines to reduce agricultural cooperatives' rifts and competitive limitations (Saiphath & Tansuwannond 2019). To develop this capability, the effectiveness and efficient entire vegetable value chain must be connected as the basic concept for study, to improve competitiveness of the vegetable cooperative with the concept of total management of agricultural value chain (Sutduean et al., 2019) to find a management method that can generate participation, grouping, problems/solutions, effective and efficient resource management, benefit management, and optimal yet fair benefit protection for all stakeholder, in order to gain success and achieve the objective such as wealth for members. In this manner, the cooperative will gain more faithful reputation and acceptance from members, along with prosperity and sustainability (Cooperative Promotion Department, 2108).

It is found that out of 14 Southern provinces in Thailand, seven have vegetable cultivation cooperatives, Songkhla, Phuket, Pattalung, Narathiwat, Pattani, Nakhon Si Thammarat and Surat Thani (Provincial Cooperative, 2020). In the seven provinces and Southern Thailand (upper, middle, lower and Andaman coast) there are formations of agricultural cooperatives under the concept of value chain connection by jointly developing and promoting effectiveness and efficiency, elevation of competitiveness, promotion of Southern Thailand vegetable cooperative business economy and becoming a model for vegetable cultivation cooperative.

Research Objectives: Examine grouping, process management, benefit sharing, solutions/problems, efficiency and causal relationship of efficiency in formation of cooperative and business along the vegetable value chain. And to learn about problems and solution in real cooperatives, along with management method for cooperative formation, process, benefit sharing, building of effectiveness and efficiency in cooperative formation, agriculture with vegetable business and summarization of guideline for government supporting

LITERATURE REVIEW

Effectiveness and Efficiency of Agricultural Cooperative

Announcement of seven types of cooperatives has vegetable cultivation or business cooperative, as it is formed by vegetable farmers, aiming to run the vegetable business, promoting the members to cooperate and support each other to improve quality of life as the ultimate result (Cooperative Promotion Department, 2018). Ownership and management structure of the cooperative is different from other business. Thus, to gain success and competitiveness in agricultural market, agricultural cooperative must have unique analysis goal, scope, and effect of business operation (Oliveira & Wander, 2021; and Saengchamnong & Viroonratch, 2019). Definition of *"Effectiveness"* places importance on the goal and mission to achieve the organization's goals (Etzioni, 1964). On the other hand, *"efficiency"* places importance on satisfaction towards cooperation as member, and economic impact from the operation (Etzioni, 1964). In application to agricultural grouping as agricultural cooperative *"effectiveness of agricultural farmer grouping"* means gaining success as a group, not being

trapped in a dead-end because of constant infighting. *"Efficiency of agricultural grouping as agricultural cooperative"* means ability to cultivate and sell vegetable at profit after grouping, and its members can reap benefit. Difference between success and failure of the cooperative depends on factors such as age of the cooperative, meeting frequency, number of members, number of members directly involved in vegetable, number of board members, leadership quality, confidence and participation of the leadership, development of knowledge for the cooperative's operational improvement, participation and support of the government, along with coverage of all stakeholders, the environment, region, economy, culture and the government (Dendup & Aditto, 2020).

Management of Agricultural Cooperative

Cooperative management focuses on efficiency and service quality to meets the needs of its members and objective of the cooperative itself (Tanon et al., 2020) by creating challenge to the cooperative's operation. It is found that (1) legal requirement and planning, (2) production and input quality (3) management of structure and financial system, (4) marketing connection and business relationship and (5) strategy to recruit and maintain membership (Dendup & Aditto, 2020).

Problems and Solutions for Agricultural Cooperative

Identification of problems in the agricultural cooperative should cover the cooperative itself, agricultural industry or joining of parts of the cooperative (Oliveira & Wander, 2021). Economically, the agricultural cooperative aims to increase bargaining power through grouping to remove limitation from incomplete competitiveness of the farmers (Hale & Carolan, 2018), and participation to reduce oversupply and losses, and share benefit as a group. However, grouping still has weakness, such as oversupply when the cooperative is actually able to set price in the final market, and unfair benefit sharing for unproductive members (Candemir et al., 2021).

Value Chain of Agricultural Cooperative

Due to increasing complexity of cooperative business, achievement of the goal must come from determination and similar or more complex process, along with management of diverse factors in accordance with the goal to place importance and interest on possible issues through such complex management as related with interaction of value chain and market (Oliveira & Wander, 2021) Michael Porter (1985) provided a concept of value chain, that the cooperative must cover main activities, from one end of the process to the other. The upstream is production, and downstream is marketing (Office of the National Economic and Social Development Council, 2018).

Value Chain of Vegetable

Agricultural value chain from the start to the finish includes actors such as input suppliers, producers, collectors or market middlemen, wholesalers, retailers, consumers and agricultural cooperatives (Suman Bhattarai, et al., 2020). In addition, there are connections with value chains of retailers of vegetables and other products (Giagnocavo et al., 2017).

Benefit Sharing

As the member decision-making reason in with cooperatives able to maximize their profit as compared with investor-owned firms and the role played by agricultural cooperatives

influencing economic behaviors of cooperatives agreed when agricultural cooperative generates profit that requires sharing (Candemir et al., 2021).

The five factors and indicators of ability in connecting supply chain of community agricultural enterprise: planning, raw material procurement, production, shipping and return, and joining as enterprise groups in Thailand (Sutduean et al., 2019). In Suman, et al. (2020) analysis of value chain from farmer grouping confirms increased competitiveness and discovers the issue of intermediaries that collect raw material for wholesalers and retailers, being a major indicator of value chain. Marketing efficiency would be optimal if product can be sold directly to retailers, while selling to wholesalers could be the second-most efficient method. This efficiency would decrease proportionately to the number of intermediaries. During the process, problems were found in production technique and high competition from large producers and imports. Dendup & Aditto (2020) found positive factors in efficiency of agricultural cooperative such as size, age, education and experience of the leadership, trustworthiness of the board, participation of the members and government support. Challenges in cooperative operation came from bad market, production problems, lack of access to means of production, cooperation with weak members, and infighting. Oliveira & Wander (2021) identified and explained ten main factors in success/failure of agricultural cooperative, agricultural industry or both (1) socioeconomic goal, (2) management professionalism, (3) ability to benefit all stakeholders, (4) management of business cost, (5) management of risk and fluctuation, (6) improvement of business, (7) competitive edge against existing traditional business, (8) use of technology, (9) sustainable development, and (10) social responsibility.

Qualitative research using in analysis to understand relationship between the cause and effect of agricultural cooperative formation. The first question is how the vegetable cooperative runs its business for the first time. The second question is what are initial and current to success condition factor, and the last question is what characteristics of successful agricultural cooperative leadership are. Issue synthesis and conclusion are drawn according to the concept of value chain. Then, quantitative research uses the result from the qualitative research to study issues such as (1) conditional factors in reason to form a group, and production process, product, and result of vegetable business cooperative members, (2) Problems and solutions for successful grouping, (3) activity execution and connection with the upstream, intermediate and downstream of the vegetable value chain and benefit sharing, and (4) factors in efficiency and effectiveness in vegetable business, as shown in Figure 1, and hypothesizes as belowing.
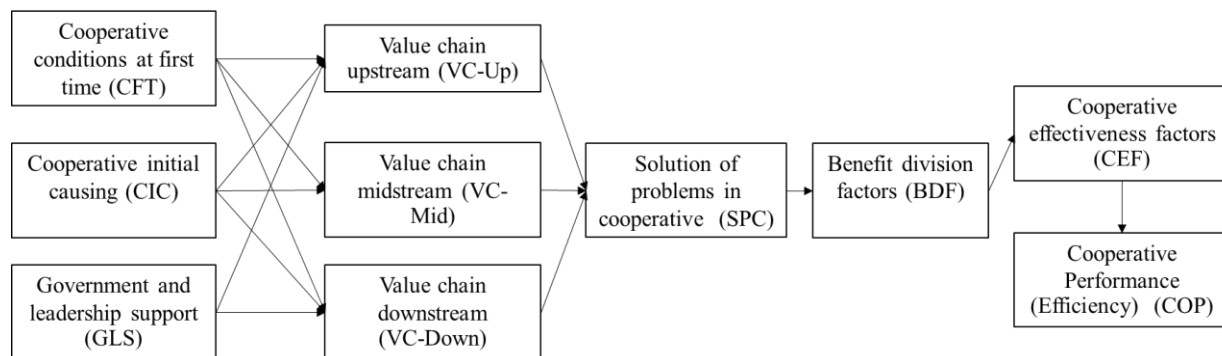

FIGURE 1
RESEARCH CONCEPTUAL MODEL

H₁   *Factors in condition, causal factor in grouping, and enhancement of impact on the process in the value chain of vegetable cooperative.*

H₂   *The entire process (upstream, middle, and downstream) affects efficiency and effectiveness of vegetable cooperative formation in 14 Southern provinces of Thailand, with factors in grouping, solution guideline and benefit sharing as transmitter.*

RESEARCH METHODOLOGY

Data used in the research: Covering management, efficiency, effectiveness, operation and joint benefit management pertaining to formation of vegetable cultivation cooperative to connect business value chain uses Delphi technique for qualitative research and path analysis for quantitative research are used for hypothesis test.

Population and sample: The sample group is selected from 642 agricultural cooperatives in 14 Southern provinces of Thailand by Controlled quota sampling (Saunders et al., 2012). For qualitative research, Delphi technique is used on 21 samples from management-level specialists, provincial cooperative directors and chairpersons of the cooperative or vegetable farming group, from cooperatives that have vegetable sale business and at least 130 members. Quantitative research is done on 130 samples selected by cluster sampling (Saunders et al., 2012) from cooperative members in Songkhla, Phuket, Pattalung, Narathiwat, Pattani, Nakhon Si Thammarat and Surat Thani Provinces (Provincial Cooperative, 2020).

Data analysis: The first step is qualitative research to examine factors using Delphi technique with 21 interviews, in-depth interviews are drafted, checked and confirmed. Then, the final result of qualitative research is used in quantitative research. And the second step is to examine causal factor, relationship and effect in various ways through quantitative research with Likert 5 scales 112 questionnaires, Path analysis and hypothesis test are done on AMOS.

RESEARCH RESULTS

Qualitative Research

From the process of drafting verification and confirmation conditions (Median > 3.5 and interquartile range < 1.5) (Okoli & Pawlowski, 2004). The factors may be confirmed using Delphi technique. 11 main factors and 121 indicative factors are found.

1) The condition to join the vegetable cooperative the first time (CFT) are (1.1) adequate funding for initial operation, (1.2) having vehicles for its activities, and (1.3) having adequate number of computers.
2) Cooperative initial causing factors (CIC) are (2.1.) for workforce grouping, circulation and agricultural cooperation, (2.2) the needs of members to collect produce for sale, (2.3) desire to promote safe consumption, (2.4) cost reduction, (2.5) seeking more income, (2.6) existing vegetable farming group, (2.7) exchanging knowledge, (2.8) desire to join the network, (2.9) desire to get more bargaining power, (2.10) Reduction of management cost, (2.11) ability to use technology and tool together, (2.12) ability of cooperative to connect with outside market, (2.13) increase of productivity, quality and more correct cultivation method, (2.14) agricultural knowledge center, (2.15) improvement of production process, (2.16) ability to get funding, (2.17) self-sufficient working capital, (2.18) common need for means of production, leading to team-up, (2.19) cooperative as source of fund, (2.20) cooperative as market that sells cheap products to members, (2.21) cooperative having learning center, (2.22) desire to build food security, (2.23) grouping to produce and sell during economic recession, (2.24) desire for a fair sale price, (2.25) ability to set price, (2.26) desire for a fund for agriculture, namely seed purchase.

3) Government and cooperative leader support factors (GLS) are (3.1) business knowledge and thought to elevate business (3.2) willingness to sacrifice, (3.3) ability to coordinate with relevant agencies, (3.4) honesty, (3.5) ability to coordinate members, (3.6) being up-to-date on news, (3.7) attention to work, (3.8) business experience, (3.9) good leadership, (3.10) understanding of profession, (3.11) ability to be the heart of the team, such as listening to the members and being the big brother/sister in taking care of the members, (3.12) far and wide vision, (3.13) dedication to agriculture, (3.14) willingness to accept knowledge, (3.15) acceptance of change, (3.16) understanding of production, (3.17) adherence to good governance and good management principles (3.18) far and wide vision, able to handle changes, (3.19) ability to lead members to prosperity and wealth, (3.20) ability to connect production with marketing, (3.21) having volunteer mind, (3.22) diverse management ability.

4) Cooperated Issues factors (COI) are (4.1) shortage of agricultural workers, (4.2) expensive means of production, (4.3) excessive reliance on chemicals, and (4.4) lack of profit in cooperative.

5) Solution of problems in cooperative (SPC) are (5.1) relevant agencies providing knowledge for fundraising (5.2.) provincial cooperative office providing training for the board and staff, (5.3) the group leader coordinating with other agencies to buy and distribute vegetable, (5.4) allowing government agencies to train members in GAP, (5.5) production planning and cultivation calendar, (5.6) provision of equipment and technology to reduce manpower requirement, (5.7) training in organic vegetable cultivation, and production of organic fertilizer and microbial pesticide to replace chemicals and pesticides, (5.8) encouraging members to spend time together to reduce undesirable behavior such as self-interest, (5.9) encouraging the members to bond, (5.10) drafting regulations against changing circumstances, (5.11) introduction of internal control, (5.12) analysis of break-even point and monthly balance to inform the members, (5.13) finding main markets for year-round product distribution, (5.14) creating a model plot for members to visit and external visitors to exchange ideas, (5.15) the leadership's ability to generate profit, and (5.16) cost reduction measure to maintain competitiveness.

6) Value chain and upstream process factors (VC-Up) are (6.1) members growing their own vegetable, (6.2) the cooperative providing farming knowledge, (6.3) campaigning to reduce use of chemicals (6.4) promotion of organic fertilizer and microbial pesticide production, (6.5) the cooperative bringing in specialists to help develop products for cultivation, and (6.6) finding fund for members.

7) Value chain and midstream process factors (VC-Mid) are (7.1) produce collection for sale planning, (7.2) collection of produce to find market, (7.3) the cooperative sending teams to improve cultivation for sale and, (7.4) members meeting up to develop products from their produce.

8) Value chain and downstream process factors (VC-Down) are (8.1) members selling by themselves initially due to low volume, (8.2) excess products are sold through the cooperative, (8.3) the cooperative coordinating with government sites as sale channels, (8.4) the cooperative working with farmer's markets as sale channels, (8.5) contacting private entities to purchase the produce, and (8.6) finding additional nearby markets.

9) Benefit division factors (BDF) are (9.1) according to criteria and regulation of the group, (9.2) allowing all members with produce to sell at market the cooperative or group has dealt with.

10) Cooperative effectiveness factors (CEF) are (10.1) unity of the board, (10.2) changing of members' attitude, (10.3) promotion of crop rotation to reduce disease and pest, (10.4) having readily-available market, (10.5) good internal control, (10.6) adherence to good governance (10.7) ideal sharing between the board, management and members, (10.8) emphasis on product safety, (10.9) emphasis on regular income for member, (10.10) members having saving and capital (10.11) mutual dependence between members, and (10.12) finding markets that can take 100% of produce and

11) Cooperative efficiency (performance) factors (COP) are (11.1) support from government agencies, (11.2) capital support for members, (11.3) lecturing by cooperative staff, (11.4) lecturing by cooperative leadership, (11.5) members' determination to cultivate, (11.6) finding funding for members, (11.7) ability of members to think and solve problems, (11.8) regular networking and group activity, (11.9) knowledge exchanging, (11.10) use of new technology, (11.11) creation of database system, (11.12) development of personnel and business knowledge, (11.13) cost-effective resource consumption to reduce cost, (11.14) provincial cooperative providing knowledge and innovation for members, (11.15) members finding new means of production, (11.16) members studying various plots, (11.17) cooperative staff's ability to maximize member satisfaction and loyalty and (11.18) encouraging higher quality and volume as needed.

Quantitative Research

Path analysis of causal factor in formation of vegetable cooperative on AMOS can be concluded that pattern consistent with factual data, according to the result from path analysis and adjustment to related concepts and theories, has statistical values as follows: n=130, Chi-Square=44.011; df=11; Relative Chi-Square= 4.001, P-value=0.000; GIF=0.949, NIF=0.959, CFI=0.968, TLI=0.868, RMR=0.023, RMSEA=0.149 (Relative Chi-Square<5; Accepted RMSEA>0.05 case of n<200, Randall & Richard, 2016; & Chen et al., 2008) which are within acceptable limit. Squared Multiple Correlations of COP is 0.618. Therefore, this analysis accepts the hypothesis that Path analysis factors as shown in Figure 2.
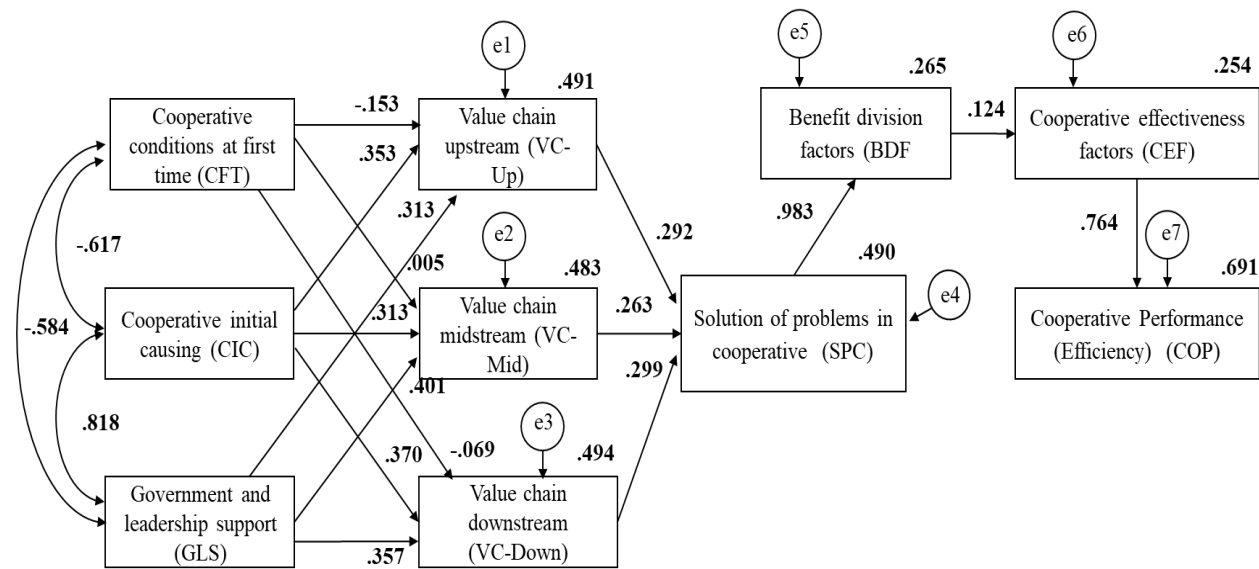

FIGURE 2
**ROUTE FACTORS IN FORMATION OF AGRICULTURAL COOPERATIVE AND
CONNECTION WITH VEGETABLE VALUE CHAIN**

Table 1 STANDARDIZED REGRESSION WEIGHTS: DEFAULT MODEL								
Effect	**Relation**	**Causes**	**Estimate**		**Effect**	**Relation**	**Causes**	**Estimate**
CFT	<-->	CIC	-0.617		VC-Down	<--	CFT	-0.069
CFT	<-->	GLS	-0.584		VC-Down	<--	CIC	0.37
CIC	<-->	GLS	0.818		VC-Down	<--	GLS	0.357
VC-Up	<--	CFT	-0.153		SPC	<--	VC-Up	0.292
VC-Up	<--	CIC	0.353		SPC	<--	VC-Mid	0.263
VC-Up	<--	GLS	0.313		SPC	<--	VC-Down	0.289
VC-Mid	<--	CFT	0.005		BDF	<--	SPC	0.983
VC-Mid	<--	CIC	0.374		CEF	<--	BDF	0.124
VC-Mid	<--	GLS	0.391		COP	<--	CEF	0.764
Squared Multiple Correlations								
Variable		**Estimate**			**Variable**		**Estimate**	
VC-Up		0.55			BDF		0.112	
VC-Mid		0.527			CEF		0.134	
VC-Down		0.546			COP		0.618	
SPC		0.563						

According to Table 1 (1) CFT factors have negative effect on CIC at Load Factor=-0.617 and GLS at Load Factor=-0.584 while CIC has positive effect on GLS at Load Factor=0.818. (2) CFT factors have negative effect on VC-Up and VC-Down at Load Factor -0.153 and -0.069 respectively, but positive effect on VC-Mid at Load Factor= 0.005. At the same time, CIC has positive effect on VC-Up, VC-Mid, and VC-Down ที่ Load Factor=0.353, 0.374 and 0.370 respectively. GLS has positive effect on VC-Up, VC-Mid, and VC-Down at Load Factor=0.313, 0.391, and 0.357 Variance of VC-Up is 55.0%, VC-mid 52.7% and VC Down 54.6%. (3) SPC factors can explain variance of 56.3%due to influence from Loading Factor of VC-Up=0.293, VC-Mid=0.263, and VC-Down=0.289. (4) BDF factors can explain variance of 11.2% due to Loading Factor of SPC=0.983. BDF has positive effect on CEF with Loading Factor of 0.124 and (5) CEF can explain variance of 13.4% and has positive effect on COP with Loading Factor of 0.764 and COP can explain variance of 61.8%.

Hypothesis H1: confirms the hypothesis that factors like 1) Condition to join cooperative the first time, 2) Cooperative initial causing, 3) Government and cooperative leader support factor have effect on the value chain of vegetable cooperative, consisting of upstream activities (VC-Up), transportation to the market (VC-Mid) and downstream sale (VC-Down). CFT has negative effect on VC-up and VC-Down while having positive effect on VC-Mid. Conversely, CIC and GLS have positive effect on VC-Up, VC-Mid and VC-Down with statistical significance (p-Value= .05)

Hypothesis H2: confirms the hypothesis that the value chain, consisting of VC-Up, VC-Mid, and VC-Down have effect on Cooperative effectiveness factor and Cooperative performance factor (COP) through intermediary factors, Solution of problems in cooperative (SPC). SPC also affects CEF through BDF and has positive effect on COP that can explain variance of 61.8% with statistical significance (p-Value= 0.05).

DISCUSSION AND CONCLUSION

Qualitative research with Delphi technique to examine formation of agricultural cooperative and connection of value chain of vegetable in southern Thailand with 21 samples through the process of drafting, verification and confirmation can confirm 11 main factors and 121 indicative factors, which are 1) The condition to join the vegetable cooperative the first time with three indicative factors, 2) Cooperative Initial Causing factors with 26 indicative factors, 3) Government and Leader Support with 22 indicative factors, 4) Cooperated Issue Factors with 4 indicative factors, 5) Problems and Solution Guideline with 15 indicative factors, 6) VC-Up with six indicative factors, 7) VC-Mid with four indicative factors, 8) VC-Down with six indicative factors, 9) Benefit and Fare Sharing with two indicative factors, 10) Cooperative Effectiveness factor with 12 indicative factors and 11) Cooperative Performance Factors with 18 indicative factors. In qualitative research, result from quantitative research on 130 samples confirms the hypothesis H1 that CFT has negative effect on the VC-Up and VC-Down while having positive effect on VC-Mid. Conversely, Cooperative Initial Causing Factors and Government and Leader Support have positive effect on the value chain. Hypothesis test on H2 accepts the hypothesis that the value chain process has effect through intermediary factors such as Problem and Solution Guideline, and Benefit and Fare Sharing on Cooperative Effectiveness Factor. While CEF has effect on Cooperative Performance Factor, which shall be discussed.

1) Regarding the condition to join the vegetable cooperative the first time, it is found that excessive requirements will have negative effect on success in forming group and will not benefit from

Government and Leader Support. The process along the value chain concurs with Abigail (2017) which found that appropriate conditions for creating groups will lead to success. Regarding Cooperative Initial Causing Factors. Good Government and Leader Support will lead to success, in concurrence with Oliveira & Wander (2021); Abigail (2017); and Grashuis & Cook (2018).

2) Good Government and Leader Support combined with Cooperative Initial Causing Factors will lead to management of connection of the cooperative's value chain. This agrees with and Suman, et al. (2020).

3) Understanding of the value chain of vegetable farming, covering from the upstream, midstream and downstream process to identify problems and develop a solution or alleviation in order to make the cooperative more successful. This agrees with Oliveira & Wander (2021); Hale & Carolan (2018) and Candemir et al. (2021).

4) Main success in the cooperative is more revenue from cooperative activities, increasing bargaining power and competitive edge for members throughout the chain, in concurrence with Hale & Carolan (2018). Solution or alleviating measures focus on cost-reduction, waste reduction and profit increasing, concurring with Oliveira & Wander (2021).

5) Benefit and Fare sharing should be according to criteria and regulation of the cooperative. All members with produce can have equal opportunity to sell at the market and profit will be shared in the cooperative. This concurs with Candemir et al. (2021)

6) Performance of the cooperative, such as unity, teamwork and membership that jointly control and manage with good governance, shared ideal and attention to members' problems agrees with Dendup & Aditto (2020). Factors that can affect effectiveness are support management, financial support, lecturing, solution, networking, new technology, development of business knowledge for members, which concur with Saengchamnong & Viroonratch (2019). Factors such as careful resource consumption, cost reduction, satisfaction and loyalty building toward the cooperative concur with Oliveira & Wander (2021).

7) Policy suggestions: (1) The government should promote initial formation of cooperative by not setting the minimum member limit too high, because few members can lead to success faster than more. (2) The government and leadership should support and promote members to participate in the value chain from one end to another, in all three parts. They should build a solution system together so they can enjoy more profit and (3) The government and leadership should be an advisor in fair benefit sharing and building equity

8) Suggestions for members (1) Members should be attentive to government support throughout the chain from one end to the other as it can improve effectiveness and performance, reduce cost, increase profit and (2) Members should work together under the principle of good governance. Working together will increase effectiveness and performance of vegetable business, and

9) For future research; the concept scope regarding factors to success, effectiveness and performance should be applied to other agricultural cooperatives to accelerate discovery of new guideline.

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