

Development of Pattern for Supply Chain in Digital for Agricultural Management in a Large Plots in Thailand

Artaphon Chansamut

*Office of Dean, Faculty of Home Economic Technology, Rajamangala University
of Technology Krungthep, Thailand
artaphon.c@mail.rmutk.ac.th*

Abstract—The research was conducted to study and evaluate the pattern supply chain in digital for agricultural management in a large plots in Thailand. The samples in the research study consisted of ten purposively selected experts consisted of five experts on supply chain management, five experts on Digital Technology. Data were analysed by arithmetic mean and standard deviation. The research findings model six elements namely main components, Farmer group (Producers), Field manager, Finished large plots. Consumers and satisfaction. The assessment of pattern supply chain in digital for agricultural management in a large plots in Thailand using Black-Box technique and The results from experts agreement of pattern supply chain in digital for agricultural management in a large plots in Thailand was a high level. The rating mean of 3.70 and standard deviation of 0.79, which means that the model is appropriate at the high level and applicable to real practice.

Keywords— *Development of pattern supply chain in digital, Agricultural management in a large plots in Thailand*

1. Introduction

Thai government has realized the importance of adjusting the country to increase its capability to compete with other countries in every aspect. Especially in an agricultural development in Thailand the Ministry of Agriculture and Cooperatives planned and initiated the policy to solve the agricultural products problem for all agriculturalists for the long run. The active policy in the fiscal year 2016 included the promotion of large agricultural plots. This implementation with the rice cultivators aimed to encourage them to coordinate together for the large agricultural plots. The goal of this policy was to reduce the costs in order to enhance the competitive advantage of agricultural products cultivators (economy of scale). They prioritized utilizing production factors (fertilizers, pesticides, and grains), labor and agricultural machines, soil improvement, and administration. The group appointed a plot manager (the representative from the governmental unit) to manage and coordinate the group members to follow the guidelines. The criteria of the agricultural group were the agricultural plots must be located nearby to each other, and the size of the

50 members' plots was not over 1,000 rai. The responsibility of the agricultural groups according to the large agricultural plot guidelines consisted of 1) the gathering and process management of the group to operate the large agricultural plot, 2) cooperative production and marketing with the analytical process and target setting (return, production quantity, and price), 3) managing the implementation plan and selecting appropriate technology for the production and marketing process, and 4) deciding the use of the production factors by collaborating together for the purchase or procurement. In accordance with the large agricultural plot guidelines that had been operated in the fiscal year 2016, the provinces in the Upper Northern region that contained the potential surface included 1) Chiang Rai comprising Wiang Chai, Phan, and Khun Tan districts with 1,000 rai each and Chiang Khong district with 2,000 rai, and 2) Phayao with 1,400 rai in Mueang district. Consequently, to compare the appropriate proportion and area for rice cultivation, there were many major opportunities to increase the group number or the size of the large agricultural plot. However, the group of agriculturalists to plan the product (the use of the production factors), the marketing (selling volume), and the goal was deprived of a crystal clear pathway, and the operation was unable to examine the quantity. Furthermore, it was unable to evaluate the economic effects of the environmental uncertainty (e.g., water volume or climate), and economic uncertainty (e.g., price or cost). As a result, this study proposed to find a pathway for the decision-making to appropriately use factors with multiple-criteria decision-making (MCDM) and participation of the agriculturalists to prioritize [12] application of the concept of supply chain management in digital is applied to the agricultural sector. It will be optional, according to the criteria or the constraints in the community's resources and technology. because the business and industrial sector needs to be highly competitive due to increasingly high competitions from both within and outside the country. In order to be highly competitive, organizations in the sector need to have personnel with knowledge, ability and

skills who can work efficiently to increase output and products. The organizations, therefore, need to have sufficient information and resources to increase their values and respond to the demand of their clients. Thus, the supply chain and digital is the key process to support the organization’s whole activities system from upstream to downstream. It enables the organization to promptly check the information system to ensure that the organization operates smoothly and effectively based on the determined strategies. [1] Thus, the researcher had an idea to develop pattern for supply chain in digital for agricultural management in a large plots in Thailand.

2 Literature review

Supply chain and digital are significantly more visibility into the workings of the chain. The added near real time visibility of supplier performance and customer needs lets supply chain owners develop more complex relationships with more suppliers.

Supply chain and Information is an one of a goals that all organizations strive to achieve. Supply Chain and Information will help organizations improve efficiency and reduce organizations expenses, High value customers and suppliers can be added or retained by maintaining a reliable Supply chain and Information. These will promise the organizations to a goal to produce a great products that are reliable .

3 Research Methodology

3.1 Analyse and synthesize documents and former research relevant to the elements of development of pattern for supply chain in digital for agricultural management in a large plots in Thailand..

3.2 Study about development of pattern for supply chain in digital for agricultural management in a large plots in Thailand by interviewing the expert

3.3. To design pattern for supply chain in digital for agricultural management in a large plots in Thailand.

3.4 Present the pattern to the advisors for consideration and revision.

3.5 Present the pattern to the experts for consideration by in-depth interview.

3.6. Create the evaluation tools for evaluate the model’s suitability.

3.7 Present the designed pattern to the ten experts consisted of five experts on supply chain management, 5 experts on technology digital.

3.8 Pattern for supply chain in digital for agricultural management in a large plots in Thailand is modified according to the experts’ suggestions.

3.9 Analyze the results of evaluation of the model by mean and standard deviation consisting of 5 criteria for evaluation according to the idea of Likert scale.

4 Results

Results on development of pattern for supply chain in digital for agricultural management in a large plots in Thailand are shown in Figure 1.

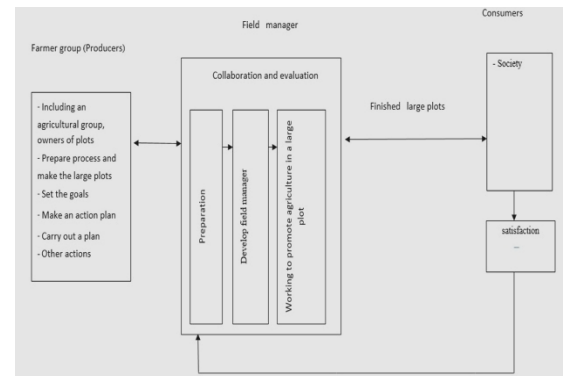


Figure 1: Development of pattern for supply chain in digital for agricultural management in a large plots in Thailand

4.1 Farmer group

Farmer group mean producers . It performs the duty to study, analyze, set the goals, make an action plan, determine the appropriateness of technology ,carry out a plan and other actions

4.2 Field manager

Field manager mean agricultural scholar in the area. It performs the duty to manage activities throughout the supply chain namely Preparation, Develop field manager, Working to promote agriculture in a large plot and other activity.

4.3 Finished large plots

Finished large plots mean product from farmer group.

4.4 Consumers

The consumers mean the end-of-process component of the model . They include the society in general and farmer group

4.5 Satisfaction

Satisfaction refer to contest results the large plots in Thailand.[1],[2],[3],[4],[5],[6],[7],[8],[9].[10],[11]

Table 1: Results for evaluation development of pattern for supply chain in digital for agricultural management in a large plots in Thailand

No	Evaluation Lists	\bar{X}	S.D.	Suitability
1	Main components	3.72	0.77	High
2	Farmer group	3.66	0.63	High
3	Field manager	3.73	0.46	High
4	Finished large plots	3.80	1.13	High
5	Consumers	3.70	1.25	High
6	Satisfaction	3.60	0.51	High
	Summary	3.70	0.79	High

Table 1, The experts found that development of pattern for supply chain in digital for agricultural

management in a large plots in Thailand is highly appropriate ($\bar{X} = 3.70$, S.D. = 0.79).

5 Discussion

Development of pattern for supply chain in digital for agricultural management in a large plots in Thailand is considered to be high appropriate ($\bar{X} = 3.70$, S.D. = 0.79), and the design was corresponds to the research of Chansamut and PiriyaSurawong has studied supply chain and information system about educational [1] In addition, with the study of chansamut suggesting that supply chain and information system also. [2],[3],[4],[5],[6]

6 Conclusion

Development of pattern for supply chain in digital for agricultural management in a large plots in Thailand is appropriate at the high level development The rating mean of 3.70 and standard deviation of 0.79, which means that the model is appropriate at the high level and applicable to real practice.

Reference

- [1] Chansamut, A., PiriyaSurawong., P. Conceptual Framework of Supply Chain Management Information System for Curriculum Management Based on Thailand Qualifications Framework for Higher Education. International Journal of Managing Value and Supply Chains (IJMVSC) . Vol 5 No 4 , 33-45. 2014
- [2] Chansamut, A Supply Chain operation Model in Digital for Curriculum Management Based on Thailand Qualifications Framework for Higher Education. International Journal of Supply Chain Management (IJSCM). Vol 10 No 4 , 71-75. 2021.
- [3] Chansamut, A An Information System Model for Educational Management in Supply Chain According to Career standards on Thailand Qualifications Framework for Vocational Education International Journal of Supply Chain Management (IJSCM). Vol 10 No 4 , 51-55. 2021.
- [4] Chansamut, A Synthesis conceptual framework of Supply Chain Business Intelligence for Educational Management in Thai Higher Education Institutions International Journal of Supply Chain Management (IJSCM). Vol 10 No 5 , 25-31. 2021.
- [5] Chansamut, A Supply Chain Business Intelligence Model for Quality Assurance in Educational Management for ASEAN University Network Quality Assurance International Journal of Supply Chain Management (IJSCM). Vol 10 No 5 , 40-49. 2021.
- [6] Chansamut., A. ICT System in Supply Chain Management for Research in Higher Education Institute.University of the Thai Chamber of Commerce journal humanities and social sciences. Vol 36 No 2, 112-121. 2016.
- [7] Chansamut., A, Developing Software Patterns in Thai Supply Chain. International Journal of Supply Chain Management (IJSCM). Vol 11 No 3 , 27-31. 2022.
- [8] Chansamut., A, Supply Chain Model for Curriculum Management Based on Thailand Qualifications Framework for Higher Education with the Internet of Things. International Journal of Supply Chain Management(IJSCM). Vol 11 No 3 , 41-47. 2022.
- [9] Chansamut., A, A Digital Service Supply Chain Model for ASEAN University Network Quality Assurance at Institutional Level. International Journal of Supply Chain Management(IJSCM). Vol 11 No 3 , 60-67. 2022.
- [10]. Chansamut., A, The Service Agile Supply Chain Information System Model for ASEAN University Network Quality Assurance at Institution Level. International Journal of Supply Chain Management(IJSCM). Vol 11 No 3 , 68-75. 2022.
- [11] Department of Agricultural Extension.2015. Operation manual on the promotion of agriculture in a large plots fiscal year 2015 available at<http://www.lampang.doae.go.th/>
- [12] Singhavara,M., Panyasit, K., Nonthapot, S. Planning rice cultivation in a large plot agricultural system. Growing Science Publishing Company. Vol 11 No 1,11-20.2022.