

Environmentally Friendly Rice Product Management Model of Ban Na Ket Farm Women Community Enterprise, Khok Pho District, Pattani Province, Thailand

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Abstract

The objectives of this research are 1) to study the context of environmentally friendly product management of community enterprises; 2) to study the environmentally friendly product management process of community enterprises; 3) to study the management affecting the environmentally friendly product management process of community enterprises; 4) to propose an environmentally friendly management model for rice products. This study is mixed-method research. The research area was the community enterprise of Ban Na Ket Farm Women Community Enterprise, Khok Pho District, Pattani Province. The sample group in quantitative research applied a questionnaire of a hundred and three people and in qualitative research applied in-depth interviews with eleven key informants. It found that general information of the Farm Housewives Group Community Enterprise, Ban Na Ket, Pattani Province, found that the Ban Na Ket Farm Women Community Enterprise were female, aged 20-40 years, had a bachelor's degree, had average monthly income 10,001-20,000 baht, and had 3-5 years of work experience. As for the results analysis of management factors affecting the environmentally friendly product management process (classified by SWOT analysis) overall was different. When considering each aspect, it showed that every aspect was different with statistically significant at the 0.05 level. The results analysis of management factors affecting the environmentally friendly product management process (classified by analysis of the environment) overall was different. When considering each aspect, it showed that the price, the distribution channel, and different marketing promotions were different with statistically significant at the 0.05 level.

Keywords: management, environmentally friendly products, rice products, community enterprises.

Introduction

At present, environmental problems are regarded as a major problem and affecting the global level to the local level, especially forests and urban areas such as urban waste, air and water pollution, lack of green spaces, and urban biodiversity. The concept of sustainable development policies focuses on the balance and integration of three pillars, namely society, economy, and environment, which have been accepted in the Community Forum and the Association of Southeast Asian Nations

(ASEAN). It has established the ASEAN Vision and the Declaration on ASEAN Cooperation including a plan to establish the ASEAN Socio-Cultural Community Blueprint which consists of six cooperation. However, the Office of Natural Resources and Environmental Policy and Planning as a Nation Focal Point, in Thailand takes care of sustainable urban environmental management and works with countries in the ASEAN Working Group on Environmentally Sustainable Cities in ASEAN Region that is directly related to the ASEAN Socio-Cultural Community Blueprint (ASCC

Blueprint). In the D5, Quality of Living Standards in ASEAN Cities and Urban Areas currently has expanded the work to cover the initiative about cities with environmentally sustainable characteristics in terms of water management, green cities, and biodiversity of urban areas. 3R waste management in air pollution control, with the “ASEAN Environmentally Sustainable Cities Awards” as a tool to motivate the ASEAN Member States to implement the specified cooperation framework, including work towards initiatives such as “carbon society,” “green cities” (Office of Natural Resources and Environmental Policy and Planning, 2014).

Such environmental problems; therefore, are the origin of the production of environmentally friendly products, or called green products, which have special properties to other products in the field of environmental conservation. The production of environmentally friendly products also must consist of 4R principles, namely, Reduce, Reuse, Recycle, and Repair (Amonchai, 2009). Over the years, the issue of corporate social responsibility or CSR awakens the trend of the green economy, making businesses aware of the link between production costs and environmental costs due to the use of resources and energy ineffectively including the generation of waste and pollution, production costs will increase from the use of raw materials, energy, and waste treatment. These make the sustainable production process must focus on the production of quality products with the least impact on the environment, especially effective resource management, that is, using raw materials to the maximum benefit, reducing waste, and finding a way to process waste for reuse. This is in line with the development concept that sustainable development aims to distribute resources and economic benefits evenly by balancing the three dimensions of economy, society, and environment. It motivates organizations with social responsibility to open awareness to employees and business partners who have stakeholders to be aware of the environment that affects the global society. This is the concept of integration between the organization and business partners including the main trends in the green and

environmentally friendly organizations, especially the use of renewable and alternative energy that does not come from pollution and greenhouse gases, such as wind power, solar power, liquid fuel cells including water resource management aims at reuse and recycle to save water for the people used in most consumer goods (Dee Moramor, 2011).

With the fertility of the area, Pattani province produces a variety of agricultural products from the marketing policy of the Ministry of Agriculture and Cooperatives. In the past, the Office of Agriculture, Pattani Province worked with the network partners to strengthen the agricultural network, which consists of the Agricultural Occupation Promotion Group, the large plot group, the farmer's housewife group, and the community enterprise group to produce products from farmers. They provided quality images to markets for crops, livestock, and fisheries. This is crucial to enhancing incomes that support the economy followed the policy of the governor of Pattani Province, as well as to increase marketing opportunities for agricultural products. It also promotes the farmers and agricultural entrepreneurs with knowledge of production skills linked to marketing and gives consumers the opportunity to purchase quality agricultural products from the producing groups directly and people to have quality according to the sufficiency economy under the goals (Pattani Province Development Plan 2015) as follows: people have more income; people have a good quality of life, strong community, and self-reliant; people are educated and the learning process is easily accessible and healthy; people have security and safety in life and money, strong family. The government has a management system according to good governance and standardized service. There is a community network covering every village, and information systems and technologies have been developed.

This research article improved on research “Development of rice products for marketing promotion of community enterprise of Ban Na Ket Farm Women Community Enterprise, Khok Pho District Pattani Province” by presenting an environmentally friendly product management model of the Community Enterprise of Ban Na

Ket Farm Women Community Enterprise, Khok Pho District Pattani Province. It aimed for the Ban Na Ket Farm Women Community Enterprise can develop in a better direction, to promote income from the production of environmentally-friendly products to be integrated into quality products by promoting a form of the beneficial management process for effective operations. In addition, to study the context of the management of the groups of enterprises, the process model, and development guidelines affecting enterprise groups being aware of the benefits and methods of creating value for inspiration in their careers.

Research Objectives

1. To study the context of environmentally friendly product management of community enterprises of Ban Na Ket Farm Women Community Enterprise, Khok Pho District, Pattani Province.
2. To study the environmentally friendly product management process of community enterprises of Ban Na Ket Farm Women Community Enterprise, Khok Pho District, Pattani Province.
3. To study the management affecting the environmentally friendly product management process of community enterprises of Ban Na Ket Farm Women Community Enterprise, Khok Pho District, Pattani Province.
4. To propose an environmentally friendly management model for rice products of Ban Na Ket Farm Women Community Enterprise, Khok Pho District, Pattani Province.

Literature Review

Marketing mix concept

Marketing tools used by businesses to achieve marketing objectives are called 4P's (Kotler and Andreasen, 1991, Kotler, 1994, Kotler, 1997; Khamnai Apichayasakul, 2015; Siriwan Serirat et al. 2009), which consist of four variables (4P's), namely Product, Price, Place, and Promotion. Later, there are three additional variables, namely people, physical evidence,

and process to be cleared with important concepts of modern marketing, especially with a service business, so they are collectively known as 7P's marketing mix. It is an essential element of any strategy formulation in the marketing of service businesses, there must be a marketing mix for each aspect that is suitable for different business and industrial environments of 7P's marketing mix (Kotler and Armstrong, 1996; Kotler, 2000; Mas and Nanik, 2017).

Green Business Concept

Kosol Deesiltham (2014) said that at present, the green business concept is a strategy that is responsible for the society of corporate, especially the awakening of environment used to promote brand image both society and good governance represented the ultimate goal that is not just profit, but it is a good image for the organization and brand that attracts modern consumers to be socially conscious and more environment. It causes the organization to adjust the paradigm towards green business to focus on sustainable development by focusing on materials, natural, or power effectively to control waste or pollution that affects consumers and the environment. It makes green business organizations that run research and development of products, including the environmentally friendly production process with process improvements to reduce emissions, covering 3R issues: Reduce (reduce the use of raw materials that cannot be recycled) Reuse (reuse), and Recycle (recycle through processing) that is part of clean technology and green productivity covered carbon footprint. Therefore, the green business concept is considered a strategy that the leading organization push for suppliers in the industry to do business in line with consumer trends that are beginning to realize the more impact on the environment and global warming problems. Such issues should be considered before making a purchase decision through communication from the manufacturer with the label or logos environment of friendliness on the packaging represents the commitment of the manufacturer to the consumer to take care of the global environment. It is assessed throughout the life cycle assessment from raw material acquisition, transportation, assembling, usage, and end-of-life management such as Thai Group

or SCG is considered a Thai company. The first to certify a label to environmentally friendly products, or services that can use the SCG Eco value label must be produced in a special process that has the least impact on the environment. Consideration is based on ISO 14021 (Environmental Labels and Declarations-Self-Declared Environmental Claims). The new era is more social and environmentally conscious causing the organization to adjust the paradigm for green business to focus on sustainable development by focusing on using natural materials or using energy efficiently to control the occurrence of waste or pollution that affects consumers and the environment. It causes green business organizations to conduct research and product development including the environmentally friendly (green process) with process improvements to reduce pollutant emissions. It covers the issue of 3R which is Reduce (Reduce objects that are not can be recycled), Reuse (reuse), and Recycle (recycle through processing) which are considered the clean technology and green productivity covered the issue of carbon footprint. Therefore, the green business concept is considered a strategy that the leading organization push for suppliers in the industry to do business in line with consumer trends that are beginning to realize the more impact on the environment and

global warming problems. Such issues should be considered before making a purchase decision through communication from the manufacturer with the label or logos environment of friendliness on the packaging represents the commitment of the manufacturer to the consumer to take care of the global environment. It is assessed throughout the life cycle assessment from raw material acquisition, transportation, assembling, usage, and end-of-life management such as Thai Group or SCG is considered a Thai company. The first to certify a label to environmentally friendly products, or services that can use the SCG Eco value label must be produced in a special process that has the least impact on the environment. Consideration is based on ISO 14021 (Environmental Labels and Declarations-Self-Declared Environmental Claims).

Research Conceptual Framework

This research is model research on the environmentally friendly management model for rice products of Ban Na Ket Farm Women Community Enterprise, Khok Pho District, Pattani Province, Thailand. The researcher has formulated a research conceptual framework as follows:



Figure 1 Research Conceptual Framework

Research Methodology

This research is mixed-method research with participatory action research (PAR).

Quantitative research: the population used in this study was the Ban Na Ket Farm Women Community Enterprise, Khok Pho District, Pattani Province, and consumers who are

interested in or purchase products. The sample group included consumers who are interested in or purchase products because the sample population (consumers of interest or purchase products) is not possible to determine certainty. The researcher calculated to determine the term sample size in the research by using the formula for calculating the sample with an unknown population (Kalya Wanichbancha, 2005: 26) at a 95 percent confidence level, the estimation error is not more than 5 percent or 0.5. It was obtained 385 samples, and 15 additional backup samples were collected for a total of 400 samples. In qualitative research, the criteria used in the selection of key informants in the Ban Na Ket Farm Women Community Enterprise, Khok Pho District, Pattani Province, by selecting key informant groups used in the study were: those who had experiences with the community enterprise for more than 5 years and they are in the group of Ban Na Ket Farm Women Community Enterprise, Khok Pho District, Pattani Province and those involved. The researcher applied In-Depth Interviews with 13 key informants, namely 1) The chairperson and Vice President of the Ban Na Ket Farm Women Community Enterprise, Khok Pho District, Pattani Province; 2) Experts or people with knowledge of rice products promotion in Pattani Province; and 3) People in the area or people interested in consuming rice products.

1. Quantitative research: the researcher used the questionnaire as a tool to collect information from the respondents which the researcher reviewed from concepts, relevant theories, and research and come into questions. It was divided into five parts as follows: 1) General information on Ban Na Ket farm women community enterprises and consumers of rice products, Khok Pho District, Pattani Province. The questionnaire was a checklist which was a nominal scale consisting of gender, age, education level, occupation, average monthly income, and experience in 2) Opinions about product development capabilities of Ban Na Ket farm women community enterprises and consumers of rice products, Khok Pho District, Pattani Province. The questionnaire was a rating scale with 5 levels of opinion scale based on the Likert Scale method, consisting of raising

awareness, creating environmental awareness, public participation, and integrating the diversity of the community. 3) Information on product development from Ban Na Ket farm women community enterprises and consumers of rice products, Khok Pho District, Pattani Province. The questionnaire was a rating scale with 5 levels of opinion scales based on the Liter Scale which consisted of setting production standards of rice products, grouping and mobilizing members, and the export process of the enterprise. 4) Information about the Marketing Promotion Model of Ban Na Ket farm women community enterprises and consumers of rice products, Khok Pho District, Pattani Province. The questionnaire was a rating scale with 5 levels of opinion scales based on the Liter Scale which consisted of product quality development, packaging development to suit the product, developing a product form to connect with other target audiences, creating added value for products, new product creation by bringing local wisdom to apply that technology used in the production process, and development of product characteristics such as color, smell, taste, and texture. 5. Comments on the development guidelines of rice products for marketing promotion of Ban Na Ket farm women community enterprises and consumers of rice products, Khok Pho District, Pattani Province, to have managed and created processes that can be further developed in better directions. The questionnaires in parts 2,3,4, were the rating Scale, using the ordinal Scale (Naphaporn Chantrasap et al., 2002). The researcher's evaluation criteria were based on the class interval classification dividing the highest score into five levels from the average score obtained from the questionnaire. The highest score is 5 points and the least score is 1 point were calculated in the mid-range using the formula for calculating the class interval.

2. Qualitative research: the researcher used the interview form by creating an interview guide with In-depth Interviews as a tool for data collection. The researcher has created the questionnaires in the interview process as follows: 1) Study theories, concepts, and principles from books, textbooks, documents, and related research to apply the information

obtained from the study used as a guideline for creating interview questions. 2) Define the main points and sub-issues, so that the question has the details which are consistent and complete according to the research objectives of the study. 3) Improve and develop questions according to the recommendations of the supervisor and experts before collecting the actual data.

3. Participatory practical research process: the researcher and Ban Na Ket farm women community enterprises participated in research at every stage, from joint thinking, joint decision making, joint investigation, and benefit-sharing along to the learning and development process of the community enterprise to be the center of problem-solving by using the learning process with five steps as follows:

3.1 Pre-research phase: Selection of participatory action research areas was based on the following criteria: 1) It is a community enterprise that produces products from rice that has been modified to create a variety of products. 2) Community leaders, heads of community enterprises, marketing agencies, people in the area, and entrepreneurs who cooperate in conducting research information. 3) The researcher can travel in and out of the area easily and safely. After that, the researcher selected the Ban Na Ket farm women community enterprises and consumers of rice products, Khok Pho District, Pattani Province, to be a participatory action research area because it is a community enterprise area where the production of goods and rice products (Khao Tang), which are exported to various areas. The researcher selected the study area by purposive sampling method. Reasons for choosing this research area were as follows: 1) The researcher went to the preliminary site to survey the basic information of the community and Ban Na Ket farm women community enterprises because it is an area where rice products are made and can be exported to the target market in a variety of channels. The area has not yet been grouped to develop products that are as attractive as they should be and community enterprise leaders are ready to cooperate in conducting research and suggesting guidelines for product development.

3.2 Research phase: The researcher has established a relationship between the community researcher and community leader to understand their roles, the clarity of the objectives, goals, and the hope to get more guidelines for developing rice products for marketing promotion. Then the selection of leaders was to select the leaders for the participatory action research, i.e. willing and interested in participating in the activities, have accommodation in the community enterprise, accepted by the community enterprises, and have enough time to participate in the activities. After that, a joint problem analysis with the community, emphasizing the community education participation (CEP) analysis. It emphasizes the learning process through discussion for exchanging ideas with the community at individual and group levels to assess the problems and needs of the community enterprise. It assessed the possibility of products from rice that are available in the community especially products from local wisdom to be used in formulating plans for the participatory workshop with community leaders as well as related persons, entrepreneurs, etc. They can brainstorm ideas and collect basic information about the community, collecting issues through the cooperation of all parties in the community to lead to a plan for solving problems in the creation of rice products for marketing promotion.

3.3 Planning phase: The researcher has made a plan which is the information about the condition of the community from the process of participatory problem analysis by applying selected solutions to analyze the context of community enterprises (product capability), which has limitations, conditions, and forms project plans, activities, emphasizing participation and distribution of responsibility. The next step is to train the leaders, providing knowledge of the leaders' roles, responsibilities, and participatory working methods with community enterprises and planning for monitoring and evaluating. The researcher had a meeting with leaders of enterprises and entrepreneurs to monitor operations and prepare the leaders to know what to do and use informal evaluation using informal interrogation, and

make an appointment for discussion as appropriate.

3.4 Implementation phase: It is the implementation of the planned work. At this stage focus on the community participating in the development of rice products to promote the marketing of the Ban Na Ket farm women community enterprises and consumers of rice products, Khok Pho District, Pattani Province.

3.5 Monitoring and Evaluation phase: Monitoring and Evaluation of projects/activities under marketing promotions to monitor operations by collecting data in the country that were already done, activities that cannot be carried out as planned, satisfactory performance, obstacles encountered in the operation, and supporting needed. Then the researcher participated in the planning of the next operation to use the information acquired to improve the operation. Next, the researcher evaluated the activities according to the marketing promotion and assessed the satisfaction of the key stakeholders, enterprises, and entrepreneurs including the operation interviews conducted, etc.

Presenting guidelines for the development of rice products for marketing promotion of Ban Na Ket farm women community enterprises and consumers of rice products, Khok Pho District, Pattani Province, and summarizing of research findings on success, obstacles, factors, and conditions of success from participatory action, and reviewed by five experts by content analysis to find guidelines for further product development.

Data Analysis and Statistics

Quantitative research: The researcher examined the accuracy and completeness of the data in the questionnaire obtained from the survey data. A sample of 400 people was analyzed for statistical values using a Statistics Package for Social Sciences (SPSS). The data were analyzed as follows: 1) Coding: the questionnaire was coded as specified. 2) The data was coded and processed by the SPSS program according to various statistics using descriptive statistics

consisting of frequency, percentage, mean, and standard deviation to describe the data of all variables and presented in tabular form along with a description of the research results. For the first hypothesis test¹, the competency factor of community enterprise products was related to the marketing promotion of the Ban Na Ket farm women community enterprises and consumers of rice products, Khok Pho District, Pattani Province by using the Chi-square statistics analysis with statistically significant at 0.05 to find the relationship between two independent variables. The second hypothesis test on the relationship between rice product development factors was related to the marketing promotion of community enterprises by using the Chi-square statistics analysis with statistically significant at 0.05 to find the relationship between two independent variables. It was considering the factors related to product development from rice by enterprises by using the Chi-square scores obtained from calculating whether there was a statistically significant level at the 95% confidence level. If there was a statistically significant level at the 95% confidence level, the two variables considered were related.

Qualitative research: The researcher analyzed the preliminary data, and the data obtained from the interviews at the same time as the data collection. The researcher will use the information obtained from taking notes, and audio recording tape to separate it into various issues. Then the researcher considered whether the information obtained was complete or not and keep looking for more information to get the most complete information. After that, data were analyzed and synthesized by descriptive analysis of the data obtained from the interviews and then categorizing and analyzing the data according to the concepts to obtain clear information with the conclusion that can answer the question.

Research Results

1. Environmentally friendly rice products management of Ban Na Ket Farm Women

Community Enterprise, Khok Pho District, Pattani Province

For environmentally friendly rice products management of Ban Na Ket Farm Women Community Enterprise, Khok Pho District, Pattani Province, the Farm Women Community Enterprise has developed in a better direction to promote income from the production of products that are friendly to the environment and they can recycle to be a quality product by promoting a useful management process model to be effective in operation. In addition, the context of the management of the enterprise group, process model, and development guidelines must be affected by the enterprise groups that are increasingly aware of the benefits and methods of creating value as a source of inspiration for their careers.



Figure 1: Environmentally friendly rice product management of Ban Na Ket Farm Women Community Enterprise, Khok Pho District, Pattani Province

Table 1 Environmentally friendly product management of Ban Na Ket Farm Women Community Enterprise, Khok Pho District, Pattani Province

Environmentally friendly product management	\bar{x}	S.D.	Level of Opinion	No.
Product	3.80	0.39	High	7
Price	3.96	0.29	High	5
Place	3.98	0.33	High	4
Promotion	4.03	0.38	High	2
Process	3.87	0.32	High	6
People	4.13	0.44	High	1
Physical Evidence	4.01	0.47	High	3
Total	4.11	0.36	High	

Environmentally friendly product management (overall) found that the opinions were at a high level ($\bar{x} = 4.11$, $SD = 0.36$). When considering each aspect, it showed that it was at a high level

in all aspects which were sorted from the highest to lowest mean as follows: on the aspect of the people the most, the opinions were at a high level ($\bar{x} = 4.13$, $SD = 0.44$), followed by the marketing promotion, the opinions were at the level ($\bar{x} = 4.03$, $SD = 0.38$), physical evidence was at a high level ($\bar{x} = 4.01$, $SD = 0.47$), Place was at a high level ($\bar{x} = 3.98$, $SD = 0.33$), Price was at a high level ($\bar{x} = 3.96$, $SD = 0.29$), Process was at a high level ($\bar{x} = 3.87$, $SD = 0.32$), and the product was at a high level ($\bar{x} = 3.80$, $SD = 0.39$), respectively.

For the qualitative research results, it found the research team found an important problem in the management of the community enterprise as in the interview as follows: "I followed the process based on the policy of the enterprise, but at the same time, it can raise awareness of the Ban Na Ket Farm Women Community Enterprise inevitably that category product needs to reduce costs in terms of costs and also aware of the product control of environmental friendliness." In addition, the important identity of the product was found in the area of "Ban Na Ket Enterprise which has taken into account in raising awareness of products that are a variety of rice or other methods that make it different and also needs to create awareness in the planning of operating costs in business for enterprises to remain sustainable." As for product management guidelines, someone suggested that "from our participation in the creation of Ban Na Ket farm women community enterprise, it is a group that is aware of the product in using and creating enthusiasm in solving problems, i.e. 1) creating awareness of rice utilization for the benefit and least loss of rice; 2) creating awareness of production from the beginning to the downstream for utilization and to the needs of the farm women group; 3) building awareness of environmental preservation in parallel with operations to avoid negative effects on the environment". "Moreover, I thought that building awareness and participation of every sector can be used to develop or integrate rice products or change of packaging to protect the environment. They are all important factors throughout the operation of community enterprises."

It can be concluded that creating a network organization to participate in helps to strengthen the community enterprise as same as Ban Na Ket that I had a chance to get involved and was a representative of the network organization to expand distribution channels which can have a development process. It includes namely 1) innovation development or technology to blend in to achieve modern changes but under the control of the environment, 2) Product distribution channels can use any medium or online process to bring about the learning process and communication through channels, 3) In addition, in this era of covid, I see that there should be easy delivery or consumption through compact management via mobile phone, 4) creating value and importance following the needs of novelty, consumers with a variety of flavors, and packaging that can be reused, etc.

2. Environmentally friendly product management process of Ban Na Ket farm women community enterprise, Khok Pho District, Pattani Province

Table 2 Environmental-friendly product management process of Ban Na Ket farm women community enterprise, Khok Pho District, Pattani Province

Environmentally friendly product management process	\bar{x}	S.D.	Level of Opinion	No.
Strength	4.10	0.33	High	3
Weakness	4.04	0.42	High	4
Opportunities	4.02	0.48	High	5
Threats	4.14	0.36	High	2
Internal	3.91	0.51	High	6
environmental	4.20	0.21	High	1
factor				
External				
environmental				
factor				
Total	4.11	0.36	High	

Environmental-friendly product management process overall found that the opinions were at a

high level ($\bar{x} = 4.11$, $SD = 0.36$). When considering each aspect found that it was at a high level in all aspects which were in order from the highest to the lowest mean as follows: External environmental factor, opinions were at high level ($\bar{x} = 4.20$, $SD = 0.21$), followed by obstacles was at a high level ($\bar{x} = 4.14$, $SD = 0.36$), Strength was at a high level ($\bar{x} = 4.10$, $SD = 0.33$), Weakness was at a high level ($\bar{x} = 4.04$, $SD = 0.42$), Opportunities was at a high level ($\bar{x} = 4.02$, $SD = 0.48$), and Internal environmental factor was at the high level ($\bar{x} = 3.91$, $S.D. = 0.51$), respectively.

Product development section overall, most of the interviewees had opinions in the same direction as follows: 1) In rice products, production standards should be suitable for consumers and do not harm the environment; 2) There was an audit from the government and private agencies according to the framework of the policy plan and the definition of the correct process for consumption and community enterprises as an example for other groups; 3) There was an integration of member groups in the areas of planning, problem analysis, operations, control, monitoring, and evaluation to provide the product development accurately and timely correction; 4) There was a management of the production process and exports with standards under the correct procedures and production processes base don the project of the community enterprise, and 5) the use of information technology for development or adoption to speed up the delivery.

3. Management affecting the environmentally friendly product management process of Ban Na Ket farm women community enterprise, Khok Pho District, Pattani Province

Analysis of management factors affecting environmentally friendly product management process applied One-Way Analysis of variance (ANOVA).

Table 3 Analysis of management factors affecting environmentally friendly product management process (SWOT Analysis)

management factors affecting environmentally friendly product	Strength		Weakness		Opportunities		Threats		F	Sig
	\bar{x}	SD	\bar{x}	SD	\bar{x}	SD	\bar{x}	SD		
1. Product	3.66	0.49	3.72	0.61	3.50	0.43	4.07	0.60	7.57	0.00*
2. Price	3.93	0.53	3.67	0.52	3.51	0.33	3.63	0.40	9.43	0.00*
3. Place	3.89	0.24	3.86	0.22	4.15	0.51	3.82	0.20	21.15	0.00*
4. Promotion	3.65	0.43	3.64	0.49	3.99	0.27	3.75	0.31	4.08	0.00*
5. People	3.74	0.40	3.80	0.25	3.62	0.34	3.69	0.22	3.30	0.01*
6. Process	3.61	0.49	3.41	0.42	3.73	0.27	3.58	0.40	7.59	0.00*
7. Physical Evidence	3.73	0.43	3.50	0.30	3.90	0.36	3.69	0.38	5.73	0.00*
Total	3.71	0.15	3.69	0.09	3.79	0.16	3.73	0.14	5.90	0.00*

* Statistically significant at .05 level

The results of the analysis of management factors affecting the environmentally friendly product management process (classified by SWOT analysis) were different overall and

when considering each aspect, it found that every aspect was different with statistically significant at the level of 0.05.

Table 4 Analysis of management factors affecting environmentally friendly product management process

Production factors affecting environmentally friendly product	Internal environmental factor		External environmental factor		F	Sig
	\bar{x}	SD	\bar{x}	SD		
1. Product	3.81	0.58	3.71	0.54	1.79	0.07
2. Price	3.54	0.43	3.79	0.51	-5.26	0.00*
3. Place	4.01	0.39	3.87	0.25	4.26	0.00*
4. Promotion	3.64	0.49	3.76	0.41	-2.60	0.01*
5. People	3.69	0.38	3.68	0.33	.11	0.91
6. Process	3.59	0.38	3.55	0.45	.83	0.41
7. Physical Evidence	3.68	0.34	3.75	0.46	-1.80	0.07
Total	3.71	0.14	3.73	0.15	-1.57	0.12

*Statistically significant at .05 level

Analysis of management factors affecting environmentally friendly product management process (Classified by analysis of the environment) overall was different and when considering each aspect, it found that in terms of price, place, and promotion were significantly

different at 0.05 level and people, process and physical evidence were not significantly different at the 0.05 level.

4. Environmentally friendly product management model of Ban Na Ket farm women

community enterprise, Khok Pho District, Pattani Province

The results of the analysis of marketing promotion data of community enterprises by finding the mean and the standard deviation show the results of the analysis in the fifth table.

Table 5 Marketing Promotion Model of Ban Na Ket farm women community enterprise, Khok Pho District, Pattani Province

Marketing Promotion Model of Ban Na Ket farm women community enterprise, Khok Pho District, Pattani Province (Overall)	Level of opinion			
	\bar{x}	S.D.	Opinion	No.
1. Product quality development	4.10	0.34	High	2
2. Development of packaging to suit the product	3.62	0.45	High	4
3. Developing product styles to suit the target group	4.31	0.11	High	1
4. Creating added value for products value level budget	3.33	0.65	Moderate	5
5. Creation of new products by integrating local wisdom with modern technology used in the production process	3.21	0.97	Moderate	6
6. Development of product characteristics such as color, smell, taste, and texture	3.97	0.52	High	3
Total	4.03	0.64	High	

Marketing Promotion Model of Ban Na Ket farm women community enterprise, Khok Pho District, Pattani Province, overall was at a high level ($\bar{x} = 4.03$, S.D., = 0.64). When considering each item, it found that there were four opinions

at a high level, namely product development to suit the target group, opinion was at a high level of ($\bar{x} = 4.31$, S.D. = 0.11), followed by product quality development was at a high level ($\bar{x} = 4.10$, S.D. = 0.34), the development of product characteristics such as color smell, taste, and texture was at a high level ($\bar{x} = 3.97$, S.D. = 0.52), Development of packaging to suit the product was at a high level ($\bar{x} = 3.62$, S.D. = 0.45), creating added value for the product was at a moderate level ($\bar{x} = 3.33$, S.D. = 0.65) and Creation of new products by integrating local wisdom with modern technology used in the production process was at a moderate level ($\bar{x} = 3.21$, SD = 0.97), respectively.

As for the product development model, there should be an initiative from a group of enterprises that can bring the integration of the group to a novelty. In addition, enterprise groups should take into account the principles of responding to consumer needs using a hygienic production process along with using a production group who have knowledge and understanding about that production. There should be an initiative to bring natural products or local raw materials to produce more benefits. The logo should be modified or letters to be prominent, and interesting to allow consumers to see the strengths of the product. There should be channel development by expanding channels through various online media to increase the number of customers. Enterprise groups should create knowledge groups for the development of new things for the community that has to be learning all the time to create more new products and to organize activities or training in the use of raw materials and learning to use production technology to improve quality.

Discussions

The results of the product development capability analysis revealed that the development capability overall was at a moderate level ($\bar{x} = 3.32$, S.D. = 0.39) including the creation of environmental awareness, and the opinion was at a high level ($\bar{x} = 3.67$, S.D. = 0.35), followed by public participation was a moderate level ($\bar{x} = 3.21$, S.D. = 0.42),

integration from diversity was at a moderate level ($\bar{x} = 3.17$, S.D. = 0.50), and the building of the awareness was at a moderate level ($\bar{x} = 3.08$, S.D. = 0.57), respectively. It is consistent with Kritsana Dararung (2017) who studied "Development of product and market strategy for Ban Kao Lam Community Enterprise, Nakhonsawan province. research. (2017 (Research has found that the overall opinion of consumers towards packaging brands and product labels is high. marketing strategy of Ban Laem Community Enterprise Nakhon Sawan Province". It revealed that in general, opinions of consumers over products, product packing, and product labels were at a high level. The strategy of marketing plan for Ban Kao Lam Community Enterprise in Nakhonsawan Province consisted of: Active strategies which are: 1) Frequent participation in product exhibition fairs., 2) Seeking cooperation with the public sector and universities to develop products for "Modern Trade", 3) Expansion of business in the fields of "Spa" and "Hotel" business, and 4) Development on marketing operation 4.0 through Social Media and Digital Marketing. Strategy for improvement are: 1) Improvement on product packing, and product logo, as well as increasing the diversity of packing forms, 2) Building of "Brand online" through Social Media. 3) Develop the potential of personnel, to be able to meet the demand of the market. Strategy in terms of prevention: 1) Conducting of study on the demand of consumers as well as product strategy of "Modern Trade", and 2) Making development on new products to meet and to be compatible with the demand of the market. As for strategy in terms of coping with the present situation, it would be to promote more study on this matter and make study tours, providing occasions for experience exchange to personnel.

The results of data analysis on rice product development revealed that rice product development overall was at a moderate level ($\bar{x} = 3.52$, S.D. = 0.30). When considering each item, it found that grouping and mobilization of members was at a high level of opinion ($\bar{x} = 3.47$, S.D. = 0.11), followed by the export process of enterprises was at a moderate level ($\bar{x} = 3.39$, S.D. = 0.39), and the establishment of

production standards of rice products were at a moderate level ($\bar{x} = 3.13$, S.D. = 0.41), respectively. This is consistent with Anongnat Kaewpaitoon and Panya Prombut (2020) who studied "The process of creating quality and value of community enterprises' products in the central region". The researchers found that: 1) The result of studying the content of community enterprise's products of four community enterprises composed of Baan Bangdue Rice Transforming Community Enterprise, Fakklong Farmer Rice Transforming Community Enterprise, Baan Nongwan Rice Transforming Community Enterprise, and Baan Donwai Rice Transforming Community Enterprise. It showed that all four community enterprises have been managed in the aspects of participating, producing, and marketing. 2) The result of the development process of creating quality and value of community enterprise's products of all four community enterprises was that (1) the development of the value of rice products, the revival of culture and value on wisdom, (2) development on value-added on marketing, packaging, and distribution channels. 3) The result of analyzing the process of creating quality and value of all four community enterprises, the weakness was on the label which was neither clear nor attractive to the consumers. To create value, the researchers have developed a new label that was more nice and impressive with a QR code for a clear distribution channel of the products.

The results of the analysis of information about the marketing promotion of community enterprises revealed that the marketing promotion styles of Ban Na Ket farm women community enterprise, Khok Pho District, Pattani Province, overall were at a high level ($\bar{x} = 4.03$, SD = 0.64), Product development forms to suit the target group, there was a high level of opinion ($\bar{x} = 4.31$, SD = 0.11) and the creation of new products by applying local wisdom together with modern technology in the production process was at a moderate level ($\bar{x} = 3.21$, S.D. = 0.97), respectively. It is consistent with the research of Apsorn E-sor et.al (2020), who studied "the development of distribution channels for OTOP products in Yala province under the royal project for local development,

Yala Rajabhat University". The results of the research showed that 1) Present distribution channels of Yala province OTOP products: Most were indirect distribution channels, accounting for 70% of total distribution channels—selling through retail grocery shops, minimarts, and souvenir gift shops around tourism attractions. For direct distribution channels, sales were made through booths managed by public sector units or networks, emphasizing communication about products, production process, product utility, business study tour visitors, and so on. Regarding preparedness for online distribution channel development, most were well prepared in aspects of finance, product, and certification mark, manufacture, and transport, except for the aspect of knowledge in online media communication which was short in certain group chairmen, assignments were then given to of marketing group members to be responsible instead. 2) Development of Yala province OTOP product distribution channels: Planning and online communication works were manipulated and posted through media such as a webpage, Facebook, and Line regularly and continually 1 time/week, with varieties of content including product stories, promotion, entrepreneur, business, customer, health, trend, festival, epigram, humor, and so on, in formats of a picture, banner, narrative video, or integration. Results of online distribution channel development helped entrepreneurs in sales increment by 25- 85% with gross profit accounting for 30%, while project participants' satisfaction was at a high level, of which satisfaction was about knowledge obtained, operation of a research team, and increase in sales.

The results of the analysis of product competency factor data revealed that the aspect of raising public awareness and participation was related to the marketing promotion of Ban Na Ket farm women community enterprise, Khok Pho District, Pattani Province significantly different at the 0.05 level and the environmental awareness and diversification had no relationship with the marketing promotion of Ban Na Ket farm women community enterprise, Khok Pho District,

Pattani Province. This is consistent with the research of Amornrat Anantawaraphong (2014) who studied the product development approach of the Banghuosueo community, Samut Prakan Province following the Sufficiency Economy Philosophy". The research results showed that the Product development requirements of the community were divided into three groups: the first group was packaging group: the Betel tea, Thai herb balls, Star fruit soap, and Asian pigeon wings flower juice. The second group was the product group: Thai herb body massages balm and the third group was the media for public relations group: logo design for public relations as a tiger's head symbol. The satisfaction of product development in all six kinds showed that Thai herb balls, Star fruit soap, Thai herb body massage balm, and logo design were highly satisfied while the Betel tea and Asian pigeon wings flower juice were the highest level. The results of the critical meeting on the community development approach found that the participants of the meeting to vote on the possibility of bringing further development to product packaging were the Betel tea package, ready-to-drink Asian pigeon wings flower juice package, and Thai herb balls package. Moreover, community members were demanding training products for Thai herb body massage balm to be used in Banghuosueo massage healthcare enterprises to reduce the cost of buying a massage balm by using locally available raw materials and can be sold to customers who use the service as well. Furthermore, they can apply the knowledge gained to be a guest speaker for Non-formal education, distributed to other communities of interest. The sharing between communities creates a network for sustainability.

The results of the analysis of data on rice product development factors revealed that the members' group and mobilization of the community enterprise were related to the marketing promotion of Ban Na Ket farm women community enterprise, Khok Pho District, Pattani Province significantly different at the 0.05 level and the setting of community enterprise standards had no relationship with the marketing promotion of Ban Na Ket farm women community enterprise, Khok Pho

District, Pattani Province. This is in line with the research of Chusiri Senchanthichai (2017), who studied the guideline for the development of the community enterprise in the Food Processing Group, Ban Phue District, Udon Thani Province". The results were as follows: 1. Picture of the problem of community enterprise marketing for food product processing group, Ban Phue District, Udon Thani Province, overall was at a high level. 2. Determination of

development guidelines found that market development guidelines of community enterprise in the Food Processing Group were at a high level in all seven aspects, there were a total of twenty-seven guidelines. 3. The assessment of the suitability of the guideline for the development of the community enterprise in the Food Processing Group had a level of suitability more than the criteria set for every approach.

Table 6 Development of rice products for marketing promotion of Ban Na Ket farm women community enterprise, Khok Pho District, Pattani Province, Participatory Action Research (PAR)

Development of rice production for the promotion of community enterprise	Participatory Action Research (PAR)
1. Product development capability	1. The researcher studied the context of the study area, 2. The researcher studied the general condition of Ban Na Ket, 3. The researcher and those involved studied the ability of the subject group to manage the production throughout conducting research, 4. The researcher observed the participatory process of product development and adoption for the benefit of the enterprise group.
2. Rice product development of Ban Na Ket Farm Women Community Enterprise	1. The researcher and those involved had analyzed the problem of the product of the community enterprise. 2. The researcher created a learning process together through day-to-day conversations between the group to achieve innovative and interesting product development. 3. The researcher and those involved had an assessment of the production feasibility of rice to conform to local products. 4. The researcher created the process under the framework of various measures to ensure that the product is of good quality and meets the needs of the research conducting period.
3. Product development model from rice for promotion of Community Enterprise Marketing	1. The researcher organized a participatory action activity which led to the process of planning to achieve a product development model. 2. The researcher and those involved created a process that has changed from the original by using Innovation and technology to foster new learning. 3. The researcher and those involved had to monitor and evaluate the development from primary products to the tertiary process to consumers by checking the production process before sending it to consumers. 4. The researchers and those involved had improvement and support when problems and obstacles occurred while working.

Source: Researcher

Body of knowledge

In this research "Environmentally Friendly Rice Product Management Model of Ban Na Ket Farm Women Community Enterprise, Khok Pho District, Pattani Province, Thailand", the researcher has processed and analyzed the data from context, product, the process to the product

of enterprise group. In addition, the researcher can also transfer it as a body of knowledge for further development and knowledge enhancement to arrangement and creation of innovations as activities to expand the channels of enterprises to step into the present era as a new body of knowledge as follows:

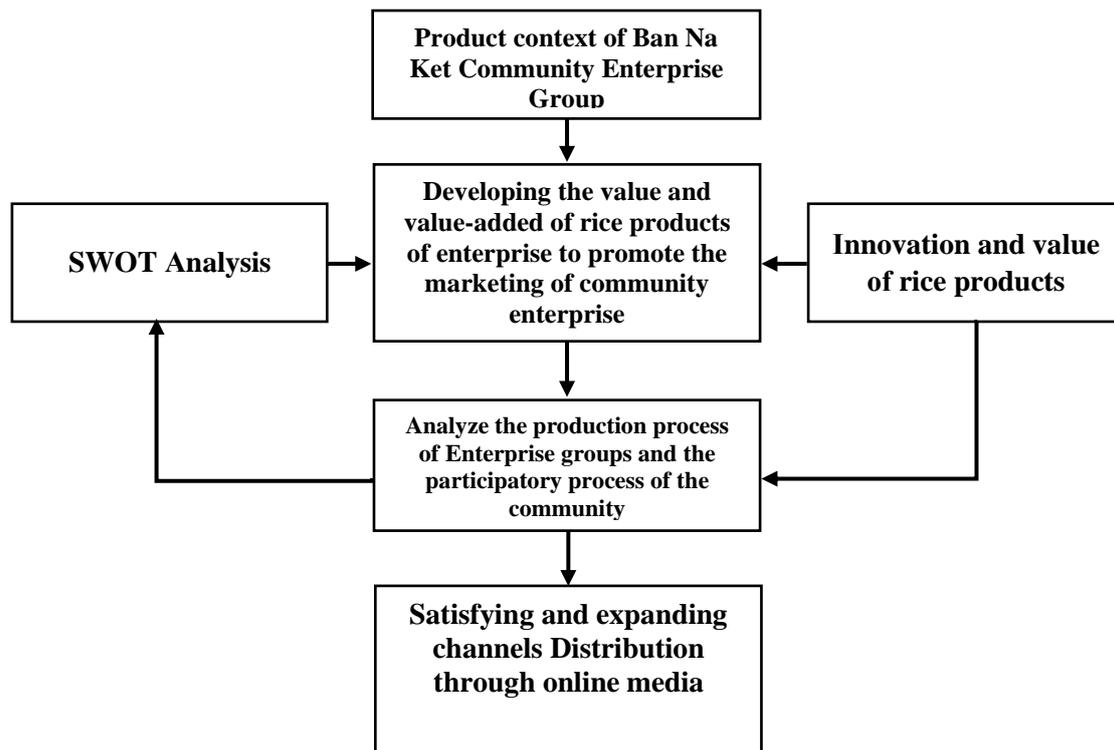


Figure 2: New Body of knowledge

Summary of the new body of knowledge, development of rice products for marketing promotion of Ban Na Ket Farm Women Community Enterprise, Khok Pho District, Pattani Province gain knowledge to value-added of the processed rice products. The distinctive label has an attraction to the customer that is different from the original product label. There is a distribution channel via a QR Code, Facebook, and Line of the Ban Na Ket Farm Women Community Enterprise Group. It can analyze the process by SWOT analysis to create a guideline for further promotion causing members of the Ban Na Ket Farm Women Community Enterprise to participate in the development of rice processing products for benefits and unity values in local community enterprises. As for the product value development of the rice processing community enterprise group, the researcher has restored the culture and local wisdom of traditional farming of the old generation to develop rice products in the present and using innovations in production in a variety of ways according to consumer demand. The guidelines for developing rice processing products in the form of a new brand that is outstanding and attractive to consumers or buyers and can expand distribution channels

more easily. Therefore, it results to increase revenue from product sales to the community enterprise group in the local community, and network groups to create a career with potential. In addition, it can be used in other community enterprise groups to add value, innovation, and use of technology through various media in other local communities, etc.

Recommendations

1. Policy recommendations: The relevant government agencies are the Provincial Agriculture Office and Provincial Commerce should provide a budget for the production of processed rice products for community enterprises. Government agencies should also provide training which is the creative activities to add to the products of the community enterprise group, extending knowledge to the group and its members by recruiting trainers with knowledge and abilities to provide practical training to be able to bring new knowledge to create rice processing products of local community enterprises.
2. Workshop recommendations: This research found that consumer or buyer behavior is an

important factor. There should be a survey of the needs of Buyers/Consumers up-to-date, and explore the needs of the group to analyze the production process in the marketing promotion development of Community Enterprise. There should be organized the product processing process to be outstanding, attractive, good quality, and meet the requirements of environmental protection. There should be promoted knowledge and understanding through learning media to expand marketing channels through online media to increase income for community enterprises.

3. Recommendations for next research: Community enterprise groups within the community should adopt the learning to use technology tools, online media, and websites to help create value-added for processed rice products. Product value-added in the appearance of the packaging and the label can be attractive to buyers and consumers which is the target group to travel to the local community enterprise group leading to the development of channels to generate income for the sustainable community.

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