

Community Product Development from Tilapia with Creative Thinking in Samutsakorn Province, Thailand

Assistant Professor Dr. Sudthanom Tancharoen¹

Abstract

This research aims to support community product development from Tilapia with creative thinking in Samutsakorn, and to increase the value of new creative products made from Tilapia in Mueang Samut Sakhon District, Samut Sakhon Province. The qualitative study using interviews and focus groups was implied in participatory research process with 60 key informants from community enterprises, public sector, and local officials. From the content analysis, the results showed that key informants from 5 community enterprises in BanKho Subdistrict summarized competitive problems and wanted to increase the value of products made from tilapia. By bringing knowledge from local wisdom to prepare fresh fish meat, clean ingredients such as sweet peppers, chili peppers and pineapple along with oregano, tomato sauce, and mozzarella cheese, to transform into “Hawaiian Tilapia pizza” as a value-added modified product. The administrators and officials from government agencies and subdistrict administrative organizations were very satisfied with the taste of the tilapia pizza made from sliced bread and roti dough.

Keywords: Community Product, Product Development, Tilapia, Creative Thinking

Introduction

Fast food is popular worldwide because of quickness, convenience, and competition in everyday life. These stores therefore add a variety of menus and increase nutritional value. Yum Restaurants International (Thailand) Co., Ltd. is Fast Food is popular worldwide because of quickness, convenience, and competition in everyday life. These stores therefore add a variety of menus and increase nutritional value. Yum Restaurants International (Thailand) Co., Ltd. is a company that owns 2 brands of food service restaurant franchises: 1) KFC is a Fast Food restaurant that sells its main product, fried chicken, emphasizing on freshness and variety of menus. Create alternatives for consumers who love to eat chicken. There is also a menu of burgers, rice, side dishes, desserts, appetizers, and beverages. 2) Pizza Hut is a Fast Food restaurant that Selling about the main product is Quality Italian Pizza and the right taste by giving importance to the development of new pizzas or bringing popular dishes from different countries for Thai people to eat (Pianpitak, 2012). Including Burger King under Minor Food Group has opened a new branch. The new look is the first branch in Asia at Shell Westgate in Stand Alone format and has expanded many more branches in Esso gas stations, PTT and Bangchak both in Bangkok. and provinces continuously Burger King's parent company in the US set a goal that all Burger outlets Kings around the world will have a complete makeover by 2030 after the COVID-19 pandemic, focusing more on delivery, drive-thru, pick-up and Go Mobile (Chokkerd, 2020) and the Pizza Company is considered the leader in pizza delivery in Thailand that offers home delivery services and service at the store want to expand the customer base to the working age group and new generation with high purchasing power Customers want. More interested in ordering food for delivery due to more convenience, the company therefore seriously implements the Customer Loyalty Program by using big data to collect data and applying it to The Pizza Company Rewards Program where customers can collect points and get many more benefits and has promoted The Pizza Company Rewards through Facebook and applications in 2021.

¹ Entrepreneurship, Faculty of Management Science, Bansomdejchaopraya Rajabhat University

Email: sudthanom.t@bsru.ac.th

With the need for convenience in everyday life, the Fast Food business has expanded all over the world. Consumers like to order food and have it delivered quickly. The Fast Food consumption trend has made all major multinational brands come up with ways to generate sales by building brand loyalty. While community businesses can enter the market by developing their strengths of Thai local wisdom to be selling points. Especially local ingredients combine with local wisdom and mix with a comfortable dining style.

Due to production and distribution problems due to lack of manpower Lack of product development knowledge Not many distribution channels Guidelines for the development of internal factors of community businesses or community enterprises must develop products to be outstanding unique and diverse Add a variety of distribution channels (Nithichaiyanan & Chidchob, 2022, Tancharoen, 2020)

Based on preliminary surveys in Ban Kho subdistrict, Samutsakorn province, leaders and members of the community agreed that the problem of COVID-19 pandemic has impacted on the lives and well-being of mankind. In addition, global warming is a big problem that affects humanity the most simultaneously. Especially, hot weather and rising water temperatures also affect the breeding and growth of aquatic animals. Community enterprises can develop themselves with local wisdom and Thai cooking skills combined with knowledge of creative thinking processes by applying the benefits of Thai vegetables, fruits, and herbs with international food items to satisfy consumers who prefer fast food and convenient Fast Food or snacks such as pizza or burger. This area has a great opportunity to develop tilapia meat that is farmed or bought locally to make pizzas or burgers in combination with home-grown vegetables, fruits, and herbs. Most freshwater fish farmers face competition problems.

Nile tilapia is a fish that is widely popular in Thailand. It originated from freshwater fish species in the family Tilapia (the scientific name is *Tilapia nilotica* Linn). Emperor Aki Hito when he was crown prince of Japan, he bowed down to His Majesty King Rama IX of 50 on March 25, 1965. He bestowed the name of this fish in Thai as "Pla Nil", which means that it is black and is pronounced accordingly. The first syllable of the species name is nil from nilotica. In 1966 His Majesty King Rama IX bestowed 10,000 cultured fish from Chitralada Garden to the Department of Fisheries to propagate and distribute to the people for raising and breeding in all regions of the country (Department of Fisheries, 2019).

The preliminary results found that Ban Kho Subdistrict has many tilapia farming communities and Samut Sakhon Tilapia Farming Community Enterprise. The fact that fast food is popular and in line with the needs of consumers who want convenience, speed and good health is the reason for the conclusion of a discussion with members of the community enterprise in Ban Koh Subdistrict to develop tilapia as a snack. It is convenient, fast, and good for health, adding more value to tilapia than traditional processing. The researcher wants to support freshwater fish farming according to the initiative of His Majesty the King Rama IX, especially members of community enterprises in Samut Sakhon Province. Especially, members of community enterprises in Samut Sakhon province which is the target area for spatial local development of Bansomdejchaopraya Rajabhat University. This research therefore aims to increase creative thinking skills in the community to elevate community products to international standards that support sustainable self-reliant communities.

Research Question

How can community members increase the value of processed tilapia as a nutritious and healthy fast food?

Research Objectives

1. To support community product development from Tilapia with creative thinking in Mueang Samut Sakhon District, Samut Sakhon Province.
2. To increase the value of new creative products made from Tilapia in Mueang Samut Sakhon District, Samut Sakhon Province.

Literature Review

Concept of Creative Thinking

From the conceptual group of 2 applicants, the researcher is requested to acknowledge and must continue to comply with the conditions of the creative thinking process and the research team based on the rest of the answers will come to a common conclusion that will make the community-oriented product Create a total of 6 things as follow:

Step 1 Finding the truth of the problem or need

Step 2: Exchange ideas to find alternatives or solutions.

Step 3: Application of knowledge and creative thinking

Step 4: cost and revenue evaluation

Step 5: Accept the findings.

Step 6 Production planning and presentation of new things

Concepts of Product Development

Tancharoen (2019) explains that "New product" means a product that has been developed or renovating the original product of the business to have better features than before which can be divided into 3 types: innovative product (Innovated product) refers to a new product that has been researched and developed. Get creative for the first time. Modified product means an existing product that has been modified in some way. Make it a new product to the market again. And a Me-too product is a new business product that mimics a competitor's product that is already on the market.

Basic Concept of Product Development

1. Fuzzy Front End (FFE) Method: states the steps to be followed but the sequence of the steps will be decided by the management or marketing team depending on the type of product or service which will be developed. The five steps of FFE method are 1) identifying the design criteria: this step brainstorming of different ideas is conducted regarding the probable new products or services and a prospective product idea is identified from them. Only then an appropriate product development strategy can be applied. This step consists of analyzing the Idea, concept generation, prototyping, product development step ensures that the identified concept of the product has been assembled well with business value to make business sense, 2) design thinking method has repetitive steps designed to be followed in a certain order for the purpose of promoting collaboration and creativity. The five steps of design thinking method are to empathize with the problem by learning about it from different points of views, defining the area and actual characteristic of the problem, generating Idea, prototyping and testing, 3) development Method for Manufactured Goods has eight important steps: generating ideas, screening ideas, developing and testing concept, business analysis/marketing, feasibility study/analysis, and product development/Product technical design, market testing, commercialization and distribute the final product.

2. Design Thinking Method

3. Development Method

Product development is an ever-changing process depending on the nature of the product or the manager who manages the process. Some organizations have a dedicated team that conducts research and tests on new products, while smaller organizations may outsource the new product development to a marketing agency.

The research team defines the design criteria and the product development process with design thinking that uses repetitive steps with procedures to follow the FFE method to foster collaboration and creativity.

New Product Development Process

Handfield, Ragatz, Petersen and Monczka (1999) describe the new product development process as having five key steps:

1. Seeking new product ideas: is idea generation from collecting ideas, develop and test ideas In the early stages of product development, it is constantly changing. After the business has come up with a product idea, the idea must then be scrutinized so that it can be tested in the market.

2. Moderation of thoughts or initiation screening: is the development of marketing strategies. to introduce products to the market This will require moderation of the behavior of the target market. Product positioning plan and sales of market share and profit for the first few years. Product pricing plan. distribution strategy and marketing budget in the first year Sales plan and long-term profit target and marketing mix strategy.

3. Business analysis: should be considered in business analysis are as follows:

3.1 Relationship with existing product lines, because the new product should be related to the existing product line of the entity. Otherwise, it may increase the cost of the business.

3.2 Cost of developing and introducing new products: the cost of product design and development, market research, marketing promotion, licensing, and additional production machinery will be considered.

3.3 Competition and market acceptance: when the customer has accepted the product businesses must try to keep their customers. Otherwise, customers may change their mind to buy products from competitors.

3.4 Sales forecast cost and profit forecasting: to know if sales are high enough to generate profits that are satisfactory or not. A customer's purchase can be a repeat purchase, a first purchase, or a purchase for someone else. Businesses must know who their customers are. What are your buying behaviors?

3.5 Personnel and facilities of the company: it is necessary to have personnel who have the skills, abilities, and facilities for personnel sufficient to work.

4. Product development: is the process of engineering design to bring what is described in written word Drawings or product designs to be a prototype that will allow customers to see the features of the product. After that, laboratory and field testing should be carried out to ensure that the product is marketable.

5. Market testing and introducing products to the market: must consider choosing a period to enter the market market scope Target market or target audience and marketing strategy during the referral period. The benefits of referrals are as follows:

5.1 Make forecasting future sales more reliable.

5.2 To test different marketing schemes based on five principles of naming conventions are to easy to pronounce, describes the appearance, can be protected by law, convenient for marketing promotion, can be applied to multiple product lines.

Fundamental Knowledge in Creative Thinking: Promoting learners' creative thinking should emphasize the development of their original thinking, artistic imagination, aesthetic, and arts appreciation, all of which have an impact on quality of life. Type of creativity can be divided into 5 categories: invention, synthesis, changes, expansion of scope, and plagiarism. It can also be divided according to different branches of science, namely Art, Science, and folk wisdom. As for the benefits of creativity, it helps create Fun, develop the

brain to be smart and sharp. build confidence Generate new ideas, always create a way to make money, create new business opportunities, and new products (Vorawattanachai, 2022).

Key processes of creativity: Insight includes three principal processes: (a) selective encoding is the separation of relevant from irrelevant information; (b) selective comparison is the ability that to link new information with the previous knowledge; and (c) selective combination is the capacity to put disparate pieces of information together in a novel and useful way. In addition, Sternberg (2005) emphasized that the principal keys of creativity are novelty, unusualness, and non-familiarity.

Creativity is defined as the skills and attitudes needed for generating ideas and products that are (a) relatively novel (original/unexpected); (b) high in quality; and (c) appropriate to the task at hand (Almeida, Prieto, Ferrando, Oliveira, & Ferrándiz, 2008).

Adding value to new product

The development of a value proposition will ensure that the new product or service is centred around the customer's value and needs. Ultimately, this will help you to assess how to make them more compelling, and how to add value with three key steps of "Understand your customers better", "Segment your customers" and "personalise your communications and offers (Oates, 2022).

The creative thinking process of the community and the research team based on the Thai context. Resulting in suitable variables for jointly thinking and developing creative community products, including 5 steps, which are 1) finding the truth of the problem or need, 2) exchange ideas to find alternatives or solutions, 3) application of knowledge to find new development approaches, 4) cost and revenue evaluation, and 5) production planning and presentation of new things. (Tancharoen, 2022)

From concepts and principles of creative thinking and adding value to new products, this leads to the creation of a research conceptual framework as shown in figure 1.

Research Conceptual Framework

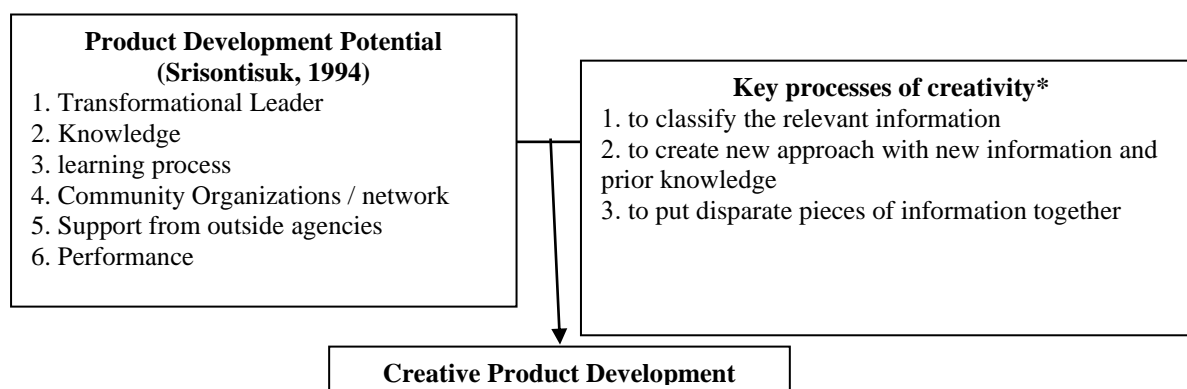


Figure 1 Research Conceptual Framework

* The results of the review of concepts, theories and related research results are used to formulate a research conceptual framework. The variables in the study were based on community potential factors. together with the important elements of community potential that indicate 6 areas of strength which arise from the synthesis of concepts, theories, and research results about the potential development of community enterprises.

Methodology

Population in Ban Kho sub-district, civil registration data, a total of 8 villages, about 10,405 people (Ban Kho Subdistrict Administrative Organization, 2020).

Samples and key informants: quantitative data were collected from the samples who willingly participated in the research process. By means of cluster sampling, on average, 50 people per village, a total of 8 villages, totaling 400 people. Covering the working age range of 30-70 years, every occupation in every village. according to the convenience and willingness of the sample and interviews with key informants through a recommendation (Snowball Sampling) such as district chiefs, village headmen, administrators, and employees of Ban Koh Subdistrict Administrative Organization. Head of Community Development School administrators, teachers/professors, and entrepreneurs in Ban Ko sub-district, total 20 people.

Data collection: This research is participatory action research. Community enterprise's members joined in thinking, analyzing, planning, and operated on their own in the production process until the presentation. The research team shared knowledge and advised on how to adjust ingredients, packaging, and product labels.

Data Analysis

Quantitative data analysis using descriptive statistics to describe samples' characteristics and factors affecting the participation in community product development: percentage, mean, standard deviation. The influence of variables on the participation of all sectors with Correlation and Multiple Regression were tested and analyzed the relationship between human resource development factors and innovative product development that affect the quality of life of community members participating in the research process. Human resource development and product development were used as predictive variables for multiple regression analysis method.

Qualitatively, content analysis was used to analyze data obtained from focus group discussions and interviews about the outcomes and impacts of participation in the civil society participation process in terms of knowledge, competence, relationships, income. and sustainability career development as well as problems and obstacles in product development by examining the data source triangulation: interviews with executives, community leaders, community enterprises' presidents and members at different locations and different time periods. Data from interviews, group discussions and observations were compared and concluded the consistency of the data.

Conclusions and Discussions

After a research team consisting of consultants, researchers and students from the Entrepreneurship Program explored information about farming in Muang Samut Sakhon District. This shows an opportunity to increase the value of tilapia that many villagers and community enterprises raise in Ban Kho sub-district. When surveying villagers' opinions It was agreed that tilapia meat could be processed into healthy food. Then the research team worked together to create a pizza recipe made from tilapia meat to taste the taste of Thai people. Thus, the idea of bringing fruits and vegetables that are readily available in the community and the main object of pizza was born. Until getting the ingredients of Thai-style Hawaiian pizza.

Executives and government officials and local government organizations' Leaders and community members attend meetings to hear research objectives, research process, product development approach with creative thinking to increase product value and participating in product processing training from local raw materials with creative thinking, totaling 60 people.

Reply to the research question: Members of the Ban Kho Subdistrict community can use their knowledge and skills in Thai cooking. Using raw materials consisting of tilapia meat, pineapple, bell peppers, chili peppers, combined with the pizza ingredients (tomato sauce, oregano, and mozzarella cheese) used in experiments for the public and local administration executives and officials Including people in the community, a total of 60 people. The result of experiments was found that veryone likes to be satisfied with the taste of Hawaiian pizza in Thai style. Nutritious and good for the health of consumers of all ages.

According to objective 1, to support community product development from Tilapia with creative thinking in Mueang Samut Sakhon District, Samut Sakhon Province.

Members of 5 community enterprises attended the meeting and participated in the production of Hawaiian Tilapia Pizza together with the research team. There are government executives and Subdistrict administrative organizations joining the tasting and commenting that the taste is good, the price is reasonable, and distribution should be planned according to the ability of the members and online marketing and distribution, the research team took care of it at the beginning.

From the first meeting and training courses to transfer knowledge of creative thinking leads to the development of tilapia pizza regarded as the development of people (human resource) and knowledge Including skills in thinking and combining Thai cooking skills with international cuisine It is an integration of knowledge from local wisdom with human resource management. both executives, community leaders who have shared their opinions and people in the community It has succeeded in creating new products to add value for community products. Tilapia pizza is considered a new product as a modified product. This is consistent with the concept of Tancharoen (2019) that a modified product is the development of one or more product components and then release them into the market.

According to objective 2, to increase the value of new creative products made from Tilapia in Mueang Samut Sakhon District, Samut Sakhon Province. Community members can easily prepare ingredients that are used in production, such as tilapia raised by the villagers on a natural diet, bread, roti dough, pineapple, oregano, and tomato sauce. The research team and community enterprise members join in thinking, analyzing, planning, considered as seeking new product ideas, thought scrutiny and analyzed the business by analyzing the cost of developing and introducing new products. with an easy-to-remember brand name, “SuperQ” according to the concepts of product development of Handfield, Ragatz, Petersen and Monczka (1999): seeking new product ideas, moderation of thoughts or initiation screening, business analysis by analyzing the cost of developing and introducing new products, and competition and market acceptance. In addition, using sliced bread instead of pizza dough is a creative idea that is in line with the popularity of Thai people. It's an unfamiliar novelty. The 60 key informants who participated in this study were very satisfied. This is consistent with the concept of Key processes of creativity which Sternberg (2005) emphasized that the principal keys of creativity are novelty, unusualness, and non-familiarity.

Every production process is clean. Safe from additives or preservatives. Fish, vegetables, and fruits used are beneficial to the health of people of all genders and ages. Including the taste was satisfied by all key informants. Therefore, we can be confident that this Thai-style tilapia pizza will surely satisfy consumers. This is in line with the research results of Nawarat Nithichaianan and Chidchob (2022) and Tancharoen (2020) that the guidelines for the development of internal factors of community businesses or community enterprises must develop products to be outstanding unique and diverse Add a variety of distribution channels Successful community businesses have consistently increased sales. It is bringing products from that local wisdom to sell to people outside the community to generate income for people in the community consistent with the research findings of Sastraruji & Dittawiron (2018).

According to the process of adding product value, stakeholders learned about the benefits of tilapia and made a decision on the type and ingredients of the product because “tilapia” has many special features such as eating all kinds of food such as water flea, algae, larvae of insects and small aquatic animals, there are benefits such as Omega 3 in amounts not less than deep sea fish, low in sodium can be eaten without fear of salty swelling Low in sodium can be eaten without fear of salty swelling, no fat, eating tilapia during weight loss considered as an alternative, muscle-building protein helps to repair worn out parts in the body well, good

natural collagen helps not get old fast. Because there is from nature, and good for the heart, prevents cardiovascular disease and heart disease. Because it is a fish without cholesterol or fat, the cause of diabetes, high blood pressure and heart disease. Tilapia Pizza is an imitation of the Hawaiian Pizza that Thai people like to eat. It is the result of creativity from reinvention with a synthesis of variations on ingredients combined with Thai flavors is the Thai favorite bread with pineapple, sweet chili, Oregano, and Mozzarella Cheese according to the concept of Vorawattanachai (2022) mentioned that type of creativity can be divided into 5 categories: invention, synthesis, changes, expansion of scope, and plagiarism.

Adding new product value through a value-adding process by understanding the customer. Segmentation of the target customers of the product. Develop communications and proposals in line with the concept of Oates (2022) for adding value with three key steps of “Understand your customers better”, “Segment your customers” and “personalise your communications and offers This makes the concept and product development successful in selling to people in the community and outside the community. There is a profit of 15-20 baht per piece, which is considered a good extra income for community members. In addition, the creative thinking process of the Thai community context is in line with the process of creative community product development of Tancharoen (2022) which consists of 5 steps, which are 1) finding the truth of the problem or need, 2) exchange ideas to find alternatives or solutions, 3) application of knowledge to find new development approaches, 4) cost and revenue evaluation, and 5) production planning and presentation of new things.

In the production process, participants shared knowledge of local wisdom in cleaning for preparing fresh fish meat, rinse the water with salt, slice the fish into small pieces about 1 cm. then, roughly chop ginger, galangal, lemongrass, kaffir lime leaves, garlic, and gently knead the fish, dry it before steaming. It is folk wisdom in using herbs to deodorize fishy smells and help increase the value of building immunity for the body with these herbs. in the process of making pizza Start by slicing the steamed fish into smaller pieces, slicing red and green paprika, capsicums, pineapples, along with oregano, tomato sauce and mozzarella cheese Combined with creative processes to add value into modified products.

Adding value to new products made from tilapia with creativity in Mueang Samut Sakhon District, Samut Sakhon Province by a strong research team comprised of academics and students of Bansomdejchaopraya Rajabhat University via classroom education, research, and academic service for developing a recipe for tilapia pizza before going to the fieldwork and creative packaging and product label design with community leaders and community enterprise members according to the concept of Siphai and Sinlarat (2018), which stated that Higher education and quality development of Thai graduates to solve the problems of a consumerist society educational management should therefore be creative and productive education. Thai education in the 4.0 era must be knowledge-seeking, research, academic service to society and leading society from the newly discovered body of knowledge. Thai higher education institutions should give importance to learning management that focuses on developing students to be able to create creative products.

limitation of this research

Since this research is participatory action research. Therefore, the limitation of the research was the lack of manpower who are members of the community enterprise. Because few members have enough time, most of them are elderly and middle-aged. Most of the members are farmers and hired workers who have full-time jobs and cannot participate in production. Must prepare more than 2 weeks in advance.

Recommendations

1. Community leaders and community enterprise presidents should work together to analyze and encourage people in the community to be members of community enterprises that

can have a stable career and income by co-developing creative products with a funding system and fair distribution of benefits.

2. Government agencies that supervise the development of community products and local government organizations should have community practical training programs in conjunction with community enterprises. To increase knowledge, understanding and practice about the processing of community products to be more modern, promote or support upstream, midstream, and downstream (supply chains), solving problems in manpower, finance, tools/raw materials, and management. All departments should formulate a roadmap to create opportunities for development in all four areas simultaneously.

3. Higher education institutions and researchers should develop research on human resource development and marketing to achieve their goals of "self-reliant communities" and "sustainable development" to make the community aware of the next generation who will develop their hometown for long-lasting happiness.

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