

A Model of Process for Product Development with Community Participation

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Abstract

This research aimed to 1) to develop the product design process of community participation 2) to evaluate the product design process of community participation. The method of this research compose of 3phases; Pre-research phase, Research phase and Monitoring and Evaluation Phase. The pre-research phase was composed of community selection, the integration of researcher with community, basic data community surveying, The Research phase were analysis and study of community product , define problem, the research design and data collection, the data analysis and presentation to community . The last phase was monitoring and evaluation Phase. The research tools were participatory observation form, project evaluation and activity evaluation, product design evaluation and the model of product design process. The results of this research found that the model of product design process named “ 3P Model” for the development of product design with community participation . There were 3 parts; 1.Planning 2. Product development and 3.Public relation of community. The results of the monitoring and evaluation process shown that the “ 3P Model” was suitable for 20 communities of 7 provinces in lower northern part of Thailand; Phitsanulok, Phichit, Uttaradit, Sukhothai, KamphaengPhet, Phetchabun and Tak in helping of learning organization in community between local people and researcher. The benefits of this model were the improve of the product development in product design, production, product retailing and more public relation in community.

Keywords: Model, Product Development, Community Participation

Introduction

Today the local community business needs to develop the quality and international standards for brand building and consumer trust. The development of each product is comprised of the community wisdom and culture, technology and innovation. These will increased the product value and decreased the barriers of price competition. The local producers have to define the target consumer and marketing position also with understanding consumer taste and consumer behavior. The consequences are the products that meet the needs of target consumers. Moreover, the OTOP producers need to develop the capacity of business operations for consumer trusts, business partners and financial institutions in term of standard and system such as imply the information technology, partnership networking.

The process TISI (Thai Industrial Standards Institute) provides 4 activities for of international standard for local products; 1) define the local product standards depend on criteria for product certification. Using the summary meeting or seminar of TISI or scholars' employment and public hearing before certified the product. 2) The accreditation of local products 'quality by taking the sample product and tested by TISI competent officials. The product has been approved and the TISI will certify the products and accreditation. 3) Develop the product producer's knowledge by training and advisory at local community. 4) Promotion and communication for product released by using various media such as radio and television broadcast, newspaper, advertising spot etc.

Including the direct and indirect method for motivation for example, community leader meeting, public relations of the local product project. Recognition of quality local product standard as well as the brand name products. (Thai Industrial Standards Institute, 2557)

The development model of this research designed the research methodology by using Participatory Research and Action Research emphasized on data analyzing of Qualitative research for solving the community problems.

The people in the community could involve and participate of every steps of the research as problem-learning process and people-centered development.

The PAR techniques similar to participatory observation in Anthropology study. The principles of participatory research process were community management and the community participation. The two combinations were benefit to the human development and community resource development and most efficiency development. The researcher duties were organizer and trainer to share research knowledge and skills to the community and careful for dominant community conscious. The benefits of this research would 1) help the community people’s ability in corrected thinking process with analysis. 2) Solve the community problems in resource management and good governance for quality of life in community.3) Get skills and experiences between research and community developer for community developing.

Research Objectives

1. To develop the product design process of community participation.
2. To evaluate the product design process of community participation.

Research Framework

The research framework used the guideline of community product standard development and implementation of “3 P model” toward community and product quality in figure1.

Figure 1: Research Framework



Methodology

1. Pre – Research Phase

1.1 Community Selection

The participatory communities in this research to implement 3 P model were 20 communities in lower northern part provinces in Thailand; Phitsanulok, Phichit, Uttaradit, Sukhothai, KamphaengPhet, Phetchabun and Tak.

Table :1Shown the Number of 20 Communities and 20 Products for Model Developing of the Product Design Process with Community Participation

Group name	Community Product
.1 Artificial flower ; cloth and mulberry paper Tambol Coke-saludAmphor Bang KratumPhitsanulokProvince	Artificial flower from cloth and mulberry paper decoration with glittering bead.
.2Product from banana fiber Tambol Pak-tokAmphorMuangPhitsanulokProvince	Book cover , calendar, house hold appliances and decoration
.3Small tiny Thai house model TambolAran-yikAmphorMuangPhitsanulokProvince	Thai house model fromteak wood
.4 Handy Craft Ban Klong-maplab Tambol Sri-pilomAmphor Prom- piramPhitsanulokProvince	Rope basket and furniture
.5Tinakorn Rattan Palm FurnitureTambon Hua-roaAmphorMuangPhitsanulokProvince	Rattan Palm Furniture ; chair , dining table
.6Ta Thong Handicraft &QuiltTambon Ta thongAmphorMuangPhitsanulokProvince	Bed sheet, Pillow sheet, doll, blanket,Hand bag
.7Silver Handicraft Tambon ta Chai Amphor Sri-SuchanaraiSukhothai Province	Antique accessory such assilver purse, brooch pin, silver household etc.
.8Ekarat Golden Jewelry Tambon ta Chai Amphor Sri-SuchanaraiSukho-ThaiProvince	Gold and silver jewelry in modern Thai styledesign
.9Ban JaoJom Jewelry TambonSuchanaraiAmphor Sri-SuchanaraiSukhothaiProvince	Gold, silver and jewelry such as gem ring, necklace
.10Plaster Piggy Bank Tambon Bang Lai Amphor Bung NarangPhichit Province	Plaster piggy bank in different style such as fruits design, animaldesign, cartoon and sculptured image
.11 VetiverGrassProductTambon Sri- NakornAmphor Sri-NakornSukhothaiProvince	Product of vetiver such asbasketryand vase
.12Handy Craft Municipal of Sri Panom Mas AmphorLubLaeUttaradit Province	Artificail silk product such as hand bag, and lady suit
.13Papyrus Grass Product TambonNikomPatanaAmphor Bang RakumPhitsanulokProvince	Papyrus grass mat , tissue box , cover book
Group name	Community Product
.14Wat Chan Patana maid Group TambonWat Chan AmphorMuangPhitsanulokProvince	Natural Thai herbs cosmetics such as rice bran soap, Butterfly Pea Flower and Aloe Vera Shampoo
.15KhaoKor Agricultural Product Tambon Sa Pong AmphorKhaoKorPhetchabunProvince	Mulberry tea, coffee and agricultural products
.16Handicrafts Tambon Thor Tae AmphorWat Bod PhitsanulokProvince	Bamboo handicrafts, basket, Ceramics vase etc
.17Makmai Home TambonArunYikAmphorMuangPhitsanulokProvince	Wooden Furniture
.18Cornhusk Product Tambon Ban LanDokmaiTokAmphorKosam - Pee KamphaengPhetProvince	Artificial flowers from cornhusk and cornhusk bowl
.19 Handicrafts of Lan Leaves TambonTak Oak AmphorBanTakTak Province	Lan leaves products such as hat, tissue box, book cover
.20Ban KrangVao Thai Handycraft Community Enterprise Tambon Ban KrangAmphorMuangPhitsanulokProvince	Artificial silk, bag, lady cloth and gentlemen cloth

1.2 The integration of researcher and community .This stage use the corroboration between researchers and local people in order to give suggestion and advice in product design concept of the local product.

1.3 The surveying of basic data community. The analysis of community basic data, community wisdom and local product, the production process, raw material analysis, product development and community marketing.

2. Research Phase

- 2.1 Problems analysis of community product
- 2.2 Define problem
- 2.3 The research design and data collection

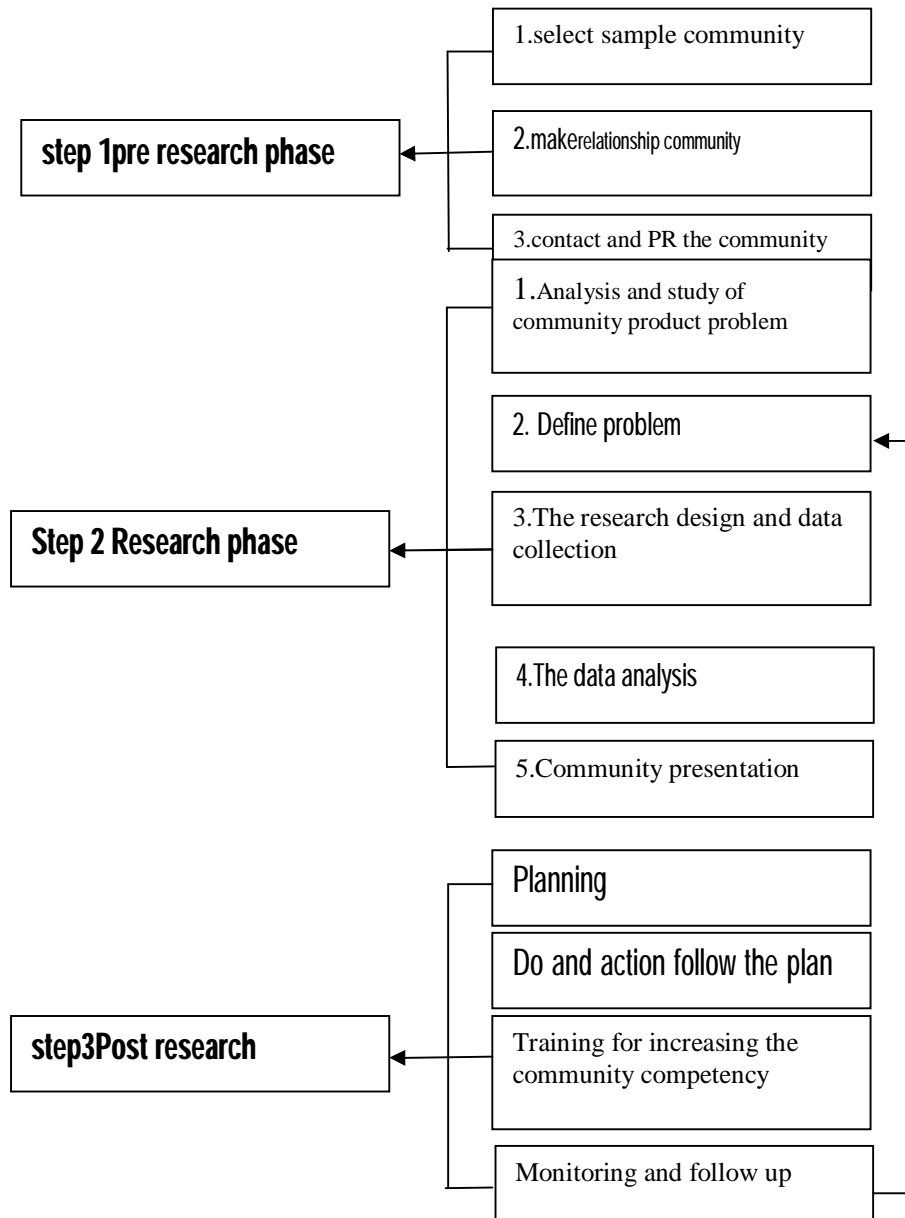
2.4 The data analysis

2.5 and presentation to community

3. Monitoring and Evaluation Phase

The monitoring and evaluation process is the important activity in corroborative action so that this research set the monitoring and evaluation process teamwork. This teamwork should receive training for simple evaluation technique and project assessment. This process will follow up, monitor and report to the community meeting to improve the success and solve the problem.

Figure 2: The Process of Corroborative Action Research



Summary The PAR model is the technique that emphasis the community corroboration process to define problems and analyze the method of problem solving, planning with the system approach. The researcher, the students and local people were used PAR as an appropriate corroborated working technique.

Research Methodology

The development model of product design process “3P Model” is composed of activity plan of advisory , activity of product analysis such as former product design, material and production process, activity for each of community product design , design product activity between designer and local people and activity of marketing promotion.

Method of Collecting Data

The Participatory Action Research: PAR was used to implement to 20 sample groups of local product in 6 Thailand provinces; Pitsanulok, Utradit, Sukho-Thai, Kamphangphet, Phetchaboon and Tak . The data collection was 5 years during 2552-2557 BE.(2009 -2014)

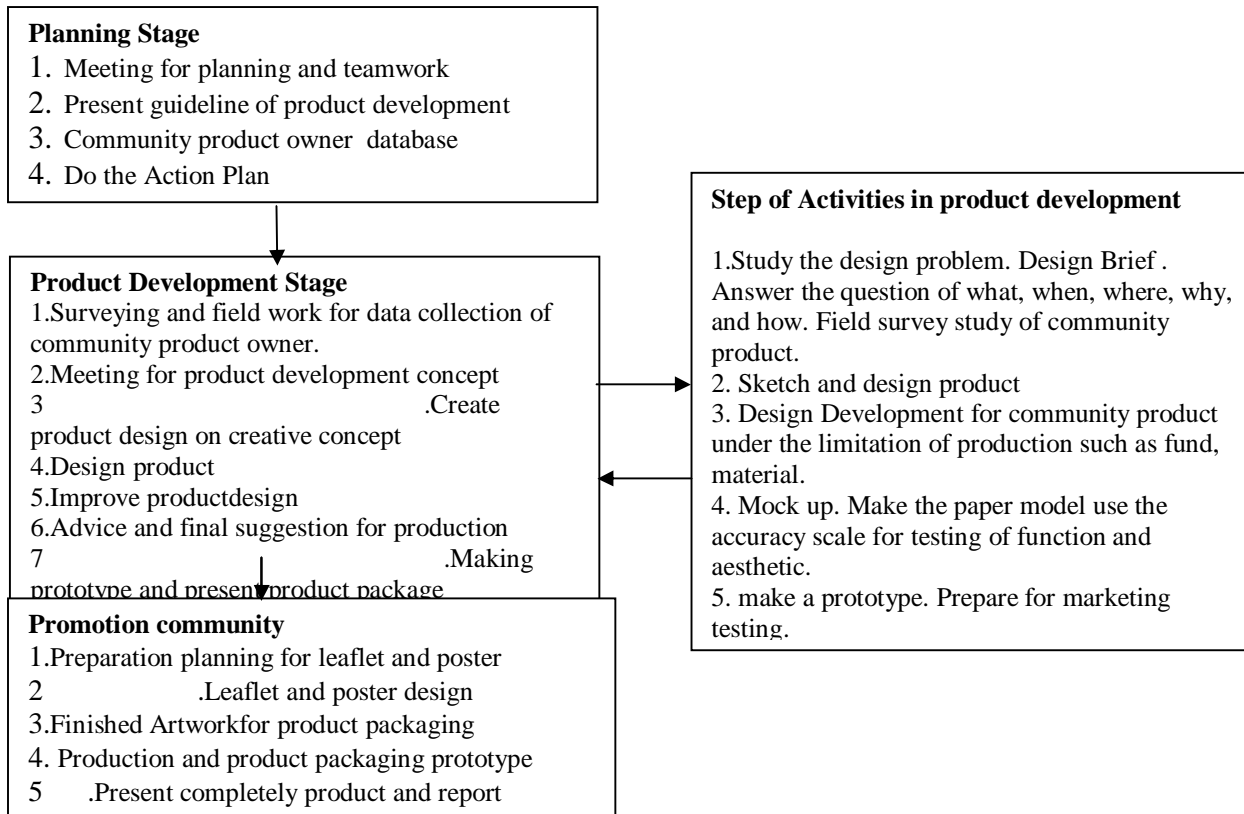
Data Analysis

1. Define the significance problems in real situation
 - 1.1 Define the significance problems; surveying and access the community, using unstructured interview, learning of currently community situation and context. Get basic data such as community leader, groups etc.
 - 1.2 Discussion the important issue; Bring the problems community situation and context then brain storm with respect ideas and comments of each other .
2. Finding the summary problems; Analyze the problem from conflicts and discussion. Find out the community people satisfaction. Summarize with the rational conclusion.
3. Building the scenario; the scenario was conducted between local people and government officer and among local people to set the goal.
4. Find right channel to meet the goal.
5. Making the commitment to define activity objectives.
6. Planning with the corroboration of government officer, local people and researcher use 4W1H (What When Where Who How).
7. Do the action plan.
8. Evaluation; compare the outcome and objectives towards people satisfaction.

Summary Results

The result of this research is a model of process for product development with community participation. The model was composed of 3 steps; Planning Stage, Product Development Stage, Promotion Community Stage. The detailed model was shown in figure 2.

Figure 2: Model of Process for Product Development with Community Participation.(NiratSudsung, 2014)



Detail of the Process

Step 1 planning

Activity 1 Present the guideline of product development

Objective to present the target objective to the group, detail of the process and activities. to collect data of product information

Process select the community product that has business competition to join the project. Survey the community producer in this project such as group of artificial flower, small Thai house, furniture, golden and silver jewelry, handicraft. The objective in field survey was to describe the guideline of product development and package design and to discuss with each owner product.

Product/Outcome There were 20 producers join in this research project. All were understanding on process and advisory to make product prototype.

Activity 2 Set the Action Plan of the research project

Objective to set the step of activities and time in the research project. to use the action plan as a guideline

Process set the meeting of teamwork and researcher for define activities, time and steps as the action plan. define person responsibility in each activity.

Product/Outcome Get the action plan for process.

Activity 3 make data based management for all 20 community producers.

Objective to create data based management and set the strategic plan in product design and development to meet market need.

To give in depth suggestion and advice to the community producer.

To collect basic data of community producer.

Process summary report from data analyzing from questionnaires and interview. The data and information composed of community producer data, product data, marketing and channel, distribution retail. Validate data and collect data as data based management. Meeting for design requirements and give details and suggestion to product designer.

Product/Outcome Get the data based management of community product and producer

Step 2 Product Development

The strategy of product development promotion for specific segment depend on competition competency. It can be divided into 4 groups as follow;

- Group A Quality product / high price and high quantity.
- Group B Quality product / high price and limited quantity.
- Group C Quality product / low price and high quantity.
- Group D Quality product / low price and limited quantity.

New Idea for new product.The first step aimed to set the objective clearly for new product for example , technology leader or marketing leader , market expansion. The difference objectives lead to new product of the difference, new target customer and strategy used for new product.

Assessment Concept.The new ideas were discussed and brain storm using The SWOT analysis then select the best new idea for new product development. The new product should be corresponding with the objectives and worth of the resources, increased the customer satisfaction. The new product should be preserved natural resource and safe both consumers and social community.

Develop idea concept and idea concept testing. This step used for testing the selected objective to produce the new design product. The example of the 10 community product are as follow;



Figure 1: Artificial Flower ; Cloth and Mulberry Paper

Tambol Coke-salud Amphor Bang Kratum Phitsanulok . The community products were artificial flower from cloth and mulberry paper decoration with glittering bead in International and modern design.



Figure 2: Product from Banana Fiber

This community is in Tambol Pak-tok Amphor Muang Phitsanulok design house hold appliances such as table light use bamboo and banana fiber.



Figure 3: Small tiny Thai House Model

This community is in TambolAran-yikAmphorMuangPhitsanulokProvince . The local product are Thai houses teak wood model,single Thai house and group houses in Thai style architecture. The products developed as souvenir for tourism promotion and Thai architecture wisdom.



Figure :4 Handy Craft Ban Klong-maplab

This community is in Tambol Sri-pilomAmphor Prom- piramPhitsanulokProvince. The local products are Ropebasket and furniture. The table and chair use steel line as the structure of the furnitureand wired by rope . This furniture set are composed of 4 seats and table.



Figure5: Tinakorn Rattan Palm Furniture

Tambon Hua-roaAmphorMuangPhitsanulokProvince. The products are rattan palm furniture ; chair and stule.



Figure6: Papirus Grass Product

TambonNikomPatanaAmphor Bang RakumPhitsanulokProvince Papirus grass mat , tissue box , cover book



Figure7: Ta Thong Handicraft & Quilt

This group is in Tambol Ta thong Amphor Muang Phitsanulok Province. The products are purse and bags use quilt technique.



Figure 8: Handy Craft

This community group is in Municipal of Sri Panom Mas Amphor LubLae Utradit Province. The products are made by artificial silk such as hand bag, lady suit and dolls



Figure 9: Ekarat Golden Jewelry

Ekarat golden jewelry is in Tambon ta Chai Amphor Sri-Suchanarai Sukho-Thai. The products are gold and silver accessory with gem in Thai modern style.



Figure 10: Wat Chan Patana Maid Group

This community is in Tambon Wat Chan Amphor Muang Phitsanulok Province. The local products are natural Thai herbs cosmetics such as rice bran soap, Butterfly Pea Flower and Aloe Vera Shampoo.

All above figures shown that the product development with community participation activities were established because of the participation planning, product design and development between researcher and community product producer and also including community promotion.

Step 3 Community Promotion

The evaluation in aspect of the public relation and press released for community promotion on marketing shown the community understanding on information of marketing promotion, product advertising. These process were increased the brand building, product value and community identity added with good relationship between community and target customer. The media used brochure, poster and information communication technology.

Discussion

The model of product design process named “3P Model” composed of 3 steps. There was 1. Planning 2. Product development 3. Community promotion. This research found that the 3P model is appropriate as a guideline for community product development; potential committee development, group member funding, marketing skill development, group’s process planning, group’s public relation and community learning center. For community economics development, all groups should try to solve the problems process and community product obstacles. It’s corresponding to Banthita’s study (2004) and Surasit’s research (2005). Banthita stated that the process helped the sustainable community development while Surasit’s model shown the planning development of Pangmaka Municipal Amphor Khanu-vora luck-buree in Kam-pang Petch province. The model was composed of 1) study problem and guideline for participation development 2) select the problem 3) use the improvement for many problems and use the promotion for less problem. 4) manage the Tambol process of AIC Appreciation-Influence-Control 5) evaluate to make problem decisions 6) present the model of development participatory planning. Phusit et al (2009) studied the participatory research on the development of cloth handy craft fabric product. The objective of this research emphasized for product design and product process and it was found that the good collaboration of community brought the value products such as key holder, plate mat, handbag and lamp. Supachai (2002) stated 7 correlation factors of community participation in housewife groups at the significance level .01. The factors were age, level of education, knowledge experience on product process, number of workers, crops areas and house hold income. Witaya (2009) found that participatory process for occupation sideline composed of 3 stages 1) study the potential community. 2) Analyze the participatory process for occupation sideline. 3) study the effect of participatory process for occupation sideline.

Finally, this study can conclude that community product design process has several steps and depend on teamwork designer; project head, group manager, community head, advisory team of relevant system, representative, finance economic and financial team. The product designer as the main role for making decision to product the correct legal production. Moreover, the designer has to be responsible for all the mistake, understanding of systematic building and regulation of design working for the success and sufficiency of community participation product.

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