

# Innovative from the Tale to Product Value Creation of Nypa Palms

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## **Abstract:**

As developing and adding value to community products often requires investment and it has become a major limitation for communities, adding value to products and services from creativity and innovation or value creation are important choices for the development of community products. In this research, the knowledge management from the tale of Nypa palms is used as a guideline for the development of processed products from the Nypa palm trees of Nypa palm forest communities in Thailand. This research intends to explore the problems and demands for the development of products from Nypa palms of the community enterprise in Samut Prakan Province, Thailand, leading to the generation of model to create product value of Nypa palms using research and development from the group discussion of community enterprise members, government officials, documentary research, and field work. The research results reveal that the main problem in the development of Nypa palm products is the storage time of products which is quite limited. From this reason, the members want to have knowledge and use the knowledge to promote the value of the products. When managing the knowledge from the tale of Nypa palms, it is found that the promotion and encouragement of the Nypa palm products have created 4 values including ecological value, economic value, nutritional value, and local wisdom value. These values are used in the analysis of 5P model; **P**roduct value creation, **P**ackaging development, **P**ublic relations, **P**ride and marketing partners, and **P**romoting community market.

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## **I. INTRODUCTION**

“Nypa palm” is the mangrove forest tree which is important in the ecosystem. The members of the Nypa palm forest communities have relied on the benefits from the trees to be used in consumption for a long time. The Nypa palm forest communities have created knowledge and relevant wisdom for utilization as well as processing the products from Nypa palms to generate income for households and communities. The Nypa palm trees are found in some parts of the world that are shoreline with brackish water. The area of brackish water contains minerals and nutrient sediment under water to help

nourishing the plant from growing well and abundant. The trees are found in the areas of Borneo and Sumatra (Lim, 2012). Human uses the Nypa palm trees with many purposes such as roofing, processing into food, using as medicine for relieving toothache, headache, and shingles. They can also be used as fuel and used in Bio-ethanol production. Their shoots are used as insecticides. The leaves are used as roofing materials in Malaysia, Philippines, and Indonesia. The fruits are used in making molasses and alcohol. In Bangladesh, they are applied to be used as residence and commercial use. The Nypa palm trees are also processed into brooms,

baskets, mats, and hats for sun shading. The Nypa palm peels are used for making ornaments like necklaces and costumes. In Nigeria, they are used for roofing sailboats of local fishermen (Hossain, & Islam, 2015). In Thailand, the Nypa palm trees are found in the area of the Thai Gulf in the central and southern coastal regions of the country. The Nypa palm forest community in Samut Prakan Province is considered the traditional community in the central region that the villagers have learned to process the products from Nypa palms until making “Nypa palm snacks and processed products from Nypa palms” become ones of the famous community products of the province. The villagers have grouped altogether as a community enterprise in order to process the produce from Nypa palm trees into various products to be sold to tourists and general people in order to generate income for the community.

However, developing the fundamental economy to create local community economic system for the community products to have added value and to be to explore the problems and needs of product development from Nypa palm trees of the community enterprises in Samut Prakan Province, Thailand, to lead to the creation of a model for value creation of Nypa palm products.

## II. LITERATURE REVIEW

In this research, we use the Value Creation concept as an important conceptual framework to explain the pattern of product development in the community. Value Creation is an important strategy to enhance business competitiveness. It is a process that gives importance to consumers by adding value derived from creative capitals such as art, culture, wisdom, natural resources, innovation, or technology to be put into products or services for consumer’s acceptance. The research of Matysiewicz (2016) indicates that the creation of a product value system depends on the concepts of each product. Products or services must have a set of hidden value creation activities in order to create product value without monetary one in order to attract new customers to

able to link with external economy often encounter some limitations on investments. The product development requires a lot of effort through strategic planning for product optimization and development. The factor that influences product development decision is the production cost. The investment through large amounts of money leads to the development of new products (Chwastyk, 2014). Therefore, increasing the value of goods and services from creativity and innovation or value creation is an important choice for the development of community products. Instead of focusing on the investment, the focus is on the strategies that give importance to consumers with the added value that comes from various creative capitals. The creation of product value system depends on the concepts of each product. The products or services must have a set of hidden value creation activities in order to create product value without monetary one (Matysiewicz, 2016). This research aims

purchase. This is consistent with the research of Killa (2017) supporting that the product values can be created in many ways. The customers’ suggestions and needs are important for product development and the customer loyalty can be maintained. Value Creation has a positive impact reflecting the seller’s sales efficiency. Finally, in order to increase sales and expand the customer network, Ida (2017) sees that creating value of products is not only the co-production through the interaction between sellers and customers but it also creates the shared value through interaction between customers and customers. Therefore, the focus must be on creating product value through emotional components in communication.

The research of Zhang, Shabbir, Pitsaphol, & Hassan (2015) states that the survey on the characteristics of community products, sharing data and resources, and product loyalty will help saving marketing costs and making it possible to produce products in line with consumer’s needs. This agrees with the research of Maine, Lubik, & Garnsey (2012) that encourages

consumer surveys and allows consumers to try out products or goods. This is an important model that leads to product quality and requires less investment. In addition, the research of Rungh (2016) found that adding product value through packaging is a way to motivate and stimulate consumers to be fascinated or interested in consuming products. This is consistent with the research of Skalen, Pace, & Cova (2015) that supports the collaboration of community members, branding through awareness, and membership participation. It is the creation of success in adding value to community products.

The research of Ghasemi, & Gholami (2016) uses knowledge management to help ensuring the long-term confidence for the community for sustainable use through the availability of database and knowledge by human capital. The knowledge management is a method that can be used to manage within an organization and lead to competing new products in the future. It can create new markets to prevent the loss of knowledge assets. If the community uses value creation skills to develop the understanding on customer's needs, it will result in the long-term achievement on customer's loyalty towards community product consumption. Thus, the knowledge management can enhance knowledge and increase product reliability as well as increasing the confidence in the product and community reputation. Moreover, Edvardsson, & Oskarsson (2013) research supports that knowledge management contributes to creating value for products and services. In this research, knowledge management is used as the creative capital in value creation for products processed from Nypa palms as the traditional community products full of local wisdom and ecological values.

### III. RESEARCH METHODOLOGY

This research is the research and development under the field work for 2 years from October, 2017, to September, 2018, which consists of:

Step 1: Research - To explore problems and needs in the development of products from Nypa palm trees

of the community enterprise in Samut Prakan Province with group discussion of community enterprise members and a total of 12 government officials.

Step 2: Research - To manage knowledge from Nypa palm trees as a guideline for value creation of products from Nypa palms by using documentary research and field work with Appreciation - Influence - Control (AIC) from 25 community enterprise members.

Step 3: Development - To build a model for creating the value of products from Nypa palms. The model is generated by synthesizing from the method obtained in step 2 and the model is certified from the president of the community enterprise. After that, the model is tried to create the value of products from Nypa palms and the assessment is made from the assessment form from 150 community enterprise members and consumers.

### IV. RESEARCH RESULTS

From surveying the data, it is found that the main problem in the development of Nypa palm products of community enterprise in Samut Prakan Province is the problem of storage time of the products which is quite limited because the processed products from the plants have a short life time of not more than 7 days. The life can be extended for no more than 14 days by putting into the refrigerator. This time limitation results in problems with the distribution of products to be sold in the remote places. It may not be worth the transportation cost each time as the fresh products are needed. Moreover, that most members of the enterprise are the elderly is also an important limitation causing the products to be sold outside the community or increasing the productivity is difficult. Each community enterprise has different needs for product development. The Appreciation - Influence - Control (AIC) from community enterprise members summarizes the needs for product development of the Nypa palm products in 3 topics; (1) the need to publicize Nypa palm products to the consumers to know and see the value, (2) the

members want to have knowledge and use their own product knowledge in order to publicize the value of Nypa palm products, and (3) the the members want to develop the product packaging to be modern and attractive to attract consumers more.

When researching the information about Nypa palm products from primary and secondary sources, it is found that all the tales about the Nypa palm trees then have international data on the knowledge of plants from the botanical. Besides, for the community level information on benefits and uses from the source, when managing knowledge on the tale about Nypa palms as a guideline for product creation, it is found that the promotion and support in cultivation, consumption and use of products from plants have created 4 values which are (1) ecological value, (2) economic value, (3) nutritional value, and (4) local wisdom value as follows.

(1) Ecological value - The Nypa palm is a plant in the palm family. It is the largest monocotyledon plant whose scientific name is "Nypa fruticans" consisting of more than 200 genera or about 2,600 species. The Nypa palm trees can grow up to 10 meters high. The thick trees have many roots spread down under the ground. The leaves are in the spear form arranged closely as many as 30-40 leaves per tree. The trees are mostly found in the brackish water (Teo, et al, 2010). As the Nypa palm trees are important in the conservation of mangrove forests, aquaculture, prevention of coastal erosion, they have great ecological value.

(2) Economic value – The Nypa palm trees can be economically used for the household consumption and product process to generate income to community economy. This includes the process for industrial benefits. In the industrial aspect, the Nypa palm trees are the plants having potential to produce high ethanol. They are reported to be able to produce up to 2 times more than sugarcane (Bumrungrack, Yongsatitsak, & Lemkatem, 2014). In addition, the Nypa palms contain fiber that can be processed by shelling the rope and used as materials in handicrafts for weaving. In improving the quality of Nypa palm

fiber, the Nypa palm fiber is experimented to be mixed with other types of fiber from other plant fibers including sisal, water hyacinth, reeds and bananas in different ratios. Then, they are tested for the maximum tensile strength. The fibers mixed with sisal fibers at the ratio of 50:50 have the highest tensile strength. The fibers mixed with banana fibers at the ratio of 75:25 and fibers from the combined fibers of reeds at the ratio of 75:25 have the higher tensile strength, respectively. They are suitable for making products that can support a lot of weight. There are 3 ways to develop fibers into products; forming in free shape, sheet weaving, and molding. The projects to evaluate the suitability of products from fibers in 6 areas include the benefits and suitability in using, product size suitable for use, product beauty, possibility of production, satisfaction with the products from Nypa palm fiber, and consistency with market demand (Janyatham, & Sikkha, 2012).

(3) Nutritional value - The consumption of Nypa palms gives nutritional benefits. There is a phrase that the villagers often say, "the leaves can relieve heat and the fruits can be eaten". The leaves can relieve heat by using the leaves to roof for protecting against heat. The fruits can be eaten mean we can eat their fresh fruits without having to go through any process. Since in the past, the villager of Nypa palm forest ate the fruits for fullness. The Nypa palm fruits are processed into both savory and sweet food. In nutrition, the benefit of Nypa palm fruits is in being a high energy source of carbohydrate. The process model for Nypa palm fiber is in the form of starch production having low fat content and high raw fibers (Ulyarti, Nazarudin, & Sari, 2017).

(4) Local wisdom value - The communities that have cultivated the Nypa palms for a long time still have local knowledge regarding the benefits of Nypa palms in consuming them, used them to treat diseases, and used them as daily appliances. The Nypa palm forest communities in Thailand use the skin of the plants to stop the wound from bleeding. Especially in the olden days, as the villagers who

entered the forest to cut the Nypa palms were often cut easily, they needed to find the first aid methods by skinning the Nypa palms to stop the wound from bleeding. There is also the belief that eating the fruits will cause the body to receive antioxidants as well as helping with bowel movements. Especially for those who are weak, eating a lot of fruits will make the stomach roll and grow making it easy to excrete. In folk medicine, the Nypa palm fruits are eaten to help treating the excretion and diarrhea.

From the knowledge about the benefits of Nypa palms and the evaluation on the opinions from community enterprise in Appreciation - Influence - Control (AIC), it leads to the analysis of ways for value creation which consists of 5 steps as follows:

**(1) Knowledge management** to create value from the Nypa palm products. The researcher uses the summary on knowledge management to create value of Nypa palm products as the essence in creating media for publicizing information on knowledge about Nypa palms. "Promoting the plantation of Nypa palm trees and encouraging the Nypa palm products can create ecological value, economic value, nutritional value, and local wisdom value."

**(2) Increase knowledge** to develop the product packages to be attractive. The community enterprise entrepreneurs that process the Nypa palm products still need to develop their packaging to be modern and interesting under the condition of being a form of package that is unique to the local, at low-cost, and can be produced without trouble. The researcher had a workshop with entrepreneurs of community enterprise and found that members of the enterprise were able to fabricate packages from the Nypa palm trees by using their leaves to make the bowls and bags in small and big sizes as well as various decorative items. Therefore, the experiment occurs in using the bags woven from Nypa palm leaves to contain the products processed from Nypa palm trees such as sweets and water for sale. They are found to receive a lot of attention from consumers and the products can be sold at a higher price than before. The products are divided into the sets of

snacks in a small woven bag and a dessert set in a large woven bag.

Moreover, the product logo is also created to develop the packaging to be more attractive and can be used with existing products. The researcher makes the "Tale of Nypa Palm" product logo in the form of small tag by making the logo of rubber stamp allowing members to use to stamp on craft paper or colored paper or applied in various forms.



Fig 1 Example of product logo for developing the product packages to be interesting

**(3) Transform knowledge** towards creating media for public relations. The researcher used the results from knowledge management about value of Nypa palm products to create the media for publicizing the information about Nypa palm trees in the form of A4 brochures and A1-size posters for use in presenting and distributing information to interested parties.

**(4) Knowledge sharing** to create pride for local members along with creating marketing alliances. Although the Nypa palm processed products are the community products having been with the community since the past, the community members have limited information about the original products of this community. Many members are not sure how the Nypa palm processed products of Samut Prakarn are different from other places. The new generation of communities do not know which products can be processed from Nypa palms. Or some people are not even aware that the Nypa palm processed products are exclusively famous local products of Samut Prakarn Province. Thus, the community enterprise

entrepreneurs want people in the community, especially children and youth, to have a better understanding on the products of this community by disseminating information about Nypa palms for children and youth to be proud of local products including other types of community products. The sharing of information about the provincial community products is also the creation of marketing alliances. The researcher used community products to create paintings for use in coloring and publicizing.

**(5) Apply knowledge** in creating the community market to be a source for selling goods and tourist attractions. An important aspect of product development is that eventually there must be a market to release the products. Most of the members of the enterprise are elderly members who are not easy to travel outside of the community. Therefore, the community market will facilitate the producers and consumers as well as drawing participation of community members. Recently, the members of Ban Naklua Professional Development Community Enterprise, Naklua Sub-district, Samut Prakan Province, together with the community members created a community market named “Sao Naklua Market” to be a source of goods and tourist attractions of the community. The market is located on the road which is one of the passages of Wat Sakala which is a famous tourist attraction of the province. However, it is still not as successful as it should be with the limitations of the market’s entry and exit route that are not the main routes. Moreover, it is still not the route that many tourists know. In addition, there are not many stores participating in selling products in the market. This community market is still limited in public relations. The researcher therefore joined with the community members to publicize the community market by creating tourist routes for cyclists to travel through

this Sao Naklua Market and publicizing Sao Naklua Market for tourists who are visiting Wat Sakhala to get to know more as a source of Nypa palm processed products and Ban Naklua community products.

The analysis on the guidelines for creating product value from Nypa palms in the 5 steps mentioned above is a model of Nypa palm product value creation. In this research, it is called “5P Model”. **Product** value creation is to manage knowledge for value creation of Nypa palm products. **Packaging** development is to increase knowledge to develop attractive packaging. **Public** relations is to process the knowledge in creating media for public relations. **Pride** and marketing partners is to share knowledge in creating local pride along with creating marketing alliances. **Promoting** community market is to use the knowledge in creating a community market to be a source of goods and tourist attractions. The model has been approved by the 5 community enterprise presidents having the average satisfaction with the product value creation model from the highest level with an average score of 5 out of 5 points.

After that, the researcher used the mentioned model to experiment by organizing activities at Wat Sakala, Phra Samut Chedi District, Samut Prakan Province, which is an important place of the Naklua community and is an important tourist destination of Samut Prakan Province. The activities in the 5P Model consist of (1) the presentation of packaging patterns made from Nypa palms and the inventions from Nypa palms, (2) media creation for public relations such as posters and brochures, (3) organization of public relations activities, tasting Nypa palm processed products, drawing and painting of Samut Prakarn products, and (4) Community market public relations activities.



Fig 2 Presentation of packaging patterns made from Nypa palms and the inventions from Nypa palms



Fig 3 Public relations on community market

buy Nypa palm processed products next time because of seeing the benefits and value of Nypa palm processed products and want to support local products.

## V. DISCUSSION OF RESULTS

From the research results, it can be concluded that the knowledge management on the tale of Nypa palms can lead to the creation of innovative stories that create value from the products and able to meet the needs of the community. This 5P model is in line with the needs of community enterprise members who want to have knowledge and use their product knowledge to promote the value of Nypa palm products by managing the knowledge of the tale about Nypa palms. This gives the confidence to the members in their products to be good and useful products. Thus, they are confident to publicize the products to consumers. This information is consistent with the findings from Ghasemi, & Gholami (2016) showing that knowledge management helps building long-term confidence for the community for sustainable use through having the database and knowledge. The knowledge management is therefore a way to compete for new products in the future. The knowledge management helps enhancing the product reliability making the consumers trust in the product or reputation of the organizations or communities. This agrees with the research of Salleh, & Huang (2011) finding that knowledge management can create value and the value of organizations or communities resulting in long-term efficiency and leading to adjustment of marketing strategies in value creation for the organizations or communities in the future. In the same way, the research of Rivera, & Rivera (2016) reflects that knowledge management is a knowledge cycle for creating value, accuracy, and credibility for an organization or community. The benefits of knowledge management are the development and evaluation of knowledge assets to facilitate economic returns.

In this regard, the evaluation on the satisfaction of participants in the project of Nypa palm product value creation from the members of the community enterprises and consumers found that the sample group of 150 people representing 100% are satisfied with the activities of Nypa palm product value creation at the highest level of 97.33%. In addition, when questioning 120 consumers, 100% are about future consumption behaviors. It is found that 65.00% of the respondents are willing to pay more to

According to the current mainstream concept that developing or expanding the market of community products requires a lot of investment, the 5P model shows that this is not always true. Other creative capitals such as management on the tale can also be used to develop community products. The customers are happy to pay more by seeing the value of those community products. The research of Matysiewicz (2016) found that value-added products and services can be created through creativity and innovation. The research of Edvardsson, & Oskarsson (2013) supports that the knowledge management can contribute to creating value for products and services. Similarly, the research of Saengchai, Sawasdee, & Jermstittiparsert (2019) found that knowledge management supports innovation. The process innovations have positive effects on operational efficiency and the product innovation can deliver various benefits together with the efficiency of the organizations. Therefore, Value Creation is an important choice for community product development that does not only focusing on investment but also focusing on strategies that give importance to consumers. With the added value that comes from various creative capitals, the creation of a product value system depends on the concepts of each product. The products or services must have a set of hidden value creation activities in order to create product value without monetary value. This is in line with the research of Killa (2017) which suggests that the product values can be created in many ways. To create value in accordance with the needs of customers, the introduction of customer needs is important to attract customers, develop products, and retain customers to adhere to the company's products as well as increasing sales and expand the customer network to be broader.

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