

The Development of 3D media to promote career development in flooding season of people in the watershed community, Phra Nakhon Si Ayutthaya Province, Thailand.

^[1] Kanokporn Pakeechay, ^[2] Adisak Sarathum
^[3] Sasinan Sastsara, ^[4] Kanokkarn Klomklaw ^[5] Choklap Mankong

^[1] ^[2] ^[3] ^[4] ^[5] Faculty of Business Administration and Information Technology,
Rajamangala University of Technology Suvarnabhumi, Thailand.

^[1] kanokporn.p@rmutsb.ac.th ^[2] adisak.s@rmutsb.ac.th ^[3] sasinun.s@rmutsb.ac.th ^[4] chomphu.econ@gmail.com
^[5] llllll121@hotmail.com

Corresponding Author E-mail: kanokporn.p@rmutsb.ac.th

Abstract

This research is the Area Based Development Research. The objectives are 1) to analyze the production and marketing potential of community products and 2) to create 3D media to promote appropriate careers in flooding season of the communities in Thap Nam Sub District Administrative Organization area Bang Pahan District Phra Nakhon Si Ayutthaya Province. By using TOWS matrix, Feasibility analysis in economics, Sensitivity analysis and assess satisfaction. The results of the study were as follows: 1) The analysis of the production and marketing potential of community products showed that the vegetable salad and lime products were economical and had the potential to resist the impact of changes in selling prices (income up to 15%) and cost change (15% of the price of production inputs) and there are strengths, weaknesses, opportunities and threat to be analyzed to create a strategy to enhance the market potential of promote a production. Increase the awareness channel of the product. As a result of a small group meeting with participation of farmers Thap Nam Sub District Administrative Organization. Found that it agreed to create 3D media as a corrective strategy (lime products) and preventive strategies (Vegetable salad products) to increase the channel of awareness and contribute to adding value to the product. 2) The results of the experiment using 3D media for promote career were found that from a small group meeting to develop participatory 3D media, by using the augmented reality technique for mobile phones using the “Nong Phon Narm” logo as the 3D media side used to promote community products. And has actually been put into trial and used in the area. The results of the performance test showed that 3D media were appropriate in terms of content.

Keywords— 3D media, career development in flooding season, the watershed community, Phra Nakhon Si Ayutthaya

I. INTRODUCTION

Creative Economy is another concept of adding the value of goods and services to enhance productivity by creating products and services arising from knowledge bases and innovations such as multimedia such as 3D images, animations. [1] In particular, Augmented Reality (AR) technology is a technology that can combine the real world with the virtual world through a mobile smart device combined its strengths in terms of Thai culture and way of life under the knowledge-based service and environmentally friendly until it becomes an intellectual property linked to the creation of social value. By using social capital and intellectual capital together with the advancement of information technology as a tool for developing sustainable economic competitive advantages of the country. [2] Moreover, in today's digital world where communication methods have changed through the use of traditional media such as newspapers, radio, magazines, billboards, brochures, handbills and television, which used to be the most influential media. It's a new media era where media and marketing experts have identified digital media as a hot and influential new communication channel. Because it is convenient, fast, timely, or two-way communication (Real-Time), consumers who used to be only one-way receivers have become influential messengers with just a click of a finger.

Everything links to creating the most seamless brand experience. Innovation in digital marketing or Digital Marketing has become a tool that has been discussed with interesting features, for example, it is a free medium that has a high ROI measurable return, and fast because it has a low cost but can easily and quickly expand a new customer base. [3] And is used as one of the strategies for career development to generate income. [4]

II. RESEARCH OBJECTIVES

1) To analyze the production and marketing potential of community products in flood season of communities in the Thap Nam Sub district Administrative Organization area, Bang Pahan District Phra Nakhon Si Ayutthaya Province.

2) To create 3D media to promote suitable occupations in the flood season of communities in the Thap Nam Subdistrict Administrative Organization area Bang Pahan District Phra Nakhon Si Ayutthaya Province.

III. LITERATURE REVIEW

Sustainable Development is economic development that goes hand in hand with the conservation of natural resources and the prevention of environmental problems that

may be the consequences of negligent development. [5] Economic development and environmental conservation extend the scope to include social and political dimensions because good development must not only be economically feasible, it must also be socially acceptable and feasible under a current political regime. [6] And must pay attention to the culture and way of life of the local people to be effective. [7] Community-based Development and Community-driven Development is a development model that operates at the community level and places a strong emphasis on the participation of community members by designing and implementing development programs to meet the needs of the community and support the participation of members of the community. [8] However, the base goal of Community-based Development often emphasizes self-reliance. Self-reliance of people in the community, which will be achieved through the establishment of a community development program structure and personnel recruitment that can drive development using appropriate action methods. Typically, developments following this approach are carried out in the form of small projects with low cost and simple technology. It does not explain that it must be related to the state's development management system. That is, communities can plan and operate in each community independently without state intervention. [9] While the concept of Community-driven Development focuses on solving social problems at the community level, especially poverty. The community participates in the design and implementation of the project as a Development Partner with the government and the private sector who can maintain the community rights. It also places great emphasis on good governance in development management to encourage learning and take responsibility in the process of building local development capacity in the long term and aiming to maximize the positive impact of the use of the state budget for economic development in the community level. [10]

IV. RESEARCH METHODS

This research directly collected data from the primary data as follows:

1) Data from two focus groups of 6 - 10 people [11] to obtain context for livelihoods and products that can be promoted as a career of the community during the flood season.

2) Data from a Structural Questionnaire to analyze the production and marketing potential of 100 samples of existing products in the study area (classified by the proportion of occupation/product in a specific flood season) and to assess satisfaction with use. 3D media to promote career building in flood season by 2 groups of related parties, which are 1) 5 experts and 2) 50 general users.

Tool testing: The researcher used the questionnaire created for the research to test for Validity and Reliability.

Data analysis: Context of livelihood and occupation of people in flood season which has a research team that focuses on participation with the community for sustainable occupation by choosing Focus Group Discussion method in the study area, classified into Thap Nam community and Ban Ma community, which are areas that are taken care of by Thap Nam Sub district Administrative Organization has the following steps:

1. The researcher took the information obtained from the small group meetings, both recorded and taped, for transcription.
2. The researcher sets a topic or issue in the analysis.
3. The researcher grouped the data (Clustering) according to the main and minor issues defined in step 2 of the subgroup meeting.
4. Compare the data to find similarities and differences by making a table comparing the data/meaning from each group. After that, the data is processed together.
5. Compose descriptive content. The data obtained from the comparison of the data will be used together with the data obtained from relevant documents and researches both at home and abroad that are consistent with the collection and synthesis to come to a conclusion.

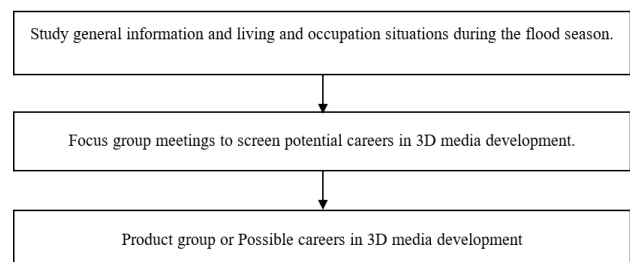


Figure 1 Methods for studying the context of living and occupation of people in flood season

1. Analysis of production and marketing potential of community products in flood season of communities in the area of Tambon Thap Nam Sub district Administrative Organization by the researcher brought the results of product screening, occupation in the flood season, to analyze the potential of production and marketing. It consists of quantitative analysis and qualitative analyses as follows:

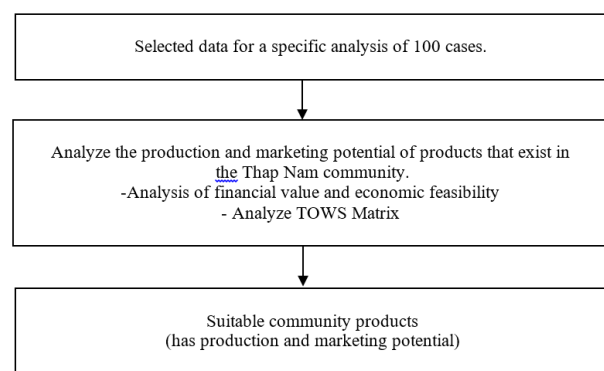


Figure 2 Methods for analyzing the production and marketing potential of community products in flood season

1.1 Quantitative Analysis

Project suitability studies in economics is an analysis of the community as a whole to consider the allocation of all community resources that are limited for the implementation of planned community products and/or projects. That the use of such resources is most efficient and that the benefits to the community as a whole are worth the resources obtained from sacrificing alternative utilization to

the project plan; mites The economic suitability factor was used as a criterion for determining the cost of resource utilization and the recoverable benefit between the project situation (With Project Situation) and without Project Situation (Without Project Situation). Comparison of the value flow of resource use and the actual benefit generated by the project over the period spent in the project analysis by eliminating the difference in currency over time (Discounted cash flow analysis).

In studying the economic suitability of a project, the expected benefits from the project are compared with the project's investment cost over the period of analysis, which is calculated in the form of the main economic index, which is:

Net Present Value (NPV) is a calculation comparing the value of Economic investment in different years with expected economic benefits during the project analysis period using the discount rate converted to the current currency.

Benefit-Cost Ratio (B/C Ratio) is an economic index that shows the ratio of the present value of the benefit to the present value of the project investment. B/C greater than 1 means the project will provide a return that is worth the investment.

The Economic Internal Rate of Return (EIRR) is the discount rate that brings the net present value of a project to zero. This rate represents the percentage return received on the project investment as a percentage of return.

Project Sensitivity Analysis

A project sensitivity analysis considers the impact of changes in factors that risk events and economic uncertainties may affect investment decisions. Therefore, the sensitivity of the project must be analyzed, which are:

- 1) Variable costs increased by 5% while rental income was fixed.
- 2) Rental income decreased by 5% while variable costs were fixed.
- 3) Rental income decreased by 5% while variable costs increased by 5%.

The benefit from this sensitivity analysis is to identify potential variables, net project return to be used for more effective project evaluation. And that assessment should consider whether the return or benefit derived from the decision is worth enough to offset any potential risks.

1.2 Qualitative Analysis

TOWS Strategy Analysis and Development is a tool to formulate strategies that are suitable for each product in a particular form or situation. They are classified into proactive (S+O), corrective (W+O), passive (S+T), and preventive (W+T) strategies. It consists of the external and internal factors of the product identified in the SWOT Analysis.

2. To create 3D media to promote suitable occupations in flood season

The development process for developing 3D media to promote career-building during the flood season is detailed as follows.

- 1) Study related documents and research
- 2) Design 3D media to promote career building in flood season by applying augmented reality techniques on mobile phones and smartphones.

Story Board design

(1.1) analyzes the content, determine the scope of the content, determine the purpose, and define the structure

(1.2) Screen design (Story Board)

(1.3) Write a storyboard to determine the format and sequence of 3D media presentations to promote professional building in the flood season using augmented reality (AR) technology on mobile smartphones.

3) Bring the content written as a storyboard to 5 experts to check the suitability and correctness, and then apply suggestions for improvements to create 3D media to promote career building in the flood season by Using augmented reality techniques on your smartphone.

4) Create 3D media to promote career building in flood season by applying augmented reality techniques on smartphones.

5) Then, 3D media to promote career-building during flood season by applying augmented reality techniques on smartphones was tested with 50 samples of 3D media users to determine the effectiveness of the media 3D to promote career building in flood season by applying augmented reality techniques on smartphones according to the 80/80 criteria. The results were found to be effective.

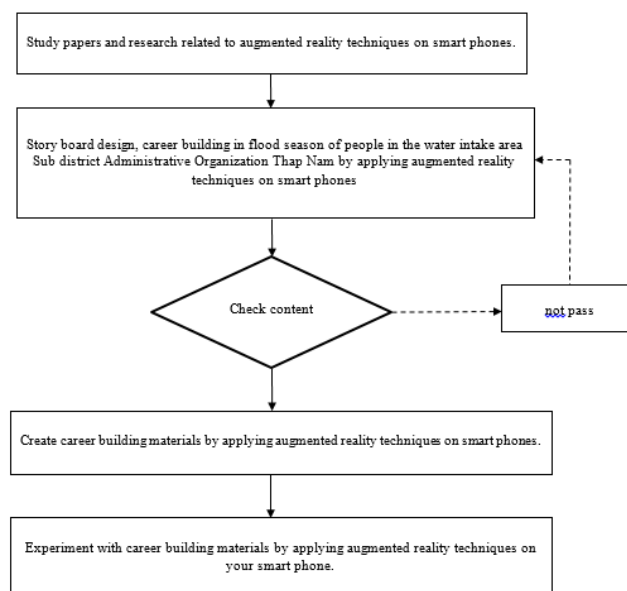


Figure 3 How to create 3D Media (AR) to promote proper careers in the Flood Season

V. RESEARCH RESULTS

Context of livelihood and occupation of people in flood season Thap Nam Sub district Community and Ban Ma Sub district Community Bang Pahan District Phra Nakhon Si Ayutthaya Province by organizing Focus Group Discussion 2 times, classified by area (Ban Ma Sub district Community and Thap Nam communities) and content analysis can summarize issues in the context of living. The occupation of the community in the area under the supervision of the Thap Nam Sub district Administrative Organization is as shown in Table 1.



Figure 4 Small group meeting to study the context of living and occupation of people in flood season, Thap Nam community and Ban Ma community.

Table 1 Context of livelihood and occupation of communities in Thap Nam Sub district Administrative Organization.

living context	Ban Ma	Thap Nam
and the occupation of the community		
1) Occupation	The Ban Ma community has a simple lifestyle and is engaged in agriculture as the former capital, such as cultivating rice, black sesame, vegetable garden, etc.	The Thap Nam community has a simple lifestyle and is engaged in agriculture as the former capital, such as cultivating rice, sweet potatoes, vegetable gardens, etc.
2) Consistency with Community Capital		
2.1) Soil and water resources	- fertile soil Suitable for cultivation due to continuous care from the Department of Land Development, District Agriculture, etc. - There is a water source for agriculture in a pipe system for use in cultivation.	- fertile soil suitable for cultivation due to continuous care from the Department of Land Development, District Agriculture, etc. - There is a water source for Kaem Ling for agriculture.
2.2) Social resources economy	Agricultural sector base (rice, sweet potato, black sesame, vegetable garden, egg duck, pig)	Agricultural sector base (rice, sweet potato, banana, vegetable garden)
2.3) Human resources	Found that the whole Ban Ma community and Thap Nam has a shortage of working-age workers. Currently, the average age of workers is between 60-75 years. Local authorities have solved the initial problem by establishing a plan to return home.	
3) A career suitable for the community	These include 1) Cornmeal 2) Black Sesame and 3) Salad can be produced, create jobs, generate income all year round.	These include sweet potatoes, bananas, and limes. They can produce jobs, create jobs, and generate income all year round.

1) Context of livelihood and occupation found that Ban Ma and Thap Nam communities have a simple life and engaged in agriculture as the former capital, such as cultivating in-season rice, off-season rice, black sesame, sweet potatoes, and vegetable gardens.

2) Consistency with Community Capital

2.1) Soil and water resources found that Thap Nam Sub district Administrative Organization area has fertile soil resources suitable for farming in the area such as rice, sweet potato, maize, and vegetable garden. As for water resources, it was found that the Thap Nam Sub district Administrative Organization had good water management because it was outside the irrigation area, but the problem could be solved by pumping water upstream from Khlong Bang Kung to Khlong Thap Nam and making monkey cheeks. (Dig a canal over the water to get deeper) and make a dam to cover the water prevent water from flowing back, both in the area with sufficient water canals (5 water sources) and the pipe system used for agriculture to the front of the house (Ban Ma community). However, the cost of fuel for pumping water in a season is about 1.4 million cubic meters. The amount of such water can be used for agriculture only 50 percent or can be used for about 2 months (half the planting season). Pumping must be carried out continuously (Currently, during project 1 in the project series there has been a solution to reduce the problem of pumping by installing a solar serpent to reduce oil consumption) because farmers in the area use a lot of water because there is no leveling of the soil surface (inclined area), especially in second-season farming due to the use of quite a lot of water which is the main problem that Thap Nam Sub district Administrative Organization is

looking for a way to unite farmers and adjust soil water to reduce excessive water use and increase productivity in another way due to reducing management problems.

2.2) Socio-economic resources found that Thap Nam Sub district Administrative Organization communities (Ban Ma and Thap Nam) still practiced their former occupation mainly agriculture, and community base income came mainly from the agricultural sector, such as rice, sweet potato, and vegetable garden.

2.3) Human resources found that the Ban Ma and Thap Nam community areas currently have a project to return to their native land to push and support the knowledge workers to return to their homelands to continue agricultural work. It is classified as an elderly worker, that is, the lowest average age is 50 years and the highest average age is 80 years. The average age of farmers is in the range of 60-75 years.

Farmers are traditional labor in the area by modifying the crops that were previously cultivated, for example corn as a safe vegetable, etc., and is a retired agricultural family member who has turned to cultivate with their own agricultural land or inherited from grandparents to parents' generation, etc.

3) A career suitable for the community (can reduce/solve problems)

The Ban Ma community offers occupations that can create jobs and incomes throughout the year. whether there is a problem of flooding season, the occurrence of covid 19 and following the project to develop the pipeline system for agriculture such as wax corn (currently facing problems with production, pests, and seeds), black sesame seeds (shortage of good seeds and unstable market prices) and salad (not receiving food safety standards despite having a chemical-free production system) sold at the same price as normal vegetables).

The Thap Nam community has proposed occupations that the community wants to develop further to reduce/solve problems during the flooding season and reduce the problem of covid 19 disease, such as sweet potato, cultivated banana, and lime.



Salad from Ban Ma Community



Lime from Thap Nam community

Figure 5 Community products suitable for the local context

1. Production and marketing potential of community products in flood season

It is an analysis of the production and marketing potential of community products. Both quantitative are financial and economic value analysis and economic feasibility analysis by considering business sensitivity and qualitative analysis, including strengths, weaknesses, opportunities, and threats, and then perform a strategic analysis in the TOWS Matrix relationship model to obtain proactive, passive, corrective, and preventive strategies. For community products in the Thap Nam Sub district Administrative Organization area the results of the study can be summarized as follows:

1.1) Economic feasibility and business sensitivity

A comparative feasibility and sensitivity analysis of community product production projects revealed that salad and lime products were economically feasible and were able to resist the impact of changes in product prices and input prices as detailed in Table 2.

Table 2 the results of feasibility and sensitivity analysis of community products business, Thap Nam Sub district Administrative Organization

List	Increased costs, lower returns		
	5 percent	10 percent	15 percent
Salad of Ban Ma Community			
ENPV	27,886.14	18,966.86	7,901.15
EBCR	1.29	1.19	1.08
EIRR	69%	42%	9%
Lime of Thap Nam Community			
ENPV	146,662.62	134,902.79	123,142.97
EBCR	4.63	4.19	3.78
EIRR	360%	317%	278%

Salad and lime found that if the production cost was increased and the yield was reduced by 15 percent, both products were still economically viable, ENPV was greater than 0, EBCR greater than 1, and EIRR greater than fruit rate. The financial return (7 percent) indicates that despite the increase in production costs and a 15% drop in returns, salad and lime products continue to operate as normal and is economically worthwhile.

Lime products are economically cost-effective and have the potential to resist the impact of changes in selling prices (up to 65% in revenue) and cost changes. (Price of inputs up to 65%)



Figure 6 Activities of collecting data and reviewing the results of cost-effectiveness and economic feasibility analysis.

1.2) TOWS analysis

Take the results of the analysis of strengths, weaknesses, opportunities, and threats of the products in Ban Ma and Thap Nam communities to conduct matching actions to formulate a proactive strategy (S+O), a corrective strategy (W+O), and a passive strategy (S+ T.) and preventive strategy (W+T) or strategy capture TOWS Matrix can be displayed as follows.

In salads, a proactive strategy (SO) was found to be a growing process/method that used neem pesticides because neem contains azadirachtin to help kill insects, and vegetables are planted in the dome to prevent insects in line with the government's policy to promote safe crops.

The corrective strategy for WO is that there are a small number of salad products. Modified by encouraging villagers/people in nearby areas to grow organic vegetables to generate more income and increase productivity.

The passive strategy ST is to build a network of strong and expandable enterprise groups to drive marketing channels.

Preventive WT is a method of continuous production and advertising for Promote products in the form of 3D media to increase product promotion channels, open awareness in the form of electronic media such as Facebook, Instagram, and other channels to increase distribution channels for new consumers and the same consumers can choose to buy more easily.

Table 3 Results of TOWS analysis of salad products

TOWS Matrix	Strengths	Weaknesses
	<ul style="list-style-type: none"> It is a safe vegetable / safe from toxins. There is a group of enterprises that can be strengthened and can be extended to drive activities. 	<ul style="list-style-type: none"> Continuity of production according to market demand Small amount of productivity, productivity according to organic plant characteristics
	Opportunities <ul style="list-style-type: none"> Vision of the Prime Minister of the Sub district Administrative Organization to promote and assist production, marketing It is consistent with the government policy to promote safe plants. 	SO (Proactive) A method by making disease and insect control agents from Neem contains Azadirachtin in helping kill insects and growing vegetables in the dome to prevent insects and in line with government policy to promote safe crops. WO (Corrective) From the small amount of produce, there is a method by encouraging villagers in the nearby neighborhoods to grow organic vegetables to generate more income and increase productivity.
	Threats <ul style="list-style-type: none"> There is little marketing to present to consumers. 	ST (Passive) Build a network of enterprise groups that can be strengthened and can be extended to drive marketing channels. WT (Preventive) There is a method to produce products continuously and make advertisements to promote products by producing 3D media and video clips to increase awareness and add value to a product.

Lime found that there was a proactive strategy (SO) which was the process of expanding the area for safe and non-toxic lemon cultivation by using non-chemical, non-pesticide-free cultivation methods to obtain quality products that are safe for consumers. The corrective strategy for WO is to increase the advertising channel to promote lime to be known to the customer group, such as developing or creating 3D media to increase the variety of distribution channels, increase awareness, and add value to the product.

The ST passive strategy is to preserve the limes by wrapping paper and refrigerating them to extend the shelf life of unsold limes during the dry season and selling them in

different seasons. Without the extra expense of caring for new lemons, this method will help keep the lemons from being bitter and having the same flavor.

Preventative WT is approached by hiring unemployed villagers who specialize in lime care and adding pest control methods by spraying wood vinegar every day to prevent insects.

Table 4 Results of TOWS analysis of lime products

TOWS Matrix	Strengths	Weaknesses
	<ul style="list-style-type: none"> Safe planting Can be kept for a long time. 	<ul style="list-style-type: none"> Requires farmers who have time to take care and care all the time. It is a plant that has a fixed growing period.
Opportunities <ul style="list-style-type: none"> There are various product distribution channels. There is a plantation area, can expand the planting area if it is a period when the trend of product demand is high. 	SO (Proactive) Expand the area to grow limes safely and without toxic substances by using planting methods that do not use chemicals, do not use pesticides to produce quality and safe products for consumers.	WO (Corrective) Increase advertising channels to promote lime to be known among customers by creating 3D media, etc.
Threats <ul style="list-style-type: none"> There are other products that can be substituted. Unable to set the selling price. 	ST (Passive) Preserve limes by wrapping them in paper and refrigerating them to help extend the life of unsold lemons during the dry season and sell them for different seasons without the extra cost of caring for new limes. The lime is not bitter and has the same flavor.	WT (Preventive) There is a method by hiring unemployed villagers who are experts in lime care and increasing the pest control method by spraying with vinegar or bio-infested water every day to prevent insects.

The results of the quantitative and qualitative analysis can be concluded that the “salad” and “lime” products, in addition to being economically feasible for commercial investment, also have strengths, weaknesses, opportunities, and threats that were analyzed to create. It is a strategy to enhance marketing potential. In promoting products to increase awareness channels for products, as a result of a small group meeting with the participation of farmers and Thap Nam Sub district Administrative Organization, it was found that 3D media should be created. This is a remedial strategy (lime products) and a preventive strategy (salad products) to increase awareness channels and contribute to adding value to the product.



Figure 7 Visual data collection activities to analyse strengths, weaknesses, opportunities and threats.

2. 3D media to promote suitable careers in flood season

The development of 3D media with community participation at every stage in the form of small group meetings to discuss. From meetings to return the results of quantitative analysis (economic feasibility) and qualitative analysis results (strengths, weaknesses, opportunities, and threats) and jointly create strategies with the community. It

has been found that creating 3D media is one of the corrective (lime) and preventive (salad) with details of the process of creating 3D media in participative ways.

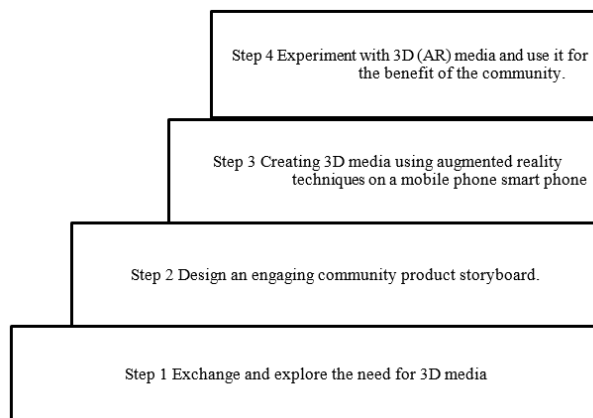


Figure 8 the process of creating engaging 3D media

From the process of creating 3D media in the form of augmented reality techniques for smartphones as a result, the main products are as follows:

- 1) Product promotion words
“Safe vegetables, planted with heart, no toxic substances”
- 2) Logo with spatial participation with educational institutions "Nong Pon Nam"



Figure 9 product logo Safe vegetables of the community, Thap Nam Sub district Administrative Organization.

- 3) Video clip according to storyboard content

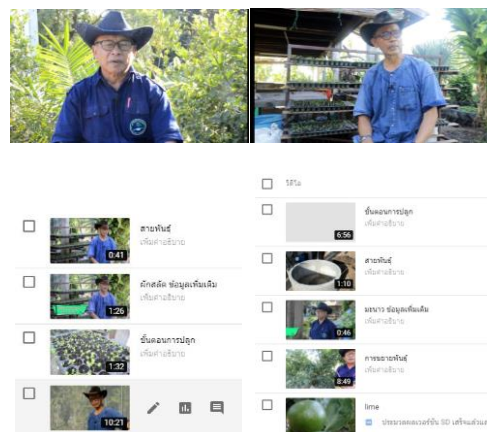


Figure 10 3D media, promotional videos for community products

4) 3D media using augmented reality techniques on smartphones

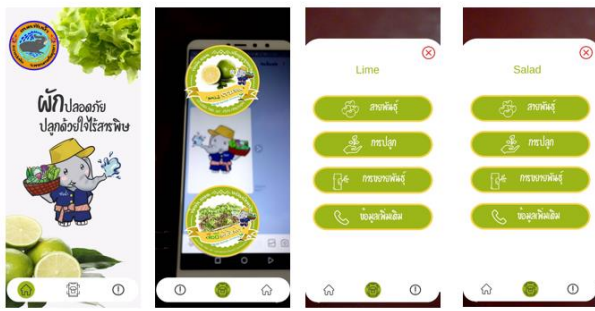


Figure 11 showing the product home screen

5) Using 3D media to promote product awareness



Figure 12 Example of advertising media for promoting safe vegetable products in community stores



Figure 13 product brand with a central logo to use 3D media

6) The results of the analysis of the satisfaction assessment of the 3D media experiment

It was the result of the satisfaction assessment of the use of 3D media to promote career-building during the flood season. In the case of safe vegetables of people in the water intake area, the two groups involved are

6.1) 5 experts found that 3D media is suitable for both content and design at a very good level and can be used in real life. The overall content issue has a very good average score ($\bar{x} =$

4.65, $SD = 0.48$) and the overall design aspect has a very good average score as well ($\bar{x} = 4.67$, $SD = 0.48$), so 3D media can be utilized to promote community products.

6.2) 50 general users found that 3D media was appropriate in terms of system usage, content, and satisfaction at a good level. In terms of system usage, it was found that the media satisfaction data for the media evaluation of the system usage had a good average score ($\bar{x} = 4.13$, $S.D. = 0.60$), especially in the issue. The illustrations used are appropriate for the screen. The average score was at a very good level ($\bar{x} = 4.23$, $S.D. = 0.62$) and was able to be put to practical use, followed by the accuracy of each product's information. With a good grade point average ($\bar{x} = 4.20$, $S.D. = 0.61$). The overall story has a good average score ($\bar{x} = 4.18$, $S.D. = 0.55$), especially in the issue. Content is useful to viewers. with a very good grade point average ($\bar{x} = 4.27$, $SD = 0.58$), followed by a description of the content that is clear and easy to understand with a good grade point average ($\bar{x} = 4.20$, $SD = 0.55$) and Received knowledge from AR media with a good average score ($\bar{x} = 4.07$, $SD = 0.52$) and overall satisfaction with a good average score ($\bar{x} = 4.17$, $SD = 0.55$). Only on the issue Media used to promote the occupation of people in the area with a very good average score ($\bar{x} = 4.27$, $S.D. = 0.45$) followed by ease of use. With a good grade point average ($\bar{x} = 4.17$, $S.D. = 0.65$) and overall you are satisfied. With a good grade point average ($\bar{x} = 4.07$, $S.D. = 0.52$), therefore, 3D media can be utilized to promote community products.

VI. DISCUSSIONS

Developing 3D media to promote career building in flooding season, the case study of Ban Ma and Thap Nam community areas for career and income sustainability should start from the needs of the people and the local resources of the community as an important concept according to the Sustainable Development Concept [5] [6] [14] [7] [8] in which the context of the study area found that there was a simple lifestyle. And engaged in agriculture as the former capital there are sufficient water resources for agriculture throughout the year. Because the Sub district Administrative Organization, which is a local authority, has good water management. Found that the Ban Ma community offers occupations that can create jobs and generate income. Throughout the year, whether there is a problem of flooding season, the disease of Covid 19 and in line with the project to develop a pipe system for agriculture such as wax corn, black sesame, and salad. While Thap Nam community offers occupations of sweet potato, banana, and lime. Conducting both quantitative and qualitative analysis of production and marketing potential [6], [12] found that salad and lime were economically worthwhile. Lime products are economically cost-effective and have the potential to resist the impact of changes in selling prices (revenues up to 65 percent) and cost changes (input prices up to 65 percent). Research [14] found that lemon cultivation is a product that is worth the investment. for analysis, results TOWS to analyze the strengths, weaknesses, opportunities, and threats of the products in Ban Ma and Thap Nam community to carry out matching actions to formulate a proactive strategy (S+O), a corrective strategy (W+O), a passive strategy (S+T). And preventive strategy (W+T) or TOWS Matrix strategy capture, which [14]'s research states that successful strategy formulations come from strengths and weaknesses, demonstrated by internal factors consisting of the 4 P's:

product, price, position/distribution and promotion. Opportunities and threats are presented by external factors such as Demographic, economic, political, legal, social, and cultural factors are applied to build a strong community based on the example of [15] community management system, the learning process of people in the community and having shared interests in the community is important for Ban Ma community salads should focus on corrective strategies. WO is a small number of salad products. Modified by encouraging villagers/people in nearby areas to grow organic vegetables to make money and increase productivity to a greater number. This is consistent with [16] that the production of salad crops is relatively low. The resulting products are not sufficient to meet the needs of consumers. It is beneficial for consumers to consume good vegetables, quality, and make farmers earn more. Passive strategy ST is to build a network of strong enterprise groups and can be extended to drive the marketing channel to be consistent [17] [18] [19] [20] It was found that the extension should be emphasized by adding a variety of marketing/distribution channels, as well as having a model clear management.

Preventive WT is a method of continuous production and advertising.

Promote products in the form of 3 D media to increase product promotion channels and open up awareness in electronic media such as Facebook, Instagram, and other channels to increase distribution channels for consumers. New and existing consumers can shop more easily [19] [20] [21] [22] focusing on clear management. Of course, with a variety of distribution channels.

For lime, the strategy of remedial WO should be emphasized, which is to increase the advertising channel to promote lemon to be known to the customer group, such as developing or creating 3D media to increase the variety of distribution channels, increase awareness, and add value to the products [18] [19] [20] [21] focus on management that is clear, definite and has a variety of distribution channels.

The ST passive strategy is to preserve limes by wrapping paper and refrigerating them to extend the shelf life of unsold lemons during the dry season and selling them in different seasons without the additional maintenance costs. This will help the limes not be bitter and retain their original flavor. [21] Used to wrap each lemon individually by wrapping paper, putting it in a plastic bag, and tying it tightly. Putting it in the refrigerator in a normal compartment can keep the lemon-fresh for longer.

Preventive WT is approached by hiring unemployed villagers who are skilled in lime care and adding pest control methods by spraying wood vinegar daily to protect against insects [22] that benefit from using wood vinegar in agriculture to prevent and kill pests.

The satisfaction assessment of the 3 D trials was found to be assessed by two groups: content and design experts. [23] And for general users. In terms of system usability, content, and satisfaction [24], it should be given a better rating and make adjustments according to the recommendations before being put into practice.

CONCLUSION

Development of 3 D media to promote career building in flood season of people in Thap Nam Sub-District and Ban Ma Sub-District communities.

1) Farmers in the Thap Nam Sub district Administrative Organization area have a comprehensive body of knowledge about what to do. Especially salad and lime growers who can develop into village sages in transferring/giving knowledge/to be a learning center on organic agriculture/non-chemical processes/safe vegetables by using video clips from the research. This is a medium to convey to farmers who are interested to use it as a tool to promote, promote the expansion of organic farmer networks or create organic farming networks to increase the number of organic products to meet the needs of consumers. It will have clear results if it is supported by government agencies.

2) The results of feasibility analysis of commercial business found that village sages have great potential in doing business as ENPV is more than 0, EBCR is more than 1, and EIRR is more than 7%. In addition, in the situation of covid19, they can increase business opportunities and expand the advantages of chemical-free vegetable products. However, the results of the analysis of strengths, weaknesses, opportunities, and threats still find limitations in promoting or increasing sales channels that focus primarily on the storefront/front of the garden. Therefore, local agencies should focus on and promote 3D media is presented to be used in a wide-angle in both the private sector (Phu Chao Oey, Phan Dee Food) and the government sector. (Tourist community of the state, Choeng Nawat Withi, on the page of the local authorities (Tub Nam Sub district Administrative Organization) in orders to have a real effect and can be used to develop further.

3) Community products are independent of each other, no brand together. According to this research, the central product brand has been developed with the promotion of community products which is "Safe Vegetables, Grown with Heart, Non-Toxic" and has a logo which is "Nong Thap Nam." which is embedded 3D media (AR) to develop into salad and limes and, if possible, relevant government agencies should promote the creation of other safe vegetable products and promote the use of a central brand to extend the video clip to be more diverse

ACKNOWLEDGEMENT

Thank you for the integrated research and innovation budget for the fiscal year 2020 and the Faculty of Business Administration and Information Technology Rajamangala University of Technology Suvarnabhumi Phra Nakhon Si Ayutthaya Wasukri Center.

REFERENCES

- [1] B.Hasan, , H.Ian, & M. G. Juan, "A Manifesto for the creative economy". London: Nesta Operating Company. 2013.
- [2] C. H.Wang, Y. C. Chianga, & M. J.Wang, "Evaluation of an augmented reality embedded on-line shopping system." 6th International Conference on Applied Human Factors and

- Ergonomics (AHFE 2015) and the Affiliated Conferences. 3 : 5624 – 5630. 2015.
- [3] B. Francesca, “What works where in B2B digital marketing”. *Journal of Direct, Data and Digital Marketing Practice*, 14(2012): 154-159. 2012.
- [4] A.Kalimadhu, P.Shiva, B.Gopalkrishna. & P. K. Adarsh, “A Digital marketing: A strategic outreaching process.” *International Journal of Management, IT and Engineering*, 5(7): 254-260. 2015.
- [5] S. Saengchai, “Environment: Political Ideology and Sustainable Development. Bangkok: Graduate Program in Environmental Management.” National Institute of Development Administration. 2002.
- [6] M.Redclift, “The Multiple Dimensions of Sustainable Development.” *Geography*, 76 (1), 36-42. 1991.
- [7] J. Sayer & B.M. Campbell, “The Science of Sustainable Development: Local Livelihoods at the Global Environment.” Cambridge: The University Press. 2004.
- [8] G. Mansuri & V. Rao, “Community-based and-driven Development: A Critical Review.” “The World Bank Research Observer, 19(1), 1-39. 2004.
- [9] M.Leach, R.Mearns & I.Scoones, “Challenges to Community-based Sustainable Development: Dynamics, Entitlements, Institutions. *IDS Bulletin*”, 28(4), 4-14. 1997.
- [10] S. A. Fritzen, “Can the Design of Community-Driven Development Reduce the Risk of Elite Capture? Evidence from Indonesia. *World Development*”, 35(8), 1359 - 1375. 2007.
- [11] J. Chankong, “The Effects of Climate Change on Palm Production. Oil and Farmers' Adaptation in Southern Thailand" Dissertation, Maejo University. 2018.
- [12] I. M. Dellarosawati, “10A-Module Feasibility and Sensitivity Analysis.” 2020.
- [13] J. Phuprang, “Analysis of Costs and Financial Returns of Lime Agribusiness. in Sankhaburi District Chaina Province” Faculty of Business Administration Maejo University. 2017.
- [14] S.Suwanmaneepong, S.Fakkhong, and P. Kullachai, “SWOT analysis and marketing strategies development of agricultural products for community group in Nong Chok, Bangkok, Thailand”. *International Journal of Agricultural Technology*, Vol. 14(7): 2027-2040. 2018.
- [15] Y. Payapsai, S. Santipholwut and P. Changwattanachai, “An Analysis of the Strength of Community Enterprises Based on Sustainable Development Concepts”. 2014.
- [16] S. Sirada, “Marketing Planning to Increase Revenue of Hydroponics Vegetable Farm “23 Hydro Farm Chum Phae” in Chum Phae Municipality, Chum Phae District, Khon Kaen Province”. 2018.
- [17] A. Jitsuk, “Guidelines to Promote Organic Farmers in Chiang Rai Province to Organic Agriculture Standards”, Master Thesis, Chiang Rai Rajabhat University, Chiang Rai. 2016.
- [18] T. Chaimongkol et al. "Approach to expanding organic farming results of farmers in Pho Thong Charoen Village, Choeng Doi Sub-district, Doi Saket District. Chiang Mai Province". *Journal of Agricultural Science*. 44(2) May - August, 2013.
- [19] P.Charoon, "Organic agriculture, planting medicinal plants for health according to the Royal Initiative, Sufficiency Economy, Case Study, Ban Wang Yuan, Tha Wang Subdistrict, Thung Song District, Nakhon Si Thammarat Province". Thesis (M.Eng.), Bangkok : Interdisciplinary Program for Local Development Phranakhon Rajabhat University, 2012.
- [20] T. Sathian, “Community Business Management : A Case Study of Organic Agriculture Group, Mae Kham Subdistrict, Chiang Rai Province”. independent study Master of Business Administration General Management Chiang Rai Rajabhat University, 2012.
- [21] P. Pinitwat. “Form of Occupational Promotion for Ban Phon Sai Community, Mueang Sub-district, Mueang Loei District, Loei Province. *MCU Journal*”. Nakhon Nan Paritas, Vol. 3 (2), July – December, 2019.
- [22] P. Noicharoen, “Efficacy of wood vinegar in controlling vegetable flea beetles and production studies. Utilization of Wood Vinegar in Pathum Thani Province” Thesis Rajamangala University of Technology Thanyaburi 2016.
- [23] C. Sathavanana and S. Muangsoon, “Clearing the story of textbooks that use Oc-eard Allah in 3D presentations”. Program code A19/2013. 2013.
- [24] G.Termwithhajorn, A.Maneenium. “Public relations of tourism location in Yala using Augmented Reality with Location Based Service on Mobile Application” Academic Resource and Information Technology, Faculty of Management Science. 2018.