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PROCESSED PRODUCT DEVELOPMENT OF ETHNIC GROUPS IN THE NORTHERN ECONOMIC CORRIDOR TO PROMOTE DISTRIBUTION THROUGH ONLINE CHANNELS BY APPLYING INFORMATION SYSTEMS OF COMMUNITY FINANCIAL INSTITUTIONS

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Abstract

This research aims to develop processed products and utilization of value-added scraps from agricultural products and develop the information system of community financial institutions and access the satisfaction of the use of promoting the distribution through online channels of ethnic processed products. The results found that processed product development and utilization of value-added scraps from agricultural products of the vegetables and fruits group consists of the longest harvesting crops and is the main economic crop in the area, which applied "production wheel calendar of crop cycle and year cycle". Guidelines to reduce the costs and create value-added agricultural products by obtaining the career skills of four courses, including sweet cape gooseberry biscuit, dried cape gooseberry, cape gooseberry jam, and cape gooseberry gummy. Also, the skill of value-added to the scraps from agricultural products by making fertilizer without turning the pile. For the online distribution channels by applying the information system of community financial institutions, the service for distributing products via the website which 85.45% presented the sale of products both in store and online. Success in the implementing overall satisfaction assessment of the information system is at the highest level which is to develop human beings and promote social responsibility and marketing, business, and marketing technology for sustainability in the future.

Keywords: Ethnic Groups, Information Systems, Northern Economic Corridor

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Introduction

The Economic Corridors Policy Committee has announced the economic corridors in all four regions, and determined which corridors will drive the operations according to the components of economic development in five areas as follows: 1) providing benefits and facilitating investment, 2) infrastructure development, 3) production and service chains development, 4) labor development and support for entrepreneurs, and 5) research & development and technology transfer.

Northern Economic Corridor area 1 includes Chiang Rai, Chiang Mai, Lamphun and Lampang as the Northern Economic Corridor: NEC-Creative LANNA to upgrade it to be a development investment area to be the country's main sustainable creative economy base. The Kae Noi Royal Project, Mueang Na Sub-district, Chiang Dao District, Chiang Mai is in the area of the Northern Economic Corridor and also the largest source of cape gooseberry in Thailand. The operation of the cooperative and Kae Noi Royal Project is to promote and support the resources that are used in agriculture and generate income for the members. It is a local community financial institution that helps the members or farmers get loans and sell their products at a fair price. The operation of the cooperative is stronger and more efficient and the community members in the area have been encouraged to have a better quality of life (Kae Noi Royal Project Cooperative, 2020).

The situation in year 2021-2022, the members are affected in terms of social and quality of life from the shrinking economy due to the COVID-19 pandemic, which slowdown the movement of agricultural and food production, and the decreasing of consumer's demand. The increase in agricultural production resulted in decreased household incomes. If the situation persists, households will face a lack of liquidity, especially small households with low saving levels and/or low daily incomes due to reduced market demand from the public health measures both social distancing and various forms of quarantine (Committee on Agriculture and Cooperatives, 2021). The study found that the Kae Noi Royal Project is the source of cape gooseberry and other fruits and vegetables. This information was found through information gathered from the area and the Chiang Mai Information Center of Knowledge, Local Wisdom and Community Innovation (Social Enterprise). The products have been tested and certified by the Kae Noi Royal Project to have good farming practices and to avoid harmful chemicals.

The products cannot be sold and the production exceeds the market demand, resulting in waste of product and the costs associated with the cost of agriculture and incurred the debts (Information Center of Knowledge, Local Wisdom and Community Innovation, 2022). To help cooperatives solve problems, the guidelines are to promote occupations that will increase members' incomes and reduce debts. Additionally, processing or utilizing value-added scraps from agricultural products can help to improve members' knowledge, skills, and management processes and developing market demand skills can help to change members' agricultural occupation skills over time.

Therefore, it is important to develop the information system for the distribution of agricultural products that suitable for each region, including the creation of an important database of farmers combined with a good information system of the cooperative that will lead to the conclusion of awareness on self-reliance and obtaining the guidelines for changing farmer's behavior and building a stronger financial system towards the sustainability of the fundamental economic sector in the future.

The objectives of this research are to develop processed products for utilization of value-added scraps from agricultural products and develop an information system for community financial institutions and assess the satisfaction of using it to promote online distribution of the processed ethnic products.

Research Methodology

The research model for this project is research & development (R&D) and implementing the ADDIE model. This study aimed to find out the causes of problems that farmers are experiencing and how these problems can be solved through the use of agricultural waste. This study will focus on marketing information systems and online distribution channels for processed products.

Population and sample including 60 members of Kae Noi Royal Project Cooperative, Mueang Na Subdistrict, Chiang Dao District, Chiang Mai. The qualifications according to the Equitable Education Fund requirement were, the ages of 30-65 years old, lack of funds, education level lower than junior high school (grade 9), main occupation was in agriculture, farmers' households has non-farm workers 10% of all farmers, had average income per person not more than 6,5000 Thai Baht (Equitable Education Fund, 2021). The sampler selection starting with the quota sampling, using nonprobability sampling, convenience sampling, and purposive sampling techniques, which the respondents must voluntarily provide information.

Research tools and analytical statistics in this research was divided into two parts as follows:

Part 1: Stage 1: ADDIE model conceptual process in stage 1 (R1), research (Research: R1), the study of contextual analysis of relevant areas and exploring basic information, career skills, agricultural knowledge, farmers' needs to lead to the development of processed products for utilization of value-added scraps from agricultural products (Analysis: A). Stage 2 (D1): Development of processed agricultural products (Development: D1) is the design and development of products (Design and Development: D & D). Stage 3 (R2): This part is the application of processed product development to increase non-agricultural income (Implementation: I). And stage 4 (D2): Development of processed products from agricultural scraps (Development: D2). Evaluation and transcription of career skills, processing products, and curriculum and information systems for community financial institutions to promote online distribution of processed ethnic products (Evaluation: E) using a semi-structured interview by organizing a brainstorming forum of the target group with participation which is a tool in the implementation of the project. The questions used to measure variables and the content that the interview covered the concepts from the literature review to make them relevant and consistent with the objectives that set for the measurement of variables. The data analysis in this research does not use statistical analysis because it is qualitative research. This allows the researchers to use the information obtained from the in-depth interviews to verify the completeness of the content to see if it covers all purposes. They also use documents, in-depth interviews, and participant feedback to check validity and credibility. Then, analyzed the data by classified the data according to the objectives of the synthetic study to get an overview of the objectives that will affect the conclusion of the study and present the study results in descriptive report and use the information to develop the information system according to the needs of the target group with participation.

Part 2: System assessment and satisfaction assessment of IT systems by using a questionnaire about satisfaction in 3 aspects, which include utilization aspect, system performance aspect, and the possibility aspect. A 5-level scale (Krejcie & Morgan, 1970) was used for the respondents to choose, "1" refers to the lowest level of satisfaction and "5" refers to the highest level of satisfaction. Then 5-level average interpretation criteria were used, which the average of 1.00-1.80 means the least satisfaction and the average of 4.21-5.00 means the most satisfaction. Validity test and questionnaire confidence test got the result of alpha coefficient of 0.947, which was considered acceptable and can collect data with the sample. Data analysis and statistics used in quantitative analysis were descriptive statistics by finding the frequency, percentage, arithmetic mean and standard deviation.

System development by Pongwiritthon & Kamjai (2018) concludes that the knowledge of information systems, information system development, technology used in system

development, knowledge of information systems and related research should be considered. Especially the theory used in the development of information systems, which is the System Development Life Cycle (SDLC) with the development processes as follows: system investigation, system analysis, system design, programming, testing implementation, and maintenance.

The development of information systems for community financial institutions was developed to work in the form of a web application, which the research team used various information such as objectives, characteristics, limitation of the target group in order to obtain the data structure and requirements. Later on, it was used to create a sitemap, menu style, including various web elements such as images, graphic and multimedia to be used in the design of the layout of the website then the target group and consulting experts can use the system easily. The researchers used Adobe Photoshop to design and wrote the web applications page by page. The researchers chose the Microsoft SQL server (version 8.0) to manage the database.

The researchers also used programming code in HTML, CSS and Java-Script language by collecting data and information system in the domain name and the host of the website http://www.smepil.com/pch. The layout and graphic elements were designed, so the content was populated and formatted. The links and navigation were built into various auxiliary elements, and put into place. There were various adjustments made to suit the actual use. When the website was used, the researchers took care to cover many issues, from web server validation and language and processing integrity testing to experimenting from real data according to the working process and then creating a user manual for those who use the website. There was also training for users and regular database backups.

The development of information systems was used to analyze and design systems that meet the needs of community financial institution management as follows: 1) membership system for deposits, loans, and member shares, 2) money deposit and interest system, 3) loan and guarantee system, 4) institutional income system, 5) institutional expenditure system, 6) deposit report system, paying off loans, guarantees, financial reports, profit sharing according to institutional regulations and so on, 7) loan and guarantor agreement system, 8) marketing and distribution through online channels, 9) product cost system, income from selling, selling and administrative expenses, and 10) document systems.

To design new information systems, it was based on relevant theoretical concepts, including logic and database design, which the functional program had a new information system called "Community Financial Institutions Information System" consists of subsystems that have been developed related to 3 groups of users as follows: 1) community financial institutions management committee, 2) cooperative members/ user groups, and 3) cooperative staff of receiving/paying department.

System administrators are also responsible for managing system information, including managing usernames and passwords, and managing overall assessment data. Implementation for trial and evaluation is the implementation of the developed system to be tested in practice with the sample group by meeting them to clarify and train how to use according to the project objectives, along with distributing the user manual of the system. The organization then assesses satisfaction with the information system, based on the results of the evaluation, and develops and corrects any problems that may have arisen from the relevant theoretical approaches. The business results and solutions will be presented later.

Research Results

The Development of Processed Products, Utilization of Value-Added Scraps from Agricultural Products under the process according to the concept of the ADDIE model in step 1 Research (R1) and Analysis (A), step 2 Development (D1) and Design and Development (D & D), and step 3 Implementation (I). The results showed that developing career skills with the income

system and production cost planning system, which is the “Production wheel calendar of crop cycle and year cycle”. The target group can record the personal details of each member in the community financial institution management information system to create a database, timeline, and production calendar of the target group and community area. In the production cycle that can be performed as a prototype activity and the main crops in the area are vegetables and fruits, consisting of the longest-harvesting crops and the main cash crop in the area, which are cape gooseberry (from September-April of every year) and lettuces that can make good income during winter. The target groups reflected the problem as follows:

1) The selection of planning area is still the same area without soil improvement. The condition of the soil is on a steep mountain area. The target audience is still limited in terms of rental land for cultivation. There is also the accumulated use of chemical fertilizers, therefore the target group is interested in reducing the cost of soil quality improvement.

2) The selection of plant types that are suitable for that area, such as cape gooseberry, lettuce and so on.

3) Using and selecting good cultivars that are resistant to problems and resistant to pests. There are already seedlings and seeds that are under the development of the Royal Project.

4) Use the appropriate number of seeds with good germination and the appropriate planting distance to avoid the accumulation of insect disease problems.

5) Fertilizers should be applied correctly according to the growing stage.

6) The inflorescence is pruned to nourish the plants.

7) Watering should be suitable for the growing period.

8) Pest prevention, pest control, force for off-season, switch the plots.

9) Lack of processing skills and creating value-added, reduction from productivity, building stability through living with the philosophy of sufficiency economy.

The guideline to reducing costs and creating value-added in crop production to create knowledge in production planning for maximum efficiency and explore the basic information of the target group and promote techniques on how to reduce production costs in the area with community participation and the preparation of knowledge in the skills in 9 approaches to reduce costs and create value-added in productivity as follows: 1) reducing the cost of soil management and soil preparation, 2) reducing the cost of plant breeding management, 3) reducing the cost of fertilizer management, 4) reducing the cost of pest management and the use of chemicals, 5) reducing the labor costs and agricultural machinery, 6) cost reduction through mixed crops, 7) cost reduction from increasing productivity, 8) creating value-added, and 9) building stability through living with the philosophy of sufficiency economy.

Participation in the brainstorming forum as shown in Figure 1 and Step 4 Development (D2) found that the guidelines to the needs of the target group with participation in the implementation of problem solving are as follows: 1) knowledge in planning, factor cost analysis and investment in agriculture for maximum efficiency, 2) knowing how to analyze the costs of agricultural inputs and investments will be a cost or a debt, as costs will be tracked and classified according to their rising rates, 3) processing of products to increase the income, 4) create value-added scraps from agricultural products, which is a process of adding knowledge and skills to add the value from scraps, and 5) creation and use of information to promote the distribution of processed products.

The project's implementation plan was designed with the target group's needs in mind, and it outlines how to develop processed products and value-added scraps from agricultural products, which obtained four career skill courses as follows: biscuit with cape gooseberry topping, dried cape gooseberry, cape gooseberry jam, cap gooseberry gummy and so on. And the skill of value-added scraps from agricultural products, which is composting without turning the piles as shown in Figure 2.

Figure 1 Career Skills Development Activities with Income System and Production Cost Planning System for the Development of Processed Agricultural Products

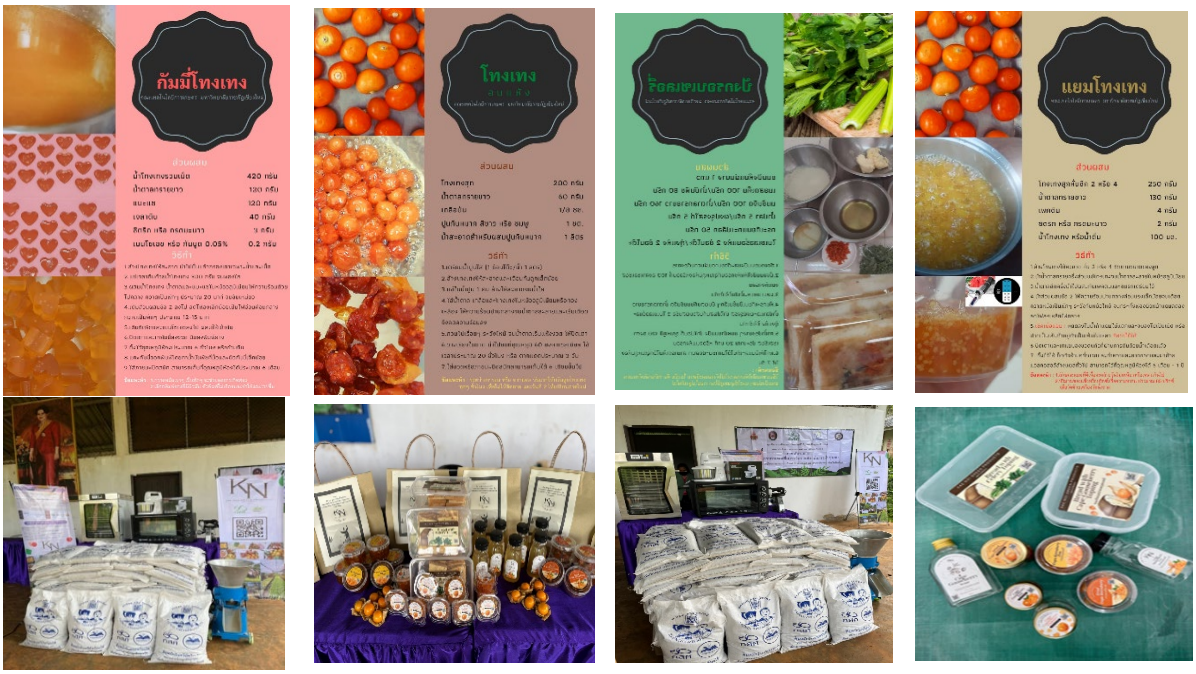

Figure 2 Career skills (course) and processed agricultural products/value-added skills from agricultural scrap products

Distribution through online channels by applying information systems of community financial institutions is the final process based on the ADDIE model, which is an assessment and a lesson learned on product processing career skills by applying information systems to promote online distribution of ethnic processed products (Evaluation: E). The distribution of information through an online channel can be recorded in an information system operated by a community financial institution via the website www.smepil.com/ku and can search for information based on their needs, and ready to print the report or update the information to be accurate and reliable. The general public can get the news of the information system. The target group has joined the information system in order to access and use the training materials to help them solve problems and keep up to date with change. The information obtained from participating in the project can be said that the target group uses the information system to manage the distribution through online channels and has a plan for future development. When surveying

primary data to study the distribution management through online channels according to the composition concept, it was found that 85.45% had an information system to present the sale of products both in-store and online, consisting of the sub menu as follows: product information, production of goods, merchandising, selling products online, damaged/ expired products, set up shipping/delivery prices, cost of production in each lot, yield, and cost price per piece. For selling products in the shop, it is the sale of products at the cooperative shop, the sub menu including count money before selling, sell goods, settlement, deposit, which counting money before selling is to prepare the money for change for each day. The project has promoted online marketing knowledge to the target group, and the group has brainstormed from the target group to select online marketing channels that are suitable for the context of use. This is because online marketing is a channel for public relations and distribution that is easy to use, and it is not complicated. Social media is a very popular way to reach target customers, and this has led to the development of product marketing channels as shown in Figure 3.

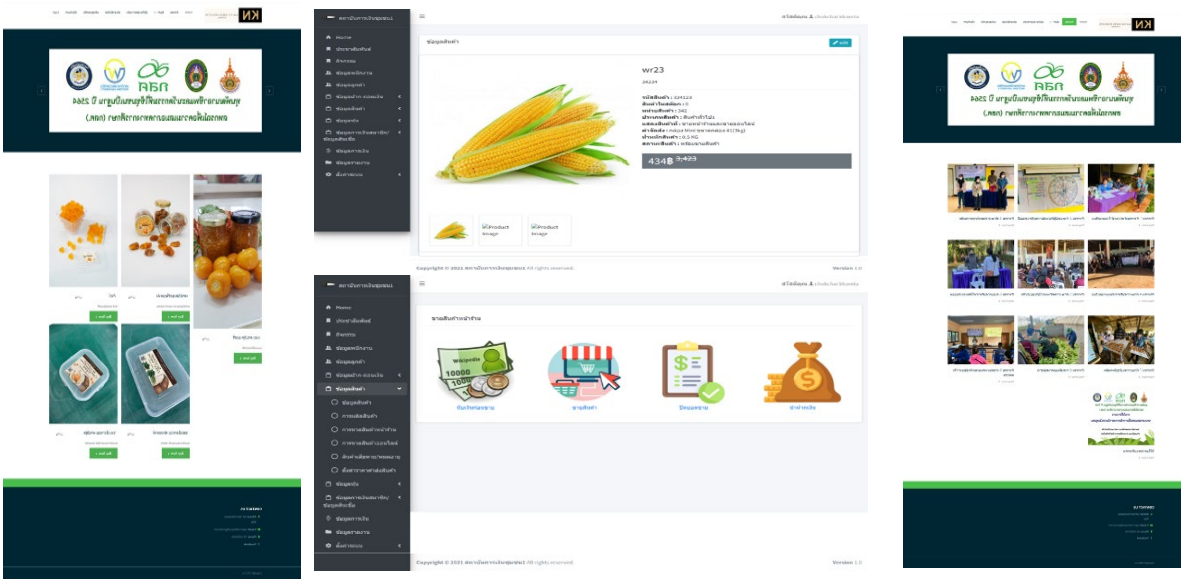

Figure 3 Distribution system through online channels using community financial institutions information system

Implementation and evaluation of satisfaction of using information systems for community financial institutions information system development, the research team has worked with the target groups to present a new work system, distribution management through online channels. They have selected a target group and trained them to record data about 60 people and the results can be summarized as follows: The target group and related agencies expressed their opinions according to the information system questionnaire, which overall was at the highest level (mean = 4.68, S.D. = 0.68). In each aspect, the satisfaction level was at the highest level as follows: system performance utilization aspect (mean = 4.83, S.D. = 0.71), system performance aspect (mean = 4.17, S.D. = 0.64), while possibility aspect (mean = 4.20, S.D. = 0.53) that was at a high level of satisfaction. When considering the satisfaction of the target group, it was found as follows:

(1) Utilization aspect that the target group and related agencies had the highest level of overall satisfaction (mean = 4.83, S.D. = 0.71). The highest level including the attractiveness of the data aspect (mean = 4.21, S.D. = 0.69), appropriateness of the format used to get the issue aspect (mean = 4.70, S.D. = 0.58), information useful for business potential development aspect (mean = 4.72, S.D. = 0.61), and data reliability aspect (mean = 4.75, S.D. = 0.61).

(2) The efficiency of the system of the target group and related agencies had satisfaction at the highest level (mean = 4.17, S.D. = 0.64). Each aspect of the highest level was as follows: display of results of text and image aspect (mean = 4.92, S.D. = 0.63), ability to access information on demand aspect (mean = 4.95, S.D. = 0.68), the report contains accurate and reliable information aspect (mean = 4.90, S.D. = 0.59), completeness of information in the system aspect (mean = 4.83, S.D. = 0.73), information is up-to-date aspect (mean = 4.92, S.D. = 0.77), and the report contains useful information that can be used to support the decision-making of the target group and relevant agencies aspect (mean = 4.96, S.D. = 0.62). (3) Possibility aspect that the target group and related agencies had the overall satisfaction at a high level (mean = 4.20, S.D. = 0.38). Each aspect of the highest level as follows: the system can actually be a tool for managing community financial institutions aspect (mean = 4.91, S.D. = 0.62), the system can be used for public relations and building a network of community financial institutions aspect (mean = 4.79, S.D. = 0.54), while high level of satisfaction was the system can be applied to the situations of the target group and relevant agencies aspect (mean = 4.03, S.D. = 0.54) as shown in Table 1.

Table 1 The average satisfaction assessment of the target group and related agencies to the community financial institutions information system

Community Financial Institution Information System	**Mean**	**S.D.**	**Satisfaction Level**
1) Utilization aspect	4.83	0.71	Highest level
2) System performance aspect	4.17	0.64	Highest level
3) Possibility aspect	4.20	0.53	High level
Overall, of the Assessment of Information System	**4.68**	**0.68**	**Highest level**

Conclusion & Discussion

The development of processed products takes the longest to harvest, and they are the main cash crop in the area. To keep track of each person's personal details, a "Production wheel calendar wheel" has been used in a community financial institution information system. This database will be used to prepare a system for managing community income and production costs. These are recommended practices to reduce costs and create value in crop production. They help build knowledge about production planning and techniques for reducing production costs, which benefits the nine executive functions. Guidelines to reduce costs and produce more value-added agricultural products are as follows: planning knowledge, analysis of the cost of production factors and agricultural investment for the most efficiency that will be a cost or debt, and processing products to increase income. Value-added of scraps from agricultural products by obtaining four career skills are as follows: cape gooseberry biscuit, dried cape gooseberry, cape gooseberry jam, and cape gooseberry gummy, and the skill of value-added to the scraps from agricultural products that compost without turning the pile. In accordance with the United Nations Thailand (2021) stated that the Sustainable Development Goals (SDGs) according to the ASEAN Socio-Cultural Community's on the issues that are consistent with the results of this project that emphasizes on human development and promoting social responsibility as follows:

1) Development of people (People), including 1.1) Cost reduction/ product quality improvement and production planning in the context of the production cycle. 1.2) Investment in agriculture based on the sufficiency economy principle. 1.3) Processing skills or value-added of scraps to increase income. 1.4) Developing market management skills and distribution through online channels (Platform).

2) Environment of planet create sustainability, expand the business, environmentally friendly, and grouping to create a local market.

3) Economy and wealth (Prosperity) building four activities of financial skills to build financial stability is an activity to develop knowledge in financial planning for maximum efficiency.
4) Development partnership, changing the Thai agricultural sector to a new way of life or new normal, creating behaviors that need to change vegetables and fruits, and improve production processes in accordance with market demand including using technology and financial tools to manage the impact of risks.

Thailand has set the guidelines for the National Development according to the 12th National Economic and Social Development Plan, 2017-2021, there are 17 sustainable development goals, including six strategies for domestic development and 10 guidelines of the 12th plan to respond the development of the country towards stability, security and sustainability. Thailand is able to achieve its development goals with four goals: Goal 1: eliminate poverty in all forms, Goal 6: water management and sanitation, Goal 8: decent work and economic growth, and Goal 9: industry and infrastructure innovation, investments from public and private partnerships in infrastructure project development. To help farmers improve their skills and achieve better results in their work, it is important for them to gain more knowledge in various areas, including cost reduction, product quality improvement, and production cycle planning. They should also be able to manage their accounting and cash flow, resolve debt issues, and building stable living with sufficiency economy philosophy. Guidelines for resolving debt problems based on the principle of sufficiency economy can be adapted to prevent and solve debt problems by applying management principles of moderation, be reasonable and encouraging farmers to have the guideline to generate extra income and can lead to debt management. The issues mentioned earlier are in line with the United Nations Thailand's campaign of "Decade of Action, Decade of Innovation" in four dimensions: people dimension, prosperity dimension, planet dimension, and partnership dimension. This campaign is designed to help all sectors work together to improve national development. The project's results have helped the individual develop career and entrepreneurial skills, 21st century skills, life skills in household economic management and debt management for the sustainability of their community in the future.

Distribution through online channels by applying information systems of community financial institutions is a service of distribution channels of products through online systems via website ‘www.smepil.com/ku’, of which 85.45% have an information system, that has presented the sale of products both in-store and online, consists of sub menu such as product information, production of goods, merchandising, selling products online, damaged/ expired products, set up shipping/ delivery prices, cost of production in each lot, yield, cost price per piece and so on. The results that have promoted knowledge to the target group in online marketing, marketing communications and distribution channels can reach target customers quickly as a social media is becoming very popular nowadays. This is consistent with the research of Pongwiritthon (2018) stated that to bring the information system to use in doing SMEs business, it should provide knowledge and training to create an understanding of the use of information systems for entrepreneurs. The government and private agencies should work together to develop entrepreneurs in the field of knowledge, with a focus on marketing and finance. This would help support SMEs in increasing their potential and competitive opportunities, as well as provide the knowledge necessary to entrepreneurs. According to Pongwiritthon (2018), there is no significant difference in production, marketing, management, and innovation abilities among SMEs in the Northern Region of Thailand. As a result, these businesses have no competitive advantage to support decision-making. In finance, there is no accounting and cost management and no business cooperation network. Guidelines of problem solving should focus as follows: 1) Sustainable capacity development of SMEs in production, marketing and management, 2) Bring creativity of local wisdom specialized knowledge to use in business operations, 3) Seek opportunities for market expansion to increase revenue, especially the domestic market and expand the marketing network from domestic to the foreign

markets in nearby regions, 4) Energy and environmental cost management and risk insurance, and 5) Apply innovations and technologies to increase the efficiency of business such as E-commerce, online marketing, accounting information systems and management information to reduce the costs of business, especially the financial cost that must allow the businesses to access government funding sources. Business planning, controlling, and solving problems should be focused on preparing a business plan, developing outstanding products, and developing modern digital technology to meet customer needs as much as possible.

The factors that led to satisfaction with the use of online distribution of community financial institutions were found to be most often expressed at the highest level, based on the questionnaire responses as follows: utilization aspect and system performance aspect, while feasibility aspect was at a high level of satisfaction. From the data collected and the development of various theoretical concepts related to information systems management, it is apparent that marketing, business, and MarTech are all needed to address the changes in the behavior of modern consumers. Taking into account the rapidly changing economy and environment, it is important to have a digital marketing strategy that is well-planned and incorporates the latest advanced digital technology in order to meet the needs of target customers. Additionally, it is important to use data processing techniques to analyst and decision-makers understand customer needs and make the best possible decisions. The concept of a business roundtable is a modern way to promote sustainability, but it needs to be changed in order to better serve the goals of the organization and the business's stakeholders. The digital revolution will come from mass marketing that is now based on the use of digital and social media to manage data for the benefit of customers. Big data is essential for understanding customers, which will help businesses meet the needs of real customers and result in the cheapest prices and the best efficiency. Therefore, the change in marketing is the opportunity to create new business opportunities that can grow sustainably. This makes it convenient for companies to manage their customers' channels more effectively (Kotler, 2019).

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References

Committee on Agriculture and Cooperatives. (2021). *Impacts on the Thai Economy from Coronavirus Disease (COVID-19) and Recommendations for Driving the Development of the Agricultural Sector under the National Strategic Plan According to the Situation*. Bangkok: Secretariat of the Senate.

Equitable Education Fund. (2021). *Community-Based Innovation and Career Development Scholarships Year 2021*. Retrieved from www.eef.or.th/fund/community-base-2564.

Information Center of Knowledge, Local Wisdom and Community Innovation. (2022). *Information System for the Management of Community Financial Institutions*. Bangkok: Equitable Education Fund.

Kae Noi Royal Project Cooperative. (2020). *Annual Report Year 2020*. Chiang Mai: Kae Noi Royal Project Cooperative.

Kotler, P. (2019). *World Marketing Summit Asia 2019*. Retrieved from www.marketingoops.com/news/marketing-trend-philip-kotler.

Krejcie, R., & Morgan, D. (1970). Determining Sample Size for Research Activities. *Educational and Psychological Measurement, 30*(3), 607-610.

Pongwiritthon, R. (2018). Development of Information System for Enhancing the Competency in the Competitiveness of Small and Medium Enterprises in Northern Region of Thailand. *WMS Journal of Management, 7*(2), 47-63.

Pongwiritthon, R., & Kamjai, K. (2018). Development of Information System for Components Assessment of Business Plan in Credit Risk Mitigation of SMEs in Thailand. *University of the Thai Chamber of Commerce Journal Humanities and Social Sciences, 38*(4), 15-37.

United Nations Thailand. (2021). *Decade of Action, Decade of Innovation*. Retrieved from https://thailand.un.org/en/136290-decade-action-decade-innovation.

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