

# The Success of Using Technology in Operating a Small and Micro Community Enterprise (SMCE) - A Case Study of SMCE in Hat Yai District, Songkhla Province

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## ABSTRACT

*The objectives of this research were to analyze levels of success in the use of technology of Small and Micro Community Enterprises (SMCE), and to analyze factors that are related to the use of technology by SMCE. Sixty-four SMCE groups registered in Hat Yai District were given structured questionnaires to complete. Results showed that 1) an average use of technology among SMCE in Hat Yai District was 3.52, which was at a high level. Categorizing the use of technology according to factors of success of the SMCE, revealed that the following had a high level of use of technology: leaders, finances, labor, production, members, information and news ( $\bar{x} = 3.76, 3.72, 3.69, 3.65, 3.63, 3.56$  and  $3.50$ , respectively). The following had a medium level of use: marketing, member participation, and administration and management ( $\bar{x} = 3.38, 3.29$  and  $2.99$ , respectively). Aside from these, analysis according to the type of SMCE revealed that production of consumer goods, production of fertilizer, animal husbandry, and processing of foodstuffs have a high level of technology use ( $\bar{x} = 3.76, 3.58, 3.55$ , and  $3.51$ , respectively). Production of alcohol, production of para rubber, and savings, have a medium level of technology use ( $\bar{x} = 3.29, 3.27$  and  $2.62$ , respectively). 2) Results of the analysis of factors affecting the level of use of technology using Pearson Correlation statistics showed that the number of members of the group and the amount of savings are negatively correlated, with a statistical significance of 0.01. Considering the sustainability of the SMCE reveals that they create valuable products and services from various community resources, thus creating income, creating stable jobs, and a sustainable future.*

**Keywords:** Small and Micro Community Enterprise, Success factors, Technology, Hat Yai District

## INTRODUCTION

SMCE are important for the development of a country because they are able to develop the economy through innovation and job opportunities for people at the community level. These SMCE are the result of people coming together at a small scale to undertake various activities and businesses, managing their funds to generate income. The first SMCE were created in 2005, on the heels of a legislative act, which was the result of efforts by community representatives who wanted a law to acknowledge their situation and support the SMCE in a concrete way (Department of Agricultural Extension, 2017). Until then, there was not proper management of the SMCE, no consistent structure, and no legal entity status as stipulated by the civil and commercial laws. Thus, the act was created with the intention of nurturing local traditional knowledge and wisdom, income generation, mutual assistance, as well as development of managerial abilities and structure for SMCE. This resulted in self-reliance of communities and strengthening of local economies so they would be better able to compete at all levels in the marketplace, plus development of SMCE to higher levels of entrepreneurship (Department of Agricultural Extension, 2017). A 20.90% increase in the number of such SMCE throughout the country, from 66,986 in 2016 to 84,686 at present, signifying to the development of community economies. There are 10 factors of success, as follows: the leader, administration and management, marketing, production, finance, labor, member participation, interactions, the enterprises' members, and news and information. SMCE should see these factors as important in successful SMCE (Withaya, 2004). SMCE use production and communication technologies extensively, with the latter being used to coordinate activities of the SMCE within their local, regional, and national networks. The technologies are instruments as well as channels for coordination with their networks, within the SMCE as well as with other SMCE. They facilitate exchanging information and conducting activities, which are useful for increasing efficacy of the enterprise to do its work within their networks. They are good for spreading news and information, training and assistance in developing and improving products, administration and management, the search for funds, marketing, and other matters that are useful for carrying out the enterprises' work within the network (Yanee, 2017). The objectives of this research were to analyze the level of technology use in successful SMCE, type of SMCE, and to analyze factors relating to technology use by SMCE in Hat Yai District. The district has 75 registered enterprises, which is an increase of 66.67% from 25 SMCE in 2011, comprising a wide range of types. Results of the research analysis show their growth, creation of work, occupations and incomes, the beneficial use of local resources, and, if the community economies are strong and stable, they will positively affect the national economy.

## METHODOLOGY

This research investigated the success of the use of technology in running the SMCE in Hat Yai District, according to the following 10 factors of success of a SMCE: the leader, administration and management, marketing, production, finance, labor, member participation, interactions, factors related to members, and factors related to news and information (Withaya, 2004). The researcher classified the 64 SMCE into 7 groups, according to the focus of the business, namely processed foods production, consumer goods production, alcohol production, fertilizer production, para rubber production, animal husbandry, and financial savings. Relevant indicators were compiled to create a questionnaire to assess the level of use of technology by the SMCE in each of the 7 groups. Assessment of the congruency of the questions with indicators was done using the Index of Item-Objective Congruence: IOC with 3 experts taking the questions that met certain criteria to use in the field with the 64 enterprises, which comprised 85.33% of the total population. This was accomplished by using 1) the mean and giving importance to the 5 levels of questions, as follows: highest, high, medium, low, lowest, following a standard interval scale, and 2) finding the averages from the scores by level, then determining the standard score to assign. The researcher determined the standard by using the midpoint values, as follows:

- mean 4.21-5.00 is highest level
- mean 3.41-4.20 is high level
- mean 2.61-3.40 is medium level
- mean 1.81-2.60 is low level
- mean 1.00-1.80 is lowest level

## RESULTS and DISCUSSION

Research results are in 3 parts, as follows:

### 1. General operations of the SMCE

Results of the investigation into the operations of the SMCE revealed that these are 48.4% in processing food, 23.4% in producing consumer goods, 7.8% in raising animals, 6.2% in savings groups. Alcohol production, fertilizer production, and para rubber production each accounted for 4.7%. The average number of years since establishment of the SMCE was 10 years, and the average number of members was 38 members. Most were established by the group members themselves, with 51.6%; by outside agencies supporting the establishment of the enterprise accounted for 48.4%. Average amount of start-up funds was 57,602 baht. Most common were progressive SMCE (67.2%),

meaning that these SMCE introduced a specialty food of the local area to the wider food market. Next were basic SMCE (32.8%) in that they focused on the community, by producing foods, consumer goods, and helping families be self-reliant. Regarding assistance, 76.6% received assistance from the government, 21.9% received no outside assistance, and 1.6% received support from private sources. Fifty percent of SMCE distributed dividends once a year, 26.6% distributed dividends when it was convenient, 18.8% had other systems, and 4.7% distributed dividends once a year. Most had no debt (78.1%), while 21.9% had debt. The average income per enterprise was 42,742 baht, with an average savings of 265,859 baht.

## **2. Level of technology uses by SMCE in Hat Yai District, Songkhla Province**

Results of the analysis of technology uses among the SMCE revealed a high level of uses ( $\bar{x} = 3.52$ ). The 10 factors of success (Table 1) showed the leader had the highest use ( $\bar{x} = 3.76$ ) due to being the person who decided to bring in the technologies to be used, as well as the person controlling and looking after it. Next, after the leader, were finances, labor, production, factors related to members, factors related to news and information, and interactions, all of which were also in the high level of use. Members working in finances use technology for accounting and managing their budgets. The labor force uses vehicles to get to and from work and to improve their work skills in order to increase efficiency. Production workers use technology in the various steps of the process of production, as well as in production planning. As for the factors related to members, and interactions, members use technologies to communicate with others and to coordinate the work with outside agencies. Marketing factors, factors related to members, and administration and management were in the Medium level of use. Members working in marketing use technology to promote products through various means. However, most members being elderly lowers the use of technology in promotion by more modern means. Participation of members takes the form of them gathering to evaluate the technologies that they use in the enterprise. Administration and management use technology to make the organizational chart of the group. Both modern and locally produced technologies are used by the enterprises. An example of the latter is a machine to produce paper flowers. This finding is consistent with the research of Thawatchai et al. (2017), *Study of self-reliance among community enterprises: Case study of local herb processing SMCE in Na Pho Village, Tha Raeng Sub-district, Ban Laem District, Phetchaburi Province*, which also noted use of mixed types of technologies in herb processing.

**Table 1** Level of technology use categorized by factor of success

<b>Factor</b>	$\bar{x}$	<b>S.D.</b>	<b>Level of use</b>
Leader	3.76	0.54	High
Administration and management	2.99	0.62	Medium
Marketing	3.38	0.69	Medium
Production	3.65	0.62	High
Finances	3.72	0.76	High
Labor	3.69	0.56	High
Member participation	3.29	0.52	Medium
Interactions	3.50	0.63	High
Factors related to members	3.63	0.64	High
Factors related to news & information	3.56	0.66	High
<b>Total</b>	<b>3.52</b>	<b>0.49</b>	<b>High</b>

Analysis of the success level by type of enterprise showed that production of consumer goods had a high level, with  $\bar{x} = 3.76$ . The SMCE making up this group were engaged mainly in weaving, paper flower making, soap making, and wickerwork. Among the technologies they used at a high level were for wickerwork, weaving looms, and sewing machines. Nearly all used technologies, whether modern or local, the latter being the traditional wisdom of the villagers. As shown in Table 2, after consumer goods production came fertilizer production, animal husbandry, processed foods production, all of which also had a high level of technology use. Equipment in fertilizer production SMCE included machinery to mix the ingredients, and pelletizers. Animal husbandry SMCE used needles for injecting medicines and vaccines; processed food producers used curry paste millers, rice millers; alcohol producers used gas; para rubber producers used scales, thermometers; and savings groups used calculators.

**Table 2** Technology use categorized by type of community enterprise

<b>Type</b>	$\bar{x}$	<b>S.D.</b>	<b>Level of use</b>
Processed foods production	3.51	0.96	High
Consumer goods production	3.76	0.92	High
Alcohol production	3.29	0.89	Medium
Fertilizer production	3.58	0.82	High

Type	$\bar{x}$	S.D.	Level of use
Para rubber production	3.27	0.98	Medium
Animal husbandry	3.55	0.90	High
Financial savings	2.62	0.76	Medium
<b>Total</b>	<b>3.52</b>	<b>0.49</b>	<b>High</b>

### 3. The relational analysis of factors related to technology use by SMCE in Hat Yai District

For analysis of the data, and for interpretation of the results of the analysis to calculate the relational coefficient, the researcher used the following factors to enable correct understanding of the interpretation, and for convenience in recommendations based on data analysis.

- X<sub>1</sub> represents time since establishment of SMCE (years)
- X<sub>2</sub> represents number of members
- X<sub>3</sub> represents amount of funds used to establish SMCE (Baht)
- X<sub>4</sub> represents average income of the SMCE (Baht)
- X<sub>5</sub> represents savings of the SMCE (Baht)
- Y represents the dependent variable - the use of technology

The values of the relational coefficients among the variables in the study of factors related to the use of technology by SMCE in Hat Yai District are shown in Table 3.

**Table 3** Correlation coefficients among independent and dependent variables

Variable	X <sub>1</sub>	X <sub>2</sub>	X <sub>3</sub>	X <sub>4</sub>	X <sub>5</sub>	Y
X <sub>1</sub>	1	.120	.054	.278*	.195	-.108
X <sub>2</sub>		1	.024**	.378**	.860**	-.419**
X <sub>3</sub>			1	.148	-.010	.169
X <sub>4</sub>				1	.436**	-.154
X <sub>5</sub>					1	-.411**
Y						1

**Note:** \*Significantly different at 0.05 \*\*Significantly different at 0.01

Table 3 shows 2 variables that the number of members and the amount of savings had a negative relationship with the use of technology at a statistical significance of 0.01. The results may be explained as follows:

The negative correlation between the number of members and the use of technology was due to a small number of members relied heavily on technology in order to produce enough, products to meet the demands of the market.

The negative correlation between the amount of savings of the enterprise and the use of technology was because the SMCE that had a large savings use a lot of technology. Savings are important as a reserved fund, thus they are used only when necessary. In order to avoid having to borrow money, they will increase production and promotion, thus using more technology in production and in marketing, which in turn increases salaries and savings.

The SMCE use only as much technology as needed, and use quality technology that will last a long time, thus don't spend a lot of their savings on technology, and only buy it when necessary.

## **CONCLUSION**

In general, the level of use of technology by SMCE in Hat Yai District, Songkhla Province was high because they are businesses that depend on profit. Use of technology was increasing in production so as to meet market demands in terms of product/service quantity and quality. They also used technology for the sake of convenience and to reduce their labor needs. For communication, and for administration and management, technology was used to effectively manage their activities. Due to the profit-seeking nature of these enterprises, they sought financial success. Therefore, this research studied the factors of success. Results showed that the leaders used technology at the highest level, because they select and decide on the technology used, and because they ensure that other members know how to use the technology. The various ways this is facilitated include the leader teaching the proper use of the technology, external agencies come to train, and the members going to get training from successful enterprises. Categorizing the SMCE by type showed that consumer goods production SMCE used technology the most. Because they produce various goods in high demand, they must use technology to ensure products meet market demands for quantity and quality. They use a mixture of modern and traditional technologies. In addition, correlation testing revealed that the number of members and the enterprises' savings had a statistically significant and negative relationships with the use of technology.

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