Strategies for Building a Knowledge-Based Economy for Community Enterprises in the Eastern Economic Development Zone

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Abstract

This research aims to study the strategies for creating a knowledge-based economy for community enterprises in the Eastern Economic Development Zone. The study has been designed as a mixed method by developing the analysis of structural equation model through qualitative data and the quantitative data were derived from the survey of 300 community enterprises in the Eastern Economic Development Zone. They’re used descriptive statistics, inferential statistics, and multivariate statistics. The research instrument was a questionnaire and analyze data with Structural Equation Modeling: SEM. The data analysis program AMOS stipulates a multi-stage sampling method. It consists of group sampling procedures (Cluster-sampling) separating the populations into 3 areas. Then they’re used simple random sampling to obtain the required number of samples according to the desired proportion.

The finding consists of three components that are important to the strategy for building a knowledge-based economy at a high level according to the Likert scale: namely, management components, new product development, and marketing. To assess the coherence of the structural equation model, the strategies for creating a knowledge-based economy for community enterprises in the Eastern Economic Development Zone passed the model's evaluation criteria which are consistent with the empirical data. In accordance with the Modification Indices, it was found that the root index of the square mean of the Chi-Square Probability Level was 0.109 while the relative Chi-square was 1.316. The Goodness of Fit Index was 0.973 and the Root Mean Square Error of Approximation was 0.033. It was found the components of Management have highest direct influence on New Product Development components (DE= 1.11) followed by New Product Development components, which have direct influence on Marketing (DE= 0.57) and Management components have direct influence on Marketing (DE= 0.42)

From this study, it is learned about the strategies for creating a knowledge-based economy for community enterprises in the Eastern Economic Development Zone. To increase potential of the Grassroots Economy, to provide income, to reduce inequality, and brings community enterprise to be sustainably.

Keywords: Knowledge-based economy, Eastern economic development zone, New product development
Introduction

The transformation in the digital technology era is rapid and intense with the spread of COVID-19 as a catalyst. Business processes with less expo including consumer behaviors and working practices changes. (Li, 2021) And we must admit that most developed countries exist in a broad knowledge- and service-driven economy. The innovation confusion has transformed the contemporary economy into what is known as a "knowledge-based economy". In this economy, the business world is rapidly evolving with competencies and data-centricity, resulting in new business models transforming a contemporary society into a cognitive society, ready to adapt to new changes (Abed, 2021). Therefore, the context of the global economy in the era of competition with digital technology has been exponentially spread, affecting a wide range such as marketing channel, new product development, e-commerce platform. Business operations in all dimensions require rapid adaptation to keep up with unexpected changes, which is now widely accepted that the development of the world society is in the same direction throughout the world, which is developed under the so-called "Knowledge-based Economy and Society". Therefore, when we look deeper, a basic economy like a community enterprise is important. Community enterprises arise from the gathering of people in the community together with the use of local knowledge and wisdom, aimed primarily at responding to the needs of the people in the community. At the same time, if there is a way to expand the business, it expands to outside communities. At present, there are 93,929 registered community enterprises (Community Enterprise Promotion Division, 2021) accounting for 3.0% of SMEs in the country, generating an annual income of more than 25.55 billion baht (Office of SMEs Promotion, 2021). Therefore, it is one of the mechanisms for driving the fundamental economy, creating jobs, and generating income for the community.

However, according to data from the Department of Community Enterprise Promotion, there are 2,576 enterprises of all types in the three provinces of the Eastern Economic Development Zone. Around 1,692 registered establishments, representing 65.68%, only 435 establishments passed a potential assessment, accounting for 25.70%. When looking at the information in each province, it is found that there are a total of 1,091 enterprises of all types; 633 are registered enterprises, and 216 passed the potential assessment in Rayong province. At the same time, there are 675 enterprises of all types in Chonburi province. Around 508 enterprises have been approved for registration, and 79 enterprises have passed the potential assessment. In Chachoengsao province, there are a total of 810 enterprises of all types. Around 551 enterprises have been approved for registration; and 40 of them passed the potential assessment, respectively as shown in Figure 1.
Figures 1 Show the number of community enterprises that have been registered and passed the potential assessment. (Community Enterprise Promotion Division, 2021)

According to the aforementioned information, the number indicates the potential of community enterprises that have a lot of problems in efficiency and opportunities for trade and business growth and from the importance and problems mentioned above that we have seven topics for the potential assessment such as process, planning, marketing, knowledge management & information system, member management, product & services, and result base management. We found community enterprise is generating revenue more than 2.55 billion baht per year (Community Enterprise Promotion Division, 2021) The lack of management efficiency and lack of opportunities for business expansion of community enterprises affecting the overall economy of the country at the foundation level, need to be adjusted in accordance with the changing context of technology and innovation in the world. It is important to apply knowledge of technology and innovation to drive product development, production, distribution, and service design, and build intellectual capital through effective knowledge management processes in the community. This is to increase competitiveness. Products can be distributed from the community to the global market without the need for middlemen. Moreover, they truly generate income and strength for the community.

Therefore, the researcher is interested in studying strategies for building a knowledge-based economy for community enterprises in the Eastern Economic Development Zone by studying strategies for creating a knowledge-based economy for community enterprises in each aspect, such as marketing factors, management, and product development. It is necessary therefore for community enterprises to have information for use in strategic management to lead the new generation of community enterprises to create a knowledge-based economy, adding value to products to increase their competitiveness to create wealth sustainable for the country's grassroots economy.
Management

Grodgangunt (2021) presented their research paper regarding the development of value-added marketing strategy management potential applied for durian agro-community enterprises in the southern border provinces. The results showed that the development of a management system to increase the competitiveness of community enterprises consisted of the development of the organizational structure, membership system, and development plan management system, add value product development marketing strategy, and management optimization and networking. Meanwhile, Romprasert & Trivedi (2021) found that a sustainable economy for community enterprises requires the adoption of digital marketing, demonstrating the influence of management in the dimensions of modern information technology. The severe marketing effect in today's world, therefore, the management within the community enterprises in all dimensions will have a significant influence on marketing.

New Product Development

Cavite et al., (2021) presented research on strategic approaches for community enterprise development case studies in rural areas in Thailand and found that policies for capacity building by product development are the main strengths and opportunities of the organization to increase sales. The fact that the new product has been approved and supported by external organizations is an important strategy for development. Empirical results in the dimension of new product development are consistent with Pannatekave (2021) who presented his research on local product development of small community enterprises in Thailand and found that improving the standards of local products to improve the response to the needs of visiting tourists or other target groups is a means of generating more income for the community.

Marketing

Grewal (2019) presented research on the future of technology and marketing multidisciplinary new technologies have revolutionized almost every aspect of human existence, including how the company markets in terms of delivering products and services to consumers, familiar innovation advancements such as the Internet, mobile devices and applications and social media. Technological advances are having a profound impact on the practice of marketing. Saura (2020) presented research on using data science in digital marketing, frameworks, methods, and performance indicators, using data sciences to facilitate decision-making and extracting insights and knowledge. The action taken from large datasets in the digital marketing environment has increased dramatically, developing digital marketing strategies for businesses, marketers and non-technical researchers. It is related to data mining applications and innovative knowledge discovery.

Objective: This research examines strategies for building a knowledge-based economy for community enterprises in the Eastern Economic Development Zone.
Research objectives

1. To study general characteristics about strategies for building a knowledge-based economy for community enterprises in the Eastern Economic Development Zone.

2. To study strategies for building a knowledge-based economy for community enterprises in the Eastern Economic Development Zone.

3. To develop a structural equation model of strategies for building a knowledge-based economy for community enterprises in the Eastern Economic Development Zone.

Review Literature:

Wanpong (2017) conducted a study on the development of community enterprises. His case study involved the indigo-dyed streetwear group Ban Tao Cave in Sakon Nakhon Province. The objective of this study is to study problems and obstacles and to determine the development of community enterprises. Examples of this research include group presidents; for example, the community vice president, and member of the indigo-dyed street group. The findings showed that support from government agencies remained relatively limited, and other management developments such as packaging, distribution, and adoption of modern technologies in production operations remained unclear.

Phawat (2016) has presented research on business skills and the potential development of small business entrepreneurs by comparing skills in business and developing the potential of small business entrepreneurs. The sample group of this research consisted of 400 people. The instrument used was a questionnaire. The statistics used for data analysis were frequency, percentage, mean, standard deviation, t-test and chi-square. The results showed that most of the business entrepreneurs are men, aged not over 29 years old, business owners, do retail business and operate a business for no more than five years. Business operators have a proficiency level in business skills and need potential development at a high level in all aspects. The results of the analysis of business skills and the need for the development of different potentials and skills of entrepreneurs in business have a relationship with the need for the potential development of entrepreneurs. It was statistically significant at the 0.05 level.

Research Hypothesis

This research tested three hypotheses:

Research Hypothesis No. 1

H1: The management component directly influences the marketing component

Managing an organization to be successful in today's competitive business has many dimensions. Companies must carefully manage to become a leader in their marketing strategy, of which. It is the use of information technology resource management to support, for example, using social networks to improve business products. One of them is the website. Websites can be easily accessed by many people with the help of technology. The company can carry out all marketing activities that are not only efficient but also effective. In addition, the website provides some information that makes it easy to get fast and accurate information (Wahyuni & Lestari, 2020). In addition to technology, customer relationship management influences
marketing efficiency using numerous innovations. Customer relationship management has a
direct, positive and significant effect on business efficiency (Dehghani et al., 2020).

**Research Hypothesis No. 2**

H2: The management component directly influences the new product development

In the changing conditions of the global economy, both innovation and technology, as
well as business competition, will be fierce. Organizations must plan and manage to meet the
changes and needs of those markets, resulting in them adapting and preparing. Therefore, to
create an organization that is effective, the organization will require the management of basic
resources and innovation. Technology management to support systematic product
development. Large amounts of data must be used and managed and interconnected (Hanna, et
al., 2020). In addition, the development of products towards sustainability and environmental
friendliness must pass a clear-cut management system (Diaz et al., 2021).

**Research Hypothesis No. 3**

H3: The new product development component directly influences the marketing

Product development process, understanding the life cycle of products, services, and
feasibility analysis of new distribution and communication channels. Ability to better define
the value of products and services in the age of 4.0 technology, which directly affects sales and
profits (Arromba et al., 2020). In recent years, knowledge management principles have been
adopted by almost all organizations because the pressures of globalization and intense
competition have forced organizations to adapt to change (Staple, 2013). Product development
capabilities result in stable marketing efficiency. As for industry, the macroeconomic
perspective is an important feature. This is to gain insights for successful product development
(Helm et al., 2020).

**Methodology**

1. Qualitative Research: The qualitative research data were derived from an in-depth
interview with 7 experts consisting of 4 community enterprise chairman or president of the
Agro-Tourism for Community and 3 government experts in the field agriculture. The research
instrument used in this research was a structured interview in which the researcher set the
interview guideline for three components: management component; new product development
elements and marketing elements. The results of the Index of Item Objective Congruence (IOC)
examination were in the range of 0.60-1.00 (> 0.5). After that, 18 questions were taken as an
estimation scale for the Try-Out to take the points obtained from asking for opinions to classify
the discrimination value, which resulted in the reliability value of the questionnaire,
considering the Cronbach Alpha value is 0.987 (> 0.8) and the results of the analysis of
discrimination value item by item in the questionnaire that is a checklist with the analysis of
Standard Deviation (S.D.), the value is between 0.546 to 2.113 and the question is a rating scale
by analyzing the Corrected Item-Total Correlation value between 0.353-0.840.
2. Quantitative Research: The qualitative data were derived from 300 samplings of community enterprises registered with the Department of Agricultural Extension. Unit through random sampling technique. (Comrey and Lee, 1992) They were divided into 3 areas. (EEC) i.e. 100 samples from Chachoengsao province, 100 samples from Chonburi province and 100 samples from Rayong province. Data were analyzed using descriptive statistics by SPSS and Multivariate Statistical Analysis which was developed to SEM Model by AMOS program. The Evaluating of the Data-Model Fit criteria consisted of 4 values 1) chisquare probability > 0.05 2) Relative chi-square (CMIN/DF) < 2 3) Goodness of fit index (GFI) > 0.90 and 4) Root mean square error of approximation (RMSEA) < 0.08 (Arbuckle, 2012).

Table 1 The criteria to consider the conformity index

<table>
<thead>
<tr>
<th>Evaluating the Data-Model Fit</th>
<th>Criteria</th>
</tr>
</thead>
<tbody>
<tr>
<td>1) Chi-square Probability level: CMIN-ρ</td>
<td>More than 0.05</td>
</tr>
<tr>
<td>2) Relative Chi-square: CMIN/DF</td>
<td>Less than 2</td>
</tr>
<tr>
<td>3) Goodness of fit Index: GFI</td>
<td>More than 0.90</td>
</tr>
<tr>
<td>4) The root index the squared mean of the error estimation: RMSEA</td>
<td>Less than 0.08</td>
</tr>
</tbody>
</table>

3. Research tools: It is general information questionnaire. The questionnaire was a 5-item checklist, and the questionnaire was a Rating Scale. Which had criteria for giving the weight of the assessment into 5 levels according to the Likert method. 18 items consisting of 3 areas: management, new product development and marketing.

Results

Community enterprise members value strategies to create a knowledge-based economy for enterprises in the EEC.

Table 2 Averages and standard deviations of the priority level of strategies for building a knowledge-based economy for community enterprises in the Eastern Economic Development Zone

<table>
<thead>
<tr>
<th>Strategies to create a knowledge-based economy for community enterprises in the Eastern Economic Development Zone</th>
<th>$\bar{X}$</th>
<th>S.D.</th>
<th>Level of importance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Overview</td>
<td>4.32</td>
<td>0.52</td>
<td>High</td>
</tr>
<tr>
<td>1 Management</td>
<td>4.29</td>
<td>0.82</td>
<td>High</td>
</tr>
<tr>
<td>2 New Product Development</td>
<td>4.37</td>
<td>0.30</td>
<td>High</td>
</tr>
<tr>
<td>3 Marketing</td>
<td>4.31</td>
<td>0.52</td>
<td>High</td>
</tr>
</tbody>
</table>
1. The results of the overall opinion analysis revealed that the value was at a high level. \( \bar{x} = 4.32 \) when considering each side, sorted by average from highest to lowest. It was found that new product development had a high average of opinions. \( \bar{x} = 4.37 \), followed by marketing \( \bar{x} = 4.31 \) and management \( \bar{x} = 4.29 \). Able to summarize each aspect as shown in Table 2

2. Analysis of modelling, equations, structures, and strategies for creating a knowledge-based economy for community enterprises in the Eastern Economic Development Area. It was found that the Chi-Square Probability Level (CMIN- \( \rho \)) was 0.109, the relative chi-square value (CMIN\( \rho \)) was 1.316, the conformity index (GFI) was 0.973, The mean square root index of estimation error (RMSEA) was 0.033 through the criterion in consistent with the empirical data. The statistical values passed all four criteria, so the structural equation model was complete and harmonious with the empirical data.

The researcher then proceeded to improve the model, considering the Modification Indices Arbuckle (2012). It was found that the Chi-Square Probability Level (CMIN- \( \rho \)) is 0.109 rather than 0.05, indicating that this model is not statistically significant. The relative chi-square value (CMIN\( \rho \)) is 1.316, which is less than 2, the Conformity Index (GFI) value is 0.973, which is greater than 0.90, and the root index value of the mean square of the tolerance estimation (RMSEA) is 0.033, which is less than 0.08. Therefore, it can be concluded that all four statistics passed the assessment criteria as shown in Figure 2.

**Figure 2** Model equations structure strategies to build a knowledge-based economy for community enterprises in the district. Eastern Economic Development Area in Standardized Estimate mode, after updating the prototype. (Source: Researcher, 2022)
Model equation’s structure strategies for building a knowledge-based economy for community enterprises in the Eastern Economic Development Zone.

Hypothetical test results to analyses the causal influence between variables in strategies for building a knowledge-based economy for community enterprises in the Eastern Economic Development Zone. There are three hypotheses as follows:

Hypothesis 1: Management component had a direct influence on marketing component (DE= 0.42) Hypothesis 2: management component had a direct influence on new product development component. (DE = 0.75) and Hypothesis 3: new product development components had a direct influence on the marketing component. (DE = 0.83) which is shown in Figure 2.

A strategic model for creating a knowledge-based economy for community enterprises in the Eastern Economic Development Zone. Later improvements to the model include There are two latent variables divided into one exogenous latent variable, namely the management element and one endogenous latent variable, i.e., new product development element.

Management consists of three observational variables in order of descending weight values: variables, meeting to review past performance and short-term, medium- and long-term operational plans (Meeting) with a weight of 0.59 variables, variables with alliances or communities or associations in the formation of personnel and technology development partnerships (Alliance) with a weight of 0.57, and a training workshop variable with a weight of 0.44.

New product development consists of three observed variables in order of descending weight values as follows: Variables, product development cooperation network activities and community enterprise packaging (Networking) have a weight value of 0.57 variables. The standardized production process development approach weighs 0.56, and variables and variables elevate community products to a higher standard (Up-Grade) with a weight of 0.53. It consists of four observational variables in order of descending weight values: Variables organize activities to promote the adoption of technology. The value of the product presented is 0.59 variables. Connect products to community culture to create content (Connect) has a weight of 0.58 and variables, and innovations to help create value for products and services. It has a weight value of 0.47.
Table 3 Statistical analysis of structural equation model for knowledge-based economy for community enterprise in eastern economic development zone in standardised estimate mode

<table>
<thead>
<tr>
<th>Variable</th>
<th>Estimate Regression Weight</th>
<th>Square Multiple Correlation (R²)</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Management</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Marketing</td>
<td>0.42</td>
<td>1.03</td>
<td></td>
</tr>
<tr>
<td>New Product Development</td>
<td>1.11</td>
<td>1.24</td>
<td>***</td>
</tr>
<tr>
<td>Management</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Meeting</td>
<td>0.59</td>
<td>0.35</td>
<td>***</td>
</tr>
<tr>
<td>Allianz</td>
<td>0.57</td>
<td>0.33</td>
<td>***</td>
</tr>
<tr>
<td>Training</td>
<td>0.44</td>
<td>0.20</td>
<td>***</td>
</tr>
<tr>
<td>New Product Development</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Standard</td>
<td>0.56</td>
<td>0.31</td>
<td></td>
</tr>
<tr>
<td>Up-Grade</td>
<td>0.53</td>
<td>0.28</td>
<td>***</td>
</tr>
<tr>
<td>Networking</td>
<td>0.57</td>
<td>0.46</td>
<td>***</td>
</tr>
<tr>
<td>Marketing</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Value</td>
<td>0.59</td>
<td>0.35</td>
<td></td>
</tr>
<tr>
<td>Activities</td>
<td>0.61</td>
<td>0.37</td>
<td>***</td>
</tr>
<tr>
<td>Connect</td>
<td>0.58</td>
<td>0.34</td>
<td>***</td>
</tr>
<tr>
<td>volume</td>
<td>0.47</td>
<td>0.22</td>
<td>***</td>
</tr>
</tbody>
</table>

Note: *** Significant level at 0.001; * Significant level at 0.05

Discussions

The strategy for creating a knowledge-based economy for community enterprises consists of three elements that are critical to creating a knowledge-based economy for community enterprises. To a large extent, according to Likert's gauge, include management elements, new product development, and marketing. Structural equation model analysis, strategy for building a knowledge-based economy for community enterprises, and later analysis of structural equation models.

There was found that overall, it was at a high level with an average of 4.32 in terms of New Product Development is of high importance with an average of 4.37. Marketing is at a high level with an average of 4.31 and Management was of high importance mean is 4.29, respectively.
The management component exerted a statistically significant direct influence on the new product development component at 0.001, with standardized regression weights equal to 1.11. Strategies for creating a knowledge-based economy for community enterprises in areas with the highest average scores include new product development with the highest average score ($\bar{x} = 4.37$). The researcher is of the opinion that due to the current community enterprise under conditions of intense competition, creating different products and services is unique as well as applying knowledge and technology to create products and services to meet the needs of customers. On the survival in management of the gathering in form of community enterprise, the emphasis should be on producing new kinds of products, online marketing, or creating webpage for selling product, together. Consistent with research by Anusonphat & Poompurk, (2022). Meanwhile, community product development guidelines should be formulated to suit the way of the community. This is consistent with the research of Suphachariyawat (2022)

The new product development component exerted a statistically significant direct influence on the marketing component at 0.001, with standardized regression weights equal to 0.57. Product development capabilities result in stable marketing efficiency. It is an important feature. This is to gain insights for successful product development. Consistent with research by (Helm et al., 2020).

The management component exerted a statistically significant direct influence on the marketing component at 0.001, with standardized regression weights equal to 0.42. Managing an organization to be successful in today's competitive business has many dimensions. Companies must carefully manage to become a leader in their marketing strategy, of which. The company can carry out all marketing activities that are not only efficient but also effective. The future marketing. It was established that the dynamics of work have greatly changed from the traditional way of working from the organization premises to working remotely at home. Consequently, marketing has also shifted to different. Consistent with research by Kalogiannidis (2021)

**Conclusion and suggestions**

1. From the result of the research, it was found that the component of Management has a direct influence on the component of the New Product Development and directly influences the component of Marketing. In terms of management strategy, the community enterprise should be focus on the policy of new product development and marketing strategy both.

2. From the result of the research, it was found that the component of New Product Development has a direct influence on the component of the Marketing. In terms of research and development, it is the weakness the mostly of community enterprise so government including all concerned people must have to support knowledge, innovation or technology.

3. A strategic approach to creating a knowledge-based economy for community enterprises in the Eastern Economic Development Zone to connect the agricultural and tourism sectors such as health tourism and local cultural tourism, there is a need to review and adapt to increase the potential of community enterprises to generate additional income through value addition in all dimensions of digital community enterprise management.
New knowledge and the effects on society and communities

This research to create a new knowledge. These results of the study will be beneficial to the community’s enterprise and government. There can be applied the knowledge to solve the economic crisis to develop the strategy for community enterprise for sustainable growth. The community enterprise can apply the form of the Structural Equation Model to be used as a strategic planning. To improve and increase the potential and to generate additional income.

References


