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Evaluation of Impact and Production Management of SMEs Business in Marketing Transportation of Fresh Milk Products Industrial with TFRs Standards for Thailand Transport 4.0

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ABSTRACT

This research paper presents the evaluation of impact and UHT fresh milk products quality management in Small and Medium Enterprise (SMEs) businesses in market transportation of the Thai Financial Reporting Statement (TFRs) standard for Thailand transport 4.0 by focusing on education, understanding and learning attitude for TFRs standards with a strategy in case study of fresh milk production industry in Thailand. The main aim is to reduce production cost with quality management that affects the attitude of fresh milk consumers, based on the notion that business enterprises cannot be separated from the effective management and controlling of transportation costs. The researcher conducted a survey to collect the data of a sample group of SMEs business accountants with 486 population samples. The statistical methods used in this research were percentage (%), mean ( ) and standard deviation (SD) value. The results of the data analysis indicated that attitude towards TFRS for SMEs with personal factor of accounting for SMEs businesses is = 3.72 and S.D.is 0.64. The aspect that the sample groups had the least level of agreement was reducing reliability of the data is mean = 3.42 and S.D.= 0.76

Keywords: Fresh milk, Transport, Marketing, Quality management, SMEs business

1. Introduction

In the past several decades, Thailand has developed economically through economic models, namely 1.0, 2.0, and 3.0 before transforming into the 4.0 Model. In the past, the 1.0 economy was the focus of Thai economic development on agriculture. The 2.0 economy

focused on the development of light small industry and economic model 3.0 focused on the development of highly investment industries. The current section describes the 4.0 economy, focusing on innovation with new form. The Thai government announced the economic SMEs business model of Thailand 4.0 in 2016. The production quality management of fresh milk for SMEs business is a critical aspect of enterprise optimization, with which inventories were considered in production cost. Transportation business is an economic sector that is very important to the economy. It is a business that is supported and associated with many activities in the SMEs business. This will affect productivity of milk production and efficiency in the supply chain with marketing competitiveness to coordinate supply chain to mitigate the risk associated with uncertainty. Transportation management includes manufacturers, production planning, retailers, product service, ordering, warehouse management, packaging and customer service.

Therefore, the researchers consider the importance of the study of product management strategies that will affect the attitudes of consumers to drink milk. There is competition in this market of the industry in milk production by using Thai Financial Reporting Statement (TFRs) standards for Thailand transport 4.0 for both large operators and the small operators in the market due to the increasing number of consumers; there are also many different and varied needs. To know the product strategy that will affect the consumer attitudes, they can respond to the different needs of milk consumers with a target for consumption, to consider the relationship between production management and consumer attitudes.

2. Research Objectives

2.1 To study the process of production management and transportation cost structure of fresh milk products with TFRs standards for Thailand transport 4.0

2.2 To study the cost of transport in the market and to reduce the costs of fresh milk production through quality management in warehouses.

2.3 To study the factors with the evaluation of impact and fresh milk products quality management system for marketing transport.

2.4 To develop the production management that affects the attitudes of fresh milk consumers in SMEs business.

3. Scope of Research

3.1 This research focuses on marketing production management of fresh milk products for SMEs business to warehouse quality management.

3.2 This research aims to study attitudes and behaviors of consumer groups in drinking milk.

3.3 This research studies transportation costs and to guide the development of the production management system of fresh milk in the SMEs business.

3.4 This research was conducted by collecting data from 5 January 2017 to 28 February 2018.

4. Expected Benefits of Research

4.1 To be used as a guideline for the management of the transportation system from farmers to consumers.

4.2 Can be developed to improve the management of the production of ready-to-drink milk for those interested in this research.

4.3 To be used as a policy recommendation for effective operation of the warehouse quality management for production in drinking milk and to guide the development of production management.

4.4 To be used as an ingredient in the decision making process of marketing business related to fresh milk consumers with product management in the future.

5. Research Principles

5.1 The Production Quality Management

Production management is important to the production process. It is divided into two parts: raw material management and labor management; quality control is a test to obtain the quality products that the customers expect. Internal quality control of production starts with production control. The control of raw material management and labor management must be controlled to ensure that the products quality is set, whether there is proper control over the management of the inputs, and whether the products quality will be assured. The internal quality control must take into account factory operations, manufacturing processes and machinery as well. Products quality control is important for marketing business to benefit the organization, such as: 1. reduce production costs, 2.

increase market shares to create trust for consumers, 3. increase the reputation of the organization for quality service, and 4. ensure the reliability of product quality [1].

Feigenbaum (1991) discusses the work in planning and importance of production quality control management. And most interestingly, he was the initial user of the concept of all total quality control in the literatures of quality, in which total quality management (TQM) is the total composite product and service characteristics of marketing business, manufacturing and maintenance through which the product and service in use will meet the expectations with the customers demand. The significant elements of these quality development concepts consists of commitment to total management, production quality, measurement of warehouse quality, and improvement of production process, training and development and reduction of the various symptoms and causes of problematic incidents. Thus, warehouse quality management (WQM) always gives emphasis on the customer satisfaction to ensure total quality management culture by using continuous improvement ideas concept [2]. Therefore, production quality management in milk production is most effective. The need and satisfaction of customers is important.

Figure 1 Process system of the fresh milk production control for self-logistics in industry, Bangkok, in Thailand

Figure 2 Thai-Denmark milk product industry in Thailand

Production and Operations Management (POM) is the management system of the production to study designation of practices, control of processing, import or resource processes to operate effectively in the form of goods or services and in accordance with the objectives of the organization. Therefore, production quality management is a type of business management as financial management and accounting. Quality management is the management to achieve the quality policy. To obtain desirable quality control of production, the objectives must be defined, organization policy clear, and strategic planning done[3].

The evaluation of impact and the costs control of milk products investment. The analysis of economic costs to benefit of enterprise with the use of marketing transportation strategic alliances can let many SMEs business enterprises achieve intensive operation mode and reduce logistics cost analysis.

Figure 3 Nongpho milk and Meiji milk product industry in Thailand

5.2 Thailand Model 4.0 with the change of economic innovation

The current section describes the 4.0 economy, focusing on innovation with new form. The government has announced the economic SMEs business model of Thailand 4.0 in the year 2016. The government's policy is to create innovation for the sustainability of the Thai economy [4]. The problem of the economic model with Thailand transport 4.0 is the inability to innovate for the business competition of entrepreneurs. This is due to the lack of continuous costs support and inadequate government funding to meet the needs of entrepreneurs. In addition to economic model issues, changes in innovation and technology will result in the government adjusting. The transition to the four major components is as follows.

1. Traditional farming to smart farming

2. Traditional SMEs to smart enterprises and high potential startups

3. Traditional services to high value services

4. Low-skilled workers to knowledge workers, understanding, expertise and high learning skills.

5.3 Thai Financial Reporting Standard for SMEs Business

Criteria should be used to classify non-public accountable entities (NPAEs) that should be implemented using the TFRs standard for SMEs business, including the concept of financial reporting standards for businesses. Do not take TFRs for SMEs business. Later, it was found that from the point of view of the financial statement and some users of the financial statements, the TFRs standards for NPAEs are not suitable for large NPAEs or those that have a groups nature. There are complex accounting entries. And there are a lot of people besides the owners. In line with the entry into the ASEAN Economic Community (AEC), the federation of accounting professions implement using the TFRs standards for SMEs business. This research explored the opinions of accountants on the application of the TFRs standards for SMEs business, which would be a problem, obstacle, or usefulness in applying the standard. If the TFRs standards are consistent with the AEC, the result is more competitive SMEs business. Users of financial statements will also benefit from the increased financial data available to meet the information needs of users.

Table 1: The difference factor between TFRS for SMEs and TFRS for NPAEs

TFRS for SMEs	TFRS for NPAEs
1. To prepare a comprehensive income statement	1. To make a profit and loss statement
2. Make a statement of cash flows finance	2. No statement of cash flows
3. To disclose information about persons or business	3. No disclosure of information about persons or business
4. There are requirements regarding hedging accounting	4. There are no requirements for hedging accounting
5. The Company is required to make financial statements using other currencies	5. The Company prepares its financial statements in Thai Baht only

6. Research Hypothesis

6.1 The fresh milk consumers with different personal status when classified by sex, age, education level, occupation and income/month: there was no difference in attitude of dairy consumers of the 7 Eleven and Family Mart in Bangkok.

6.2 Milk products management is the quality of the brand, packaging size and taste. There was no relationship with the attitude of dairy consumers in Bangkok.

6.3 H0: Population factors will have the knowledge and understanding of the accountants on the financial statements in different financial reporting standards (TFRs for SMEs).

6.4 H1: The characteristic factors in the milk industry are different, there will be the knowledge and understanding of the accountants in the total cost and financial statements according to different TFRs for SMEs.

7. Operating Research Methodology

This research is a research methodology to study the process of production management and transportation cost structure of fresh milk products with TFRs standards for Thailand transport 4.0, to study the factors with the evaluation of impact and fresh milk products quality management for marketing transportation and to develop the production management that affects the attitudes of fresh milk consumers in SMEs business. This research is a survey research from 7 Eleven and Family Mart Supermarket in Bangkok area in Khet Suan Luang, Bangkapi, Phra Khanong, Prawet, in Thailand. The population consists of fresh milk consumers and accountant of the factory milk production industry. The tool for data gathering was a questionnaire to survey the sample group of 486 samples. This research was conducted from 5 January 2017 to 28 February 2018.
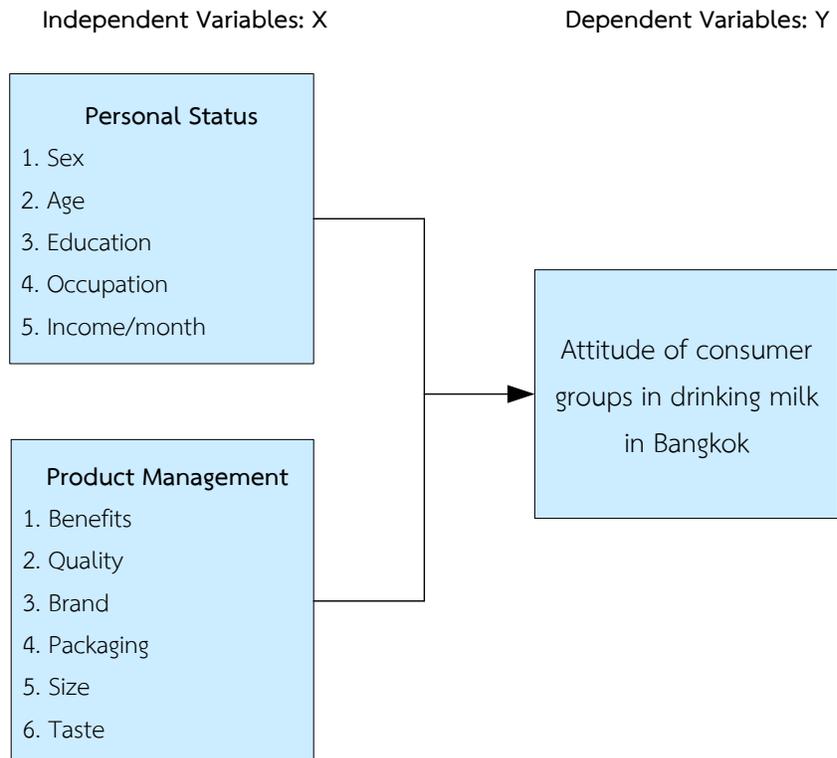
Independent Variables: X   Dependent Variables: Y

Personal Status

1. Sex
2. Age
3. Education
4. Occupation
5. Income/month

Product Management

1. Benefits
2. Quality
3. Brand
4. Packaging
5. Size
6. Taste

Attitude of consumer groups in drinking milk in Bangkok

Figure 4 Conceptual framework for research that affects consumer attitudes

The questionnaire was used to analysis quantitative data. It is a conceptual study of the attitudes of fresh milk consumers with decision-making in fresh milk consumption. The researcher has set the appropriate conceptual framework that can be used in relevant research that affects consumer attitudes by defining the independent variables X and dependent variables Y, using the process of making a decision to buy milk drinks as shown in Figure 4. Accountants of SMEs have to study and understand this new standard so that they can prepare financial report accurately. The level of knowledge, understanding, and attitude that accountants have toward this new standard of TFR_S for SMEs with the conceptual framework of consumer for research are shown in Figure 5.
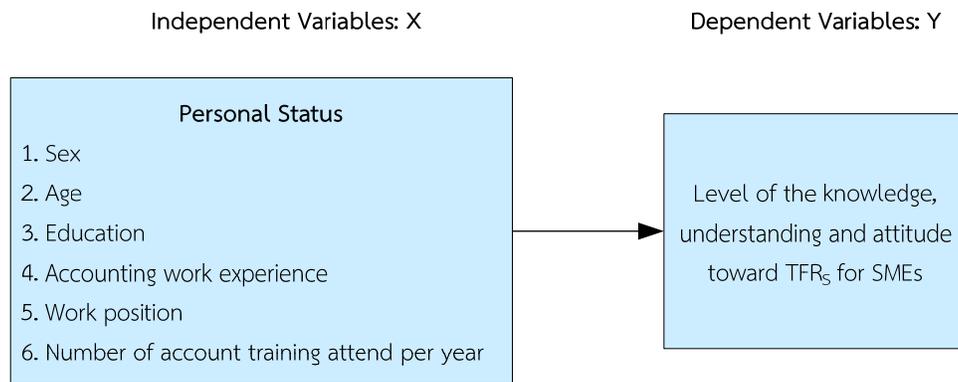
Independent Variables: X   Dependent Variables: Y

Figure 5 Conceptual framework for research that affects attitude, knowledge and understanding with TFRs for SMEs

7.1 Population and Sample Group

The population used in the research is consumers interested in buying fresh milk drink of the 7 Eleven and Family Mart Supermarket in Bangkok area, Thailand. Accidental sampling was used by sending questionnaires to survey consumer's attitudes in purchasing fresh milk drink after the consumers have made. After randomly collecting 25 data sets per day within 20 days, there were 486 samples group. The duration of the research was from 5 January 2017 to 28 February 2018.

7.2 Research Tools

The questions based on the research objectives were divided into four parts as follows:

Part 1: The questionnaires on the personal factors of the respondents were sex, age, status of education, occupation and average income per month with giving the respondent a check mark in the empty range of options given in the questionnaire. The question style is a multiple-choice one.

Part 2: The questionnaire about consumers' decision-making behavior on fresh milk drinks included product selection, brand selection, supplier selection, (manufacturer), purchase quantity, purchase period, and payment. The closed-ended response questions (Likert rating scale). Level of data measurement of interval scale with the answer to product buying choice attitude is divided into 5 levels.

Part 3: Information on the opinions of the respondents on the criteria for grouping publicly-owned enterprises to take TFRs for SMEs.

Part 4: Summarize key differences of TFRs for SMEs and TFRs for NPAEs, and describe the criteria for segmentation.

	Average		Importance level
Level 1:	average range is 4.21 - 5.00	->	Highest level
Level 2:	average range is 3.41 - 4.20	->	Very level
Level 3:	average range is 2.61 - 3.40	->	Medium level
Level 4:	average range is 1.81 - 2.60	->	Low level
Level 5:	average range is 1.00 - 1.80	->	Minimal level

8. Discussion of Research Results

8.1 Analyze the individual characteristics of the respondents: including sex, age, status, education, occupation and average income per monthly. Descriptive statistic was used to collect statistic data. It consists of frequency distribution and percentage, etc. Data analysis was done by statistics computer program.

8.2 Analyze consumer behavior study data, using descriptive statistical methods and collected data for statistical analysis. These include mean and standard deviation, etc. Data analysis was done by statistics computer program.

The results of general data analysis using descriptive statistics on respondents from the results as in Figure 6 and in Table 2 showed that the sample groups of the 7 Eleven Supermarket of the consumers to fresh milk drinks is male; there are 290 samples or 62.54 %. But the Family Mart Supermarket of the consumers to fresh milk drinks is female; there are more than male to 139 samples or 57.82 %, because females make decision to buy fresh milk for their bodies. From the results in Figure 7, it is shown that consumer sample groups can buy milk drinks with the highest amount from the age from lower than 20 are 94 samples or 58.27 % of the 7 Eleven Supermarket, next show that the consumers age from 20-39 years are 250 sample groups or 45.35 %, who can buy fresh milk drinks.
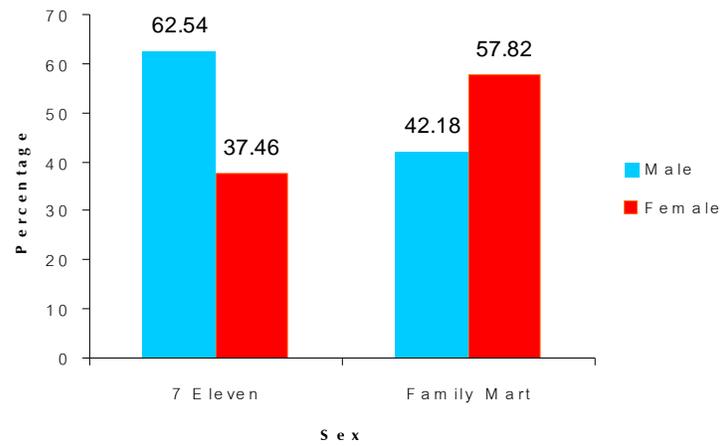
Figure 6 The results of percentage comparing with consumers sex to fresh milk drinks of the Supermarket in Bangkok area, Thailand

Table 2: The results of the number and percentage of consumers buying fresh milk drinks at the Supermarket with sex

Consumers	7 Eleven Supermarket		Family Mart Supermarket	
	number	percentage	number	percentage
1. Sex				
1.1 Male	290	62.54	200	42.18
1.2 Female	196	37.46	286	57.82
Total	486	100	486	100

When comparing with the milk consumers of the Family Mart Supermarket, the milk consumers age from 20-39 years are 260 sample groups or 54.65 % whose attitude towards marketing mix were rated at high level, because they want to maintain a healthy body and are interested in drinking milk.
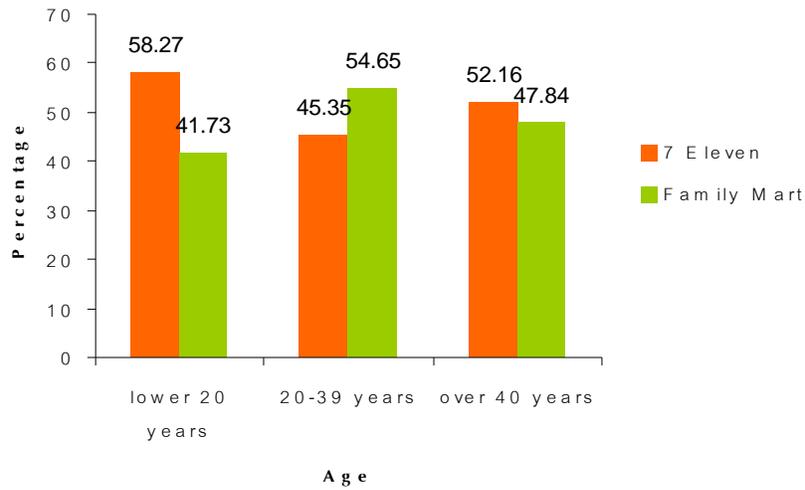
Figure 7 The results of percentage comparing with consumers age to fresh milk drinks of the Supermarket in Bangkok area, Thailand

Table 3: The results of the number and percentage of consumers buying fresh milk drinks at the Supermarket with education level

Consumers	7 Eleven Supermarket		Family Mart Supermarket	
	number	percentage	number	percentage
2. Education Level				
2.1 Lower than bachelor's degree	101	10.42	103	8.75
2.2 Bachelor's Degree	260	52.5	235	56.25
2.3 Higher than bachelor's degree	125	37.08	148	35
Total	486	100	486	100

Table 4: The results of the factor is personal for understanding of TFR$_S$ for SMEs of Thai accounting for SMEs businesses

The factor is personal		Understanding	
		$\overline{x}$	S.D.
1. Gender	Male	0.64	0.16
	Female	0.86	0.18
2. Age	lower 30 year	0.79	0.14
	30-40 year	0.80	0.03
	41-50 year	0.75	0.12
	51 year go up	0.68	0.15
3. Education level	lower the bachelor's degree	0.62	0.05
	bachelor's degree	0.69	0.17
	tall more the bachelor's degree	0.75	0.19
4. Work position	account inventor	0.74	0.06
	accountants	0.73	0.14
5. Accounting work experience	lower 1 year	0.69	0.12
	1-5 year	0.74	0.14
	6-10 year	0.80	0.18
	10 year go up	0.75	0.15
6. Number of training attend per year	never be in training	0.82	0.15
	be in training 1-2 time	0.81	0.14
	be in training 3-4 time	0.87	0.07
	be in training 5 time go up	0.83	0.04

The results of the data analysis in Table 4 shows that on the opinions of the respondents on the TFRs for SMEs were used in the operation. The results of the analysis of opinions are differences with regard to the functions, understanding and knowledge of the accountants in the preparation of TFRs for SMEs business consolidated financial statements, and classified by SMEs business characteristics. This research is to investigate the opinions of accountants on the implementation of TFRs for SMEs, regardless of their benefits and possible problem and the criteria for division of SMEs business using TFRs for SMEs and TFRs for NPAEs standards applicable to non-listed companies. Data analysis indicated that attitude toward implementation of TFR_S for SMEs was at a high level in general (mean = 3.54, S.D. = 0.68). When separately analysed, it was found that the sample group had high level of attitude in every aspect with the details. The respondents will find that the experience of working 1-5 years will have a moderate level of knowledge, with an average of mean ($\bar{x}$) of 0.74 and standard deviation (SD) of 0.14 will have a level of knowledge. The mean of 0.74 is equal to 0.05 level of significance.

The results of the data analysis indicated that attitude on TFR_S for SMEs follow personal factor of accounting for SMEs businesses. The aspect that had the highest level of positive attitude was reducing complexities in preparing financial reports by not applying the full accounting standards (mean is 3.72 and S.D.is 0.64). The aspect that the sample group had the least level of agreement was reducing reliability of the data (mean is 3.42 and S.D. is 0.76).

Table 5: The result of the revenue, production transportation cost and profit with quality management that affects the attitude of consumers

Data entry	Average (USD per unit)	Percent	Pasteurize milk (USD per bag)	Percent	UHT milk (USD per box)	Percent
1. Revenue from milk	18.96	-	25.68	-	9.82	-
2. Total logistics costs	13.18	100	20.03	100	4.67	100
- Management costs	2.32	16.53	3.82	18.56	0.32	7.54
- Warehouse costs	0.75	5.54	-	-	1.08	22.56
- Transportation costs	8.25	63.56	12.15	62.34	3.15	67.48
- Cost of Loss	0.07	0.54	0.21	0.49	0.032	0.72
- Packaging costs	1.79	13.82	3.85	18.56	0.09	1.58
Profit per unit	**5.78**	-	**5.65**	-	**5.15**	-

Source: Survey

Note: 1 bag of pasteurized milk contains 200 cc and 1 UHT milk contains 200 cc.

9. Conclusions

The results of fresh milk products quality management in SMEs businesses in market transportation of the TFRs standard for Thailand transport 4.0 was studied by focusing on education, understanding and learning attitude that for TFRs standards with a strategy in case study of fresh milk production industry in Thailand. Production cost was reduced with quality management that affects the attitudes of fresh milk consumers. The accountant who disagrees with the guidelines of any grouping approach of the federation of accounting professions advises that TFRs for SMEs should be the business choice. In each case, TFRs for SMEs is used. The results of general data analysis using descriptive statistics found that the management process of milk drink is related to 4 groups: dairy farmers, cooperative central for raw milk, the factory of processing milk and milk agent. Therefore, it is concluded that the strategy of milk product management in Bangkok will include benefit, quality, brand, packaging, size and taste at a high level ($\bar{x}$ = 3.69). The overall attitude of fresh milk consumers in Bangkok, Thailand was very high ($\bar{x}$ = 3.75). Based on hypothesis testing results, it is assumed that assumptions are accepted to guide the development of production management.

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