

Guidelines for Managing the Value Chain to Increase the Effectiveness of the Dietary Business of Supplement Products in Thailand

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ABSTRACT

This research aimed to study:

1. Compare the equilibrium effectiveness of the dietary supplement manufacturing business in Thailand. Classified according to the characteristics of the business.
2. Value chain management that affects the balanced effectiveness of the dietary supplement manufacturing business in Thailand.
3. Guidelines for value chain management to increase the effectiveness of the dietary supplement manufacturing business in Thailand.

The study used a survey research method combining both quantitative and qualitative methods. A questionnaire was used to collect data from representatives of 279 dietary supplement manufacturing establishments in Thailand and in-depth interviews with 21 experts in the dietary supplement business in Thailand.

Keywords: *Guidelines; Managing the Value Chain; the Effectiveness; the Dietary Business; Supplement Products; Thailand*

INTRODUCTION

Nowadays, the importance of health care tends to increase, starting from childhood. Adults to the elderly turn their attention to exercise. Eating nutritious food Eating dietary supplements and vitamins as well as consulting health experts (Rungnapa Sarapin. 2019) and many other factors that support the dietary supplement business to have more growth opportunities, such as entering the aging society. Pollution problems from PM2.5 dust to the emergence of new diseases as a result, it has caused a change in consumer attitudes in using dietary supplements. "Prevention is better than cure" (Department of Disease Control. 2021) In addition to dietary supplements affecting health, they also affect the economy both directly and indirectly. The direct way is to create more circulating income throughout the production chain, from raw material suppliers to manufacturers to distributors. Create careers for new entrepreneurs bringing currency into the country from exports the indirect effect is when people in the country have better health. It will reduce the public health spending budget. Having the physical and mental strength to pursue a career happily may reduce social problems. It is also in line with the 13th National Economic and Social Development Plan (2023 - 2027) by supporting and promoting business prosperity. Create sustainable value there is a strategy in goal number 7, where Thailand has strong small and medium enterprises has high potential and can compete sustainably It is also a development plan at a time when the world, including Thailand, is faced with various restrictions because of the COVID-19 outbreak situation which not only causes illness and death among the population but it also results in the economic and lifestyle conditions of all groups of people. It also talks about the aging society of Thailand and many countries around the world. From the population structure of Thailand, it is found that in 2022 there is a total elderly population of more than 12,116,199 people, or 18.3 percent of the total population (Registration Management Office Department of Provincial Administration. 2022), and is likely to

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continue to increase. It is predicted that by 2023, the starting year of the 13th National Economic and Social Development Plan, Thailand will become a completely aging society with people aged over 60 as high as 20.1 percent of the total population. This contrasts with the population of school age and working age which tends to decrease. Especially in the age group of 3 - 21 years, the proportion will continue to decrease within the period of the 13th Development Plan. The entry into the aging society may result in the problem of inequality in the country becoming more serious. This is because the elderly group tends to have higher income inequality than the younger group and the proportion of the working-age population is continuously decreasing. This may lead to a labor shortage problem in the country. It has a significant economic and social impact on Thailand. Both in terms of economic growth competitiveness and labor productivity including the need for a budget for welfare to support retirement and the fiscal burden on health care for the elderly is likely to increase. (Office of the National Economic and Social Development Council Office of the Prime Minister. 2022) Taking care of your health by consuming dietary supplements is another way to help the elderly have a healthy body. Reduce the risk of disease Live your daily life by yourself or even be able to do work that is appropriate for your age continue to generate income and reduce dependency on family members even after retirement.

The trend of consumption of dietary supplements is increasing among consumers around the world. From a report from the Office of Trade Policy and Strategy, it has been analyzed that 70 percent want dietary supplements that help with sleep and reduce stress, 63 percent want dietary supplements to nourish eyesight, and 45 percent consume Plan Best food (Plant-Based) to refrain from eating meat. 41% want dietary supplements in the form of yogurt. 35% want dietary supplements in the form of beverages made from plants. 35% want to consume dietary supplements that help build immunity: 35 percent want to know the origins of nutritional supplements; 27 percent want unadulterated nutritional supplements; 24 percent give importance to consuming environmentally friendly nutritional supplements (Office of Trade Policy and Strategy. 2021), the overall revenue of the global dietary supplement market in 2016 was valued at 121.2 billion USD and has a cumulative average annual growth rate of 5.7 percent (2006-2020), although in 2009 and 2015 economic fluctuations will affect the growth rate of the said market decreased but the following year, the dietary supplement market returned to continued growth, with forecasts from the Nutrition Business Journal (NBJ) stating that global dietary supplement market revenue will reach 155 billion USD in 2018. The revenue will come from growth in Asia. (Excluding China, Japan, and India) and the Eastern European region it is expected that there will be a cumulative average annual growth rate of up to 9 percent (Centre of Excellence in Life Sciences. 2021).

At present, many businesses, both small and large businesses, it experienced a decline in operating results due to the fluctuating economic situation due to environmental factors affecting business operations both inside and outside the country, such as the trade war between China and the United States. War fought between Russia and Ukraine the spread of the COVID-19 virus the occurrence of severe natural disasters although such factors will hurt business operations. However, the dietary supplement business can continue to grow. The problem that arises is that the competition situation within the dietary supplement manufacturing (OEM) business will become more intense as well. Both existing manufacturers are competing in the market and a large number of new manufacturers added it is a manufacturer that does not focus on brand building. However, we focus on producing for other brands that require small-scale production. And there is no need to invest in building your production plant. The producer here is the business that produces products for customers without a brand the manufacturer will be hired to produce products for various brands as determined by the brand owner. Using the production process of the manufacturer's factory since planning Think of product formats, choose ingredients, and design packaging. Proceed to register and request permission according to the criteria specified by law. Install machinery systems in production this will help customers save costs. Save costs in managing the production plant and do not have to bear investment risk but from the number of establishments of this type, there are many. Giving customers more choices as well each manufacturer may have a decreasing market share. Creating a competitive advantage, it is necessary to use competitive strategies that change according to the situation, for example, as manufacturers focus on competing by offering high-quality products. Switch to competition by selling at a lower price. This may eventually lead to a price war. This will not be good for making a profit in the long run. Businesses should give importance to strategic management for use in business operations, such as analyzing both internal and external situations that affect business operations. Analysis of changing consumer needs developing the organization to keep up with changes in the business environment creating value for every activity also known as Value Chain Management, especially in an era of intense business competition ignoring these things may result in some business establishments producing dietary supplements unable to withstand competition and this leads to failure in business operations. However, with dietary supplements being products that directly affect the body, consumers still demand products that come from high-quality manufacturers. Therefore, competing with management strategies that are appropriate to the situation is an opportunity to gain an advantage and maintain one's position in the value chain of customers and raw material suppliers stably and sustainably.

Dietary supplements are divided into ready-to-drink supplements. Dietary supplement group for weight control Product group mixed with vitamins and herbal plant group at present, the overall picture of competition in the Thai food supplement manufacturing business reveals that there are only 5 percent of large operators, but they can hold over 60 percent of the market share, while SMEs are up to 95 percent that must be fought over the remaining 40% market share is therefore a very intense competition situation. Most entrepreneurs will focus on developing and producing products to enhance the health of consumers to gain benefits that meet their needs as much as possible. Emphasis is placed on developing new products to enter the market before others. To penetrate the market among the elderly Group starting working age working age group Maintaining product quality standards and giving importance to research and development Including having a different packaging design. Beautiful, outstanding, and modern to influence purchasing decisions easily and create better memories. They also compete in terms of distribution through online channels that most SMEs use as their main channel. (Office of Trade Policy and Strategy Ministry of Commerce. 2021).

From the history and importance of the problems mentioned above, there is a question of what are the current conditions, problems, and competition in the food supplement manufacturing business in Thailand. What is the equilibrium effectiveness of the business? How do value chain management factors affect the equilibrium effectiveness of a business? And what guidelines should be in place for managing the value chain? This is the reason why the researcher is interested in studying the strategic management of the dietary supplement manufacturing business in Thailand. To present guidelines for managing the value chain for food supplement production businesses that operate on a business-to-business (B2B) basis. This can be used as a guideline for developing and adjusting strategies in line with changes in situations both inside and outside the organization. appropriately to develop the business so that it can create a sustainable competitive advantage create value for raw material suppliers and provide maximum benefits to customers which is in the operating chain of the business there will also be agencies and related parties that will benefit, such as the food and drug administration of the Ministry of Public Health. Business experts in the Ministry of Commerce Academics and teachers in educational institutions will be used as a guideline for developing dietary supplements in Thailand to meet standards and be accepted internationally.

Research Objectives

1. To study the current conditions, problems, and competition of the dietary supplement manufacturing business in Thailand.
2. To compare the equilibrium effectiveness of the dietary supplement manufacturing business in Thailand. Classified according to the characteristics of the business.
3. To study value chain management that affects the balanced effectiveness of the dietary supplement manufacturing business in Thailand.
4. To propose guidelines for value chain management to increase the effectiveness of the dietary supplement manufacturing business in Thailand.

SCOPE OF RESEARCH

Population

Group 1 population includes experts involved in the dietary supplement business in Thailand, including:

1. Civil servants and state enterprises include those working in the food and drug Administration Office of the Ministry of Public Health. Office of the Consumer Protection Board Consumer Protection Crime Suppression Division Thai Chamber of Commerce and Board of Trade of Thailand and Department of Industrial Promotion/Department of Industrial Works Ministry of Industry.
2. Academics include marketing experts. Specialist in dietary supplements in the Ministry of Public Health Business expert in the Ministry of Commerce Consultant for dietary supplement business and teachers in higher education institutions.
3. The representative of the establishment has experience working in a management position in the dietary supplement manufacturing industry in Thailand for not less than 5 years.

The second group of people includes 1,015 dietary supplement manufacturing establishments in Thailand (Food and Drug Administration Ministry of Public Health. 2022).

Sample group

Sample group 1 is a representative of 21 experts in the dietary supplement business in Thailand. The sample size was determined under the principles of the Delphi technique (Jensen 1996), which is not less than 17 people, which will provide a low error value and select a specific sample (Purposive Sampling).

The second sample group is representative of 279 dietary supplement manufacturing establishments in Thailand. The sample size was determined using Krejcie and Morgan's table (Krejcie; & Morgan 1970) at a tolerance level of $\pm 5\%$. And used the methods of selecting stratified samples (Stratified Sampling) and simple random sampling (Simple Random Sampling).

Variables studied

1. Independent Variables include:

- a. Factors and characteristics of the business
 - i. Registered capital
 - ii. The region in which the business is located
 - iii. Period of Doing Business
 - iv. Number of employees
 - v. Number of customers
- b. Value Chain Management according to the concept of Michael E. Porter (1985) includes:
 - i. Main activities
 - a) Inbound Logistics
 - b) Operations
 - c) Outbound Logistics
 - d) Marketing and Sales
 - e) Services (Services)
 - ii. Support activities
 - a) Infrastructure (Firm Infrastructure)
 - b) Human Resource Management
 - c) Technology Development
 - d) Procurement

2. The Dependent Variable includes the equilibrium effectiveness of the dietary supplement production business in Thailand. Use the principles of balanced measurement (Balanced Scorecard: BSC) (David P. Norton; & Robert S. Kaplan.1992) consisting of
 - a. Financial aspects
 - b. Customer side
 - c. Internal processes
 - d. Learning and Development

BENEFIT OF THE RESEARCH

The results of this research will be useful for business executives producing dietary supplements to use as a guideline for managing the business value chain to be able to operate successfully and achieve the set goals. You can also adjust your strategy to suitably change the situation both inside and outside the organization. It is beneficial to those who are responsible for developing dietary supplements to have quality that meets the needs of consumers. It is also beneficial to government officials working in the Food and Drug Administration Office of the Ministry of Public Health, and the Office of the Consumer Protection Board. Consumer Protection Crime Suppression Division Thai Chamber of Commerce and Board of Trade of Thailand Department of Industrial Promotion/Department of Industrial Works Academic expert in dietary supplements in the Ministry of Public Health Lecturer in educational institutions, expert in business operations, Ministry of Commerce and business consultant For use as a guideline for developing dietary supplements and developing the business of producing dietary supplements in Thailand to meet international standards and acceptance.

CONCEPTUAL FRAMEWORK

This research is based on related principles, concepts, and theories. It consists of analyzing the competitive environment from five external pressures (Five Force Model) of Michael E. Porter. (1980). Components within the organization include value chain management (Value Chain) of Michael E. Porter (1985). and balanced effectiveness (Balanced Scorecard: BSC) of David P. Norton; & Robert S. Kaplan (1992) were used to analyze SWOT Analysis and Tows Matix Analysis to present guidelines for value chain management to increase the effectiveness of the supplementary product business. Food in Thailand in summary, this is the conceptual framework for the research as shown in Figure 1.

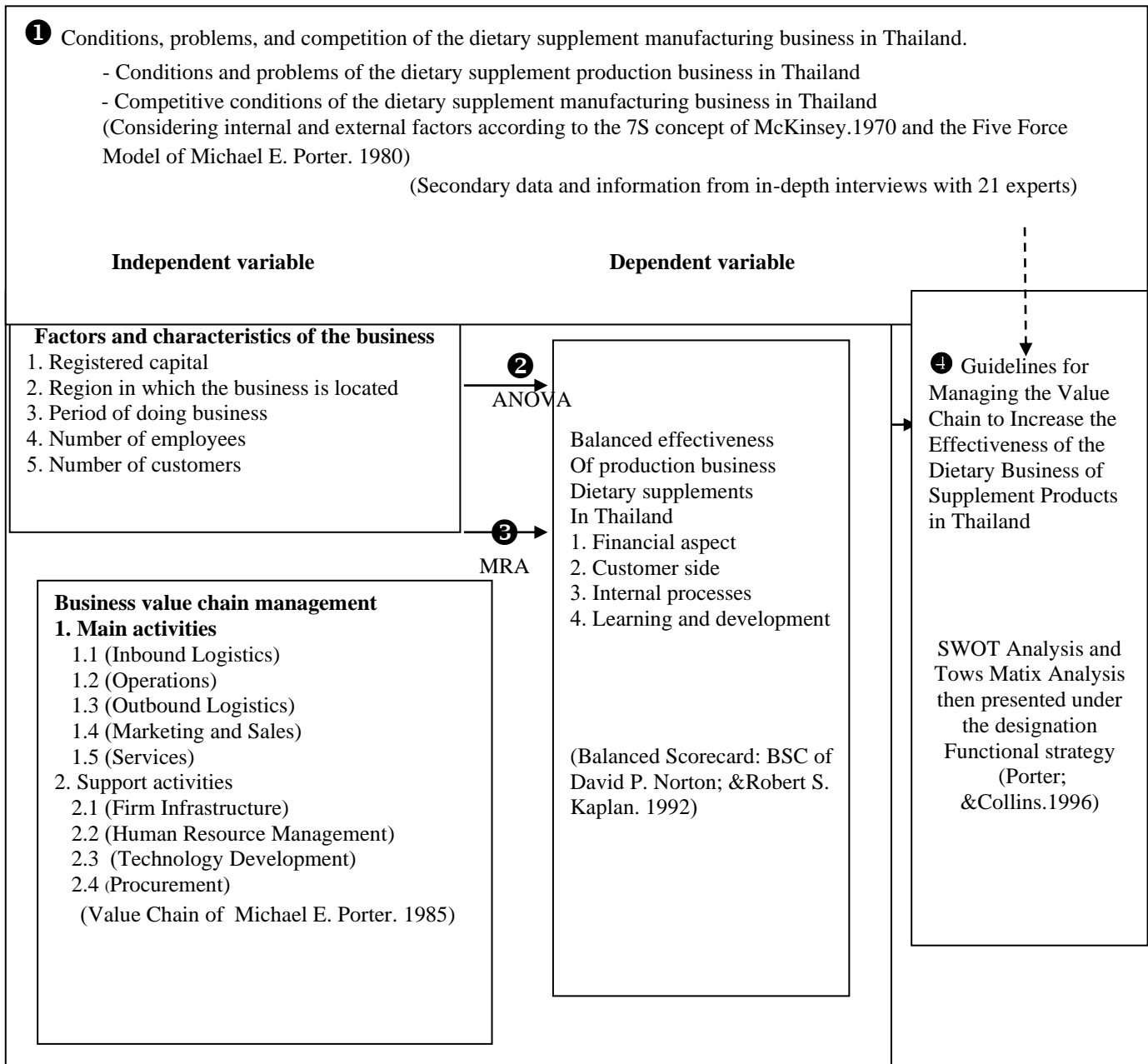


Figure 1 Conceptual Framework
(Quantitative data from a sample questionnaire of 279 locations)

Research Hypothesis

1. The equilibrium effectiveness of the dietary supplement manufacturing business in Thailand varies according to the factors and characteristics of the business.
2. Business value chain management affects the balanced effectiveness of the dietary supplement manufacturing business in Thailand.

RELATED RESEARCH

7 important concepts related to internal management (7s McKinsey)

The 7 Essentials of Internal Management, also known as the 7s McKinsey (McKinsey, 1970), refers to a change framework based on an entity's organizational design that aims to demonstrate that change leaders can manage change in their organizations. Efficiently Strategy is organized around seven core elements: structure, strategy, systems, shared values, skills, style, and people. Centering shared values emphasizes how a strong culture of change influences all other elements to drive successful organizational changes.

Chayamon Phalaboon (2020) gave the meaning of 7s McKinsey as a management tool used to analyze factors that make a business successful. McKinsey Company is a business consulting company that conducted a study in 2018 found that the concept of making an organization successful depends on the relationship of at least 7 interrelated variables, including strategy, structure, system, personnel management style, skills, and shared values all 7 variables the above are related to each other.

Thawatchai Uipanich (2016) gave the meaning of McKinsey's 7s as describing the relationship of factors that help the organization succeed in its operations. There are seven important elements: strategy, structure, system, model, personnel, skills, and shared values.

Thisirin Panyayutsak (2013) gave the meaning of 7s McKinsey as meaning to aim to study about various factors. That affects the internal management of the organization, all 7 aspects are 1) Structure (organizational structure) 2) Strategy (strategy) 3) Staff (managing people to work) 4) Managerial style (management style) 5) System (operational system) 6) Shared value (shared values) 7) Skill (skills, knowledge, abilities) which the concept of organizational management affects efficiency. Effectiveness of the entire organization because management can lead to the evaluation of the effectiveness of organizational management.

McKinsey's 7S is an internal factor analysis. Strengths and Weaknesses May rely on models that will help in the analysis. The most popular model is McKinsey's 7S model, a model used to help analyze internal organizational factors that affect strategy implementation. The 7S model is used to describe relationships that help organizations Operate efficiently (Thani Nakkerd, 2012).

This concept was first published in 1980 by Thomas J. Peters and Robert H. Water, Jr. in their book "In Search of Excellence." Effective management depends on at least seven interrelated variables called the "7S Framework" (McKinsey 7S Framework). This framework wants to present the organization's efficiency as it arises from the relationship of 7 different factors:

1. Strategy refers to a method or method of operating systematically that aims to respond to changes in the environment. The strategy will be used as the main guideline for the agency's operations or used to compete with competing agencies, such as implementing strategies to increase business types Implementing strategies to control other agencies or a strategy that emphasizes marketing, etc. The strategy must have a relationship with other elements within the organization, whether it be the structure of the organization, the work systems used, or the skills of the personnel. Strategic management is a process that helps executives answer important questions, such as: Where is the organization at now? Where are the organization's goals? What is our mission? What should our mission be? And who receives our services Strategic management will be extremely important. Strategic management helps organizations it defines and develop competitive advantage and provides a way for people within the organization to know where to put their efforts to be successful.
2. Organizational structure (Structure) refers to the structure that has been established according to the process or job duties by recruiting personnel to work together in various departments to achieve the goals that have been set or means organizing a system for 2 or more people to lead to the goals that have been set. Because today's organization is large good organization contributes to operational flexibility. Reduce

duplication or conflict in duties helps personnel to know the scope of their work and responsibilities. There is convenience in contacting and coordinating. Executives can make management decisions correctly and quickly. Components of an organization show the organization of work lines and relationships among various departments within the organization. The purpose of creating an organization is to be a mechanism for working to achieve the organization's stated objectives. Creating an appropriate organization will bring benefits to the organization. A good structure will serve the organization's objectives. Consistent with the nature of the organization's work it helps to make the organization's operations go smoothly, stimulates the creativity of personnel, and most importantly, it creates the competitiveness of the organization.

3. Operational system (System) refers to the organization's work system, meaning the methods, processes, and procedures within the organization, both formal and informal, such as personnel management systems, production systems, and customer service systems. Information systems and internal communication systems, etc. The internal work system will be an important mechanism for managing work. Every day to be successful Therefore, if the organization's working system is efficient, the organization can be driven forward able to handle the workload and also affects the ability to compete directly In operating according to the strategy to achieve the stated goals, addition to having an appropriate structure and a good strategy, organizing a working system (Working System) is also important, such as accounting/financial systems. (Accounting/Financial System) Supply System (Information Technology System) Monitoring/Evaluation System (Monitoring/Evaluation System) etc.
4. Personnel (Staff) refers to employees at all levels within the organization. It will be related to human resource management within the agency. From selecting the right person for the job Motivation and development of personnel with abilities appropriate to the work they are responsible for as well as changing attitudes and Basic values appropriate to work in the current environment However, if any agency can develop its potential and create an attitude If you have basic values that are conducive to the success of the work, then the organization will be successful in operating the organization. And vice versa, if any agency is unable to develop personnel as mentioned, will suffer failure in Today's intense operations and competition Human resources are considered an important factor for the operation of the organization. Whether an organization will be successful or not will partly depend on human resource management, and human resource planning. It is a process of analyzing future human resource needs. Personnel decisions should be analyzed based on the organizational strategy that determines the direction the organization will take. This will result in the characterization process and selecting and placing personnel more appropriately.
5. Skills mean things that an organization or agency can do it better than other organizations or agencies it is a distinctive characteristic and a core competency that the organization has. It is a highlight in the knowledge and abilities of personnel or qualities that make the organization different from other organizations this will be a competitive advantage which is a specific ability or expertise in the present.

In conclusion, it can be concluded that internal management is used to determine the capabilities within the organization. This allows for proper business planning and evaluation of business efficiency. There are 7 important factors: 1) Strength is the thing that can be used to create the most advantage, such as service provision, quality, or product differentiation. 2) Organizational structure (Structure) Organizational format Determining authority and duties and coordinating relationships in each department. 3) Operational system (System) is the determination of procedures for operating activities. Formal processes and procedures within the organization and informal 4) Personnel (Staff) is defined as human resource management within the agency. From selecting the right person for the job Motivation and development of personnel with abilities appropriate to the work they are responsible for as well as changing attitudes and Basic values appropriate to the work environment. 5) Skills or knowledge and abilities (Skills) things that can be done better than other organizations. It is an outstanding characteristic that is the core competency that the organization has. 6) Leadership style (Style) is something that is conveyed through the style and behavior of leaders in managing the organization and 7) Shared values (Shared Values) the shared feelings or needs of most people in the organization. Conveyed through attitude towards the organization.

CONCEPTS RELATED TO ANALYZING COMPETITIVE CONDITIONS FROM 5 EXTERNAL PRESSURES

Potter (Porter, Michael E. 1980) defined five external pressures as administrative tools used for surveying and analyzing the external environment. Especially in the competitive environment it can explain the competitive environment and is a factor that directly affects business operations in a particular matter. The analysis of the Five Forces Model will focus on evaluating the bargaining power of competitors, raw material suppliers, customers, and new competitors and substitute products

Thamrong Angsuratkomon (2016) has defined 5 external pressures as referring to the environment in which business operations are conducted. It is an important aspect that must be considered in strategic planning, whereby strategic planning will not be successful. Without analyzing the environmental intensity of competition and the industry or target market consists of 1) pressure from new competitors entering the industry (New Entrants) 2) pressure from existing competitors in the industry (Segment Rivalry) 3) pressure from substitute products (Substitute) 4) Pressure from the bargaining power of buyers (Buyers) 5) Pressure from the bargaining power of raw material suppliers (Suppliers) Analyzing these 5 pressures will help understand the structure, trends, and various forces. That will have an impact on the profitability of the industry.

Atthaphon Chandrawiphak (2015) has defined 5 external pressures as referring to the analysis of the organization's operating environment may be called Industry Analysis (Industrial Analysis) or a group of organizations that have similar products and services or a group of businesses that have the same characteristics. The operating environment is comprised of factors that are specific and immediately affect the organization's operations, such as competitors, customers, labor, and suppliers.

RESULT OF RESEARCH

In summarizing the results of research on value chain management approaches to increase the effectiveness of the dietary supplement manufacturing business in Thailand. Which presents the research results according to the research objectives set out as follows.

1. From the results of research objective 1, comparing the equilibrium effectiveness of the dietary supplement manufacturing business in Thailand. Classified according to the characteristics of the business there are important points that can be discussed in the results as follows.

1.1 Characteristics of most businesses with registered capital of less than 5 million baht and located in the central region. Having been in business between 5-10 years, having less than 50 employees, and having between 21-30 customers. This may be due to the number of distributors of dietary supplements and the number of entrepreneurs producing dietary supplements has increased, resulting in the production costs of machinery used in production being cheaper due to the principle of economy of scale. Starting a business does not have very high registered capital. By using only a few machines, it is possible to process orders for customers with a small ordering capacity. Entrepreneurs will be able to produce for many customers. This is in line with the idea of Chatri Sripaiphon (2010) who said that a contract production factory will make customers who come to hire the production factory. Save a lot of costs. Without having to set up a factory or buy machinery to produce the products yourself. This causes the employer to produce less risk. It does not take much capital to produce which the return is considered worthwhile. Factories of this type are usually newly opened factories or factories that do not focus on building their brands but focus on production for other brands that want to produce in small quantities or do not have a factory of their own. It can be said that OEMs have the sole responsibility of producing products. Product design, market research, marketing, and product testing are the responsibility of the customer. The advantage of an OEM factory is that it reduces production costs. It is convenient to start a business. As a result, the number of customers in the contract manufacturing business has increased rapidly, leading to a reduction in production costs through the principle of economies of scale at the highest production level.

1.2 Value chain management analysis It was found that the food supplement manufacturing business in Thailand has an overall value chain management level at a high level ($\bar{x} = 4.29$). When considering each aspect, every aspect is at a high level. The areas that are at the highest level are the Service aspect ($\bar{x} = 4.46$), followed by procurement ($\bar{x} = 4.43$), marketing and sales ($\bar{x} = 4.35$), human resource management ($\bar{x} = 4.32$), operations ($\bar{x} = 4.26$), infrastructure ($\bar{x} = 4.25$), outbound logistics ($\bar{x} = 4.21$) and inbound logistics ($\bar{x} = 4.24$), respectively.

1.2.1 In terms of inbound logistics, it was found that food supplement manufacturing businesses in Thailand have a high level of value chain management in terms of inbound logistics. When considering each item, it was found that all items were at a high level. The items that are at the highest level are: There is a process for procuring quality and sufficient raw materials ready for production at the specified time ($\bar{x} = 4.37$), followed by a

clear process for inspecting raw materials before storing them in the warehouse ($\bar{x}=4.26$) and there is a prioritization in Inputting raw materials into the production section ($\bar{x}=4.24$) respectively.

1.2.2 Operational aspect: It was found that the food supplement manufacturing business in Thailand has a high level of value chain management in terms of operations. When considering each item, it was found that all items were at a high level. The items that are at the highest level are: There are quality machines that are ready for production that can support customer needs ($\bar{x}=4.37$), followed by having a production capacity plan that is consistent with the sales plan ($\bar{x}=4.32$) and having a forecast of raw material use that is consistent with the production plan ($\bar{x}=4.28$), respectively.

1.2.3 In terms of outbound logistics, it was found that food supplement manufacturing businesses in Thailand have a high level of value chain management in outbound logistics. When considering each item, it was found that all items were at a high level. The items that are at the highest level are: There are vehicles for transporting goods that are sufficient and appropriate for the quantity of goods that must be delivered ($\bar{x}=4.36$). Followed by counting of goods before delivery to customers for accuracy and completeness ($\bar{x}=4.33$) and planning. Efficient transportation of goods to prevent delivery of wrong products and delayed transportation ($\bar{x}=4.24$) respectively.

1.2.4 Marketing and sales it was found that food supplement manufacturing businesses in Thailand have a high level of value chain management in terms of marketing and sales. When considering each item, it was found that most were at a high level. The items with the average in the first place are: Having online media creates quick awareness and can increase the number of customers ($\bar{x}=4.55$), which is at the highest level. Followed by sending information and updating business news to customers regularly ($\bar{x}=4.52$), at the highest level. And products have been developed to be modern according to the needs of customers and society ($\bar{x}=4.41$) at a high level, respectively.

1.2.5 Service aspect: It was found that the food supplement manufacturing business in Thailand has the highest level of value chain management in terms of service. When considering each item, it was found that most were at the highest level. The items at the highest level are first: Consulting services are available regarding the process of applying for various licenses. Correctly as required by law ($\bar{x}=4.58$), followed by being ready to go in and solve problems for customers correctly and quickly ($\bar{x}=4.55$) and using modern information technology systems to provide Services ($\bar{x}=4.52$) respectively.

1.2.6 Service aspect: It was found that the food supplement manufacturing business in Thailand has a high level of infrastructure value chain management. When considering each item, it was found that all items were at a high level. The items that are at the highest level are: There is a product quality control system to meet certified and generally accepted international standards ($\bar{x}=4.38$), followed by a fast and thoroughly connected internal communication system ($\bar{x}=4.36$), and the use of technology. Information in database management ($\bar{x}=4.29$) respectively.

1.2.7 In terms of human resource management, it was found that the food supplement manufacturing business in Thailand has a high level of value chain management in terms of human resource management. When considering each item, it was found that all items were at a high level. The items that are at the highest level are: There are appropriate benefits and compensation increases. It can create incentives to work and reduce turnover problems ($\bar{x}=4.42$). Followed by having a clear, fair, transparent, and auditable performance evaluation system ($\bar{x}=4.40$) and specifying qualifications, criteria, and Methods for recruiting individuals that correspond to job positions ($\bar{x}=4.37$) respectively.

1.2.8 In terms of technology development, it was found that the food supplement manufacturing business in Thailand has a high level of value chain management in terms of technology development. When considering each item, it was found that all items were at a high level. The items that are at the highest level are: Production technology has been developed. To be able to support the production needs of customers ($\bar{x} = 4.32$), followed by the development and introduction of modern machinery into production. To speed up work or get more product quantities ($\bar{x} = 4.23$) and to allow customers and raw material producers to participate in expressing opinions about product improvement and development ($\bar{x} = 4.20$) respectively.

1.2.9 In terms of procurement, it was found that the food supplement manufacturing business in Thailand has the highest level of value chain management in terms of purchasing. When considering each item, it was found that most were at a high level. The items at the highest level are first: The quality and price of raw materials are determined to meet production needs and meet the standards required by law ($\bar{x} = 4.54$). Followed by the procurement of raw materials.

2.4 Summary of the comparative results of the equilibrium effectiveness of the dietary supplement manufacturing business in Thailand. Classified according to the characteristics of the business as follows:

2.4.1 Registered capital: It was found that businesses producing dietary supplements in Thailand with different registered capitals had different overall equilibrium effectiveness at the .05 level. When considering each aspect, it was found that the financial aspect and the customer aspect were different. The equilibrium effectiveness was significantly different at the .05 level. The differences in internal processes and learning and development were not statistically significant.

2.4.2 Region in which the business is located. It was found that businesses producing dietary supplements in Thailand located in different regions have overall equilibrium effectiveness that is significantly different at the .05 level. When considering each aspect, it is found that Customers and learning and development there is a statistically significant difference in the equilibrium effectiveness at the .01 level. The financial and internal process areas are not statistically significantly different.

2.4.3 Period of business operations it was found that businesses producing dietary supplements in Thailand with different periods of business operation had overall equilibrium effectiveness that was significantly different at the .05 level when considered individually. It was found that in learning and development, there is a significant difference in equilibrium effectiveness at the .05 level in terms of finance, customers, and internal processes. The difference is not statistically significant.

2.4.4 Number of employees: It was found that businesses producing dietary supplements in Thailand with different numbers of employees have different overall equilibrium effectiveness that is not statistically significant. When considering each area, it was found that the learning and development areas had a significant difference in equilibrium effectiveness at the .05 level. As for finance, customers, and internal processes, the difference is not statistically significant.

2.4.5 Number of customers: It was found that businesses producing dietary supplements in Thailand with different numbers of customers had overall equilibrium effectiveness that was significantly different at the .01 level. When considering each aspect, it was found that internal processes and the learning and development aspect have a significant difference in equilibrium effectiveness at the .01 level. The financial aspect and the customer aspect are different without statistical significance.

2. The results of the study of value chain management that affects the balanced effectiveness of the dietary supplement manufacturing business in Thailand can be summarized as follows:

2.1 Results of the analysis of the relationship between value chain management factors and the equilibrium effectiveness of the dietary supplement manufacturing business in Thailand.

2.1.1 Inbound logistics value chain management factors there is a positive relationship with the balanced effectiveness in finance, customers, and internal processes and learning and development statistically significant at

the .01 level, it is explained that the value chain management factors in inbound logistics are higher. Equilibrium effectiveness in all four areas will increase.

2.1.2 Operational value chain management factors There is a positive relationship with the balanced effectiveness in finance, customers, and internal processes and learning and development Statistically significant at the .01 level explains that the operational value chain management factors are higher. Equilibrium effectiveness in all four areas will increase.

2.1.3 Outbound logistics value chain management factors there is a positive relationship between the balanced effectiveness in finance, customers, and internal processes and learning and development statistically significant at the .01 level explains that the outbound logistics value chain management factor is higher. Equilibrium effectiveness in all four areas will increase.

2.1.4 Marketing and sales value chain management factors There is a positive relationship between the balanced effectiveness in finance, customers, and internal processes and learning and development Statistically significant at the .01 level explains that the marketing and sales value chain management factors are higher. Equilibrium effectiveness in all four areas will increase.

2.1.5 Service value chain management factors There is a positive relationship with the balanced effectiveness in finance, customers, and internal processes and learning and development Statistically significant at the .01 level explains that the service value chain management factors are higher. Equilibrium effectiveness in all four areas will increase.

2.1.6 Infrastructure value chain management factors there is a positive relationship with the balanced effectiveness in finance, customers, and internal processes and learning and development Statistically significant at the .01 level explains that the infrastructure value chain management factor is higher. Equilibrium effectiveness in all four areas will increase.

2.1.7 Human resource management value chain management factors There is a positive relationship between the balanced effectiveness in finance, customers, and internal processes and learning and development Statistically significant at the .01 level explains that the human resource management value chain management factor is higher. Equilibrium effectiveness in all four areas will increase.

2.1.8 Value chain management factors in technology development, there is a positive relationship with the balanced effectiveness in, financial, customer, and internal process aspects and learning and development statistically significant at the .01 level explains that the value chain management factors of technology development are higher. Equilibrium effectiveness in all four areas will increase.

2.1.9 Purchasing value chain management factors there is a positive relationship between the balanced effectiveness in finance, customers, and internal processes and learning and development statistically significant at the .01 level explains that the purchasing value chain management factors are higher. Equilibrium effectiveness in all four areas will increase.

2.2 Results of analysis of value chain management that affects the balanced effectiveness of the dietary supplement manufacturing business in Thailand.

2.2.1 Financial aspect: Value chain management factors were found to be able to jointly explain the variation in financial equilibrium effectiveness by 51.4%, while outbound logistics value chain management factors Human resource management And the procurement side affect the financial equilibrium effectiveness with a statistical significance at the .01 level and the service value chain management factor affects the financial equilibrium effectiveness with a statistical significance at the .01 level. 05 when considering the influence of variables that affect financial equilibrium effectiveness, it was found that outbound logistics had the greatest influence.

2.2.2 Customer side: It was found that value chain management factors can jointly explain the change in equilibrium effectiveness on the customer side by a percentage. 49.1 While the value chain management factors of technology development and the procurement side affect the equilibrium effectiveness of the customer side with statistical significance at the .01 level and the marketing and sales value chain management factors. Affects the

equilibrium effectiveness on the customer side with statistical significance at the .05 level. When considering the influence values of the variables that affect the equilibrium effectiveness on the customer side, it is found that the customer side, namely technology development, has the greatest influence.

2.2.3 In terms of internal processes, it was found that value chain management factors were able to jointly explain the variation in the equilibrium effectiveness of internal processes by 52.5 percent, while value chain management factors in outbound logistics Technology development and the purchasing side effects the balanced effectiveness of internal processes with a statistical significance at the .01 level and the infrastructure value chain management factor affects the balanced effectiveness of internal processes with a statistical significance at .01. Level .05 when considering the influence of variables that affect the balanced effectiveness of internal processes, it was found that the procurement side had the greatest influence.

2.2.4 In terms of learning and development, it was found that value chain management factors were able to jointly explain the change in equilibrium effectiveness in learning and development by 45.6 percent, while value chain management factors in resource management human marketing and sales and technology development Affects the balanced effectiveness of learning and development with statistical significance at the .01 level and the service value chain management factors affect the balanced effectiveness of learning and development with statistical significance. At the .05 level, when considering the influence of variables that affect the balanced effectiveness of learning and development, it was found that the human resource management aspect had the greatest influence.

DISCUSSIONS

From the results of research objective 2, comparing the equilibrium effectiveness of the dietary supplement manufacturing business in Thailand. Classified according to the characteristics of the business there are important points that can be discussed in the results as follows.

Characteristics of most businesses with registered capital of less than 5 million baht and located in the central region. Having been in business between 5 - 10 years, having less than 50 employees, and having between 21-30 customers. This may be due to the number of distributors of dietary supplements and the number of entrepreneurs producing dietary supplements has increased, resulting in the production costs of machinery used in production being cheaper due to the principle of economy of scale (Economy of Scale.) Starting a business does not have very high registered capital. By using only a few machines, it is possible to process orders for customers with a small ordering capacity. Entrepreneurs will be able to produce for many customers. This is in line with the idea of Chatri Sripaiphan (2010) who said that a contract production factory will make customers who come to hire the production factory. Save a lot of costs. Without having to set up a factory or buy machinery to produce the products yourself. This causes the employer to produce less risk. It does not take much capital to produce which the return is considered worthwhile Factories of this type are usually newly opened factories. or factories that do not focus on building their brands but focus on production for other brands that want to produce in small quantities or do not have a factory of their own It can be said that OEMs have the sole responsibility of producing products. Product design section Market research, marketing, and product testing are the responsibility of the customer. The advantage of an OEM factory is that it reduces production costs. It is convenient to start a business. As a result, the number of customers in the contract manufacturing business has increased rapidly, leading to a reduction in production costs through the principle of economies of scale at the highest production level.

The food supplement manufacturing business in Thailand has an overall level of equilibrium effectiveness at a high level. When considering each aspect, it was found that all aspects were at a high level. The first aspect at the highest level is finance, followed by internal processes. Learning and development and customer side respectively this may be because the business can make more profits. This is because production capacity can be increased to meet product standards and customer demand can be delivered on time due to systematic inventory management there are personnel with knowledge, abilities, and operational skills. There is a process for improving and developing products and developing modern machinery for use in production that can fully meet customer needs according to the contract and the rate of customer complaints tends to decrease. This is in line with the idea of Danai Thianput (2005) who said that a balanced scorecard is a management tool to measure the performance of the organization's strategy to actual implementation. From a financial perspective, it's an important perspective for for-profit organizations. The main objective is to create the highest profit. Through the connection in cause and effect mentioned above. Financial objectives may vary from organization to organization. This depends on the stage of the business life cycle. This can be divided into 3 phases: Growth, Maturity, and Harvest. From a financial point of view, this is an important outcome. If you want to make the organization financially successful the organization must therefore operate Using profit as an indicator of the overall success of the organization.

Business producing dietary supplements in Thailand with registered capital region in which the business is located Period of business and different numbers of customers have different overall equilibrium efficiencies. As for the number of different employees, the overall number is not different. There are important points that can be discussed in the results as follows.

- a. Registered capital: It was found that businesses with different registered capital have different equilibrium efficiency in terms of finance and customers. Businesses with registered capital of more than 15 million baht have higher equilibrium efficiency than businesses with registered capital of less than 5 million baht. This may be due to having a high registered capital may have the opportunity to receive work from high-value customers and could make agreements with business partners or raw material suppliers more easily. Because of the trust of business partners, if damage occurs, higher responsibility can be claimed. Including the opportunity to work with a large unit when bidding on a job will be considered first. This is in line with the concept of Chatri Sripaiphon (2010) who said that entrepreneurs who do business by posing as contractors produce products for companies that will then sell them under their brands. The contract manufacturer will invest a large amount of money to procure all production factors such as labor, machinery, materials, equipment, raw materials, factory buildings, and warehouses to create a production system to produce the product in the form that the customer desires.
- b. The region in which the business is located. It was found that businesses located in different regions have different equilibrium effectiveness in terms of customers and learning and development. Businesses located in the eastern and western regions have higher equilibrium efficiency than businesses located in the northeastern and central regions. This may be because in the eastern region, large factories are producing dietary supplements and there are also production factors that are ready to meet demand, such as a large number of factories producing raw materials for the production of dietary supplements and is a region with a large number of workers This is in line with the idea of Chatri Sripaiphon (2010) who said that entrepreneurs who do business by posing as contractors produce products for companies that will then sell them under their brands. The contract manufacturer needs to be ready to produce according to customer orders. and to procure all production factors such as labor, machinery, materials, equipment, raw materials, factory buildings, and warehouses to create a production system to produce products as desired by customers. The production contractor therefore needs to plan for locating the factory in an area that is ready to procure such production factors.
- c. Period of business operations it was found that businesses with different periods of business operation had different equilibrium effectiveness in terms of learning and development. Businesses that have been in business for more than 15 years have higher equilibrium efficiency than businesses that have been in business for between 11 and 15 years. This may be because the operations of today's successful organizations tend to It come from learning from past mistakes. Trial and error, research, and development lead to the creation of core competencies that are specific skills of that organization. This is consistent with the concept of Thani Nakkerd (2012) who said that an organization or agency can do it better than other organizations or agencies it is a distinctive characteristic and a core competency that the organization has. It is a highlights in the knowledge and abilities of personnel or qualities that make the organization different from other organizations this will be a competitive advantage. Current special abilities or expertise include production ability service ability Management ability to be a leader in technology ability to innovate and be creative innovations come from operating experience that has been learned and developed over a long period.

SUGGESTIONS

1. Entrepreneurs and business executives producing dietary supplements should adopt the proposed value chain management guidelines to apply in setting guidelines for operations, including 2 approaches: Guideline 1: Developing the ability to compete with the main activity of the value chain is inbound logistics. Operation Outbound logistics marketing and sales and services. The second way to develop competitiveness through supporting activities of the value chain is infrastructure. Human resource management technology development and purchasing
2. Operational planning by setting integrated quality standards in collaboration with relevant agencies. Food and Drug Administration Ministry of Public Health and entrepreneurs in formulating production development policies. Because the business of producing dietary supplements directly affects the consumer's body. Therefore, strict control is required.

3. Production of dietary supplements the production location and the production process must be managed appropriately. To ensure that the dietary supplements produced are clean and safe and ensure that the food products are of high quality and standards. The production location must comply with the announcement of the Ministry of Public Health (No. 420) B.E. 2020 issued per the food act regarding production methods production equipment and food storage.
4. Businesses should work on building a strong organizational culture. Create loyalty to the organization Organize a good welfare system and emphasize motivating employees in important positions with high compensation. There is clarity in the policy regarding the welfare, compensation, and career advancement of employees.
6. Businesses should organize activities that focus on promoting customer engagement and loyalty to the business. To maintain the customer base for the business as well as relevant agencies, officials should be sent to give advice and help entrepreneurs closely. To make customers more confident in our services and confident in products that meet standards, quality, and reliability.
7. Businesses should have dedicated marketing experts. Create a customer database provide advice to customers who wish to request advice in various areas such as consumer needs. Popularity trends of each type of product Sales Forecast Analyze the possibility or chance of success in online marketing If you are unable to build marketing skills from within organizations should consider using outside experts to do this work instead.

Suggestions for next research

1. Should study only online marketing. Because it is the channel that results in products becoming widely known as quickly as possible.
2. Should study only research and development. To create nutritional supplements in the form of innovation by conducting studies with raw material producers to promote integrated work from upstream to downstream.
3. Should study the guidelines for developing the business of producing dietary supplements with a leadership strategy in creating a difference. To gain a competitive advantage and to create further business growth.

REFERENCES

1. Axon, D. R., Vanova, J., Edel, C., & Slack, M. (2017). Dietary supplement use, knowledge, and perceptions among student pharmacists. *American Journal of Pharmaceutical Education*, 81(5), 92.
2. Cronbach, Lee J. (1970). *Essentials of Psychology Testing*. 3rd ed. New York: Harper and Row, Publishers, Inc.
3. David P. Norton, Robert S. Kaplan. (1992). *The Strategy-focused Organization: How Balanced Scorecard*. Harvard Business School Publishing. All rights reserved.
4. Eray Polat. (2022). *Creating Loyal Customers with Digital Marketing Applications: The 5A Model*. *Handbook of Technology Application in Tourism in Asia*. First Online: 10 July 2022: 257–273
5. Jensen, C. (1996). *Delphi in Depth: Power Techniques from the Experts* Berkeley. Singapore: McGraw-Hill.
6. Kerin, R.A.; Berkowitz, E.N.; Hartley, S.W.; & Rudelius, W. (2003). *Marketing*. 7th ed. Singapore: McGraw-Hill. Inc.
7. Krejcie, R.V. and Morgan, D.W. (1970). "Determining sample size for research activities", *Educational and Measurement*, 30: 607-610.
8. McKinsey & Company. (1970). *Creating a World-Class Education System in Ohio*. [n.p.]: Achieve.
9. Michiko Miyamoto. (2021). *Searching for an Effective Marketing in the Food Supplement Industry in Japan*. Tokyo Japan Mar: 25-26.
10. Porter, M. E. & Collins, J. C. (1996). *HBR's 10 must Reads: On Strategy*. Harvard Business Review.