

An Information System Model for Higher Certificate Management in Thai Supply Chain

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Abstract—The purpose of this research aim to develop an information system model for higher certificate management in Thai supply chain. The research was conducted with research and development method using questionnaires, and the model was assessed by experts. The research found there were five type of an information system model for higher certificate management in Thai supply chain namely Raw materials, Supplier, organization (Manufacturer) , Finished product and Customers. The data analysed by using arithmetic mean and standard deviation . an information system model for higher certificate management in Thai supply chain using Back-Box technique. The results from experts have evaluated the model and commented that the model is high level of appropriateness.

Keywords—An information system model, higher certificate management, Thai supply chain

1. Introduction

Age of globalization, Thai government has realized the importance of adjusting a country to increase its capability to compete with other countries in every aspect. Especially in educational development that leads to development of quality of the people because the people are human resource of the country and the key component in all aspects of development, to reform a whole system of education, to expand education and to decentralize educational administration to the provinces so that educational management becomes more thorough and increase their competitive ability by developing their human resources to equip them with knowledge and skills in order to create quality products . One of their strategies is the application of the supply chain management system in human resource development in order to increase competitive ability. As Thailand is a part of world community, it needs to urgently develop its educational system in order to provide more opportunities for people to be educated and increase their potential. As such, the government has formulated an important policy that “The creation of a stable knowledge-based economy and environmental factors must support Thailand to be a centre of goods and service production in the region based on creative thinking, creation of innovations, and extension of the body of knowledge in order to support the adjustment of the

structure of production and service sector in every stage of supply chain. [11] This is to enable the creative economy to be a new mobilizing power that leads toward the balanced and sustainable economy in the long run, together with the creation of the assurance system and the supply chain system. The application of concept of supply chain management information system. It is because the business and industrial sector needs to be highly competitive due to increasingly high competitions from both within and outside the country. In order to be highly competitive, organizations in the sector need to have personnel with knowledge, ability and skills who can work efficiently to increase output. The organizations, therefore, need to have sufficient information and resources to increase their values and respond to the demand of their clients. Thus, the supply chain management process is the key process to support the organization’s whole activities system from upstream to downstream. [1] Thus, the researcher had an idea to develop an information system model for higher certificate management in Thai supply chain for application to increase satisfaction of consumers.

2. Related work

2.1 Supply Chain Management
Kham Nai (2012) said that education supply chain management needs to consider various elements. Which has a relationship between various organizations with a clear goal of reducing the operational process of the system Increase service levels leading to efficiency Meet the needs of customers In general, the supply chain consists of important points, namely 1. Suppliers mean those who send raw materials to service units such as producing quality graduates to society etc. 2. The unit (Manufacturer) means the person who is responsible for transforming the raw materials received from the supplier. To have higher value 3. Distribution Center (Distribution Centers) means the point that serves to distribute products to the consumer or the customer at the center. One product distribution may have products from many agencies, such as higher education institutions. There will be graduates graduating from many institutions. 4. Retailers or customers means the end of the supply chain. Which is where the

products or services must be used until the value is exhausted and without adding value to that product or service.

Douglas and Matias (2017). Supply Chain Management is the integration of key business processes from end user through original suppliers that provides products, services, and information that add value for customers and other stakeholders.

Felea and Albastroiu, (2013) suggested the business enterprise networks include manufacturers, raw material, suppliers, transportation, providers, wholesalers, retailers as well as other intermediaries including customers. Verma and Boyer (2010) pointed out that business organizations in the supply chain will work together to turn raw materials into products and deliver to customers. between organizations which will be linked in both physical, data and money circulation.

Chansamut and PiriyaSurawong (2014) suggested conceptual framework of supply chain management information system for curriculum management based on Thailand Qualifications Framework for Higher Education. The objectives of this research are (1) to synthesize a conceptual framework of supply chain management information system for curriculum management based on Thailand Qualifications Framework for Higher Education; and (2) to evaluate the conceptual framework of supply chain management information system for curriculum management based on Thailand Qualifications Framework for Higher Education. The research sample totaling 10 experts consisted of five experts on supply chain management, two experts on curriculum, and three experts on information technology. The employed research instrument is a questionnaire. Statistics employed for data analysis are mean and standard deviation.

The research methodology consisted of six phases: (1) the studies and syntheses of related documents, research studies, and articles; (2) the drafting of preliminary conceptual framework; (3) the identification of experts; (4) the development of an evaluation form to assess appropriateness of the conceptual framework; (5) the data collection and analysis; and (6) the final improvement of the conceptual framework based on suggestions of the experts.

Research findings show that the synthesized conceptual framework of supply chain management information system for curriculum management based on Thailand Qualifications Framework for Higher Education comprises four main components, namely, Suppliers, University (Manufacturer), Education Customers, and Consumer. Evaluation results by the experts show the evaluation rating mean of 4.07 with standard deviation of 1.10 indicating that the conceptual

framework is considered to be at the good level. Furthermore, evaluation results of appropriateness for sub-components are as follows:

1. The appropriateness rating mean for sub-components of the Supplier component is 4.15, which can be interpreted to be at the good level.

2. The appropriateness rating mean for sub-components of the University component is 4.20, which can be interpreted to be at the good level. This is because the University component contains the sub-components at the decision making level of the educational supply chain.

3. The appropriateness rating mean for sub-components of the Education Customers component is 4.20, which can be interpreted to be at the good level. This is because the Education Customers component contains the sub-components of direct service receivers.

4. The appropriateness rating mean for sub-components of the Consumer component is 4.10, which can be interpreted to be at the good level. This is because the Consumer component contains the sub-component of customers as the end-of-supply chain process that affect the quality of graduates to be delivered to the society.

The overall evaluation result for the synthesized conceptual framework of supply chain management information system for curriculum management based on Thailand Qualifications Framework for Higher Education shows the overall rating mean of 4.14 and standard deviation of 1.00, which means that the synthesized conceptual framework is appropriate at the high level and can be appropriately applied in actual work settings.

Information and Supply Chain Information and supply is a key process to support the education whole activities system from upstream suppliers to downstream consumers. It enables the organization to promptly check the supply chain and information technology to ensure that the organization operates smoothly and effectively based on the determined strategies. The process consisted of suppliers, manufacturer customers.

3 Research Methodology

3.1 Synthesize former researches relevant to the elements of an information system model for higher certificate management in Thai supply chain.

3.2 Study title an information system model for higher certificate management in Thai supply chain. by interviewing the expert

3.3. Construction of an information system model for higher certificate management in Thai supply chain

3.4 Present the model to the advisors for consideration .

3.5 Present the model to the experts for consideration by in-depth interview.

3.6. Create the evaluation tools for evaluate the model's suitability.

3.7 Present the designed model to the ten experts consisted of five experts on supply chain management, 5 experts on information system.

3.8 The model is modified according to the experts' suggestions.

3.9 After modification, presenting the model in the form of diagram with report.

3.10 Analyze the results of evaluation of the model by mean and standard deviation consisting of 5 criteria for evaluation according to the idea of Likert scale.

4 Results

An information system model for higher certificate management in Thai supply chain is composed of four main elements namely Supplier, organization (Manufacturer) , education customers and consumers. the details thereof are shown in Figure 1.

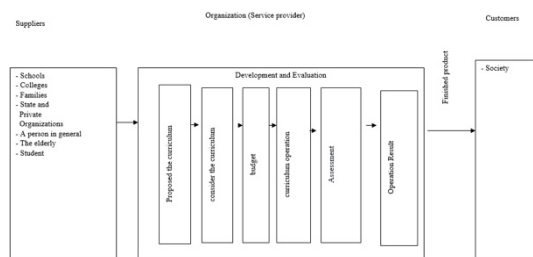


Figure 1: An information system model for higher certificate management in Thai supply chain
Describe about an information system model for higher certificate management in Thai supply chain
4.1 Suppliers

Suppliers mean the organizations or a person in general that supply raw materials to the manufacturer. They can apply for admission via the computer system that can process and store the data systematically.

4.2 Organization

The Organization means service provider . It performs the duty to transform raw materials, , into the finished products. Organization will perform its duty of student development and evaluation according to course standards for Higher of each activity, namely offer the curriculum, consider the curriculum, curriculum operation, budget, evaluation, performance report.

4.3 Finished product

Finished product mean students or a person in general who graduate from organization.

4.4 Customers

Customers mean the end-of-process component of the model which means that the society. [1],[2],[3],[4],[5],[6],[12]

Table 1: Results for evaluation of An information system model for higher certificate management in Thai supply chain

No	Evaluation Lists	\bar{X}	S.D.	Suitability
1	Raw materials	3.70	0.61	High
2	Suppliers	3.72	0.60	High
3	Organization (service provider)	3.71	0.54	High
4	Finished product	3.60	0.69	High
5	Customers	3.75	0.51	High
	Summary	3.69	0.59	High

Table 1, The experts found that an information system model for higher certificate management in Thai supply chain is highly appropriate ($\bar{X} = 3.69$, S.D. = 0.59).

5 Discussion

An information system model for higher certificate management in Thai supply chain is considered to be high appropriate ($\bar{X} = 3.69$, S.D. = 0.59), and the design was corresponds to the research of Chansamut and Piriyasurawong has studied supply chain and information system about educational [1] In addition, with the study of chansamut suggesting that supply chain and information system also. [2],[3],[4],[5],[6]

6 Conclusion

An information system model for higher certificate management in Thai supply chain is appropriate at the high level development ($\bar{X} = 3.69$, S.D. = 0.59). It can support information system development.

Recommendation

An information system model for higher certificate management in Thai supply chain is considered to be high appropriate if possible it should create database for the developed model.

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