

# An Information Model for Asset Management in Higher Education Institutions in Thai Supply Chain

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**Abstract**—The research aim were to develop and to evaluate an information model for asset management in higher education institution in thai supply chain . The samples are ten experts in the field of information system and supply chain. The data is analysed by means and standardized deviations. The research result shows that the model consists of four elements namely main components, Suppliers, Manufacturer, Customers, The result shows the overall rating mean of 3.65 and standard deviation of 0.66, which means that an information model for asset management in higher education institution in thai supply chain is appropriate at the high level. The model can develop an information system .

**Keywords**—An information model, asset management, higher education institution ,Thai supply chain

## 1. Introduction

Assets are very important and precious for higher education institutions, especially in the supply chain industry in Thailand . As assets are not only valuable but they help create wealth for the higher education institutions. Assets are the source of earning. For supply chain equipment are very important they are the pillars of the core business. Thus, higher education institutions must keep their assets in good condition. To keep assets in good condition, understanding asset life is important. An asset is a series of events that occur and are divided into various stages. An asset begins with planning and acquirement and the last stage is the disposal stage. [7] The application of the concept of supply chain and information system are importance 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 and assets. The

higher education institutions, therefore, need to have sufficient information and resources to increase their values and respond to the demand of their customer. Thus, the supply chain management process is a key process to support the organization's whole activities system from upstream to downstream. It enables the organization to promptly check the information system to ensure that the organization operates smoothly and effectively based on the determined strategies.[1] Based on realization, researcher has decided develop and evaluate an information model for asset management in higher education institution in thai supply chain for application to increase satisfaction for consumers.

## 2. Related work

Supply chain and Information management systems have the potential to change organizations and promote the emergence of new businesses. Their main goal is to enhance information flow and facilitate the decision making process. An information management system is one of the few elements of supply chain that can offer both improved performance and lower cost. It enables organization to maintain key information in an accessible format and helps to take operational and planning decisions. The adoption and successful implementation of software and network technology contribute in a large way for the supply chain success facilitating the flow of information and enhancing the efficiency of supply chain activities. Logistics activities are key activities in the supply chain, including planning, designing, implementing and managing the flow, storage of materials and information exchange in order to support basic logistics functions such as procurement, distribution, transportation, inventory management, packaging and manufacturing. Information technologies are seen as a resource of

an organization, as a source of its competitive advantage and serve as a catalyst of change in an organization.[18]

Supply Chain and Information system is a goals that all organizations strive to achieve. Supply Chain and Information will help organizations improve efficiency and reduce organizations expenses, High value customers and suppliers can be added or retained by maintaining a reliable Supply Chain and Information. These will promise the organizations to the goal to increase satisfaction for consumers

### 3. Research Methodology

3.1 Syntheses of document about an information model for asset management in higher education institution in thai supply chain

3.2 Study about an information model for asset management in higher education institution in thai supply chain by interviewing the expert

3.3. Design an information system for asset management in higher education institution in thai supply chain

3.4 Present an information model for asset management in higher education institution in thai supply chain to the ten experts for consideration.

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

3.6 An information model for asset management in higher education institution in thai supply chain is modified according to the experts' suggestions.

3.7 After modification, presenting an information model for asset management in higher education institution in thai supply chain in the form of diagram.

3.8 Analyse the results of evaluation of an information model for asset management in higher education institution in thai supply chain by mean and standard deviation consisting of 5 criteria for evaluation according to the idea of Likert scale.

### 4 Results

4.1 An information model for asset management in higher education institution in thai supply chain are shown in figure 1.

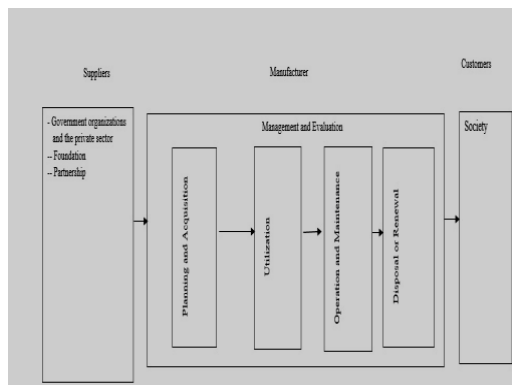


Figure 1: An information model for asset management in higher education institution in Thai supply chain

#### 1. Suppliers

Suppliers mean the Government organizations and the private sector, Foundation ,Partnership or assets who receive special quotas or source . They can apply can process and store the data.

#### 2. Manufacturer

The manufacturer means the university The university will perform its duty of asset management and evaluation.as follow:

##### 2.1. Planning & Acquisition

First of all asset requirement is identified. For an accurate understanding of assets, requirement planning is done. When you want to complete the work order quickly then how many assets are required! These types of questions are identified in the planning stage.

Then asset acquisition is done, it is the initial stage of the asset lifecycle. In the stage asset is tried to purchase at the most effective price, the procurement department does the negotiations.

##### 2.2. Utilization

In the stage, asset utilization is done to its full potential. Production activities are done & as time goes assets need maintenance and starts losing their value and depreciation is used for tax benefits.

##### 2.3. Operation and Maintenance

In this stage, the asset works regularly then it requires maintenance, the issues are rectified. Maintenance activities are done to improve performance. Moreover, the operation is performed to enhance asset performance. If maintenance is not done on time and asset performance can be decreased and maintenance expenses will be increased. Maintenance is done at regular intervals until its useful life is over.

##### 2.4. Disposal or Renewal

When an assets life is over an asset is disposed of. It is done when the expected life of an asset is finished. This is the end stage of the asset life cycle. In this stage, assets cannot be repaired and asset failure occurs continuously but productivity suffers. However, if the machine works effectively after its expected life is over you can use this asset until it is working efficiently. Therefore, asset should be taken care because an asset can impact productivity and education Business .

#### 3. Customers

Customers mean consumer of assets for benefit society. Finally, an asset will provide added value to the supply chain.[1],[2],[3],[4],[5],[6] ,[7]

4.2 Results on evaluation about an information model for asset management in higher education institution in Thai supply chain

**Table 1:** Appropriateness of main components

No	Evaluation Lists	$\bar{X}$	S.D.	Suitability
1	Suppliers	3.70	0.48	High
2	Universities	3.70	0.48	High
3	Customers	3.70	0.67	High
	Total	3.70	0.54	High

From Table 1, it can be seen that all of the main components about an information model for asset management in higher education institution in Thai supply chain are rated to be appropriate at the high level. The total rating mean is 3.70, which is also at the high level.

**Table 2:** Appropriateness of suppliers

No	Evaluation Lists	$\bar{X}$	S.D.	Suitability
1	Government organizations and the private sector	3.70	0.48	High
2	Foundation	3.70	0.67	High
3	Partnership	3.60	0.84	High
	Total	3.66	0.66	High

From Table 2, it can be seen that all of suppliers about an information model for asset management in higher education institution in Thai supply chain are rated to be appropriate at the high level. The total rating mean is 3.66, which is also at the high level.

**Table 3:** Appropriateness of universities

No	Evaluation Lists	$\bar{X}$	S.D.	Suitability
1	Management and Assessment	3.63	0.80	High
	Total	3.63	0.80	High

From Table 3, it can be seen that all of an universities about an information model for asset management in higher education institution in Thai supply chain are rated to be appropriate at the high level. The total rating mean is 3.63, which is also at the high level.

**Table 4:** Appropriateness of customers

No	Evaluation Lists	$\bar{X}$	S.D.	Suitability
1	Society	3.63	0.67	High
	Total	3.63	0.67	High

From Table 4, it can be seen that all of customers about an information model for asset management in higher education institution in Thai supply chain are rated to be appropriate at the high level. The total rating mean is 3.63, which is also at the high level.

**Table 5:** Results for evaluation of an information model for asset management in higher education institution in Thai supply chain

No	Evaluation Lists	$\bar{X}$	S.D.	Suitability
1	Main components	3.70	0.54	High
2	Suppliers	3.66	0.66	High
3	Manufacturer	3.63	0.80	High
4	Customers	3.63	0.67	High
	Total	3.65	0.66	High

Table 5, The experts found that an information model for asset management in higher education institution in Thai supply chain is highly appropriate ( $\bar{X} = 3.65$ , S.D. = 0.66).

## 5 Conclusion

An information model for asset management in higher education institution in Thai supply chain is appropriate at the high level development, which means that the model is appropriate at the high level and can develop an information system.

## 6. Discussion

An information system model for asset management in higher education institution in Thai supply chain is considered to be high appropriate ( $\bar{X} = 3.65$ , S.D. = 0.66), and the design corresponds to the research of Chansamut and Piriyastrawong 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]

## 7. Recommendation

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

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