

# Supply Chain Management System Model in Digital for Electric Power Management in Thailand

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**Abstract**—The article was conducted to study and evaluate supply chain management system model in digital for electric Power management in Thailand. The samples in the research study consisted of ten purposively selected experts consisted of five experts on supply chain management, five experts on Digital Technology, Data were analysed by arithmetic mean and standard deviation. The research findings model ten elements namely main components, Suppliers, Power plant generates electricity, Substation, Transmission, Substation, Power Lines satisfaction, Return and consumers. The assessment supply chain management system model in digital for electric Power management in Thailand using Black-Box technique and The results from experts agreement supply chain management system model in digital for electric Power management in Thailand was a high level and can be appropriately applied in actual work settings.

**Keywords**— *Supply chain management system model in digital, electric Power management, Thailand*

## 1. Introduction

Power Development Plan are required to standardize power supply system stability and liability, to serve higher demand on power in all parts of the country as well as to efficiently connecting domestic and overseas power plants to electrify generating authority of Thailand is electricity system. Power supply and improvement or change of equipment to maintain continuity of power supply and Meanwhile power supply will be a role in every aspects of people life as well as organizational life. Thai People need power to run their homes, cars, computers, etc. To be able to manipulate power is vital to today's society. [19] The concept about supply chain management and digital is applied to an electric power . It will be optional, according to the criteria or the constraints in the community's resources and technology. Because the business 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 products. 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 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] The researcher has decided to study and evaluate supply chain management system model in digital for electric Power management in Thailand.

## 2. Related research

Kusuma&Pratama ( 2017) said that power management system (PMS) for electric power generation in ship especially on tanker ship keeps growing. The system has a function to control and monitor all generators in ship as the main electricity supplier for all electric equipment or installed load. The number of total load that supplied by generator depends on the frequency of the load itself which would be read in PMS as well. It help the operator to make a decision about how many generator should be operate whether in parallel or in a stand alone operation to fulfil the required power. Those loads should be grouped into essential and non-essential load. This groups affecting the performance of the generators, where it will covers the maximum load at 306.67 kw under the condition of all electric equipment are well operated while the cargo handling of tanker ship is on process. However, in the state of emergency while the non essential electrical equipment are being cut off trough power management system (PMS) the generator will only covers the maximum load at 253.88 kw to fulfilling the same required power. In the extreme case (total efficiency of parallel operation at 70%),

the generators would cover the total load at 306.6 kw by sparing the generate power of 52.72 k .[20]

Supply chain in digital is a tool that can managing electric power and It is ability to effectively and economically deliver services and information that users value. A supply chain and digital is to coordinate an organization processes and activities with those of its suppliers and customers, such that an organization delivered products and services meet or exceed customer requirements. It thus seemed appropriate to analyze electric power in supply chain perspective to assess and improve its ability to serve its users. , with the goal of improving division products and services in electric power.[7]

**3. Research Methodology**

3.1 Study the documents and research relevant about supply chain management system model in digital for electric Power management in Thailand .

3.2 Interview with the experts about supply chain management system model in digital for electric Power management in Thailand .

3.3. To design supply chain management system model in digital for electric Power management in Thailand

3.4 Introduce the model to the advisors for consideration and revision.

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

3.6. Make the evaluation tools for evaluate the model’s suitability.

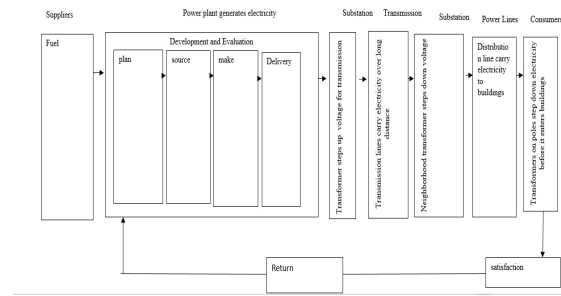
3.7 Present the designed pattern to the ten expert.

3.8 Supply chain management system model in digital for electric Power management in Thailand is modified according to the experts’ suggestions.

3.9 Analyse 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**

Results about supply chain management system model in digital for electric Power management in Thailand are shown in figure 1.



**Figure 1:** Supply chain management system model in digital for electric Power management in Thailand

The figure 1 . an electric power supply system in a country comprises of generating units that produce electricity. It performs the duty to transform raw materials into the finished products. The power plant will perform its duty of development and evaluation of each activity, namely plan ,source ,make and deliver. In the part high voltage transmission lines that transport electricity over long distances; distribution lines that deliver the electricity to consumers; substations that connect the pieces to each other; and energy control centres to coordinate the operation of the components. Show electric supply system with transmission and distribution network and linkages from electricity sources to end-user. Like from the sources of energy (production) to the door step of consumer through the distribution system where supply chain management plays an important role to perform it for a successful distribution. A power supply is primarily a buffer for supply power to increase values of enterprises and society and increase satisfaction of consumers.[1],[2],[3],[4],[5],[6] [7] [8],[9],[10],[11],[12],[13],[14],[15],[16],[17],[18]

**Table 1:** Results for evaluation supply chain management system model in digital for electric Power management in Thailand

No	Evaluation Lists	$\bar{X}$	S.D.	Suitability
1	Main components	3.64	0.67	High
2	Suppliers	3.70	0.48	High
3	Power plant	3.60	0.69	High
4	Substation	3.60	0.84	High
5	Transmission	3.70	0.48	High

**Table 1: (continue)**

No	Evaluation Lists	$\bar{X}$	S.D.	Suitability
6	Substation	3.70	0.67	High
7	Power Lines	3.60	0.51	High
8	Customers	3.60	0.84	High
9	Satisfaction	3.70	0.48	High
10	Return	3.60	0.51	High
	Total	3.64	0.61	High

The model's appropriateness evaluation was done by ten experts as presented in Table 1 and, they

Agreed with the value of overall suitable on the list that had grad results ( $\bar{X} = 3.64$ , S.D. = 0.61).

## 5. Discussion

The model of supply chain management system in digital for electric Power management in Thailand is considered to be high appropriate ( = 3.64, S.D. = 0.61), and the design was corresponds to the research of chansamut suggesting that supply chain and information system.[2],[3],[4],[5],[6] and study of Chansamut and Piriyaawong has studied supply chain and information system about curriculum may be applied to support the tasks. [1]

## 6. Conclusion

According to the evaluation about supply chain management system model in digital for electric Power management in Thailand is appropriate at the high level development The rating mean of 3.64 and standard deviation of 0.61 and can be appropriately applied in actual work settings.

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