82

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# A Geographic Information System Model for Educational Management for Higher in Thai Supply Chain

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**Abstract— The objectives of the research to develop and to assess a geographic information system model for educational management in Thai Supply Chain. A sample groups were five experts in supply chain, five experts in geographic information system and five experts in curriculum and instruction. . All totalling fifteen experts. The research tool was questionnaire about a geographic information system model for Educational management in Thai Supply Chain. The findings reveal that a geographic information system model for Educational management in Thai Supply Chain is consisted of five key elements which are main elements suppliers university customers and consumer. The data analyzed by using arithmetic mean and standard deviation. The model assessment system using Back-Box technique. The overall evaluation result a geographic information system model for Educational management in Thai Supply Chain shows the overall rating mean of 3.64 and standard deviation of 0.61, suggesting that a geographic information system model for Educational management in Thai supply chain support sustainable geographic information system development.**

**Keywords— *A* geographic information system *model,* Educational management, , in Thai Supply Chain**

## 1. Introduction

Education system is very important, and the Thai government has realized the importance of improving the country to increase its capability to compete with other countries in every aspect. Especially, in educational development that leads to the development of quality products , the government has formulated the following policy: "To develop quality of people, as the people are human resources of the country and the key component in all aspects of development, to reform the whole system of education, to expand education and modify educational structure, to decentralize educational administration to the provinces so that educational management becomes more thorough and responsive to the local needs".[10] This policy also includes the establishment of private and public higher education institutions to meet the needs for national development and development of individuals who want to further their studies. One of the strategies is the application of the supply chain management system to educational development in order to increase competitive ability. As Thailand is a part of world community, it needs to urgently develop its education systems for the development of the country and enhance academic excellence. 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 center 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. This is to enable the creative economy to be a new mobilizing power that leads toward a balanced and sustainable economy in the long run, together with the creation of the assurance system and the supply chain system, the management of economic risks, and the creation of the free and just atmosphere to facilitate the production, commerce and investment inclusive of the development of new entrepreneurs, the creation of infrastructure and internal logistics networks that connect with other countries in the region." Based on this policy, the 12th National Plan for Social and Economic Development was formulated [8]. The awareness of a geographic information system model for Educational management for Higher Education institution in Thai Supply Chain within the study program Environmental Science at the Faculty of Natural Sciences, Constantine the Philosopher University in Nitra. Environmental Science is an interdisciplinary academic field, which influences the study and practical training of students in the Environmental Science study program. In practice, graduates of the study program are expected to manage conflicts of interest in the country and assess the impact of human activity on individual environmental components. Both of these tasks require data analysis and synthesis from various scientific fields. We have to adapt the content and method of our teaching to equip our graduates with the necessary skills to solve these problems. They need to know all relevant input factors and phenomena, acquire and process them efficiently, overlap them

logically, subject them to spatial analysis and synthesis and evaluate and interpret the results accurately. Use of several close-knitted systems, the main one being Geographic Information Systems , provides a comprehensive solution to this problem. Geographic Information Systems is a system of hardware, software, data, people, organizations, and institutional arrangements for collecting, storing, analysing, and disseminating information about areas of the earth Geographic information systems are applied in land-use planning, ecosystems modelling, landscape planning and assessment, transportation and infrastructure modelling, market analysis, visual impact analysis, watershed analysis, facility management, real estate analysis, teaching with Geographic information systems many other areas. The use of Geographic Information Systems tools has also become standard in scientific activities and it is an essential part of research for the study in higher education institution Based on this realization,[9] thus the researchers had an idea to develop a geographic information system model for Educational management in Thai Supply Chain for adding values to consumer.

## 2. Literature review

Geographic information systems for educational management can be managed on a holistic level - from determining the need for a Geographic information systems to the implementation of the Geographic information systems in higher education institution , or at task level where workflows are used to track and manage Geographic information systems for educational management namely position University position and Student Travel and the village population, sub-district, an occupation population is a core and other data. There is a management model that lies between these two approaches - namely supply chain management. A supply chain encompasses all activities associated with the flow and transformation of goods from the raw materials stage (extraction), through to the end user, as well as the associated information flows. The materials and information flow both up and down the supply chain.[11]

Thai supply chain is the activities required by the organisation to deliver goods or services to the consumer in Thailand A supply chain is a focus on the core activities within our organisation required to convert raw materials or component parts through to finished products or services.
Geographic information systems in Supply Chain Management.
Geographical information systems can be used in the supply chain in many different ways, but the primary one is advanced visualization, says Hall. Geographic information systems mapping ties many different data sources together, he says, so

instead of just looking at spreadsheets, users can have a visual and intuitive picture of what is going on in the supply chain at their fingertips. Geographic information systems uses Global Positioning System technology for location purposes, but Geographic information systems adds data "in a way that allows the user to make intelligent strategic and tactical decisions, says Hall. Esri makes software that brings the data together, analyzes and maps it. "We also build the tools that actually do the advanced mapping," he says. The company currently has 70 offices around the world and about a million users of its software, in the supply chain as well as other industries. One application where Geographic information systems plays an important role is risk management, says Hall. "If you think about the many natural disasters we have had recently where suppliers were not able to ship product, you can see the value for strategic planning of knowing what risks are inherent in the geography - flat coastal areas where a tsunami might hit, for example. This type of information can be seen ahead of time with mapping tools and overlaid data, so you know which manufacturing facilities and which transportation routes will be impacted Geographic information systems also is valuable in real-time planning, Hall says, noting that most emergency management organizations in the world use Esri Geographic information systems to map those events . "We have that data available right away so we can show people what is going on in real time,"Hall says. "They can take that information and make operational decisions in real time to help manage the supply chain and mitigaterisk.[7]

## 3. Research Methodology

3.1 Study literature review about a geographic information system model for Educational management for
Higher Education institution in Thai Supply Chain.
3.2. Design a geographic information system model for Educational management for Higher Education institution in Thai Supply Chain.
3.3. The model is presented to advisor for consideration .
3.4. Create a tool for assessing the model.
3.5 The model is submitted to the experts for review and evaluate suitability..
3.6 Analyze the output data by using 5-point Likert Scale

4 Results
4.1 Results a geographic information system model for Educational management in Thai Supply Chain were presented in figure 1 .
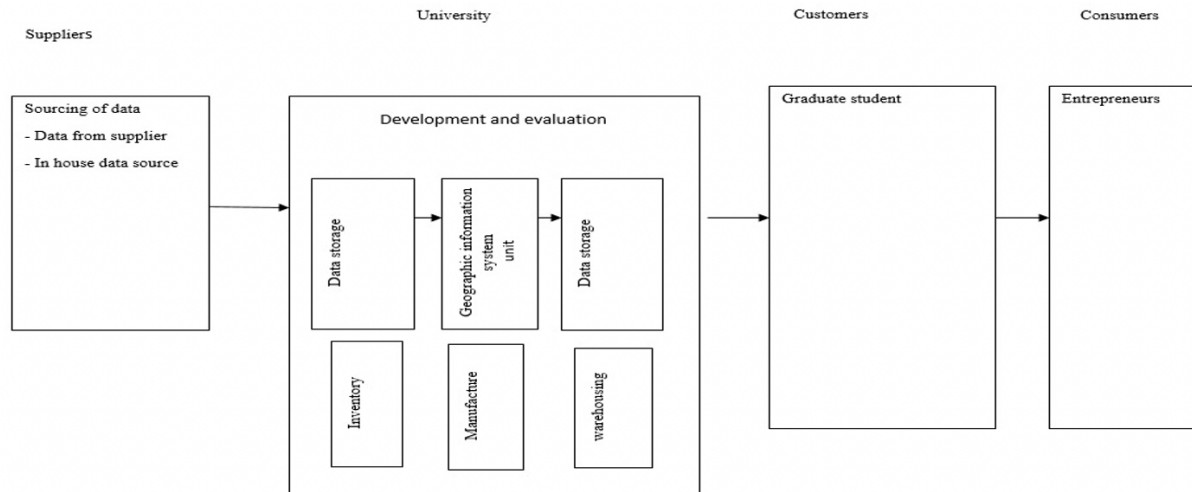
Figure 1: A geographic information system model for Educational management in Thai Supply Chain

## 4.2 Explanation on Components of a geographic information system model for educational management in Thai Supply Chain

1 Suppliers

The supplier is a data from supplier or Basic and Finished Raw Materials namely Raw materials ,Components , Parts ,Labour, Plant, Equipment, Energy etc.

2 University

A service provider is a university .It performs the duty to transform raw materials namely Administration, Registration, Schedule, Maintenance, Lab setup, Licenses, Instructors Curriculum Course materials Case studies Online courses Authorized training and other data into the finished products.  A service provider will perform its duty of  product development and assessment .It is based on the consideration that all supply chain tasks and activities, such as the university or Manufacturer is starts to flow from the client to the higher education. The university  then looks at the data warehouse, to establish whether the geographic information system product is sourced from the warehouse and delivered to the client.The delivery mechanism is part of the logistics concerning the distribution of the geographic information system product and infrastructure forming part of the planning and delivery.

3 Customer

Customers mean Graduate student from the university

4. Consumers

 The consumers mean entrepreneurs or the end-of-process component of the model.  They include the society in general and entrepreneurs who sended finished product from the university.  Finally, the end  product  of  product  will   add value of enterprises and increase satisfaction of consumers. [1],[2],[3],[4],[5],[6], [11],[12]

**Table 1:** Results for evaluation of  a geographic information system model for Educational management in Thai Supply Chain.

| No. | Items | $\overline{X}$ | S.D. | Suitability |
|-----|-------|-------|------|-------------|
| 1 | Main elements | 3.63 | 0.65 | High |
| 2 | Suppliers | 3.63 | 0.67 | High |

**Table 1: (Cont.)**

| No. | Items | $\overline{X}$ | S.D. | Suitability |
|-----|-------|-------|------|-------------|
| 4 | University | 3.60 | 0.63 | High |
| 5 | Customers | 3.66 | 0.48 | High |
| 6 | Consumers | 3.66 | 0.61 | High |
|   | Total | 3.64 | 0.61 | High |

From table 1, that fifteen experts found that A geographic information system model for Educational  management in Thai Supply Chain is highly appropriate ( $\overline{X}$ = 3.64, S.D. = 0.61).

## 5. Conclusion

A geographic information system model for Educational  management in Thai Supply Chain is considered to be high appropriate shows the overall rating mean of 3.64 and standard deviation of 0.61. suggesting that a geographic information system model for Educational  management in Thai supply chain support sustainable geographic information system development

## 6. Discussion

 A geographic information system model for Educational  management in Thai Supply Chain is considered to be high appropriate shows the overall rating mean of 3.64 and standard deviation of 0.61. 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

85

Int. J Sup. Chain. Mgt                                                          Vol. 11, No. 3, June 2022

suggesting that supply chain and information system. [2],[3],[4],[5],[6]

## 7. Recommendation

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

## 8. Acknowledgements

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