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Original Article

An Application of Soft System Methodology for Developing SIPI (The Indonesian Translators Information System)

Kurnia Gusti Ayu[1], Dwi Wulandari Sari[2]

[1,2] *Information System Department, Faculty of Computer Science, Mercu Buana University, Jakarta, Indonesia*.

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Abstract – *In general, the translator can be defined as a tool, person, or anything that communicates the meaning of a text into the target language. Meanwhile, translation/translating is a process of transferring ideas of the source-language text into the target-language text, and the translation results can be in the form of written or spoken text. The competence a translator must have is the ability to not only speak a foreign language but also understand the language rules, have extensive knowledge of several terms that will be found during the translation process, and fully understand what is being translated to prevent misinterpretation. Considering the competence possessed by a translator, translation is best done by an expert translator. The application of the Soft System Methodology used in this research focuses on the analysis of translation issues faced by both translator and client who need the translation service. This methodology is chosen to assist in designing a human activity system (HAS) in achieving the goals of SIPI (The Indonesian Translators Information System).*

Keywords *- Analysis, Translator, Soft System Methodology*

I. INTRODUCTION

Language is an identity of a nation. Foreign languages are increasingly developing in Indonesia. There have been several languages being studied, such as Korean, German, Japanese, and others. Learning a language is not only understanding grammar rules and the way of communicating in a foreign language, but also comprehending the linguistic features and so on. In general, the translator can be defined as a tool, person, or anything that communicates the meaning of a text into the target language. Meanwhile, translation/translating is a process of transferring ideas of the source-language text into the target-language text, and the translation results can be in the form of written or spoken text[16]

In terms of profession, there is a classification regarding the tasks, namely translator and interpreter. The translator is well known as the one who localizes documents, while the other, the speech translator, is often called an interpreter. The translator is divided into sworn and non-sworn translators [16]. The competence a translator must have is the ability to not only speak a foreign language but also understand the language rules, have extensive knowledge of several terms that will be found during the translation process, and fully understand what is being translated to prevent misinterpretation.

Considering the competence possessed by a translator, translation is best done by an expert translator. The application of the Soft System Methodology used in this research focuses on the analysis of translation issues faced by both translator and client who need the translation service, of which purpose is to solve those problems. This research aims to obtain the analysis results to be used as the basic overview in designing the Indonesian Translator Information System or SIPI. The results of this research are expected to provide an accurate and effective way for facilitating both translators in running their job and client who need translation service before developing the Indonesian Translators Information System (SIPI).

II. LITERATURE REVIEW

A. Translator, Translating, and Translation

Translating is the activity of understanding text in one language, or known as the source language (SL), then conveying the ideas of the text in another language, or known as the target language (TL). The results of the activity, which is carried out by a translator, are called translation or target-language text equivalent to the source language[6]. Newmark proposed a dynamic translation diagram involving two texts, namely the SL and the TL, as can be seen below:

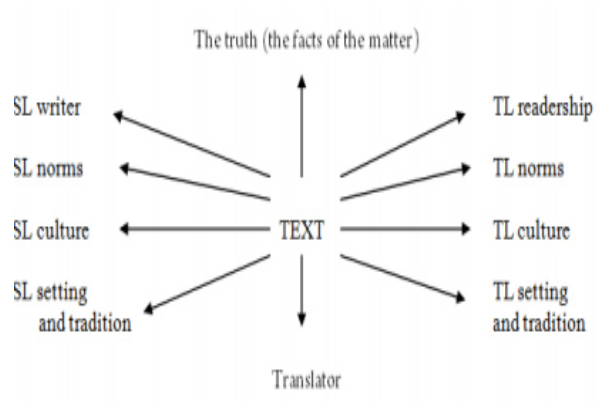

Fig. 1 Dynamic Translation Diagram of Two Texts [6]

B. Information System

A system is a group of people working together according to systematic and structured rules in order to form a unified whole that performs a certain function to achieve shared goals[1]. Information is one of the important resources in an organization that is used in making a decision. An information system is a combination of information technology and human activities using that technology to assist the operation and management process[11]. The purpose is to present information to be used in making a decision regarding planning, initiating, organizing, controlling, handling the subsystem operating activities, and delivering organization synergy during the process[7]

C. Soft System Methodology (SSM)

Specifically, Soft System Methodology (SSM) was developed in the 1970s to face a normal situation where people have their own perceptions about the world and come up with judgments based on their own values. Soft System Methodology (SSM) is an Action research approach that is able to capture the complexity of a phenomenon[2]. Soft System Methodology (SSM) is an evaluation method that compares not only one model to the other ones but also a conceptual model to reality[3]. This model is considered a learning tool rather than predicting tool and an organized search for situations[17]. Action research is an approach of which function is to obtain new insights by finding solutions or fixing problem situations in real-life practice.

Some of the assumptions used include:

- The problems are unclear or messy;
- The stakeholders' interpretation towards the problems varies depending on each of their perspectives;
- The human factor plays an important role;
- Creative and intuitive approaches are used to solve problems

The results are more of learning and better understanding[8]. There are 7 stages in SSM, consisting of two types of activity, namely real-world activity (stage 1, 2, 5, 6, and 7) and systems thinking activity (stage 3 and 4). It is important to keep in mind that not all of these steps have to be done [13]. The application of SSM has also been used to design procurement & ERP in the industrial sector[4]. The stages of Soft System Methodology (SSM) are presented below:

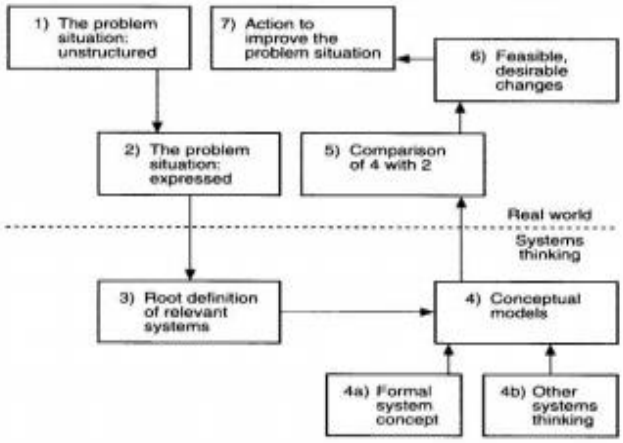

Fig. 2 The stages of Soft System Methodology[5]

Explanations of each stage of SSM:

- The situation considered a problem: start to recognize the existing problems;
- Problem situation expressed: illustrate the problem situation into a rich picture diagram by drawing a sketch of the real problem situation into a large, rich picture diagram[8]. The rich picture created continues to the systems thinking stage, in which the value meaning of the rich picture is derived. The value meaning is a process of making root definitions (RD), which describes the transformation process of achieving goals[9]
- Root Definition: define the system objectives of human activities. Each goal definition embodies several complex concepts written using CATWOE (Customer, Actors, Transformation, World-view, Owner, Environment)[12]
  - C (Costumer) refers to who benefits from the purposeful activity;
  - An (Actor) refers to who carries out the activities in the system [10]
  - T (Transformation) refers to what needs to be changed in order to transform input into output[12].
  - W (World-view) is the understanding of various parties about the deep meaning of the problem situation. What view makes the transformation worthwhile?
  - O (Owner) refers to who is able to stop the activities. Who has the power to manage whether

the system will be implemented? (Who has the authority to make changes?)

- E (Environment Constraint) refers to what constraints preventing the system from operating. What needs to be examined about the operating condition of the system?[12]

- Conceptual Model System: the conceptual model is not a complete picture of the real world; it is just a duplicate of the system being studied. This conceptual model is made only based on the researcher's point of view, and therefore, there is no right or wrong model; the model has seen whether it is relevant to the problem situation[18]. A system conceptual model is made based on root definitions. Meanwhile, the performance of the conceptual model is measured using 3E, namely effectiveness, efficiency, and efficacy[8]
- Comparison conceptual model and real-world: compare the conceptual model with the real situation[8]. A conceptual model is an artificial tool used based on a pure point of view of the researcher, while the facts in the field have various points of view, and even one person may experience dynamic changes[15]
- Change (system): make desired changes or adjustments systematically and properly according to the culture, structure, procedure, and human attitude[10]
- Action to improve the problem situation: make improvements or solutions for the recommended system [8]. There are two focuses in SSM research. Namely, one is based on the actions to be improved, and the other depends on the understanding of the situation[14]. When making changes, two main rules of change management to consider are as follows:
  - ✓ It is recommended not to change everything at once. It is better to plan a series of incremental changes and re-assess the need for changes after each one is applied.
  - ✓ Involving people who have expertise in the activity system is important[12]

III. RESEARCH METHOD

The research method applies the SSM stages to analyze the system to be built, and the following are the stages of SIPI analysis:

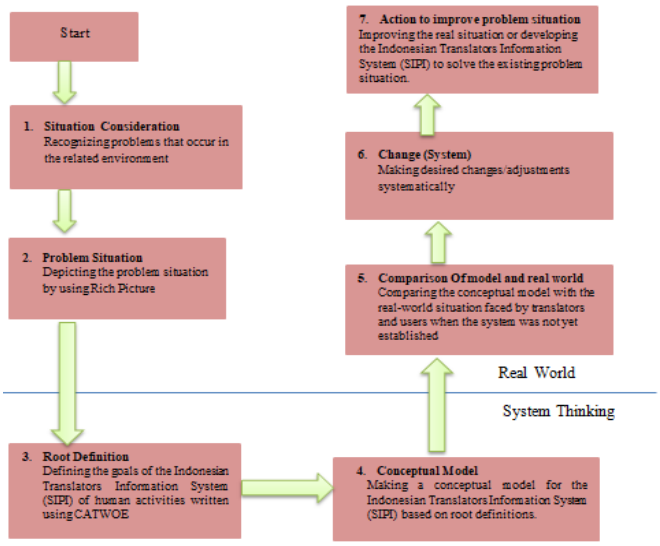

Fig. 3 The Stages of SIPI Analysis Using SSM

IV. RESULTS AND DISCUSSION

The following is the implementation of the SSM stages to obtain an analysis of the Indonesian Translator Information System (SIPI):

A. Situation Consideration

This stage starts with recognizing the existing problems faced by translators, and the data were obtained through an interview with both translators and users and observation. The current condition shows that the users of translation service are difficult to find translators with good expertise in their field. Common people usually search for translation services on Google without knowing the experience of the translators. Sometimes, the translation service providers take advantage of this situation by offering quite expensive fees without applying the translation standard. Meanwhile, some users who have enough knowledge about the scope of the translation will search for translation services on the HPI website (the Association of Indonesian Translators). However, the response to answering the users' offer is slow. As it turns out, some other users offer translation jobs by sending notification e-mail to the translators directly or posting the translation job on the HPI Facebook group, while the others find translation services from their friends.

Considering the current situation faced by translators, they have difficulties in promoting their services. Moreover, they also meet several problems during the translation process, such as difficulties in finding equivalent words, glossaries for general and technical texts (medicine, chemistry, physics, computer science, etc.), and sources of translation results from other translators. Additionally, it is difficult to find information about job vacancies and offers for translation projects, where only certain people get this

information. It is rather difficult to establish smooth communication between users and translators due to the lack of communication facilities.

B. Problem situation expressed

The problem situation faced by translators and users is depicted in the form of a rich picture diagram.

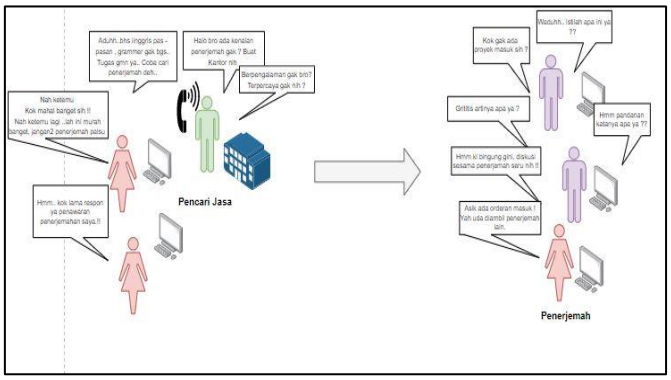

Fig 4. Rich Picture Diagram

C. Root Definition

The definition of the Indonesian Translators Information System's (SIPI) objectives of human activities is explained using CATWOE.

- Customer: users and translators
- Actors: users, translators, and system administrator
- Transformation: the provision of a better facility that eases all parties involved in the system
- World-View: the establishment of a system for both translators and users who need translation services with a minimum of clear standards made by HPI
- Owner: Business owner
- Environment Constraint: translation standards

D. Conceptual Model System

A system conceptual model is made based on root definitions. Meanwhile, the performance of the conceptual model is measured using 3E, namely effectiveness, efficiency, and efficacy.

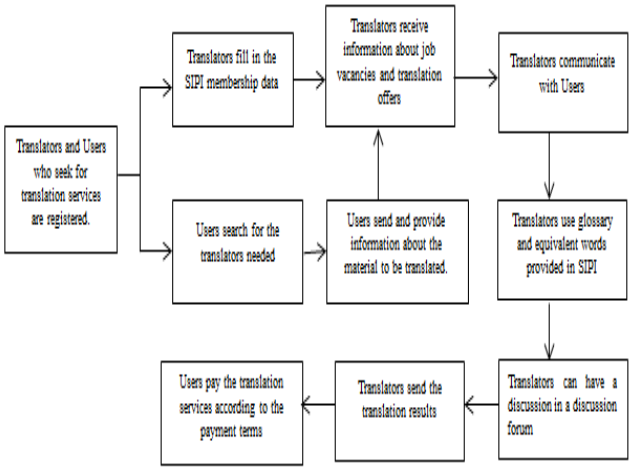

Fig. 5 Conceptual Model

- *Effectiveness*: the process of searching and finding translators is easier and faster; it is easy to get information about translation and assistance in the translation process.
- *Efficiency*: translation costs are neither below nor above the HPI standards
- *Efficacy:* designing SIPI helps the users being worried about using translation services and reduces their difficulties in searching for the services due to the existing facilities provided in SIPI

E. Comparison of the conceptual model and real world

The conceptual model of SIPI design is compared to the real-world situation faced by translators and users when the system was not yet established.

Table 1. Comparison Of Conceptual Model and Real World

Activities	Current Condition	Conceptual Model
Translators & Users who seek translation services are registered	Translators & Users who seek translation services are not yet registered	Translators & Users who seek translation services are registered, so they can use the SIPI facility
Translators fill in the SIPI membership data	Most translators are not part of translator membership and do not fill in data related to their proficiency, proof of translation ability, and work experience	The translator can fill in the information on work experience, experience as a translator, and proof of translation ability in a well-organized manner in SIPI

	as experienced translators	
Translators receive information about job vacancies and translation offers	Information about job vacancies and translation offers is not evenly distributed	Job vacancies information and translation offers can be seen on the job vacancies menu and project notifications received by each translator
Users search for the translator needed	Translation services obtained from friends and sites on Google are less trustworthy	Translation service search is easy to do through the search facility on SIPI
Translators can have a discussion in a Discussion Forum	Having a discussion through WhatsApp Group in a small scope	Discussion can be carried out in a focused discussion forum on the discussion forum menu
Users receive and pay according to the payment terms	Most service users pay a lot more than the applicable standard	Service users pay in accordance with the payment terms provided, and the bank account is centered on the payment menu

F. Change (System)

There are several changes/adjustments done systematically and feasibly in this research, namely:

1) Making rules for determining translation fees that refer to the HPI minimum standard
2) Having a standard writing format for translation
3) Verifying translators' files received by SIPI
4) Determining procedures for the translation process
5) Making terms and conditions for SIPI users
6) Improving monitoring activities towards SIPI
7) Providing assistance facilities for SIPI users

G. Actions to Improve the Problem Situation

Considering the proposed changes/adjustments, some recommended actions to improve the problem situation are as follows:

- Establishing and informing rules to the users for determining translation fees that refer to the HPI minimum standard, which are differentiated based on the type of translation
- Making and informing the standard writing format for translation to the SIPI users (both translators and users)
- Verifying documents uploaded by translators during the process of filling in data of SIPI membership =, which is done by the system administrator
- Making user guide to ease SIPI users for obtaining information about the procedures and use of SIPI
- Informing terms and condition applied during the process of registration and transaction
- The supervision of SIPI is carried out every week in order to improve comfort and to catch users' confidence in using SIPI, such as supervision in discussion forums
- Hiring parties to help answer questions and handle complaints from SIPI users

V. CONCLUSION

Based on the results and discussion, it can be concluded that:

- By using Soft System Methodology (SSM), it is easier to depict the overall problems mapped at 7 stages as well as to obtain the analysis results and problem solutions for every stage in developing the Indonesian Translator Information System (SIPI).
- Soft System Methodology (SSM) is effective in analyzing problems due to the fact that it implements systems thinking in user activities.

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