

CHAPTER I

INTRODUCTION



1.1 Background of the Research

This research is based on the case of Valuation Company which settled in May 2004. The company is mainly responsible for asset valuation which includes real estate, machines, and leasehold rights. There are 2 main groups of clients who use the appraised value for different reasons, which are;

- **Banks and financial institutes** mostly use the appraised value as reference for collateral value to determine reasonable credit for debtors.
- **General individuals** mostly use the appraised value as a reference for market value to set a reasonable price for trading.

In January 2005, this company applied for ‘the Valuers Association of Thailand’ (VAT) [สมาคมผู้ประเมินค่าทรัพย์สินแห่งประเทศไทย] and was approved as a member. They have to follow the regulations of ‘the Securities and Exchange Commission, Thailand’ (SEC) [สำนักงานคณะกรรมการกำกับหลักทรัพย์และตลาดหลักทรัพย์: ก.ล.ด.].

After being a member of VAT, the company had opportunities to sign contracts with major banks and financial institutes such as ‘Thai Asset Management Corporation’ (TAMC), Siam Commercial Bank etc. which caused the number of jobs to increase dramatically. As figure below, the average number of jobs in the first 4 years of business and number of jobs per month from year 2008 to mid-year 2009.

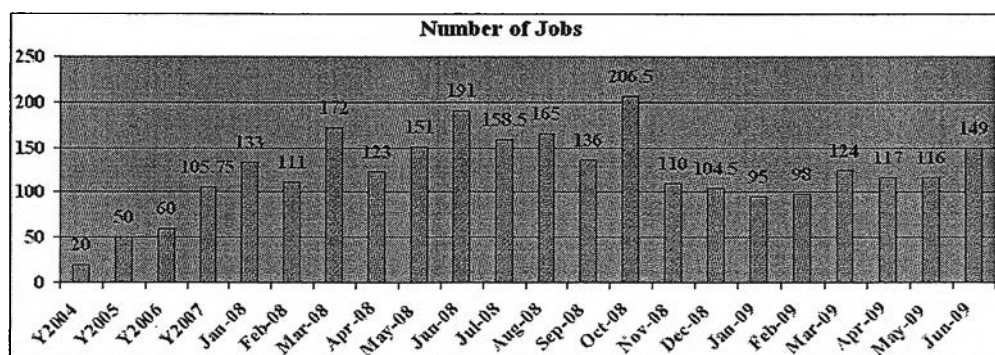


Figure 1.1: Number of jobs
(Theeravit Julsukot, 2009)

After being a member of VAT, the number of jobs increased rapidly from about 50 jobs per month in the first couple years to about 150 jobs per month in year 2008 and stayed over 100 jobs per month even under the economic crash situation of last year. The high growth rate of jobs with the unchanged number of workforce – 30 people – causes the difficulty to handle all jobs effectively. The number of unfinished jobs causes ‘Late Delivery’ problem and dissatisfaction amongst clients.

Table 1.1: Unfinished jobs and arrears

Month	Unfinished jobs	Arrears
Jul-08	158	฿730,271.00
Aug-08	89	฿429,600.00
Sep-08	221	฿1,050,105.00
Oct-08	72	฿339,700.00
Nov-08	17	฿166,810.00
Dec-08	21	฿82,200.00
Jan-09	35	฿271,110.00
Feb-09	47	฿248,700.00
Mar-09	85	฿286,135.00
Apr-09	51	฿464,235.00
May-09	86	฿416,940.00
Jun-09	56	฿227,460.00

The average number of unfinished jobs is about 80 and pending income is almost 400,000 baht per month. This amount of jobs will be added to the following month, so employees have to work harder.

To relieve this problem, it is needed to study current processes to find out which nodes of the flow are improper and try to fix them.

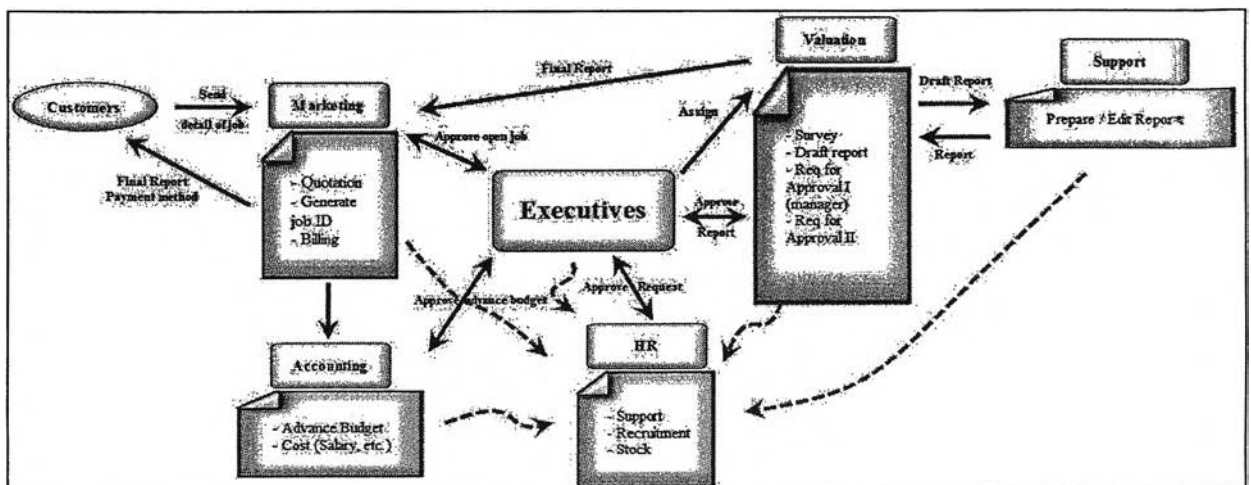


Figure 1.2: Draft of current processes of the company

According to the draft current processes in the figure above, combined with brief information from the management team, there are 2 major causes of problems.

Improper processes

The current processes are based on paper manually which causes staff in each department to know only their own responsibility – they cannot grab a big picture of overall company’s capability – that has been caused from these weak points.

- **No status tracking for job progress;**

Each job is referenced from hand to hand by papers. People can only know jobs’ status when they are processed within their department. As soon as jobs move to another department, they totally lose information about progression. So it is hard to respond to clients when they ask for progress regarding their jobs.

- **No planning;**

People in manual process are experts in how to transform the handed-in inputs to outputs, but they do not know how the inputs are created. So, it is hard to do planning and improve their work performance.

- **Duplicate / Unnecessary tasks;**

When jobs pass into each department, people usually keep some detail of jobs for their own reference. But papers have to be passed to the following departments, so they create their own documents in specific patterns to use internally. So much similar data has to be rewritten in various formats.

Improper data

The manual process causes the data dispersion that hard to manage and transform into useful information. Its origin comes from the following weak points.

- **No information sharing;**

Most of the data in core process – such as subject property – is general data that all departments must use. But, this data is currently available only in paper.

Moreover, there are many processes that produce the same output. If an information sharing is enabled in the company’s workflow, these duplicate processes can be eliminated and shorten the flow.

- **Data inconsistency and redundancy**

People in each department have to create their own documents to use inside their parts, so the same data is diversified into various formats. Data that is inputted repeatedly in the different locations usually has some conflicts – inconsistency – which can create major mistakes in report.

The weak points are shown in the figure below.

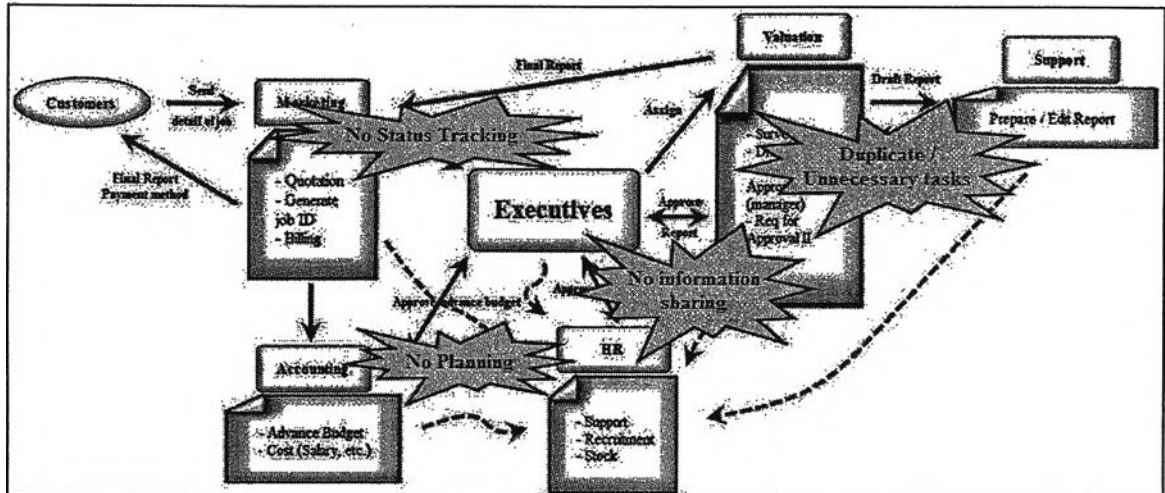


Figure 1.3: Problems in current processes of the company

For competitive advantages and future growth, the company needs to acquire an Information System in order to improve their processes and solve the current problems thus enhancing productivity and reliability for the clients.

1.2 Statement of the problem

From the background of the company, the problems can be listed below:

1. Improper processes and data – duplicate, unnecessary tasks, etc. – in the valuation flow makes the company difficult to improve work efficiency
2. Lack of requirements to design an Information System, which leaves the company currently faced with many problems;
 - a. Difficult to track status of each job.
 - b. Information sharing is blocked, so it increases paper usage.
 - c. Lack of information sharing prohibits people from seeing big picture of the company. It is difficult for each department to plan their work;

1.3 Objective of the Research

The purpose of this research is to deliver a design specification of improved valuation process of the valuation company that can be used as input for system development and implementation to meet these following objectives.

1. To improve working efficiency of the core business processes of the valuation company.
2. To provide business logic that is an input of information system development and implementation which allows the system to help the company;
 - a. to work more systematically and allow a tracking function.
 - b. to provide required information in cross-department tasks
 - c. to provide data for efficient planning.

1.4 Scope of the Research

The scope of this research covers only improving business processes of the valuation process by eliminating improper processes and data, and illustrating them using standard 'diagrams' to present them in understandable format to be used as input of programming design and development.. So this research will cover only the first 3 phases of system development life cycle – SDLC – Planning, Analysis, and Design.

The output of this research will be the following diagrams;

- ✓ **IDEFØ**; break down the business processes that are required in the ER-diagram, database design, and class diagram.
- ✓ **Use Case Diagram**; illustrate the relationship between people and activities that are required in prototype, and class diagram.
- ✓ **Data Flow Diagram**; define the required data in processes that are required in ER-diagram, database design, and data dictionary.
- ✓ **Activity Diagram**; define how the processes flow that are required in prototype, programming code, and class diagram.
- ✓ **Sequence Diagram**; arrange the processes in a time axis that is required in prototype, programming code.

- ✓ **State Chart Diagram**: define the conditions in each decision point to list all states of valuation jobs.

This research is NOT including programming-related documents which are;

- ✗ ER Diagram
- ✗ Data Dictionary
- ✗ Prototype
- ✗ Class Diagram
- ✗ Programming Code

It provides a system design specification that is ready for development and implementation but will not include system development.

1.5 Expected benefit

This research studies the valuation process of the company using methodologies of System Analysis and Design to perform system planning, analyse their current processes by using the standard diagrams – IDEF and UML, improve the processes by eliminating improper processes and data, and illustrate them in the improved diagrams.

The output of the research is the primary design specification that is input for designing programming infrastructure and developing the information system. The finished information system allows the company to gain the following benefits.

1. The work efficiency can be improved by eliminating duplicate and unnecessary tasks, reducing data inconsistency / redundancy and non-systematic flow that are caused from improper processes of the company.
2. Providing complete business logic which is an important input for Information System Design and Development. This specification will lead the Information System to encourage the company to gain these benefits;
 - a. More systematic work processes
 - b. Allow status tracking system
 - c. Information can flow and be shared for people who require it.
 - d. Each department will be able to use shared information to do specific planning such as;

Table 1.2: Specific planning that each department is able to do from shared information

Marketing	Number of jobs / Unfinished jobs Income estimation
Accounting	Cost estimation
Human Resources	Resources management
Valuation;	Automatic workflow
Executives	Strategic planning

1.6 Methodology

The research methodology is to apply the first 3 phases of System Development Life Cycle (SDLC) –Planning, Analysis, and Design. The standard diagrams – IDEF and UML – are used for illustrating the current situation and improved valuation processes.

The steps of work in this research are as follows;

1. Study the concept and tools involving in this research such as IDEF, UML, System Analysis and Design, System Development Life Cycle, work flow Management, Business Process Improvement, and some success cases as reviewed in chapter 2
2. Monitor the current processes in depth
 - SWOT Analysis
 - Preliminary Investigation
 - Detail of processes of each department
 - Weak points of each department
 - Processes between cross-functional points

Detail of this step is available in system planning part of chapter 3

3. Draw the diagrams following the standard of IDEF and UML as described in system analysis part of chapter 3
4. Improve the flow and illustrate them in diagrams of improved processes as stated in system design part of chapter 4.
5. Evaluate overall improvement by
 - Selection of suitable technology
 - Pass the system design to programmers to design a sample database and prototype.
 - Gather programmers' opinions about evaluation of the system design

