

# CHAPTER VI

## CONCLUSION AND RECOMMENDATION

### 6.1 Conclusion

The research of business process analysis and improvement for information system design originates from the problem that the valuation company cannot handle increasing number of jobs which causes report delivery delay, slow response, and overworked employees.

The primary investigation found that major problems of current situation are improper processes and data in the valuation flow as illustrated in figure below.

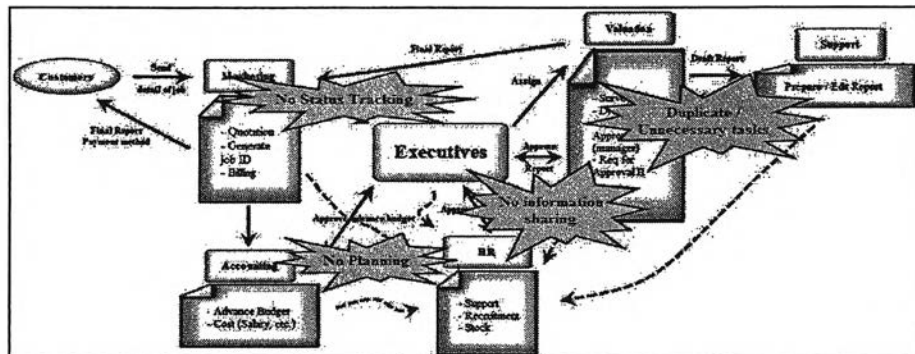


Figure 6.1: Problems in current processes of the company

The executives decided to transform paper-based processes to information system by acquiring system analysis and design methodology to do planning, analyse current processes, and design new system to fix problems.

The system planning is applied to identify the company's current position including strengths and weaknesses, reasons for IT system acquisition, internal and external factors that affects work processes. Preliminary investigation is resulted in root causes of improper work, scope, weak points of the current work, cross-department communications, internal documents, feasibility study, and project plan.

The system analysis, is applied to analyse current work by using the 'who / what / where / when / how and why' diagram which is a summary of all processes description and standard diagrams of UML and IDEF – basic flowchart, use case

diagram, state chart diagram, sequence diagram, activity diagram, IDEFØ and DFD (data flow diagram) – and illustrate processes in different styles. The different points of view of each diagram can be combined together to fulfil business logic understanding for developers. They can point out the improper steps of work and get some ideas for solutions. This phase also covers preparation for new system design which includes requirements gathering from all departments,

The third phase, primary system design, is applied to perform business processes improvement of valuation process. The major changes in all diagrams are the combination of Job List document and Job Summary document – which contain a lot of duplicate data – into unique database called ‘Job Database’ and the transformation of manual processes to a computerised module which allows real-time data access, control flows, and pre-defined documents.

When new system is illustrated in improved diagrams, seeing that overall work flows are more systematic. Data is stored in database which allows information sharing and reduces duplicated data. The last section of this phase provides some sketched user interfaces which confirmed to be used in the real system.

The evaluation phase is applied to prove that outputs from the first 3 phase are useful for programmers to develop the information system. The results are satisfactory because programmers can use primary design specification to develop control flows, database, user interfaces, and prototypes. Test cases that run through sample cases also result that new system can lighten workload of employees.

In summary, the objectives that are stated in chapter 1 are met. The efficiency of the valuation process is improved by eliminating improper work – duplicate and unnecessary processes, and inconsistent and redundant of data. The workflow of valuation process is more systematic. The delivered design specification is complete enough for programmers to understand overall business logic and able to develop features which requested by users such as creating tracking system that matches states and conditions which indicated in state chart diagram, using database to allow information sharing which can be accessed parallel and real-time, authenticating users before accessing data which is confidential and allow them to create some specific reports that used in their own departments and reference for planning.

## 6.2 Recommendation

### ***6.2.1 Completion of design phase***

The designs that are shown in chapter 4 and 5 are primary design specification and sample database and prototypes which may not cover all cases in actual implementation. To complete design specification, programmers must interact with users for a clearer view of database design and prototype development.

#### **6.2.1.1 Completion of database design**

The old working style of the company is manual processes which are very flexible and non-systematic. Even if the analyst performs analysis and design in depth, actual work still has some exceptional cases that the design can not fully handle them. The database should be tested by various types of job to make sure that new design can manage them and think about how to cover future exceptions.

#### **6.2.1.2 Completion of prototyping**

Though the prototypes are developed based on internal documents and user interfaces that users confirm to use, it does not mean that all designs are fixed. The customisation of prototypes may occur from many reasons such as users feel inconvenient while testing the prototype, or forget some required fields. So programmers should continuously discuss about system structure and prototypes with users in order to design system that meet requirements as much as possible.

### ***6.2.2 System development and implementation guideline***

Even if the analyst performs a good analysis and design to cover all possible patterns of actual work, the design may not freeze when development phase starts. The change requests usually occur in the development and implementation phase. So the analyst has to monitor the progress of the project to notify some issues that occurred in these phases and fix them immediately. The recommendations for these phases are as follows:

### **6.2.2.1 Getting feedbacks from users continuously**

The system should be developed to support users as much as possible. So in development phase, it is better for programmers to continuously discuss with users to confirm that the system that they are developing meets users' requirements.

### **6.2.2.2 Revisit patterns of data in the system**

Even if the project passed design phase, it still has some chance of unexpected cases occurring. No one can guarantee that the current system design can handle all unexpected cases because they can not predict patterns of all exceptional cases.

Recommendation for this issue is that programmers should continuously revisit new job that are inputted into system for learning more pattern of data and exceptions.

## ***6.2.3 Next phase***

The next phase is a general topic that everybody – especially executives – thinks about after the system goes live for a while and it is proved that it really improves their work performance. The recommendations below are IT people's opinions about features that may improve overall work efficiency of the company.

### **6.2.3.1 Information System for other departments**

This information system covers only core processes of the valuation company which is valuation processes. There are many parts which are located out side this research scope but work together with valuation processes such as an accounting system that can create an invoice report, allow valuer to request for budget online, and cash flow management system, or human resources system that can manage borrow-return of valuation tools and copied report, etc.

### **6.2.3.2 Event Logging**

This information system lets information flows around the system and let people in the granted department to edit some fields when updated data is

available. This environment is good for real-time updating data and lightening workload of people who key-in data. But, it is hard to control policy of granted people and data to edit and the system can not prevent users' errors when they update wrong fields, wrong spelling, etc. The event logging which is a set of processes that log all events that affect on data (insert / update / delete) seems to be an effective solution that required in the next phase. The log file generally contains date of event, affected data, event type, old value, new value, and user who edit data. It can help admin to track error actions and rollback data.