CHAPTER 1

1. INTRODUCTION

Mankind has devoted a good deal of time and effort in the last thirty years to generating information without giving adequate attention to how it should be processed and stored for convenient retrieval. Finagle's Law succinctly captures the essence of the problem:

The information we have is not what we want; the information we want is not what we need; and the information we need is not available (Golde, 1976).

We are all vaguely aware of the reality of the "knowledge explosion," and suffer under its impact without fully appreciating the magnitude of the problem.

As mentioned by Tony Feghali (2008) that knowledge can be classified as explicit and tacit knowledge. It is the explicit knowledge that can be obtained from books, documents, reports, files, databases, records and others. It is these explicit knowledge that as mentioned earlier, resides in easy accessible physical media such as the databases, books, files, and other means of organizational or group memory such as minutes of meetings and documented experiences; that can be easily interpreted and used by individuals for a variety of purposes.

Therefore, it is important that this knowledge know-how be kept, well-managed and transformed or interpreted to object or means that can be easily and readily available to others. Thus, the knowledge and information can be shared systematically, under controlled and secured environment. This is why managing the filing of documents, reports, records etc is important and to have an agreed standard of filing methodology and mechanism across the organisation.

The study of how people go about filing documents led us to consider strategies of filing as levels, with increasing complexity as one moves to higher levels. (Schwartz, Fortune, & Horwich, Sept. 1980).

While comprehensive retrieval capability is extremely difficult with any manual system, given a sizeable document collection, there is a solution at the next level of filing, computerized filing. Computer systems have handled facts organized into data records. Far more valuable and important to organizations are the concepts and ideas contained in documents.

Until recently, technology for document processing has been mostly limited to better and faster ways to generate, print, and transport text documents. Now, several trends and developments suggest that we are on the verge of a major advance in computer-based information management.

To start the paper we would like to introduce features of documents which will become important in later part of the study.

1.1 Document Definition

Documents contain information that is critical as reference in managing an organization or to assist the organization in decision making. It is also important that the document can be easily accessible to promote knowledge sharing that could assist to increase the competency level of the staff. Therefore, it is important that the documents are stored properly.

Generally, documents are (WebFinanceInc, 2010):

Something tangible that records communication or facts with the help of marks, (Zantout & Marir, 1999) words, or symbols.

Recorded information that (regardless of medium, form, or characteristics) serves to establish one or several facts, and/or can be relied upon as a proof thereof.

Set of data processed by a computer as a unit, and output in form suitable for direct human interpretation. Generally speaking, documents function as evidence of intentions, whereas records function as evidence of activities.

Further description on document characteristic will be explained in detail in Chapter 2.

The technology available today has contributed to the development of the Electronic Document Management System (EDMS). The EDMS is a system that is commonly found in organizations that deal with a lot with documents.

EDMS is designed to simplify document management for an organisation. EDMS functions as an easy and reliable digital storage of document. The free dictionary defines document management as the capture and management of documents within an organization. The term originally implied only the management of documents after they were scanned into the computer. Subsequently, document management became a term that is commonly referred to the document imaging, workflow, text retrieval and multimedia.

1.2 Case Study

This paper provides a report of a case study done in one of an Engineering Design Consultancy services on how EDMS affect their organization in context of strategic, tactical and operational to the company. The company selected for this case study is RNZ Integrated (Malaysia) Sdn Bhd (RNZ). RNZ is selected as a case study subject due to the fact that RNZ project deliverable rely 100 percent (%) on documents and RNZ need to manage their document thoroughly to ensure proper project deliverable. RNZ products and services are

delivered to the clients both in hardcopy and softcopy over the internet or other storage media.

Another reason for selecting RNZ is because RNZ operates in Malaysia where this study is done, with several branch offices in Malaysia and Indonesia. RNZ core business is to provide engineering consultancy services. As one of RNZ core products are providing engineering design, the company main deliverables for RNZ will be engineering documents which includes, datasheets, engineering drawings and other related to engineering design documentation. Thus documents play a very big role in RNZ as it is indirectly considered RNZ's core deliverables. In another word, the company is committed to deliver engineering related documents such as the design documents (as its product) to their clients, locally and internationally.

1.3 Company Background

RNZ Integrated (Malaysia) Sdn Bhd known as RNZ is a leading local provider of engineering design solutions in the oil and gas industry in Malaysia. RNZ Integrated was established in 1993 and today they are operating internationally. They have clients all over the world such as clients from the ASEAN and OIC member countries. Currently RNZ stand with more than 500 employees mainly professional engineers from the Oil and Gas Industry with engineering design knowledge of more than 15 years per lead engineer.

Since its inception, RNZ has encountered many obstacles and challenges to keep in existence in the industry. However, due to its perseverance, RNZ has successfully overcome the obstacles and challenges. The company maintain its operations and operated with operational efficiencies, innovative technologies, creative solutions and leading management in human capital at all levels and in all disciplines. These became its competitive advantage to pursue its business in this challenging industry. In 2010, RNZ has established several operational branches in Malaysia, Indonesia, Brunei, Vietnam, United Arab Emirates (UAE), Sudan, India and Bangladesh.

At current, RNZ clients are mainly National and private Oil and Gas company in countries like Malaysia, Vietnam, Brunei, Indonesia, Myanmar, India, Sudan, Bangladesh, Turkey, Iran, China, UAE, Turkmenistan and Qatar. Some of the recognised clients are such as Shell, Exxon Mobil, Chevron, Conoco Phillips, Nippon Oil, PERTAMINA, PETRONAS, PetroVietnam, PetroChina, SUDAPET, ADNOC, GNPOC, Talisman Energy, Murphy Oil and many more.

With the continuous expansion of its business into the international market, RNZ is committed to ensure that all its services meets internationally recognized Quality, Health, Safety and Environment (QHSE) standards. This is to guarantee that its community is safe on the job and its environment is protected.

1.3.1 RNZ Product in Engineering Design Services

RNZ Engineering service encompasses all phases of downstream and upstream activities in the oil and gas industry. In the upstream industry their services covers the Greenfield and Brownfield development in the areas of feasibility studies, conceptual design, Front End Engineering Design (FEED), detailed engineering and construction support. In the downstream industry RNZ has participated in detailed engineering and project management of minor plant modifications and revamps, marine terminal and cross country pipelines.

1.3.2 Specialist Study Services from RNZ

Through years of experience, RNZ capable of delivering a wide range of specialist services to complement and enhance our facilities and substructure design capabilities. These services are managed through internal competencies and also through collaboration with selected 3rd party consultants who have completed many projects with RNZ previously. Some of the studies include are Value Engineering Assessment, Risk Assessment, Safety Analyses and other special studies.

1.3.3 Deepwater Engineering Services

RNZ deepwater engineering team have the ability and experience to address engineering solutions through a wide spectrum of sub sea hardware and technologies. Our engineering services covers from

early field development layout, utilizing flow assurance system architecture, to a full suite of services, which includes installation of all sub sea equipment.

1.4 Problem Statement

According to (Kaplan, 1895), if a company invest in projects whose financial returns are unknown, or below their cost or capital, there is a chance they could become insolvent. In another study, Irani and Love (2001), found that lack of attention given to human and organizational technology management factors while implementing systems could later caused the system abandoned and deemed a failure. Therefore, project benefits and costs, the technology management factors (human and organizational) are important to develop and implement successful system that significantly improved organization's competitive position.

"The EDMS implementation in RNZ has not fully satisfied its users. Complaints received, but evidence is vaguely expressed. As a result we do not know how far EDMS really benefit RNZ organization wide", quoted by Director of Project, RNZ Integrated.

EDMS failure could be caused by the lack of consideration of human and organizational benefits and costs implication during the evaluation process (Ryan & Harrison, 2000). It is not certain how the EDMS has "failed" to satisfy the users. However, taking into consideration the

abovementioned factors, this discussion will lead to the purpose of this study.

This chapter is to review and describe the literature that support this research problem and the research question that is:

“It is crucial to have an efficient EDMS in the company. The degree of contribution of RNZ EDMS to the company is still questionable. Does the EDMS implemented aligned with the company vision, missions and objectives. Current systems seem to lack some function towards managing document efficiently and towards meeting our client expectations. Clients emphasise on the need to have a medium to reduce delay in document communications” – Ir. Rozali Ahmad, CEO, RNZ Integrated (M) Sdn Bhd.

1.5 Research Question

The CEO of RNZ Integrated has indicated of his curiosity on the EDMS implemented in the company. Initially the company has implemented its EDMS to full fill the on-line document submission to its client. The decision to invest in this project was an ad-hoc decision following to the latest requirement that the client imposed to all vendors who are bidding for its project. This ad-hoc decision was implemented in such a way that the company was unable to calculate the investment's benefits. Thus, further unable to justify the strategy of the investment.

Similar to other organizations that are cautious on the return of investment in all its projects, RNZ being one of the leading companies in the oil and gas industry decided that it is critical for the company to justify the EDMS that has been implemented is not just an expensive, non-value-adding and time-consuming system. But a Under those circumstances, the following research question was developed to further assist the company to justify the significance of the EDMS:

"How does the implemented EDMS benefits RNZ as an organisation?"

In order to answer the research question, it is important that the study obtain an overall view i.e. feedback from all level of management in the organisation. Hence, interview sessions that is carried out involved different level of management such as the strategic level, tactical level and operational level. The following are the research questions that

need to be addressed as well in order to support the main question mentioned above:

i. How does the EDMS strategically benefits the organization?
ii. How does the EDMS tactically benefits the organization?
iii. How does the EDMS operationally benefits the organization?

Apart from those above questions, the following questions or issues need to be addressed too in order to assist in the information findings and for the purpose of investigations for answering the above research questions:

a. To identify what is lack in the current EDMS and why does this happened
b. To identify whether the EDMS has met or aligned with the business requirement
c. To identify the technology used. Whether the technology need to be improved
d. To identify the EDMS application area. Whether documents from operational & management areas are captured in the EDMS to enable knowledge shared across the organisation
e. To identify the impact of the project to the organisation and the return on its investment (Boaden & Dale, 1990)
f. To propose initiatives to further improve the EDMS

1.6 Purpose of study

RNZ has implemented its EDMS in 2007. After 2 years implemented, the system need to be upgraded to accommodate current business requirement and the organisation's business strategy. The benefits of EDMS evolve as the technology evolved and human ability to use it will evolve over years (Sprague, 1995). Hence, the purpose of the study is to evaluate the current EDMS in order to address the above research question.

The findings and recommendation that are extrapolated from the study will be presented for further improvement of EDMS or may be implemented as new commercial value to EDMS.