**Chapter I Introduction**

I.1   Research Background

Organization which is considered superior and competitive today is an organization that is able to exploit the existing knowledge on each of its human resources and combining them into organizational knowledge, with the aim to achieve excellence and competitiveness at the most optimal level (Malhotra, 2000). Knowledge Management (KM) has now become an important and integral part of an organization. KM plays an important role in an organization. KM plays a role in making tacit knowledge to be explicit knowledge within an organization with the aim that organization itself can continue to learn and innovate (Beccara-Fernandez, Gonzalez, and Sabherwal, 2004). KM is based on capturing and making documentation of individual explicit and tacit knowledge, and its dissemination within the organization (BusinessDictionary, 2014).

Based on Research by the Delphi Group Inc. (2000, in Uriarte Jr., 2008), knowledge inside organization as much (42%) is still stored in the human brain, the other is stored in paper documents (26%), electronic documents (20%) and the knowledge base electronic (12%). Such knowledge would be very useful if it can be captured by the organization, transformed into explicit knowledge, then stored, managed, organized, and disseminated to be implemented and be used together. Storage of explicit knowledge in an electronic document that can be accessed by the various stakeholders will facilitate the dissemination of knowledge.

An organization needs to implement a KM system in order to systematically accommodate the needs of KM activities in an organization (Tiwana, 2000). KM system is a system that contains a collection of Information Technology (IT)-based knowledge repository that can be accessed by everyone in an organization that aims to establish KM activities so the knowledge can be implemented and disseminated throughout the activities within an organization (Frost, 2010).

Usually, an organization spends more time and effort to implement KM system project (Azhdari, MousaviMadani, and ZareBahramabadi, 2012). A measurement must be performed to measure an organization's readiness to implement KM system, so after the implementation of KM system is completed, the system implementation will not be in vain (Awad and Ghaziri, 2004). Measurement on organization's people, process, and technological infrastructure can serve as a guideline for management to implement KM system (Holt, Bartczak, Clark, and Trent, 2004). KM system readiness measurement can help organization to analyze its capability to have effective KM activities before the organization implements KM system (Keith, Goul, Demirkan, and Nichols, 2006). Assessment of organizational readiness to implement KM system can answer questions such as: (1) How is the current organizational capability to implement KM system?, or (2) If the organization is not yet ready, what changes or plans should be made for the organization so that the organization be ready to implement KM system?

Pusat Dokumentasi dan Informasi Ilmiah (PDII) is an institute under the auspices of *Lembaga Ilmu Pengetahuan Indonesia* (LIPI) in charge to carry out the development and provision of services documentation in accordance with the policies of scientific information that has been designated by chairman of *Lembaga Ilmu Pengetahuan Indonesia* (LIPI). PDII vision is to become the leading institution in the field of documentation and information in order to participate in building an intelligent, creative, integrative and dynamic knowledge-based and technology-humanistic society (PDII LIPI, 2011). To realize the vision, PDII performs three main types of activities: documentation services, information services, and training and development, in the field of scientific information documentation. PDII is supported by about 150 employees. 45% of the numbers are librarians, archivists, studiers, planners, institutions of public relations, analyst staffing and computer administration. The rest 55% are technical field of reprographic, micrographic and telematics as well as administrative personnel. It can be said that main jobs in PDII are to document and preserve scientific documents, and also to convert scientific documents into readings that are easily understood by the public (PDII LIPI, 2011). PDII organization structure can be seen as follows.
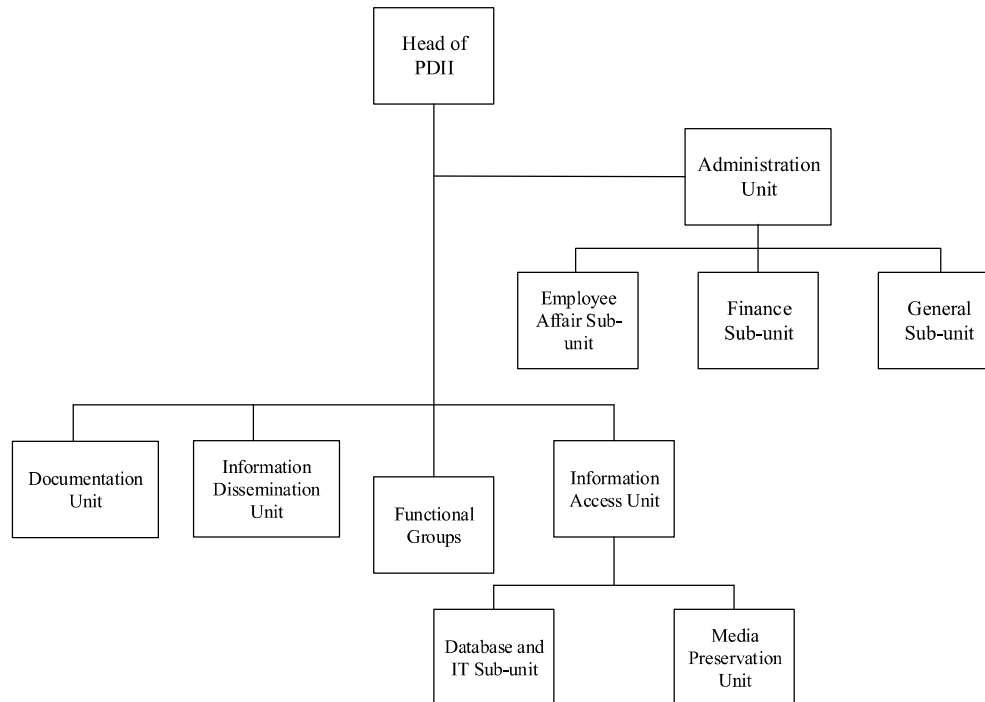
Figure I.1 PDII Organization Structure (PDII LIPI, 2014)

Derived from the brief explanation of PDII above that the main jobs in PDII are to document and to preserve scientific documents, and to convert scientific documents into readings that are easily understood by the public, employees associated with the work are deemed to have a lot of tacit knowledge that PDII employees can convert scientific documents from scientific research into understandable articles for everyone.

KM activities must be managed properly so that tacit knowledge contained in the employee can be a useful asset for PDII. KM in PDII is directed in activities to obtain: (1) tangible information (documents, textual information) and intangible information (opinion and workers experience after years of working in PDII), (2) the mechanism of knowledge creation to support the new knowledge and innovation, and (3) PDII strategy to foster a culture of knowledge sharing (Setiarso, Triyono, Satriawahono, and Subagyo, 2007). The way to do by PDII in order to manage and support the KM activities is to build a KM system. A KM system is

built to make knowledge codification, knowledge directory, knowledge sharing system, and the formation of knowledge networks inside an IT-based system to the entire level of organization (Frost, 2013).

Measuring and analyzing PDII readiness for implementing a KM system is a very important step before PDII starts implementing KM system (Tiwana, 2000). The measurement is intended to assess PDII readiness, in terms KM factors or KM enablers related to successful implementation of KM, which are culture, structure, people, information technology (Lee and Choi, 2003), and process (KM Triad of people, process, and information technology (G. Schwartz, 2006)) to implement a KM system. Readiness measurement is useful to see whether PDII is said to be ready or not ready to implement KM system. Readiness measurement can be done by using Aydin & Tasci (2005) readiness scale. KM Enablers' priority weight also needs to be considered in order for PDII can determine which KM Enablers become the most important aspect within PDII. One of the priority weighting calculation can be performed by using Analythical Hierarchy Process (AHP) calculation method (Saaty, 2008). In this research, PDII organization readiness measurement will be focused only on KM enablers of organization's culture, process, and information technology infrastructure.

I.2 Research Problems

The problems of this research are as follow.

1. How is PDII level of readiness, from the perspective of culture, process, and information technology, to implement KM system with Aydin-Tasci readiness scale?

2. How is the priority weight of culture, process and information technology for KM system implementation readiness assessment in PDII with AHP weighting method?

3. What recommendations can be given to PDII in order to increase the readiness score for KM system implementation?

I.3 Research Objectives

Based on problem formulations, objectives of this research are as follow.

1. To determine the readiness level of culture, process, and information technology using Aydin-Tasci Readiness Scale in PDII for KM system implementation.
2. To determine the priority weight of culture, process, and information technology using AHP weighting method for KM system implementation readiness measurement in PDII.
3. To propose recommendations to PDII in order to increase readiness score for KM system implementation.

I.4 Research Limitations

To make this research more focused, the limitation of this research is as follows.

1. This research only measures readiness of PDII culture, process, and information technology.
2. This research does not address the technical implementation of KM system in PDII
3. This research does not conduct feasibility analysis KM system implementation.
4. This research is only until the stage of analysis and recommendations, not until the stage of KM system implementation in PDII.

I.5 Research Benefits

The benefits from this research are as follows.

1. This research helps PDII to determine the level of readiness for KM system implementation.
2. This research provides recommendations for PDII to develop operational plans to increase readiness level for KM system implementation.

I.6 Systematic Writing

This research is described in the form of writing systematics as follow:

Chapter I   **Introduction**

This chapter contains description of research background, problems of the research, objectives of the research, limitations of the research, benefits of the research, and writing systematics.

Chapter II   **Literature Review**

This chapter contains literatures which are relevant to the problems in this research. Reference literatures for this research are about the readiness of KM system implementation in an organization.

Chapter III   **Research Methodology**

This chapter contains research steps including: formulating research problems, developing research conceptual model, designing data collection, designing data processing, designing data analysis, proposing recommendations and preparing conclusion.

Chapter IV   **Data Collecting and Data Processing**

This chapter contains the steps of data collecting. The collected data is questionnaire respondent data and AHP questionnaire data. Questionnaire respondent data will be processed to obtain readiness scores on each dimension. Meanwhile, AHP questionnaire data will be processed to obtain priority weight for every KM Enablers and dimensions.

Chapter V   **Analysis**

This chapter contains analysis and recommendation based on data which has been processed in Chapter IV. The analysis contains comparison between each dimensions' readiness scores obtained with Aydin-Tasci readiness score. Priority weight calculation will result analysis about priority on each KM Enablers and dimensions. Recommendations will also be given a based on readiness score and priority weight.

Chapter VI   Conclusion and Suggestions

This chapter contains conclusions and results from research objectives based on data processing and data analysis. This chapter also contains suggestions for PDII and for further research.