**Project Information Management**

A Way to manage Project information with a Digital Project Information Management System (DPIMS)

A Digital Project Information Management System (DPIMS) is the systematic process of creating, identifying, collecting, organizing, sharing, adapting, and using project information. Information management is a process for identifying all the information the project stakeholders need to make informed decisions. This book introduces the concept that project information is a strategic resource that must be managed with the same rigor as financial and physical resources. Development project managers need to improve the way they manage their information, by bringing the right information to the right people at the right time. It is through information management that they can improve their decision-making process, learn, and create new knowledge.

Information management places people and processes at the center, and technology as a powerful enabler. It has more to do with managing human behaviors than with managing technology. For projects to be successful in information management, a careful analysis is required on how the elements of the information environment need to be treated. It is not enough to see information as a product. Information should be treated in all its dimensions to avoid “tunnel vision” solutions. The management of a project’s information assets is essential to the long-term survival of the development organization. In the knowledge era, organizations will be measured by how they can tap this vast resource, and an organization’s ability to learn, adapt, and change will become a core competency.

With the right PIMS, project managers will be able to improve the processes through which they define, locate, collect, store, analyze, share, and use the information. Managing this process should be a critical project objective. Information should be managed within the context in which it matters the most, where the value is created to help achieve the goals of the project.

This book deals with the critical elements needed to design, implement and manage an information management system. PIMS is not only about technology, but the processes and procedures required to ensure the project manager is able to get the right information and

make it available to the right people at the right time. The quality of a PIMS is measured by how the project manager uses the information to guide and improve his or her actions.

The management of project information is a critical element and a key responsibility of the project manager, as it informs, educates, guides, and builds support for the project. The goal of this book is to present a series of techniques, practices, and processes to help project managers and project staff to manage information in a systematic way that will help improve the project interventions.

Providing key project stakeholders with the right information at the right time can significantly improve decisions to adjust, change and guide the project to improve its outcomes. A Project Management Information System serves five principal purposes:

* Provide information for decision-making.
* Improve project management.
* Demonstrate results through project evaluation.
* Empower communities and other project stakeholders.
* Increase opportunities to learn from experience.

A Project Management Information System is an integrated set of mutually supporting tools, processes, and methods for managing project information applied in a consistent way to support the decision- making and information needs of project stakeholders. Project managers use the techniques, processes, and tools to collect, organize, analyze, and share information through electronic and manual means.

A PIMS is also beneficial during the different project-management phases. During the planning phase, a project manager uses a PIMS to organize the project work, define the scope baseline, estimate the budget, and create a schedule. During the implementation phase, the project team collects progress information that is used to compare with the baseline and evaluates the accomplishment of each activity. It is also used to manage deliverables, collect financial data, and keep a record for reporting purposes. During the monitoring phase of the project, the PIMS is used to review the goals to check if the outcomes were accomplished or not. The goal of a good PIMS is to make the right information available to the right people at the right time.

**Definition of PIMS**

A Project Management Information System (PIMS) is not necessarily the information technology, but rather the common practices that a project should follow to properly manage its information. This chapter will introduce some basic concepts, definitions, and characteristics that will help in the management of information.

**What is PIMS?**

A Project Management Information System is a set of interrelated components working together to collect, classify, store, and distribute information to support decision-making. A PIMS is about how effectively the project manages the data, how it transforms data into information, and how that information eventually becomes knowledge.

A project management information system is not about technology alone. A good system has a systematized approach to managing information. It does not necessarily mean complex or expensive technology. It is more about designing the appropriate methods and processes and implementing a sound plan to manage the information cycle.

**Characteristics of PIMS**

Establishing smart goals and objectives and selecting indicators for measuring progress are the elements that form the basis of a sound project-information management system. An important step in developing the system is the creation of an information-management plan that outlines how information will be selected, collected, analyzed, and shared during the lifecycle of the project.

The focus is on the systematization of the information-management processes. Once the project team has completed the design and planning for the information, the project should be able to move to a systemized process designed to manage all the information maintained by the project. In order to have flexible and responsive interventions, a project-information system needs to be more than just a reporting mechanism, but serve as a powerful management tool for advancing an organization’s program goals of accountability, transparency, and partnership. A good project PIMS needs to contain the following characteristics:

* PIMS supply the necessary information and feedback so that potential problems are identified, and solutions are implemented early, before becoming constraints. The system should be able to generate timely information to initiate corrective actions.
* A PIMS is a tool to collect, analyze, store, and disseminate information useful for decision-making within a project. A good PIMS builds on a project's success while using lessons from earlier experiences to improve project performance.
* PIMS differ from other Management Information Systems (Financial, Payroll, etc.) because its demand-driven approach requires it to be flexible and adaptable to the changing conditions of the project.

A central to characteristics of PMIS is that provides an empowerment agenda that includes the includes the following:

* Transparency: the availability and access to information by all project stakeholders.
* Accountability: the use and application of information to monitor the progress of the project and correct deviations.
* Inclusion and participation: where project participants are given control over decision-making, including decisions on appropriate criteria and indicators to judge the performance of the services provided by the project.

**Definitions of Data, Information, and Knowledge**

**Data**

Data is defined as a base representation of a fact, represented in the form of numbers, letters or words. Examples of data include the number of visits to a community, the number of crop failures, and the number of farmers trained. Data is a discrete set of unorganized, scattered statements about reality. Data are raw facts.

**Information**

Information is defined as data with context. Peter Drucker defines information as “data endowed with relevance and purpose.”1 Data becomes information when it is placed within a context. An example of information is 80 percent of the farmers who kept the same variety of coffee, lured by market prices, could not sustain three continuous crop failures and defaulted on their loans. Information organizes data, with a meaning and relevance. Information is facts with context and perspective.

**Knowledge**

Knowledge is information in action, or the ability to understand the relevance of information and how to use it to advantage. The use of information leads to experience and new knowledge. Knowledge is information embedded in a context. It has a purpose and leads one to take action. Knowledge allows us to make sense of information, related information for a purpose, and know when information is irrelevant. For example, a farmer has learned that by rotating crops he is less exposed to crop failures. He tried different varieties using his previous knowledge about the soil and weather conditions in the region. With the technical information he received from project staff, he has come up with the right mix of crops and produced a good harvest that allowed him to pay his loans and provide for his family. Knowledge is information with guidance for action.

Knowledge requires human interaction with information. Information becomes knowledge when a person acts on it, makes it his/her own, conceptualizes it by placing it in relation to previous knowledge, and internalizes it by making it part of his/her beliefs.

Keep it Simple!

The purpose of this book is not to complicate the project information process but rather to make it simple and achievable. This book concentrates on the minimum basic requirements that any project can follow. A good PIMS can be achieved by concentrating on the key elements required for proper information management, without adding complex systems and processes that only take away the time for analysis and decision-making.

**Levels of PIMS**

PIMS does not necessarily require a state-of-the-art technology solution that tries to be everything to everybody. Every project has different information needs, both in quality and in quantity. Every project requires different levels of technology to satisfy its basic information-management needs. Simple technology will suffice for a small project with few needs, but large projects with many information needs can benefit from more extensive technology solutions.

A major imperative lies in the need for a coherent systematization of information-handling as part of the information-management process, and this must occur before automating as it implies adapting the technology to the process and not the process to the technology. The use of complex technology does not necessarily mean efficiency. A small project with few information needs will not benefit from a complex, integrated system. On the contrary, managing the system can be less efficient than a simple solution.

It is important for the project manager to identify and develop a PIMS that satisfies critical requirements for managing information, but avoid the creation of complex systems that are too expensive, take more time to develop, and require additional resources to manage it properly.

The information requirements of a project are divided into three levels:

* Level 1 – Information requirements are few. The project can use basic desktop computer applications to manage the project information.
* Level 2 – Information requirements are significant. The project can use a desktop or server-based system to manage a large volume of information.
* Level 3 – Information requirements are many. The project will require a fully integrated system to manage extensive amounts of data and information.

The following diagram represents the three levels of technology to consider when designing a computerized information-management system. The levels increase as the level of requirements increase. Each box represents a level. Boxes 1 through 3 refer to the three levels, progressing from easier (Level 1) to the more difficult (Level 3). Higher technical and information requirements are needed both for setting up an integrated information system and the ever-greater complexity of supporting and operating the system as a project shifts from Level 1 toward Level 3.