1. INTRODUCTION TO THE INTEGRATED METHODOLOGY FOR ENTERPRISE INFORMATION SYSTEMS

Information technology is the important weapon to improve and keep an enterprises' competitiveness in ever-changing business environment. It is a systematic methodology that is mostly required as a supporting tool achieving complicated activities connected with introduction of information systems. The information systems embodied to be impertinent can be wasting enterprise resources and weakening enterprise's competitiveness.

Therefore, many consulting corporations have developed and applied various commercial methodologies in order to provide systematic guide on the construction of enterprise information systems. Methodology must integrate each kinds of theory and tools scattered and support that all of the users may utilize it easily. Thus, related methodology research has to connect each kind of theory and tools in synthetic viewpoint to satisfy efficient and effective construction of information systems. Also, previous researches show that enterprises which have systematic methodology construct information systems more effectively.

Most research works and commercial products, however, are lack of the architectural integrity and functional applicability to meet these sophisticated needs of enterprises. Lack of the architectural integrity is caused by two factors: the absence of customizable architecture regarding inner environment and natural culture of enterprises, and the non-integrated framework to manage engineering tools and output data used and generated during development and implementation of information systems. Lack of
the functional applicability is caused by three factors: broken bridge linking business strategy with information strategy in rational manner, the absence of economic justification and management systems, and unreliable mechanism for analysis and evaluation about level of enterprise information systems. This chapter introduces a new integrated methodology for successful development and implementation of the enterprise information systems.

1.1. Development of information systems

The development methodology of information system considers the life-cycle of information system and additional elements. At large, the whole life-cycle of information system are like the SDLC (System Development Life Cycle). The life-cycle of information system is composed planning, analysis design, implementation, and maintenance

- Planning: The necessity and purpose of system, validity check, cost/benefit analysis
- Analysis: Investigation on the organizational environment, systems, user requirement, and configuration of the system functions based on user requirement
- Design: Logical system design, design of new system structure, business process, and input-output, file/database design, application coding, software development
- Implementation: Purchasing hardware, installing systems, user training
- Maintenance: System performance evaluation, User feedback, system upgrade, continuous support.

In Addition, IS package introduction and implementation, IS outsourcing, economic justification and measurement of IS, analysis of enterprise competency, and administration of IS projects which are recently applied to the enterprise are included in the integrated methodology.

1.2. Previous research

Methodology in the enterprise informatization and information engineering plays a role in establishing framework to manage the project, defining operations, setting up the goals and procedures of project, identifying the required resources during project, and assigning the responsibility. Moreover, it creates the baseline of project, monitors the executed operations, and evaluates the result of project. Finally it helps to check the parts to be improved for the next businesses.

Methodology is generally composed of systems development life-cycle above mentioned. There are several development methodologies like IDEF (US Air force) and ARIS (Cheer) that can support the enterprise process and data modeling, and Rose (Rational corporation) which support UML. However, these methodologies are not classified as IS development methodology because they cannot cover the whole range of enterprise.

There are some information system development methodologies focused on the development of IS and promotion of informatization. Until by now, the recent information systems development methodologies have been led by IT consulting firms