Chapter 12
ERP Software Maintenance

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ABSTRACT

This chapter will explain ERP software maintenance and the effort required to locate and fix errors in the ERP software. Software maintenance is defined as the totality of activities required to provide cost-effective support to a software system. The purpose of software maintenance is to modify and update software application after delivery to correct faults and to improve performance. The chapter will highlight activities performed during the pre-delivery stage, including planning for post-delivery operations, supportability, and logistics determination, and also activities performed during the post-delivery stage, including software modification, training, and operating a help desk. The chapter will discuss the types of maintenance and highlight the ERP process support activities and the ERP system maintainability framework. The chapter will explain the maintenance of ERP software and will also discuss the ISO/IEC 9126 and IEEE Standard 1219-1998 for software maintenance. Issues in ERP software maintenance are also presented and discussed.

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INTRODUCTION

Software maintenance has historically not received the same degree of attention as the other phases of the software development phases despite being an integral part of a software life cycle. This has however changed in recent years because organizations are keen to obtain the most out of such investments by keeping the software operating as long as possible. It is difficult to keep software systems up and running as they age, without proper maintenance because software deteriorates as it ages even if it is well maintained. Changes over the lifetime of ERP software systems are inevitable, even if the software initially met all its design requirements because changes may be necessitated by need to adapt to increased functional requirements, business processes re-engineering and different system configurations brought about by these changes. Generally, maintenance plays an important role in software products because a significant proportion of most software's is unstructured, patched and not well documented, and maintenance can help alleviate some of these problems. There is a need to know the characteristics of ERP software and how they affect maintainability. Factors known to affect maintainability include system size, system age, number of input/output data items, application type, programming language, and the structure of controls in the system. For instance, larger systems may require more maintenance effort than smaller systems, because there is a greater learning curve associated with larger systems, and also larger systems may be more complex in terms of the variety of functions they perform. The purpose of maintenance for ERP software is to preserve the value of the software over time since without its maintenance, it may not be possible to change the problems within the product after its release, and many disasters can happen because of problems arising after its release. Enterprise Resource system is a complex and comprehensive software that integrates an organization's functions and resources, and therefore many organizations lack experience and expertise in managing ERP maintenance and upgrade effectively. The work of Poi Ng et al, (2002) showed that ERP maintenance and upgrade activities were attracting increasing attention in ERP-using organizations because annual maintenance costs approximate were approximately 25% of initial ERP implementation costs while upgrade costs were in the range of 25-33%of the initial ERP implementation. Maintainability of ERP software is its environment changes including user requirements. There should be a plan to allow the structure to capability to be modified, and consists five sub-characteristics, including analyzability, changeability, stability, and testability. The maintenance is done when there is released of the product, it allows to adapt to be modified during design phase. Similarly, the code should be clear, understandable and changed during implementation phase. When other phases are conducted well, structured code, system sufficient knowledge of system and up to date documentation the Maintenance

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