

Abstract: With the popularity of the information technology, the needs of continuous, ad-hoc information system (IS) development in enterprise have become critical and heavy work to IT departments. In the context of project-oriented software and IS development, IT departments have been facing endless and variety of projects requirements. How to continually and effectively arranging the projects with limited manpower becomes an important issue of IT department. Therefore, this study proposes a multiple-project selection, multiple-period assignment (MPP) model prototype to handle the problem of software project selection and assignment. The MPP model is event-driven in operation. In each period, the model re-computes based on the results of last period and the incoming projects of current period, together with Taguchi Loss Functions which represents the costs from past project delay and the possible delay due to un-assignment, all of which is calculated through mixed integer programming (MIP) for the optimized results of developer assignments and corresponding development rates. Furthermore, this study illustrates a case of multiple-project selection, multiple-period assignment for software projects. The actual usage patterns are discussed.

Keywords: IT Organizations; Continuous IS Projects Assignments; Multi-period; Multi-project; Mix-integer Programming

1. 緒論

1.1 研究背景

企業的資訊部門（以下簡稱為 IT 部門）在企業資訊化中扮演著一關鍵之角色；其肩負著來自組織中其他單位之委託，以資訊化及維護各式的資訊系統。在現代企業專案化的運作之下，IT 部門通常把這些資訊化需求以專案方式來進行 (Engwall, 2003)。隨著商務環境對電腦資訊的倚賴日益增加，各種軟體系統的專案需求與維護常接踵而至，造成了 IT 部門處理委託專案的工作量也相對繁重。然而，並非每個 IT 部門都擁有充足的人力來處理所有的委託。此時，軟體專案的選擇及規劃便成為資訊部門的一個重要課題；亦即，在面臨源源不斷、大小不一的專案需求之下，如何運用有限的 IT 人力資源，持續安排出最有效、最佳化且符合公司政策，便成為 IT 部門在連續多重專案與多期專案之選擇與指派上的一個重要研究議題，本研究稱之為『接案管理』。

為了能夠更有效地投入人力資源至開發案上，組織必須要有一套系統性的接案管理作法，來讓組織取得整體上的最大開發效益，而不僅是片面單一專案或單一時期獲得效益而已。有別於傳統的專案規劃—特別是指派，係針對單一專案來進行規劃，多重專案管理是近幾年專案管理