

題目	應用灰色理論與能力集合於多準則專案排程
作者	胡宜中（中原大學企業管理學系助理教授） 邱榆淨（國立交通大學科技管理研究所博士候選人） 曾國雄（國立交通大學科技管理研究所教授兼所長）
摘要	能力集合擴展的意義係指找出一個由欲獲得技能所構成之學習序列，使決策者可以依照此一序列漸進學習，以完成所需技能的獲取，並有效的解決問題。為有效達成某一個決策問題的期望目標，可以針對此問題設計一個由許多活動所組成之多準則專案。因此，我們可以視一個專案為達成某一決策問題之期望目標所需之能力集合。然而，在缺乏相關經驗與未獲得足夠資訊下，決策者可能無法決定專案活動間的執行順序。為解決此一問題，本文提出一個新的排程方法。在所提出方法中，任意兩活動間之執行成本與專案排程係分別使用灰關聯分析與整數規劃法加以決定。在實證分析上，本文係就智慧型運輸安全系統之發展找出適當之工作排程，以說明所提出方法之有用性。
關鍵字	專案排程、多準則分析、能力集合、灰色理論
Title	Grey Theory and Competence Sets for Multiple Criteria Project Scheduling
Author(s)	Yi-Chung Hu, Yu-Jing Chiu, Gwo-Hshiong Tzeng
Abstract	It is known that the competence set expansion is to find appropriately learning sequences of acquiring the truly needed competence for a decision problem. A multiple criteria project consisting of many activities is designed to effectively attain the desired goal of a decision problem. Whereas, it is pertinent that we treat a project as the needed competence set for attaining the desired goal. However, it is possible that the decision maker cannot appropriately determine the order among the activities of a project resulting from the inexperience and inadequate information. This paper proposes a new scheduling method to resolve the above-mentioned problem. In our method, the cost between any two significant activities, and the schedules among activities are determined by grey relational analysis and an integer programming method, respectively. The results of an empirical study, for finding schedules to facilitate the development of intelligent transportation security systems (ITSS), can demonstrate the practice and usefulness of our method.
Key Words	Project management and scheduling; Multiple criteria analysis; Competence set; Grey relational analysis.