## 摘要

本研究結合決策實驗室分析法(DEMATEL)與網路層級分析法(ANP)應在研究機構 研發計畫提案評選。首先以決策實驗室分析法找出需求、技術與效益三個構面之間相依 與回饋性,以及相互連結的因果關係。另,以網路層級分析法(Analytic Network Process, ANP)來評估準則之間可能存有的相互依存和回饋問題以及計算評選準則的權重。本文 並針對紡織所兩個關鍵計畫:「產業用紡織品研究與開發四年計畫」包括十個子計劃提 案,與「機能性紡織產業關鍵技術研發四年計畫」包括八個子計畫提案進行評選。本研 究邀請五位專家以權重評分法進行評選,分別淘汰排序較落後的子計畫提案。另,本研 究對於某些得分中等的計畫提案在某些評選準則得分較低者,可提供進一步改善的空間 與建議。

**關鍵詞**:科技專案、研發計畫評選、多準則決策、決策實驗室分析法、層級分析法、網 路層級分析法

## Abstract

A combination of methods, DEMATEL (Decision Making Trial and Evaluation Laboratory) and ANP (Analytic Network Process), is employed to the R&D project selection in a research institute. DEMATEL was first used to find the dependence and feedback, and a casual-effect diagram among three aspects, i.e. needs, technology, and benefit. ANP was then used to determine different weight of criteria in each aspect. To verify the feasibility, two key technology R&D programs from Taiwan Textile Research Institute (TTRI), "Technical Textiles R&D Program" and "Functional Textiles R&D Program", which consist of ten and eight projects respectively, were evaluated by five technical experts to give their subjective score on each criterion of the projects. The lower ranking projects were rejected based on the score weighting method. However, some projects with intermediate scores could be improved or revised by looking into their individual performance scores of each criterion.

Keywords: TDP, R&D Project Selection, MCDM, DEMATEL, AHP, ANP