

# 整合粗略集合與緣集合理論於資料探勘在生技產品生命週期與銷售之研究

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## 摘要

本篇研究利用緣集合理論加上資料探勘的方法挖掘生技產品生命週期各階段中影響產品銷售的重要屬性。緣集合理論為一種關於時間序列的新集合理論。在本研究中，為了得到與生技產品的相關屬性，首先訪問了十家生技廠商，並從訪談當中，了解有關生技產品銷售的屬性因子，作為我們資料探勘的輸入項。因為生技產品的種類繁多，為了達到單一產品研究的目的，本研究選擇了台灣在生技產業中較成熟的醫藥產品來做為我們的研究的個案。台灣生技醫藥產品的原料大多是從歐美等國家進口，實際研發屬於少數，因此我們在本研究屏除研發期以及導入期，只考慮成長期、成熟期、衰退期三階段來做為本研究的依據。從北部某大藥廠取得產品銷售資料後，利用緣集合的隸屬度概念，依照前後兩年銷售數據的誤差完成生命週期三階段資料之劃分。最後利用粗略集合軟體Rosetta探勘出各階段銷售資料屬性的路徑，並完成判中率檢核，取得核心k值，擷取出影響生命週期三個階段當中的重要屬性，並加以討論。由研究結果發現，本研究所提出的緣集合理論較單一使用粗略集合理論有較好的篩選效果；另外在生技醫藥產品的部份，本研究能夠有效得擷取出了在生命週期各階段重要的銷售因子，以利將來案例廠商作為銷售產品的參考依據。

關鍵詞：緣集合理論；資料探勘；生技醫藥產品；產品生命週期；隸屬度；粗略集合；核心k值

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