利用系統動態學研究創新產品之銷售預測

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摘 要

在所謂的需求管理(Demand Management)中需求預測是一項相當重要的事前工作，而擴散模式(Diffusion Model)被用來預測新產品在未來的需求已行之多年且有相當不錯的成效。原有Bass擴散模式(BM)是以創新係數與模仿係數為基礎來建構新產品擴散迴歸分析模式，到了1975，R-L模式加入了價格因子，而Generalized Bass Model(GBM)則是再考慮產品價格與廣告費用於模式中用以更務實的分析產品擴散能力，本研究利用擅長處理動態複雜系統並以回饋控制理論為基礎的系統動態學(System Dynamics)做為建構新產品擴散模式之工具，除考慮原有創新係數、模仿係數、產品價格與廣告費用之外，再考慮另一重要因素－品牌效應來建構一個完整的新產品擴散模式，並提供利用模糊理論針對模式中的主觀參數作模糊化 (藉由本論文利用Microsoft Visual C++所建立的程式)，之後，再經由實際資料驗證利用系統動態學建構本研究所提出之新擴散模式在模式的合適性及預測所得到的效果會比BM、R-L模式和GBM來得正確。

關鍵詞 : 需求管理、擴散模式、系統動態學、模糊理論

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