結合ABC分析與模糊分類分析法於存貨管理之應用－以醫院衛材爲例

Combining Fuzzy Classification and ABC Analysis in Hospital Inventory Management

中文摘要

合理化的存貨管理爲成本、資金、服務三方面滿足，然而對多數品項若施以相同程度之控管，既不經濟且更爲耗時，採重點管理(management by importance)則是明智的方式，
至今存貨管理多以成本作爲決策變數，以存貨管理規劃周期(例如一年)之總使用金額爲依據，並將存貨加以分類，ABC分析法爲其典型代表者，在分類後進而對各類存貨專案採取不同的存貨管理策略，然而非成本準則(通常是作業屬性：如前置時間、存貨的老化報廢、可用率、可替代性、關鍵性)有時也將扮演關鍵角色。模糊分類法即考量非成本因素，輔以ABC分析法之不足。且於本研究中對相同衛材品項作模糊分類後，與僅使用ABC分析法之一致性高達73.6%。
另研究結合傳統的ABC分析法與模糊分類法，推導出一個存貨重要性分類方法並對分類後之比較實施前後最重要群品項與全院品項的存貨績效評估。結果顯示，最重要群之品項數爲52項，佔全部品項數之13.9%，佔年度領用成本之66.9%，只要對最重要群之品項妥善管理，即可提升存貨管理之績效，本研究於93年3月始對最重要群品項施以重點管理，實施前後其全院存貨週轉率由93年1月的99.4%提升至93年4月的111.0%；盤點差異率由93年1月的37.6%降低至93年4月的24.0%；缺貨率由93年1月的3.20%降低至93年4月的1.12%。由此可知，結合成本與非成本因素之存貨分類法，於存貨管理上亦可有其效益

英文摘要

The objective of inventory management is to rationalize cost, funds and service. Since there are too many items of inventory in hospitals, practically, it is difficult to pay equal attention to manage each single item of inventory. Therefore, management by importance is an ideal method.
Traditionally, inventory management often base on the cost attributes. ABC analysis is a typical method of inventory management. In addition to cost, leading time, replaceable and other non-cost attributes are also important factors in inventory control. One limitation of the ABC analysis system is that non-cost attributes cannot be considered in this system.
In this research, we combined fuzzy classification and ABC analysis systems, which considered both non-cost and cost attributes. This new inventory management system divides inventory items into three groups: important, ordinary, and unimportant groups.
This new inventory management system was implemented in one regional hospital

in Taipei. We compared inventory indicators, including inventory turnover rate, stocktaking error and shortage rate during January to April 2004.

The results showed that 52 items were identified as important group, which was 13.9% of all the hospital inventory items. By focusing on the important group management, results showed that inventory turn over rate raised from 99.4 % to 111.0 % ; stocktaking error reduced from 37.6 % to 24.0 % ; shortage rate reduced from 3.20 % to 1.12 % during January to April 2004. Therefore, we may conclude that combining Fuzzy Classification and ABC Analysis is a good tool in hospital inventory management