

# Apply Shapley Value of Game Theory to Classify Quality Attribute

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## ABSTRACT

在進行顧客滿意度問卷量表設計與分析時，因為所設計量表的題目很難彼此相互獨立，因而產生共線性問題存在，此一問題會影響利用傳統迴歸方式所求得品質特性權重之正確性與合理性。決策行動圖所做的分類也將不準確。2001年Lipovetsky與 Conklin根據賽局理論的理論，當共線性問題存在下，提出一個結合夏普利值與R<sup>2</sup>的方法，可有效的求解品質特性權重。本研究主要目的是以此方法為基礎，利用SAS統計軟體，實際建構一套程式，用於利用顧客滿意度量表來分析品質特性權重，並以此權重作為決策行動圖之基準來分類品質特性；另外針對求解過程中所須計算時間複雜度加以探討，並加以改善求解效率，再以實際個案來分析。夏普利值改善了共線性的問題，使決策行動圖做出有效分類。

Keywords : customer satisfaction ; game theory ; Shapley value ; time complexity

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