

以品質成本作為代工廠評選之研究—以電子業為例

A Study for Contractor Selection Base on Cost of Quality-An Example from Electronics Industry

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摘要

代工服務選擇為企業策略評估時相當重要的一環，許多企業以價格作為挑選代工服務的主要考量。長期看來，若只重成本而忽略品質，將會導致產品不良率增加並造成額外的報廢及重工成本。然而，其他不同的競爭面向如：品質、彈性、創新等，皆缺乏量化評估的方法，俾使企業在選擇代工廠商時不易取捨。本研究建構一套植基於品質成本的代工廠評選方式，以美國品質管制學會的品質成本準則為分類基準，並以層級分析法計算各成本項目的權重。與其他研究最大不同點在於，本研究在決定品質成本權重後，利用各代工合作夥伴提供之實際相關成本做為驗證；結果顯示品質成本比例最接近專家權重之代工方案廠，確實有較佳的品質水準以及較低的失敗成本。

關鍵字：品質成本、層級分析法、電子代工服務、供應商選擇

ABSTRACT

With the development of electronic industry, to choose adequate Contract Electronics Manufacturers (CEM) becomes a very important issue among the corporate strategies. Due to the fierce competition in the electronic industry, companies usually choose contract-service providers base on cost. The quality issues are usually omitted in the cost centric manufacturing environment. In the long run, it will increase the product defect rates, boost the scrap and rework costs, and eventually lead to the tardiness of order deliveries. However, other competitive dimensions such as: quality, flexibility, speed and innovation often lack of quantitative assessment while choosing CEMs. In this study, the authors are expecting to construct a set of criteria to evaluate quality related cost for the selection of CEMs. The criteria are based on the American Society for Quality Control (ASQC) and other researches. Practical cost data was be collected, and the Analytic Hierarchy Process (AHP) method was used to access the weight for each quality cost. We find out that the closer the ratio of quality cost to the AHP results, the better the quality performance is. On the other hand, the selection closest to the AHP result has the lowest failure cost and lowest ratio of quality cost to the total cost. The conclusions of this research can be applied to practical cases when CEMs are needed.

Keywords: Cost of quality, Analytic hierarchy process, Electronics manufacturing service, Vendor selection