Modify IPA for quality improvement Taguchi's Signal-to-Noise ratio approach

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Abstract

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Purpose – Importance performance analysis (IPA) is a technique widely used to assist organisations
in developing marketing strategies and improving products or service quality. Many scholars have
revised IPA to augment its effectiveness. However, this involves some unknown problems that could
lead organisations to make wrong decisions. This paper aims to look at this issue.

Design/methodology/approach – As a solution, this paper introduces Taguchi's signal-to-noise
(S/N) ratio approach to treat ordered categorical data in analysing customer satisfaction and integrates
it with gap analysis (GA) through S/N ratio to develop a modified IPA model. A Taiwan
air-conditioning manufacturer maintenance and repair service is illustrated to demonstrate the
method.

Findings – According to the test case, the modified IPA model obtained more reliable results than the
traditional IPA method, considering the central tendency and variance from different customer
perceptions. The proposed method can determine exact marketing strategies and improvement
directions for product or service quality attributes, reduce variance and (or) move performance to the
target value.

Originality/value - This model overcomes the limitations of the traditional IPA model while
retaining the merits of the traditional model. Using the modified IPA model an organisation can define
its marketing strategies and take action to establish quality improvement activities. In other words,
the organisation can avoid making wrong decisions when using the modified IPA model.