

Failure Finding in Public Library System Using Sensitivity Analysis in Data Envelopment Analysis Model

Seyyed Mahmoud Zanjirchi

Assistant Professor, Department of Management and Accounting, Yazd University
Zanjirchi@yazduni.ac.ir

Mohammad Hossein Tahari Mehrjordi (Corresponding author)

M. A. of Industrial Management, Jahad Daneshgahi Institute
Hooseintahari@yahoo.com

Mohammad Zarei Mahmoud-abadi

PHD student of systems management, Tarbiat Modares University
Zarei.m@modares.ac.ir

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Abstract

Purpose: The aim of this work was failure finding in public library system using sensitivity analysis in Data Envelopment Analysis (DEA) models.

Methodology: This applied survey is a single-stage research in terms of time. The strategy applied was mathematical modeling based analysis strategy using DEA technique. The data required were collected by using questionnaire and related documents. The research sample included the public libraries of Yazd city that were studied in 2008. After data collection, a proper mathematical model for evaluating the libraries' performance was developed and the data were analyzed using SPSS and WINQSB software.

Findings: The results of data analysis using the researcher developed mathematical model (consisting of 11 variables) showed that 11 libraries (%55 of the whole libraries) had complete performance (equal to 1). In addition, the results of rating of inputs and outputs using SAW technique showed that the staffs among the input, and those members holding membership ID among the output were of the highest importance in the libraries performance. It can be concluded that, in spite of enjoying proper and enough infrastructural facilities, Yazd city public libraries could not be rated as suitable in terms of attracting the users to make use of library according to the number of books lent and use of public from the libraries.

Originality/Value: With regard to the growth and importance of organizations in the society, evaluation of their performance has been in the core attention among researchers. The present work is an attempt to evaluate the performance of Yazd city's public libraries using a quantitative method.

Keywords: Failure finding, Performance evaluation, Data Envelopment Analysis (DEA), Output oriented BCC, SAW technique