Assignment Instructions: Module 8 - DEA

Purpose

The purpose of this assignment is to explore the use of DEA. Students will formulate and solve DEA problems under different assumptions. They will then compare and contrast these results. In addition, this will help you master the following module outcomes:

- Formulate and solve models for DEA.
- Interpret and apply DEA results.

Directions

Hope Valley Health Care Association

The Hope Valley Health Care Association owns and operates six nursing homes in adjoining states. An evaluation of their efficiency has been undertaken using two inputs and two outputs. The inputs are staffing labor (measured in average hours per day) and the cost of supplies (in thousands of dollars per day). The outputs are the number of patient-days reimbursed by third-party sources and the number of patient-days reimbursed privately. A summary of performance data is shown in the table below.

DMU	Staff Hours per Day	Supplies per Day	Reimbursed Patient-Days	Privately Paid Patient-Days
Facility 1	150	0.2	14,000	3,500
Facility 2	400	0.7	14,000	21,000
Facility 3	320	1.2	42,000	10,500
Facility 4	520	2.0	28,000	42,000
Facility 5	350	1.2	19,000	25,000
Facility 6	320	0.7	14,000	15,000

Questions

1. Formulate and perform DEA analysis under all DEA assumptions of FDH, CRS, VRS, IRS, DRS, and FRH.
2. Determine the Peers and Lambdas under each of the above assumptions
3. Summarize your results in a tabular format
4. Compare and contrast the above results

Requirements

All due dates are included in the Assignment Schedule.

General Submission Instructions

All work must be your own. Copying other people's work or from the Internet is a form of plagiarism and will be prosecuted as such.

Upload an R markdown file, along with any required .lp files to your git repository. Name your file Username_#.ext, where Username is your Kent State User ID (the part before @), and # is the Assignment number.

Provide the link to your git repository in Blackboard Learn for the assignment.