**Nithin Das, CWID: 10422784, Date: 10/10/19 Assignment W&A 4th Edition, Ch 4, Q 42, Page 194**

I pledge on my honor that I have not given or received any unauthorized assistance on this

assignment/examination. I further pledge that I have not copied any material from a book, article,

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Signature: NITHIN DAS

Date: 10/10/2019

**Management Overview**

* **Problem Statement**

To develop a model using the DEA methodology, to determine whether each school is efficient in terms of using its inputs to produce its output.

* **Data Sources**

Average educational level of mothers for students in each school, number of parent visits to school for each school, teacher-to-student ratio in each school, average reading score in each school, average mathematics score and average self-esteem score in each school.

* **Model Approach**
* Enter the input produced and output produced data in the spreadsheet.
* Create the ‘*Unit costs of input’* by entering random values initially
* Create the ‘*Unit costs of output produced’* by entering random values initially
* Calculate each school input cost as SUMPRODUCT of input units and ‘*Unit costs of input’*
* Calculate each school output cost as SUMPRODUCT of output units and ‘*Unit costs of output’*
* Calculate the input cost of the selected school with the help of VLOOKUP
* Use Solver to find the inefficient school by giving unit cost of input and output in the changing cell and selected school output value as the objective and Selected School as 1 for Step 1
* Repeat the above step by setting the Selected School =2,3 and 4
* **Solution**

Results:

The schools 1,2 and 3 are efficient with output value =1.

The school 4 is inefficient with output value =0.949

* **Recommendations**

The School 4 should consider benchmarking itself relative to the competition to see where it can make

more efficient use of its inputs.