Business Analytics

BSMS2002

TA sessions
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https://github.com/utkarsh4tech/BSMS2002

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There are 4 business units. Using the DEA, you solve the LP for all the four business units and find the efficiencies for these units. The efficiency is denoted by E. For these units, E1 = 0.83, E2 = 1, E3 = 0.57, E4 = 0.91. Which of these units are efficient?

a. Predicting binary outcomes

b. Predicting the multi-class output

c. Predicting the odds of the occurrence of a specific event

d. All of these

There are 7 business units and you are using the DEA to compare them. You solve the LP for business unit 5. You find from the constraint expression that business unit 6 has obtained an efficiency of 1 and business unit 7 has obtained an efficiency of 1 with the optimal weights of business unit 5. Which of the following statements is correct?

a. Business unit 6 may be inefficient

b. Business unit 6 will be efficient

c. Business unit 7 may be inefficient

d. Business unit 7 will be efficient

There are 7 business units and you are using the DEA to compare them. You solve the LP for business unit 5. You find from the constraint expression that the business unit 3 has obtained an efficiency of 0.9 and the business unit 7 has obtained an efficiency of 1 with the optimal weights of business unit 5. Which of the following statements are correct?

a. Business unit 3 may be inefficient

b. Business unit 3 will be efficient

c. Business unit 7 may be inefficient

d. Business unit 7 will be efficient

How is Hypothetical Composite Unit computed in DEA for a DMU using graphical method?
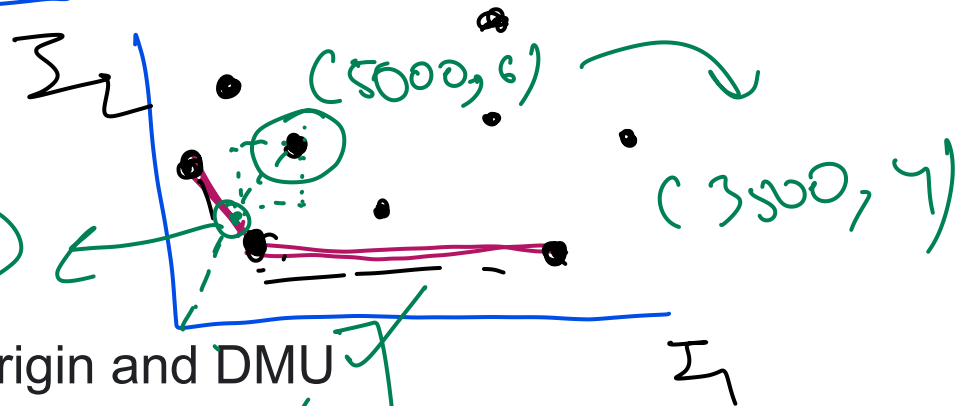
a. By drawing line connecting the origin and DMU

b. By moving horizontally towards the frontier

c. By moving vertically towards the frontier

d. All of these

How is Hypothetical Composite Unit computed in DEA for a DMU using graphical method?

a. By drawing line connecting the origin and DMU

b. By moving horizontally towards the frontier

c. By moving vertically towards the frontier

d. All of these

There are 6 business units. There are two outputs and one input under consideration. You are solving the optimization problem for business unit 3 and find that the efficiency is 0.7. You find that the dual variables corresponding to the constraints of business units 4 and 5 are non-zero and the dual variables corresponding to the constraints of other units are zero. The dual variables corresponding to the constraints of business units 4 and 5 are 0.3 and 0.4 respectively. You are given the following table where sales and number of leads are the two outputs.

	Sales	Number of leads
Business unit 4	8500	10
Business unit 5	8200	12
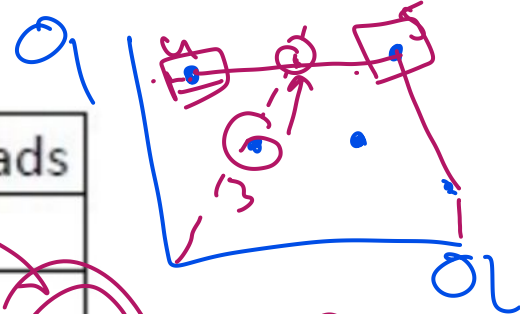
What is the sales in HCU 3?

a. 8500

b. 8329

c. 8200

d. 5831

Number of Leady

for HCU 3 =

$\frac{3}{7} \times 10$ of $\frac{4}{7} \times 12$

What is the number of leads of HCU 3?

a. 5

b. 10

c. 11

d. 12

What is the number of leads of HCU 3?

a. 5

b. 10

c. 11

d. 12

Organizations that do not find themselves on the Economic Frontier are called:

a.   Insufficient Technology Frontiers

b.   Inefficient Economic Units

c.   Inefficient Business Units

d.   None of these

Assume 5 Chai outlets having same resources in terms of budget. But, the outputs are different as mentioned below:

S.No	Sales	Loyal Customers
Outlet A	₹1,00,000	150
Outlet B	₹1,10,000	160
Outlet C	₹95,000	190
Outlet D	₹98,000	160
Outlet E	₹1,01,000	185

Which "Chai Outlets" are efficient?
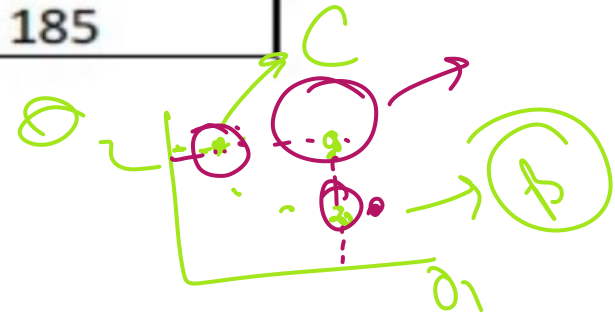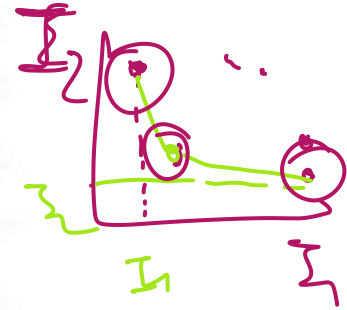
There are 6 business units and you are using the DEA to compare them. You solve the LP for business unit 5. You find from the constraint expression that business unit 5 has obtained an efficiency of 0.7 and business unit 6 has obtained an efficiency of 1 with the optimal weights of business unit 5. Which of the following statements is correct?

a. Business unit 5 may be efficient

b. Business unit 6 will be efficient

c. Business unit 5 may be inefficient

d. Business unit 6 will be inefficient

MSQ

Which of the following is true:

$Max\ Ef = \dfrac{y_1le\ ---}{n_1\ I_1c}$

a. Productive efficiency focuses on maximizing the given output under given constraints by optimally allocating the products.

b. Productive efficiency frontiers are all combinations of outputs such that the production of one unit cannot be increased without sacrificing the other.

c. Organizations that find themselves on the Economic frontier are called efficient economic units.

d. DEA focuses on technology to improve productive efficiency.