Critical Thinking & Problem Solving 05. Advanced Problem Solving Skills

From:

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Class:

1 I

Absence:

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Major:

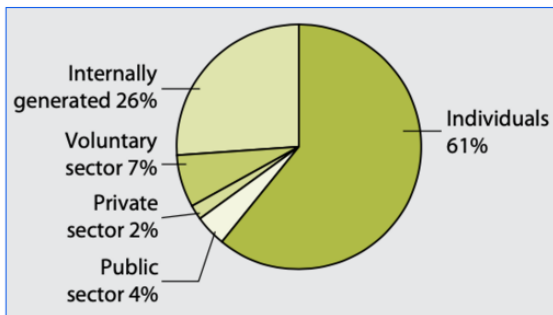Information Technology

Study Program:

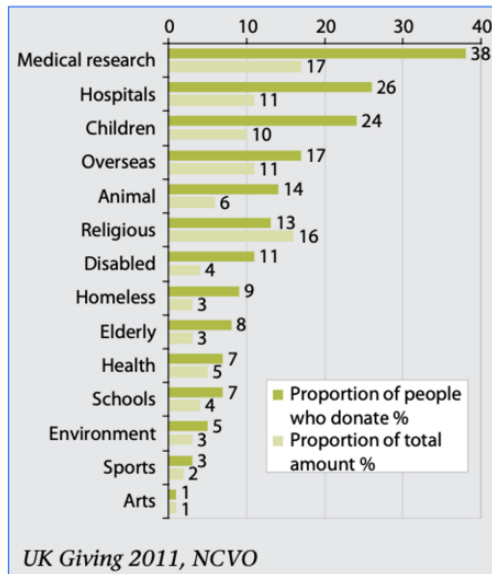Informatic Engineering

Assignment

Assignments (1/2)

• Perfect Pots is a company that manufactures ornamental plant pots. The company's expenses (rent, insurance, etc.) are $15,000 per year.

• They employ four administrative staff (manager, accountant, sales director and secretary) with a total income of $85,000 per year.

• The pots for sale are made by a number of skilled workers; each of which can make up to 5000 pots in a year and generate an income of up to $20,000 per year.

• Materials, labor, and other capital are worth $1000 per 10,000 pots.

• What is the profit variance of the company when viewed based on the number of pots made and sold based on the selling price of the pot (assuming the company only makes pots for customers who order only)?

Assignment (2/2) [A]

• The graph in the right shows the types of charitable foundations in the UK that accept donations from the public. The total donations made by the community as a whole are estimated at £11 billion Euros.

• While the types of donation sources for "medical charities" are shown in the pie chart below:

UK Giving 2011, NCVO

• Answer the questions on the next slide and provide a brief explanation for each of your answers:

Assignment (2/2) [B]

A. Which types of charitable foundations do individual donors make the largest average contribution?

B. Which types of charitable foundations do individual donors make the smallest average amount of donations?

C. What is the estimated total income of medical research charitable foundations?

D. It has been reported elsewhere that 6% of all charitable foundations receive 90% of the total donations, but "medical research" which is the recipient of the largest benefit, receives 17% of the donations. Explain about this!

Answer

1. Known Data :

- expenses for rent, insurance, etc. = $15,000/year

- staff income = $85,000/year

- worker income = $20,000/5,000 pots

- capital cost = $1,000/10,000 pots

from the known data, we can calculate :

- price pot per item = 20,000/5,000 = $4 per item
- fixed cost = 85,000 + 15,000 = $100,000 per year
- To get 100,000, the company must sell 25,000 pots.

- But each 10,000 pot costs $1000 which means for 25,000 pots it costs $2,500.
- So the total cost is $102,500.
- The company must sell at least 25,650 pots
- The cost to produce 25,650 pots is $2,565 and the revenue from selling 25,650 pots   is 102,600, fixed and the cost of production is $102,565.
- So, as long as the company sells about 25,650 pots a year, the company still makes a profit

2. A.
    a. medical research = 0.447
    b. hospital = 0.423
    c. children = 0.416
    d. overseas = 0.647
    e. animal = 0.429
    f. religious = 1.230
    g. disabled = 0.364
    h. homeless = 0.333
    i. elderly = 0.375
    j. health = 0.714
    k. schools = 0.571
    l. environment = 0.600
    m. sports = 0.667
    n. arts = 1.000

Based on data, the largest average is religious.

B. Based on data, the smallest average is homeless

C. Based on the chart, the total is 17% * 11 million euros = 1,870,000 euros.

D. Based on the right side from chart 17% is the percentage of money donated through medical research medical research to all charitable foundations.