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Scenario:

15 Marks

Suppose you are the Project Manager newly established Company that has initially hired 500 employees in its 4 departments (i.e. HR Department, Marketing Department, Sales Department, and Finance Department). The size of the company will grow later on. The owner of this organization is planning to implement a state-of-the-art Employee Management System (EMS) Software in this Company.

Based on this scenario, answer the following questions:

Question 1:

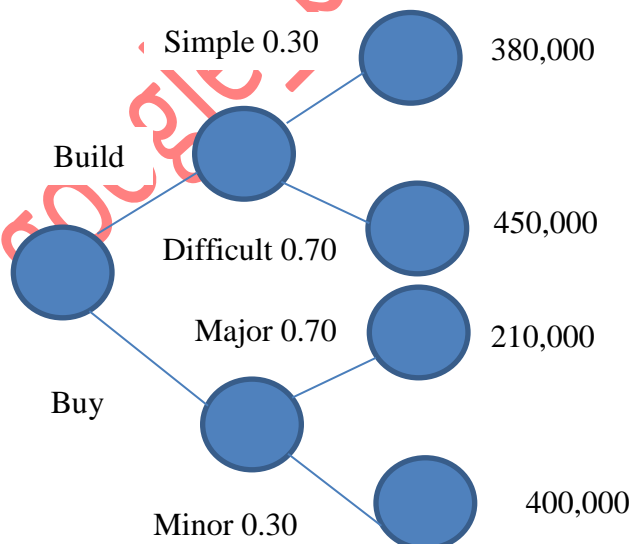
Being a Project Manager, you have to take the decision for “Buy or Build”. Will you buy the Software from any renowned Software house or Developed your own EMS System? You have to Justify with solid reasons in any case. [5 marks]

Solution:

As a Project Manager, I will prefer to buy the Employee Management System due to the following reasons:

- Delivery time is the main factor as extra time is required to develop the software in house, therefore, I will take the decision to buy EMS software from the market to meet the timeline.
- The EMS is a business software and it requires a database at the backend. Instead of reinventing the wheel, I will prefer to buy the database from the market and use it in EMS software.

Being a Project Manager, analyze buy and build with the help of a decision tree. Each node of the tree is further partitioned a probability is assigned to each branch. At the end, cost for each path in the tree, from root to a leaf, is estimated and associated with that path. This process is shown in the following diagram.



For each option the expected cost is determined as follows:

$$\text{Expected cost} = \sum (\text{path probability}) \times (\text{estimated path cost})$$

Using this formula, we calculate the expected cost of each option as follows:

$$\text{Build} = 0.30 \times 380000 + 0.70 \times 450000 = 429000$$

$$\text{Buy} = 0.70 \times 210000 + 0.30 \times 400000 = 267000$$

Therefore, according to this analysis, it is most viable to buy than build option

Question No.2

You have to write 5 functional requirements each for any two of the departments (out of four) of your choice, that must be fulfilled during the software development. [5+5 marks]

Solution:

The functional requirement for state-of-the-art Employee Management System (EMS) Software in this Company for the Sale Department are as given below:

FUNCTIONAL REQUIREMENT FOR SALES DEPARTMENT:

Functional Requirement No.	Functional Requirement Description
FNR-1	User should be able to enter the Sales data
FNR-2	The background color for all windows in the application will be blue and have a hexadecimal RGB color value of 0x0000FF.
FNR-3	The software system should be integrated with Finance and HR API.
FNR-4	Only Managerial level employees have the right to view revenue data.
FNR-5	Sales Reports should be generated every 24 hours.

The functional requirement for state-to-the-art Employee Management System (EMS) Software in this Company for the Finance Department are as given below:

FUNCTIONAL REQUIREMENT FOR HR DEPARTMENT:

Functional Requirement No.	Functional Requirement Description
FNR-1	User can login to the EMS software with his/her username and password
FNR-2	User can logout from the EMS software.
FNR-3	Employee can only view his/her personal information.
FNR-4	Manager can view not only his/her personal information but also employees' information working under his/her coverage.
FNR-5	Performance reports should be generated fortnightly, monthly and yearly basis.

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