

ITEC451

Activity 1

When an organization's problem is solved, the following seven-step model-building procedure should be followed:

❖ Consultant Role

1. If necessary, you can assume that multiple meetings with the client can be scheduled.
2. In Step 3, you don't need to give a math model for now. Instead, list important factors which needs to be considered to achieve the goal in Step 1.

1. Formulate the Problem
 - ☐ Define the problem.
 - ☐ Specify objectives.
 - ☐ Determine parts of the organization to be studied.
2. Observe the System
 - ☐ Determine parameters affecting the problem.
 - ☐ Collect data to estimate values of the parameters.
3. Formulate a Mathematical Model of the Problem
4. Verify the Model and Use the Model for Prediction
 - ☐ Does the model yield results for values of decision variables not used to develop the model?
 - ☐ What eventualities might cause the model to become invalid?
5. Select a Suitable Alternative
 - ☐ Given a model and a set of alternative solutions, determine which solution best meets the organizations objectives.
6. Present the Results and Conclusion(s) of the Study to the Organization
7. Implement and Evaluate Recommendations

❖ Client Role:

1. Assume that you became a CEO of a small company which has a head quarter (HQ) in one office and has around 10 employees who will remotely work by accessing the servers at the HQ. Design a remotely accessible small office network including three servers (workstations), a firewall device, and a switch with \$10,000 budget and \$20,000 budget, respectively. The remotely accessible small office network needs to be able to support at least ten VPN (virtual private network) connections between a remote employee and the HQ. Thus, your design must include a software license to support the VPN connections as well as the hardware diagram (i.e., a topology diagram which shows types of devices and links between the devices connected to the Internet).
2. Assume that your company currently has one windows machine and one mac but the hardware specification and software specification as well as the network speed cannot

be informed at the initial meeting.