BUS412: Project Management
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Module 5 Assignment

Short Answer (4 to 5 sentences)

1. *Describe three advantages of of using activity networks for project scheduling.*

   The use of activity networks is a good model for a project manager to visually represent the project itself and various tasks related to the project. Task networks further provide the opportunity for a project manager to see different relationships between individual tasks. This leads to the fact that he has a simple overview of the different tasks and can plan them in advance in a structured and sequential way. In summary, I can say that activity networks are a good method for a project manager to successfully work through the project piece by piece in a consistent manner based on his plan.

2. *Define the critical path in a project. Why is it important to understand what it is and what affects it?*

   The critical path refers to the activity in a project plan in which there must be no errors or delays, otherwise, the project may fail, since each activity is important for the next milestone. The critical path is important because it improves future planning and makes it easier for management to properly budget and allocate resources. Understanding the critical path is important because it ensures that the project moves positively towards the goal. It shows the dependency of a "node" in the network diagram and how one point makes the other point dependent on each other.

3. *Define the Critical Path Method (CPM). Both chapters might assist with this question.*

   The critical path method begins by identifying tasks and activities within the project. Once this is done, dependencies are determined. This means, for example, working out whether a task must already be processed in order to be required for the next step. Next, the time span of the project is filtered out. Then, the information and processes obtained are visually recorded in order to communicate them to the employees.

4. *Define Program Evaluation and Review Technique (PERT). Both chapters might assist with this question.*

   The Program Evaluation and Review Technique is a concept designed to analyze tasks and show them within a project. This type of task mapping ensures that the sequence and dependencies within a project are shown based on the various tasks. Especially for time management, the PERT is a concept that provides a basis for a plan. For a project manager, the concept provides an important supporting basis for the order of completion of the respective tasks.

In summary, I can say that the PERT is an important construct, which shows the sequence and dependencies between different tasks and gives the project manager an overview of the project and the associated time management.

5. *The two most common methods for constructing activity networks are Activity-on-Arrow (AOA) and Activity-on-Node (AON). Briefly compare and contrast the two. Both chapters might assist with this question.*

   Both the AOA and AON methods are methods that show different tasks in a project in a visually appealing way using a structure map with nodes and arrows. However, both methods differ in their interpretation. In the AOA method, the node represents an event marker that often indicates the completion of a task and the start of a new task. In the AOA method, the arrow stands for the task in question. In the AON method, unlike the AOA method, the node indicates a task, while the arrows show the sequence of nodes relative to each other.

6. *The text describes four methods for reducing the critical path. Describe two of these.*

   One method of reducing the critical path is task elimination. In this method, the critical path is analyzed and checked for opportunities to eliminate tasks or move them to the non-critical path. Another method of reducing the critical path is re-planning serial paths. In this method, the serial tasks are moved to parallel or concurrent paths in the network.

7. *What is a Gantt chart? Describe two benefits of using them for project management.*

   A Gantt chart is a diagram that graphically represents a project plan. In this diagram, various dependencies, as well as tasks and the duration of the project are shown. A great advantage of a Gantt chart is the visual possibility to overview the project at a glance and to easily track individual steps and recognize the subsequent tasks without any problems. Due to this structure and the tracking of tasks, the project manager can avoid overloading resources.

8. *What do we mean by 'crashing a project'? What are two reasons for crashing a project?*

   "Crashing a project" is the acceleration of a project. By using resources, the project should be completed earlier than planned. One reason why a project needs to be accelerated could be, for example, that the pre-decided schedule is significantly behind. Another reason could involve the market. If market needs change and the project is asked for earlier than anticipated, the project must be accelerated in order not to lag behind competitors.

9. *The text describes six techniques for crashing a project/accelerating it. Describe two of them.*

One technique to accelerate the project is to improve the productivity of the existing project resources. This technique is based on finding efficient ways to work with the existing staff and resources. Another technique to contribute to the acceleration of the project is the change of the working method used for the activity. In this method, technologies and resources are modified in the sense of the project in order to move the project forward faster.