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## CASE 4

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### QUESTION 1

#### Auto AS

Auto AS is a company that operates car import and service. Since it was established in the 1950s, the company has grown steadily and today has a 20% market share in Norway in the car market and over 30% in the market for commercial vehicles. The company imports several different car brands in different market segments.

Auto AS has initiated a project to develop a new customer relationship management (CRM) system. The project includes requirement definition, preparation of requirements, design, development, test run and implementation of the system in daily operations. The reason for the project is that the current system is too old and makes it difficult to carry out good and efficient customer communication and service. The old system is characterized by many duplicates and generally poor customer data which makes it difficult to identify customers and their purchase and service history. An important part of the project is improving the quality of customer data in the new database. At Auto AS, it is believed that the project is needed to achieve better customer service and create more satisfied customers, but it has also been estimated that the company's result could be improved by around 5%. The total cost limit has been set to NOK 15 million by the board of directors of Auto AS. The budget was justified by the fact that it seemed an appropriate amount of money by the board members. The chairman of the board is the project owner. The project manager is Peter and he is full-time engaged in the project. In addition, four team-members will be part-time involved. The project started in September and soon after an invitation to tender was announced in the market.

- a) Explain the difference between a project's goal and purpose. What is the goal and purpose for this project? Discuss and argue why it is important to have a clear and well-understood project goal.
- b) Explain what a stakeholder is. Identify the project's stakeholders. Choose three (3) of these stakeholders and perform a stakeholder analysis of them. Discuss these three stakeholders' need for communication with the project. Suggest a communication matrix (plan) for these three stakeholders.
- c) Identify four (4) uncertainties in this project and perform an uncertainty (risk) analysis of these four uncertainties. Describe briefly the four (4) general actions Peter can apply in response to the uncertainties.
- d) Discuss what you think are Peter's most important tasks as the project manager. What is the project owner's responsibility in this project?

- e) What characterizes a well-formulated milestone? Create a milestone plan consisting of five (5) milestones for this project. What is a responsibility chart? Create a responsibility chart for this project, covering the five milestones. In addition to Peter the project manager, include other participants who are involved in the project.
- f) A contract will be signed with a supplier for the development and implementation of the new CRM system. Discuss what kind of contractual (or other) choices Peter should make if he wants the uncertainty to be as low as possible for Auto AS?

## QUESTION 2

Activity	Predecessor activity	Duration (days)	Workers needed (each day)	Total work amount (day's work)	Budget per activity (each worker costs 1000 per day)
A	-	4	2	8	8 000
B	-	6	1	6	6 000
C	-	4	3	12	12 000
D	A	3	2	6	6 000
E	C	5	4	20	20 000
F	D, B, E	2	1	2	2 000
G	E	3	2	6	6 000

- a) Draw the network diagram. How long will it take to complete the project? Identify the critical activities and the critical line(s)/path(s).
- b) Develop a Gantt-chart and a resource table for the project where the activities start at the earliest start. Mark the critical activities in the Gantt-chart. In the resource table summarize how many workers are needed every day.
- c) Assume that access to resources is limited to maximum 6 workers every day. Perform resource leveling (by moving activities with slack) and develop a new resource diagram.
- d) Disregard the calculations in question c). Create a table where you summarize the total costs for each day and calculate the accumulated costs. What is the total planned costs for this project (the budget)?
- e) The project is followed-up after 6 days. Then you have the following information:

Activity	% completed	Actual costs (AC)
A	100%	8 000
B	5/6	7 000
C	100%	14 000
D	50%	4 000
E	20%	5 000
G	-	-
H	-	-

What is PC, AC and EV after 6 days?

What is CV, BV and SV after 6 days? Discuss the project's status after 6 days.

- f) How much work remains after 6 days? Calculate CPI, SPI, and new ECAC and ETAC.  
 What is the crucial assumption this calculation of new total cost and duration is based on?  
 What must CPI be during the rest of the project to not exceed the original budget?