Project Management Final Exam – Feb 4th, 2020

## Name:

# Initiating (6 punti)

A project to construct a new manufacturing facility presents the following preliminary estimates:

Total capital expenditure 100 mil€

Revenue per year 20 mil€

Oper per year 7 mil€

Inflation rate 0%

Corporate tax rate 30%

Cost of equity 10% annual

Cost of debt 5% annual

Capex period 1 year

Expected period of operations 15 years

Management is now debating about the business case and questioning whether to authorize the project or not. Please provide your recommendation to help management decide. Support your recommendation with appropriate data analysis.

# Monitoring and Control (6 points)

Consider a pharma project to develop and launch a new drug by end of current year 2020. The EV report as per Dec 31st, 2019 is given in the chart below with figures expressed in € amounts. Since it is imperative that the commercial launch is not delayed, your boss has just asked you to compute the range of cost estimates at completion that would make the project likely to finish on time. What would you answer?

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **BCWS** | sem 1, 2018 | sem 2, 2018 | sem 1, 2019 | sem 2, 2019 | sem 1, 2020 | sem 2, 2020 |
| Active substance identification | 170,000 | 90,000 |  |  |  |  |
| Preclinical test |  | 50,000 | 200,000 |  |  |  |
| Clinical test |  |  |  | 280,000 | 200,000 |  |
| Commercial launch |  |  |  |  |  | 100,000 |
| Marketing support |  | 10,000 | 30,000 | 50,000 | 100,000 | 100,000 |
| Legal support |  | 20,000 | 40,000 | 40,000 | 20,000 |  |
| Project Management support | 20,000 | 20,000 | 20,000 | 20,000 | 20,000 | 20,000 |
|  |  |  |  |  |  |  |
| **ACWP** | sem 1, 2018 | sem 2, 2018 | sem 1, 2019 | sem 2, 2019 | sem 1, 2020 | sem 2, 2020 |
| Active substance identification | 160,000 | 110,000 |  |  |  |  |
| Preclinical test |  | 60,000 | 220,000 | 40,000 |  |  |
| Clinical test |  |  |  | 232,143 |  |  |
| Commercial launch |  |  |  |  |  |  |
| Marketing support |  | 10,000 | 30,000 | 50,000 |  |  |
| Legal support |  | 20,000 | 40,000 | 40,000 |  |  |
| Project Management support | 20,000 | 20,000 | 20,000 | 20,000 |  |  |
|  |  |  |  |  |  |  |
| **BCWP** | sem 1, 2018 | sem 2, 2018 | sem 1, 2019 | sem 2, 2019 | sem 1, 2020 | sem 2, 2020 |
| Active substance identification | 150,000 | 110,000 |  |  |  |  |
| Preclinical test |  | 40,000 | 180,000 | 30,000 |  |  |
| Clinical test |  |  |  | 200,000 |  |  |
| Commercial launch |  |  |  |  |  |  |
| Marketing support |  | 10,000 | 30,000 | 50,000 |  |  |
| Legal support |  | 20,000 | 40,000 | 40,000 |  |  |
| Project Management support | 20,000 | 20,000 | 20,000 | 20,000 |  |  |

# Scheduling (6 points)

You have been asked to manage a project to launch a new product to market within 90 weeks. You have prepared a list of activities as per the table below. Which is the probability of not meeting the deadline on time?

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Task | Optimitic duration [weeks] | Most likely duration [weeks] | Pessimistic duration [weeks] | Immediate predecessor |
| Basic design | 4 | 5 | 6 |  |
| Market analysis | 5 | 6 | 10 |  |
| Detailed design | 4 | 7 | 10 | Basic design |
| Procurement | 9 | 12 | 18 | Basic design; detailed design |
| Assembly | 18 | 21 | 27 | Procurement |
| Civil works | 24 | 27 | 30 | Procurement |
| Testing | 12 | 16 | 20 | Assembly; Civil works |
| Setup | 8 | 11 | 14 | Testing |
| Advertising campaign | 30 | 50 | 55 | Market analysis |
| Launch | 6 | 8 | 13 | Setup; Advertising campaign |

