Guide to Create the Project Management Plan

– A Step by Step Approach –

Contents

1 Create the WBS

1) Organize a brainstorming session with the project team and subject matter experts.
2) Consult the project charter, especially the goal statement and the key deliverable(s) to satisfy the goal.
3) Identify the major components of the key deliverable. For example, if your goal is to celebrate your marriage, then the key deliverable is a marriage celebration. Decomposing this key deliverable into its constituent deliverables may include: 1) place, 2) catering, 3) entertainment, and 4) guests.
4) Break down each deliverable into smaller, more manageable components called work packages. For instance, the deliverable "2) catering" is decomposed in the work packages: 2.1) select catering provider, 2.2) plan menu, and 2.3) provide food and beverages.
5) Assign a hierarchical numbering to each element to create a work breakdown structure. This is the deliverable based Work Breakdown Structure (db-WBS).
6) Start a new WBS where in the first level you have phases without names, for instance phase 1, phase 2, phase 3, phase n. This will be the phase-based WBS (phb-WBS)
7) Copy/paste each element from the db-WBS into the appropriate phase of the phb-WBS but maintain the same code each element received in the db-WBS. Check that the phb-WBS has received all elements from the db-WBS and maintained the same code as defined in the db-WBS.
8) Share the WBS with relevant stakeholders, receive feedback and adjust as needed.

Here is an example with 2 layers of decomposition. If the Goal is to "Celebrate the Marriage", the **Key Deliverable is "Marriage Celebration**". The Work Breakdown Structure (WBS) could be structured as follows:

Deliverable-Based WBS (db-WBS)

1. Place
   - 1.1. Select place
   - 1.2. Define place decoration
   - 1.3. Decorate and use place
2. Catering
   - 2.1. Select catering provider
   - 2.2. Plan menu
   - 2.3. Provide food and beverages
3. Entertainment
   - 3.1. Select music band
   - 3.2. Select music
   - 3.3. Entertain with music
4. Guests
   - 4.1. Design and print invitations
   - 4.2. Select guests
   - 4.3. Track participation
   - 4.4. Celebrate with guests

Phase-Based WBS (phb-WBS)

Phase 1
- 1,1 Select place
- 2.1 Select catering provider
- 3.1 Select music band
- 4.1 Design and print invitations
- 4.2 Select guests

Phase 2
- 1.2 Define place decoration
- 2.2 Plan menu
- 3.2 Select music
- 4.3 Track participation

Phase 3
- 1.3 Decorate and use place
- 2.3 Provide food and beverages
- 3.3 Entertain with music
- 4.4 Celebrate with guests

If the Goal were to “Get Married by June 1″, the Dey Deliverable would be “The Marriage Experience”, encompassing the entirety of the wedding. In this case, the aforementioned deliverable, “Post-marriage Celebration”, would become one of the summary deliverables among others, including but not limited to:

1. Attire for the bride, groom, and bridal companions.
2. Pre-marriage gathering and dinner.
3. Wedding day ceremonies.
4. Post-marriage celebration.

Each of these summary deliverables would be further decomposed into individual deliverables and work packages. The final level of decomposition would then transition into the corresponding phase of the Phase-based WBS while retaining the original code.

Key Deliverable: “The Marriage Experience” ← project level

1. Attires ← 1. summary deliverable
   - 1.1. Bridal attire ← 1.1. deliverable
     - 1.1.1. Wedding dress design ← 1.1.1. work package
     - 1.1.2. Bridal dress confection
   - 1.2. Groom's attire
     - 1.2.1. Groom's attire design
     - 1.2.2. Groom's attire confection
   - 1.3. Bridal companions' attire
     - 1.3.1. Bridal companions' attire design
     - 1.3.2. Bridal companions' attire confection
2. Pre-marriage gathering and dinner
   - 2.1. Pre-marriage gathering
     - 2.1.1. Pre-marriage gathering planning
     - 2.1.2. Venue selection for the gathering
     - 2.1.3. Guest list compilation
     - 2.1.4. Invitation coordination
   - 2.2. Dinner
     - 2.2.1. Dinner menu arrangement
     - 2.2.2. Pre-wedding activities or entertainment management
3. Wedding day ceremonies
   - 3.1. Wedding ceremony:
     - 3.1.1. Wedding ceremony planning and coordination
     - 3.1.2. Ceremony venue selection
     - 3.1.3. Officiant or clergy hiring
     - 3.1.4. Ceremony program design and printing
   - 3.2. Ceremony decorations deliverable:

2 Create the schedule

1) Organize a brainstorming session with the project team and subject matter experts.
2) Consult the phase based WBS (pb-WBS).
3) Determine the logical sequence of work packages, establish dependencies among the work packages and create a network diagram to visualize these relationships.
4) Estimate the duration for each work package considering effort, number of resources allocated to each element and productivity. Recognize that effort is the amount of time one person needs to accomplish the work, for instance 100 person/hours. While duration is how long it takes to accomplish the work of 100 person/hours. The duration depends on how many resources you assign to the activity and how productive they are. Assume full-time resources and a productivity of 50%. I.e., a full-time person with 50% productivity will accomplish 20 hours effort in one 40-hour working week. In other words, if you have a work package of 40 person/hours effort and you want it to finish in one week, you will need 2 full-time people working with a productivity of 50%.
5) Utilize the dependencies from the network diagram and your estimation of durations to create a Gantt diagram.
6) incorporating time reserves for contingencies and including milestones to mark the estimated accomplishment of major deliverables.
7) Document in the schedule diagram the same phases defined in the phase based WBS (phb WBS). Each phase must have at least one major deliverable accomplished.
8) Identify the critical path, which represents the longest sequence of dependent activities without float (i.e., without flexibility to be accomplished later without affecting the project end).
9) Verify that the resulting project duration aligns with existing constraints, project objectives, and business requirements. Adjust and replan as necessary until these criteria are met.
10) Notes:

    10.1) In the Gantt Diagram we must see the phases (as defined in the phb-WBS).

    10.2) In each of the Gantt phases we must see not only activities, but the respective deliverable(s) accomplished in each of these phases. You have major deliverables defined in the db-WBS, but these major deliverables may be not, or not all accomplished in 1 phase. Therefore, we must find a way to detect and show which "intermediate deliverable(s)" are accomplished in each phase. The intermediate deliverable(s) accomplished in a phase are needed for the phase review in controlling. If the phase deliverables are approved at phase end, the phase can be approved and closed. Therefore, you need to establish these intermediate deliverable(s) in each phase. They will become “milestones” inside the phase. Perhaps you can do that in the phase based WBS before continuing with the Gantt. Or perhaps you can do that in the Gantt directly. For instance, if in phase 1 you have activities “1.1.1 determine specifications for equipment” and “1.1.2 create list of potential suppliers” among other activities of phase 1 but belonging to other work packages, you could summarize those two related activities to determine an intermediate deliverable called, for

example “1.1.6 Specifications and list of potential suppliers: ready for purpose". Another way would be to have one deliverable for each activity. For instance: “1.1.1.1. Specifications for equipment: ready for purpose” and “1.1.2.1 List of potential suppliers: ready for purpose”. Perhaps the second option is easier. If you were using a professional Gantt Tool, you would show to the customer/sponsor only those "milestones" of accomplished deliverables, where some deliverables may have several or many activities leading to the accomplished deliverable and you would not show that level of detail; but if someone wants to see the detailed activities, you will have them.

10.3 The Gantt must show explicitly the times reserves. As you will establish intermediate deliverables for each phase and that intermediate deliverable will have a number in the WBS or in the Gantt, you can create an activity in the Gantt with the following number called "Reserve for xx.xx" where xx.xx is the number of the intermediate deliverable, and you allocate a time reserve for that deliverable. Note that you will use this same xx.xx number to create a “budget reserve of money” for the sa2) In the Gantt Diagramm we must see the phases (as defined in the phb-WBS
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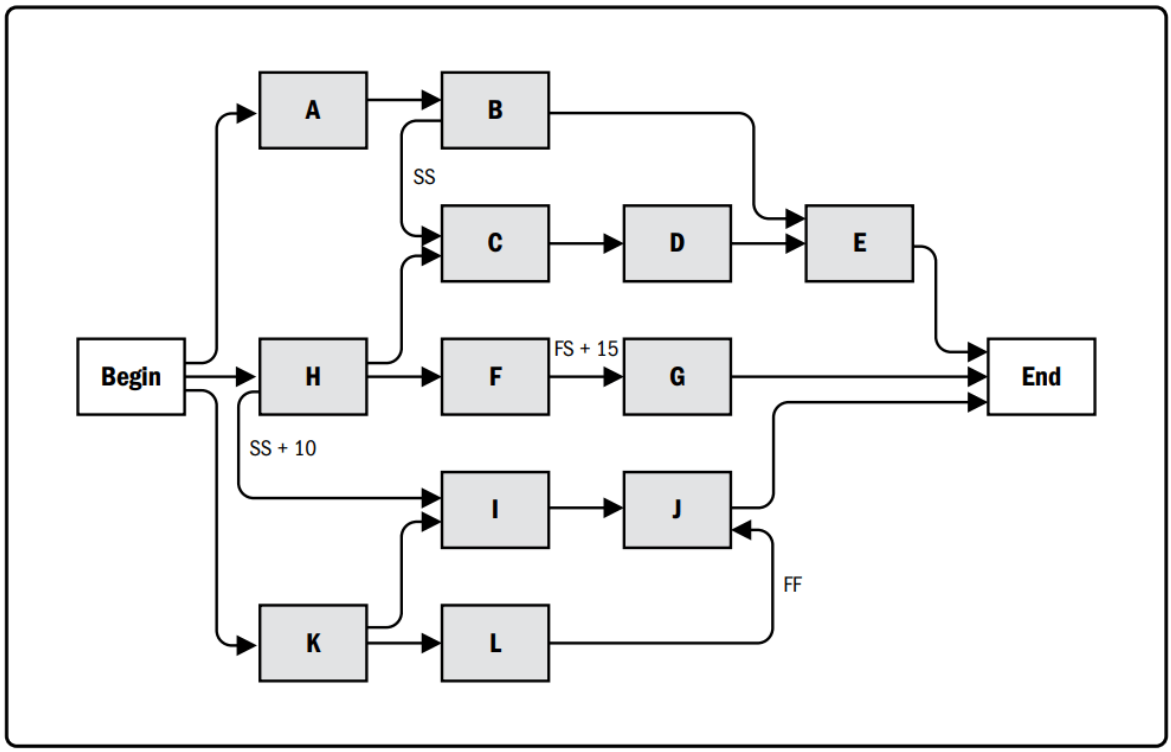
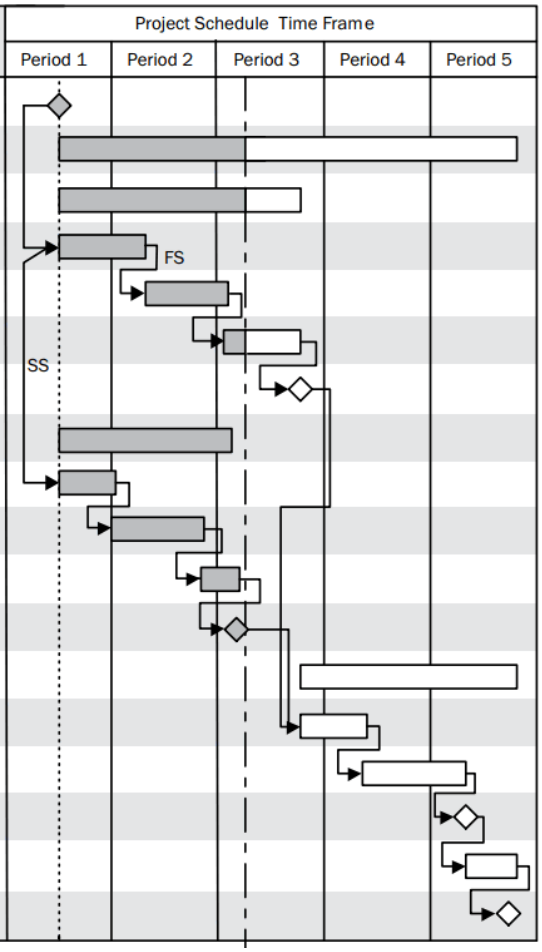
5) We should understand how you arrived at the durations shown in the Gantt. It should not be a black box. As explained in item 4 you calculate durations based on certain parameters (number of resources, % of usage, and productivity). You should show explicitly how you calculated durations. This “estimating package” should accompany your Gantt diagram. In this way, you will be equipped to answer a possible question-request from a key stakeholder about “: how did you estimate the duration of each of those activities? Pls. show”.

Example of network diagram



Example of Gantt diagram

Activity Identifier	Activity Description	Calendar units
1.1.MB	Begin New Product Z	0
1.1	Develop and Deliver Product Z	120
1.1.1	Work Package 1: Component 1	67
1.1.1.D	Design Component 1	20
1.1.1.B	Build Component 1	33
1.1.1.T	Test Component 1	14
1.1.1.M1	Complete Component 1	0
1.1.2	Work Package 2: Component 2	53
1.1.2.D	Design Component 2	14
1.1.2.B	Build Component 2	28
1.1.2.T	Test Component 2	11
1.1.2.M1	Complete Component 2	0
1.1.3	Work Package 3: Integrated Components 1 and 2	53
1.1.3.G	Integrate Components 1 and 2 as Product Z	14
1.1.3.T	Complete Integration of Components 1 and 2	32
1.1.3.M1	Test Integrated Components as Product Z	0
1.1.3.P	Deliver Product Z	7
1.1.3.MF	Finish New Product Z	0



3 Create the budget

1. **Cost Estimation and Budgeting by Deliverable**:
    a. Organize a brainstorming session with the project team and subject matter experts.
    b. Consult the deliverable-based Work Breakdown Structure (db-WBS).
    c. For each work package:
        i. Determine the type of resources required to complete the work, such as labor, materials, equipment, and subcontractors.
        ii. Material resources: Quantify the quantities of material resources required, using estimation techniques such as analogy, expert judgment, and parametric modelling. Estimate each work package individually, then aggregate the quantities of material resources needed for each work package to control accounts comprising several work packages, deliverables, and summary deliverables.
        iii. Human resources: Identify effort-driven work and determine the required labor hours or person-days based on estimation techniques such as analogy, expert judgment, and parametric modelling. Estimate each work package individually, then aggregate the effort estimates of each work package to control accounts comprising several work packages, deliverables, and summary deliverables.
    d. Obtain cost information: Gather cost information for each resource required to complete the work package. Consult with suppliers, subcontractors, or internal departments responsible for providing the necessary resources. Obtain current pricing information with accuracy.
    e. Calculate resource costs: Multiply the quantity of each material resource by its associated unit cost to determine the cost of that resource for each work package. For effort-driven work, multiply the effort estimation (labor hours or person-days) by the appropriate labor rate to derive the labor cost.
    f. Consider indirect costs: Determine any indirect costs such as overhead expenses or administrative costs. Add them to the total cost of each work package.
    g. Create reserves for contingencies: Assess risks and uncertainties of each work package or deliverable and determine an appropriate percentage or amount to set aside as contingency reserves for each work package or deliverable.
    h. Validate and refine estimates: Review the estimated costs for each work package or deliverable using different effort and cost estimating techniques, ensuring they are realistic. Adjust and refine as needed.
    i. Document the cost estimates: Record the estimated costs for each work package and aggregate them into cost estimates for deliverables and summary deliverables in a spreadsheet. Document relevant assumptions and parameters used for the calculation. The result is the deliverable-based cost

baseline, which shows the cost breakdown for each work package, deliverable, and summary deliverable.

j. Verify that the resulting cost estimates meet possible budget constraints, project objectives, and business requirements. Adjust and replan as necessary until these criteria are met.

2. **Cost Estimation and Budgeting by Phases**:

   a. Consult the phase-based Work Breakdown Structure (pb-WBS).

   b. Utilize the individual estimates of quantities, effort, costs, and contingencies from the deliverable-based estimations and reorganize them by periods (e.g., months) and phases, using the same hierarchical codes for each work package, deliverable, and summary deliverable.

   c. Document the time-based cost estimates: Record the estimated costs for each period and aggregate them into cost estimates for phases in a spreadsheet. Document relevant assumptions and parameters used for the calculation. The result is the time-phased cost baseline, which shows the cost distribution over time for the project.

   d. Verify that the resulting cost estimates meet possible budget constraints, project objectives, and business requirements. Adjust and replan as necessary until these criteria are met.

Example of **deliverable-based** cost estimating and budgeting (reusing the order of the deliverable based WBS)

Deliverable	Work package	Labor Cost	Equipment Cost	Ancillary Cost	Total
Deliverable 1 (Consultation system)	1.1 Requirements	Project Management Team + Functional Team for two weeks, 16.400€	Office Equipment for the management Team and the Functional Team, 18.000€	6.000€	40.400€
	1.2 Testable version	IT-Team for six weeks,14.430€	Office Equipment for the Technical Team, 6.000€	2.000€	22.430€
	1.3 Develop first pilot	IT-Team for six weeks,14.430€	None	None	14.430€
	1.4 Test first pilot	IT-Team for six weeks,14.430€	None	None	14.430€
	1.5 Update to second pilot	IT-Team for four weeks, 9.620€	None	None	9.620€
	1.6 Test second pilot	IT-Team for four weeks, 9.620€	None	None	9.620€
	1.7 Update to third pilot	IT-Team for four weeks, 9.620€	None	None	9.620€
	1.8 Test third pilot	IT-Team for four weeks, 9.620€	None	None	9.620€
	1.9 Complete and publish final version	IT-Team for eight weeks, 19.240€	None	None	19.240€
Total Cost Deliverable 1					**149.410€**

Deliverable 2 (Advertisement campaign)	2.1 Announce first test phase	Marketing Team for six weeks, 16.730€	None	None	16.730€
	2.2 Announce second test phase	Marketing Team for four weeks, 11.150€	None	None	11.150€
	2.3 Define scope of the advertisement campaign	Marketing Team for two weeks, 5.600€	None	None	5.600€
	2.4 Announce third test phase	Marketing Team for four weeks, 11.150€	None	None	11.150€
	2.5 Create content for advertisement campaign	Marketing Team for eight weeks, 22.300€	None	None	22.300€
	2.6Publish advertisement	Marketing Team for eight weeks, 22.300€	None	None	22.300€
Total Cost Deliverable 2					**89.230€**
Deliverable 3 (Trained & audited pharmacists)	3.1 Identify pharmacists that must participate	External Contractor for one and a half week, 7.500€	None	None	7.500€
	3.2 Identify training program	External Contractor for two and a half weeks + course fee, 22.500€	None	None	22.500€
	3.3 Perform training countrywide (outsourced)	External Contractor for three weeks + the costs of performing the training, 455.000€	None	None	455.000€
	3.4 Audit pharmacists	Medical Advisor for one week, 1.635€	None	None	1.635€
Total Cost Deliverable 3					**486.635€**
Deliverable 4 (Equipped pharmacies)	4.1 Identify needed medical equipment	Medical Advisor for one week, 1.635€	None	None	1.635€
	4.2 Obtain seller of medical equipment	Medical Advisor + Administration for three weeks, 7.800€	None	None	7.800€
	4.3 Delivery and installation of equipment	External Contractor for four weeks, 20.000€	Equipment for all Pharmacies, 44 Pharmacies in total, 2.719.200€	None	2.739.200€
Total Cost Deliverable 4					**2.748.635€**
Deliverable 5 (Surveys)	5.1 Prepare survey 1.0	Marketing Team for two weeks, 8.400€	Standard Office Equipment for the marketing team, 6.000€	2.000€	14.400€
	5.2 Perform survey 1.0	Marketing Team for two weeks, 8.400€	None	None	8.400€
	5.3 Prepare survey 2.0	Marketing Team for two weeks, 5.600€	None	None	5.600€
	5.4 Perform survey 2.0	Marketing Team for two weeks, 5.600€	None	None	5.600€
	5.5 Closing report	Project Management for one week, 5.600€	None	10.000	15.600€
Total Cost Deliverable 5					**49.600€**
Reserve for contingencies					50.000€
Cost Baseline					**3.573.510€**
Management Reserve					150.000€
Project Budget					**3.723.510€**

Example of **phase-based** cost estimating and budgeting (reusing the order of the phase-based WBS)

Phase	Deliverable	Work package	Labor Cost	Equipment Cost	Ancillary	Total Cost
Phase 1	Deliverable 1	1.1 Requirements	Project Management Team + Functional Team for two weeks 16.400€	Office Equipment for the management Team and the Functional Team, 18.000€	6.000€	40.400€
		1.2 Testable version	IT-Team for six weeks,14.430€	Office Equipment for the Technical Team, 6.000€	2.000€	22.430€
	Deliverable 3	3.1 Identify pharmacists that must participate	External Contractor for one and a half week, 7.500€	None	None	7.500€
		3.2 Identify training program	External Contractor for two and a half weeks + course fee, 22.500€	None	None	22.500€
		3.3 Perform training countrywide (outsourced)	External Contractor for three weeks + the costs of performing the training, 455.000€	None	None	455.000€
		3.4 Audit pharmacists	Medical Advisor for one week, 1.635€	None	None	1.635€
	Deliverable 4	4.1 Identify needed medical equipment	Medical Advisor for one week, 1.635€	None	None	1.635€
		4.2 Obtain seller of medical equipment	Medical Advisor + Administration for three weeks, 7.800€	None	None	7.800€
		4.3 Delivery and installation of equipment	External Contractor for four weeks, 20.000€	Equipment for all Pharmacies, 44 Pharmacies in total, 2.719.200€	None	2.739.200€
	Deliverable 5	5.1 Prepare survey 1.0	Marketing Team for two weeks, 8.400€	Standard Office Equipment for the marketing team, 6.000€	2.000€	14.400€
		5.2 Perform survey 1.0	Marketing Team for two weeks, 8.400€	None	None	8.400€
Phase 1 Total Cost						3.320.900€
Phase 2	Deliverable 1 (Regarding first pilot)	1.3 Develop first pilot	IT-Team for six weeks,14.430€	None	None	14.430€
		1.4 Test first pilot	IT-Team for six weeks,14.430€	None	None	14.430€
	Deliverable 2	2.1 Announce first test phase	Marketing Team for six weeks, 16.730€	None	None	16.730€
Phase 2 Total Cost						45.590€
Phase 3	Deliverable 1 (regarding second pilot)	1.5 Update to second pilot	IT-Team for four weeks, 9.620€	None	None	9.620€
		1.6 Test second pilot	IT-Team for four weeks, 9.620€	None	None	9.620€

	Deliverable 2	2.2 Announce second test phase	Marketing Team for four weeks, 11.150€	None	None	11.150€
		2.3 Define scope of the advertisement campaign	Marketing Team for two weeks, 5.600€	None	None	5.600€
Phase 3 Total Cost						**35.990€**
Phase 4	Deliverable 1 (regarding third pilot)	1.7 Update to third pilot	IT-Team for four weeks, 9.620€	None	None	9.620€
		1.8 Test third pilot	IT-Team for four weeks, 9.620€	None	None	9.620€
	Deliverable 2	2.4 Announce third test phase	Marketing Team for four weeks, 11.150€	None	None	11.150€
		2.5 Create content for advertisement campaign	Marketing Team for eight weeks, 22.300€	None	None	22.300€
Phase 4 Total Cost						**52.690€**
Phase 5	Deliverable 1 (regarding final version)	1.9 Complete and publish final version	IT-Team for eight weeks, 19.240€	None	None	19.240€
	Deliverable 2	2.6 Publish advertisement	Marketing Team for eight weeks, 22.300€	None	None	22.300€
	Deliverable 5	5.3 Prepare survey 2.0	Marketing Team for two weeks, 5.600€	None	None	5.600€
		5.4 Perform survey 2.0	Marketing Team for two weeks, 5.600€	None	None	5.600€
		5.5 Closing report	Project Management for one week, 5.600€	None	10.000	15.600€
Phase 5 Total Cost						**68.340€**
Reserve for contingencies						50.000€
Cost Baseline						**3.573.510€**
Management Reserve						150.000€
Project Budget						**3.723.510€**

Cost parameters

Cost of Team Members:

Hellen Schmidt: 150.000€ (Project Manager)
Project Management Team:
Nina Burda (project controller) (90.000 €/Y)
Patrizia Zampella (project controller) (90.000 €/Y)
Markus Hellenschmidt (project scheduler) (90.000 €/Y)
Ronny Rechtlich (Intern) (20.000 €)

Project Technical Team:
Hilde Höflich (IT-Senior Developer) (75.000 €/Y)
Sarazka Smetzof (IT-Junior Developer) (50.000 €/Y)

Costs of the Project Functional Team:
Chantal Beethoven (Medical Advisor) (85.000 €/Y)
Menderes Yilmaz (Administration) (50.000 €/Y)

Costs of the Project Marketing Team:
Layla Levin (Communication Expert) (85.000 €/Y)
Benjamin Verblühtchen (Media Designer) (60.000 €/Y)

Costs of external advisors and contractors.
The External Companies cost 5.000€ per Week.
Assumption: The external training costs 10.000€ to develop and 2.500€ to perform
Assumption: Each pharmacy needs to have 4 trained persons what leads to a training cos of 10.000€ per pharmacy and 440.000€ in total.

Costs of Project Personnel when not working for the project:
Assumption: All Team members are only needed to be paid by the Project for the time they work for the project, during their time they are not needed for this project the consulting NGO PaMaNi will reschedule them to other projects.

Travelling costs to Ghana and back:
2.000€ Per person,1.000 per flight,
Assumption: the stay in Ghana is covered by the government of Ghana to keep the foreigners safe.

Costs of equipment and office materials.
Office Equipment per Person: 3.000€ (including Laptops, office materials, furniture etc.), 30.000€ total.

Reserves for contingencies:
To avoid the risk "Insufficient human resources in form of doctors and pharmacists to deliver services to all users" we planned with a reserve of 50.000€ personal cost in the first phase to make sure we can provide enough human resources.

Costs of servers and IT-Equipment:
Assumption: The cost of maintaining the server for the project are covered by the government of Ghana to keep the lights on after the official end of the project.
Assumption: The Technical Team only requires the standard office equipment.

Management Reserve
Assumption: To allow the Sponsor to react quickly in certain situations they get a Management Reserve of 150.000€.

Costs of medical equipment.
61.800€ per pharmacy, we assume a total of 44 pharmacies needed in total, we assumed one pharmacy per 500.000 inhabitants per region. 44 pharmacies are 2.719.200€ total cost for equipment.

Methods of estimation

- **Bottom-up**: the team used bottom up estimating for every single work package of every deliverable and reorganized these estimates for the phase estimates.
- **Parametric modelling**: for the cost of the equipment of pharmacies the team used the parametric modelling. After estimating the cost for one single pharmacy, it was possible to extrapolate it for all pharmacies.
- **Top down by experts organized as Delphi panel**: The team consulted asked a group of Africa experts who were known from various previous projects and asked them to

participate to a Delphi panel and provide individual anonymous estimates used in two rounds. The results of the first round were shared anonymously and used as basis to provide a second individual estimate. The average of the second estimates was 3.865.000 €. The average of the second round of top-down estimates by the Delphi panel was 3.865.000 € which had a 10% variation to the bottom-up estimate made by the team. Therefore, the result of the Delphi panel was considered a confirmation of the accuracy of the bottom-up estimate done by the team. The following table shows the results of the 2 rounds of Delphi estimation.

First round			**Second round**	
Expert	**Estimate**		**Expert**	**Estimate**
Expert 1	3.750.000€		Expert 1	3.800.000€
Expert 2	4.150.000€		Expert 2	4.050.000€
Expert 3	3.650.000€		Expert 3	3.750.000€
Expert 4	3.780.000€		Expert 4	3.800.000€
Expert 5	4.260.000€		Expert 5	3.920.000€
Expert 6	2.870.000€		Expert 6	3.870.000€
Expert 7	3.915.000€		Expert 7	3.865.000€
Average				**3.865.000€**

4 Define objectives leading to the goal.

1. Organize a brainstorming session with the project team and subject matter experts.
2. Consult the deliverable-based WBS (db-WBS) to identify the deliverables of the project. Create a list of these deliverables.
3. Consult the phase-based WBS (phb-WBS) + the schedule + the network diagram to visualize the sequences, dependencies, and the timeline of the accomplishment of deliverables.
4. (Optional) Group deliverables together if they should be accomplished at the same time and you want to streamline the quantity of objectives.
5. Formulate objectives by adding the verb "accomplish" or “complete” or “finish”, to deliverables or group of deliverables and a target date of accomplishment.

   For example, if the goal is to build a house in 10 months, the list of objectives could be shortened and made easier to overview by grouping several deliverables into single objectives:

   a) Example of grouping several deliverables per objective to attain the goal of building a house in 10 months:
      - Accomplish the site preparation and foundation construction by the end of Month 1.
      - Achieve the completion of the structural framing and roofing by the end of Month 3.
      - Accomplish the installation of plumbing, electrical, and HVAC systems by the end of Month 6.
      - Complete the interior finishing, including flooring, painting, and cabinetry, by the end of Month 8.
      - Achieve final inspections, ensure regulatory compliance, and obtain a certificate of occupancy by the end of Month 10.

   b) However, grouping deliverables into single objectives may be risky, as it can lead to a situation where one team completes their part on time while another team does not, resulting in an incomplete objective. To mitigate this risk, you can choose to define only one deliverable per objective. This approach allows for managing teams, objectives, and deliverables individually. However, it is important to note that this may result in an extended list of objectives, which could make it slightly less easy to overview.

      Example of 1 deliverable per objective to attain the same goal of building a house in 10 months:

      - Accomplish site preparation by the end of Month 1.
      - Complete foundation construction by the end of Month 1.
      - Achieve the completion of structural framing by the end of Month 2.
      - Finish roofing by the end of Month 3.
      - Accomplish the installation of plumbing systems by the end of Month 4.
      - Complete the installation of electrical systems by the end of Month 5.

- Finish the installation of HVAC (Heating, Ventilation, and Air Conditioning) systems by the end of Month 6.
- Complete interior flooring by the end of Month 7.
- Finish interior painting by the end of Month 8.
- Install cabinetry and finish by the end of Month 8.
- Obtain final inspections and ensure regulatory compliance by the end of Month 10.
- Obtain a certificate of occupancy by the end of Month 10.

6. Ensure the objectives are Specific, Measurable, Achievable, Relevant, and Time-based (SMART).
7. Review and adjust the objectives based on realism and time constraints.
8. Check the validity of the set of objectives in relation to the goal and make any necessary refinements.

5 Answer to risks.

1. Organize a brainstorming session with the project team and subject matter experts.
2. Create a list of typical or generic risks sources for this type of project. Example:

Technical	Scope definition Requirements definition Estimates, Assumptions, and constraints Technical processes Technology Technical interfaces	Management	Project management Program/Portfolio management Operations management Resourcing Organization Communication
Commercial	Contractual terms Internal procurement Suppliers Subcontracts Customer Partnerships	External	Legislation Exchange rates Sites, facilities Weather, environment Competition

3. Create an empty risk register to capture individual risks, probabilities, impacts, strategy types, measures, and owners. Example:

Risk Name	Risk Nr	Probability 1 to 5	Impact 1 to 5	Strategy type	Measure	Risk owner

4. Create a table defining ranges of probability and impact for assessing risks. Example:

Scale	**Probability**	**Impact on:**		
		Time	**Cost in €**	**Quality**
5 Very High	>70%	> 6 months	> 500K	Very significant impact on overall functionality
4 High	51% - 70%	3 ~ 6 months	100K ~ 500K	Significant impact on overall functionality
3 Medium	31% - 50%	1 ~ 3 months	50K ~ 100K	Some impact on key functional areas
2 Low	11%-30%	1 ~ 4 weeks	10K ~ 50K	Minor impact on overall functionality
1 Very low	1% - 10%	1 week	<10K	Minor impact on secondary functions

5. Consult the project charter, project management plan, and other relevant project documents.

6. Determine the risk value of each risk by assessing its probability and potential impact on cost, time, scope, and quality. Example:

Risk Name	Risk Nr	Probability 1 to 5	Impact 1 to 5	Criticality
Sponsor	6	5	12	60
Functional requirements	1	5	12	60
Status tracking tool	2	4	10	40
ePayment	3	5	5	25
Online help (*)	4	3	7	21
Training sessions (**)	5	4	4	16

Example of how to calculate the probability score and the compound impact score:

(*) Probability medium: 3 = 31%-50% / Impact on time (low) 1-4 weeks; 50% of 4 weeks = 2 weeks / Impact on cost (low) 10K-50K; 50% of 50K = 25K

(**) Probability high: 4 = 51%-70% / Impact on time (very low) 1 Week x 70% = 0,7 Week rounded up to 1 Week; / Impact on cost (low) 10K – 50K; 50K x 70% = 35K

7. Rank risks based on their individual criticality (risk value).
8. Define a risk tolerance threshold and identify high-priority risks above that threshold.
9. Develop risk response strategies for risks above the risk tolerance threshold (mitigation, avoidance, transfer, acceptance). Example:

Risk Name	Risk Nr	Prob. 1 to 5	Impact 1 to 5	Criticality	Strategy	Measure
Sponsor	6	5	12	60	Mitigate	Nominate delegated sponsor
Functional requirements	1	5	12	60	Mitigate	Requirement workshops
Supplier of tracking tool	2	4	9	36	Avoid	Replace the supplier
ePayment	3	5	5	25	Transfer	Hire triangular payments supplier
Online help	4	3	7	21	Accept	Reserve of 2 weeks and 25 K (*)
Training sessions	5	4	4	16	Accept	Reserve of 1 Week and 35K (**)

10. Define work packages to implement the risk answers and assign responsibilities for implementing and monitoring risk response strategies.
11. Estimate the cost, effort, and duration required to implement risk responses and update the budget and schedule accordingly.
12. For risks below the risk tolerance threshold, define bulk money and time reserves and include them in the budget and schedule.

6 Create the communications management plan

1. Organize a brainstorming session with the project team, subject matter experts and other appropriate stakeholders.
2. Utilize the stakeholders register and the stakeholders classification matrix. Update it for the current project phase as needed.
3. Understand the information needs of each stakeholder group. Talk to stakeholders as needed.
4. Define appropriate communication strategies according to the classification matrix, focusing on stakeholders with high influence and low level of current engagement.
5. Determine the frequency, format, and level of detail required for effective communication.
6. Identify suitable communication channels for each stakeholder group. Consider various channels such as meetings, emails, project management software, and collaboration tools.
7. Depending on the characteristics of the project, consider incorporating marketing elements to transmit excitement, such as a project website, a project bulletin, memorabilia, prizes, a hall of fame, events, and celebrations.
8. Assign communication roles and responsibilities to project team members.
9. Put all this information together in a spreadsheet to create a draft of the communications management plan.
10. Share the draft of the communications management plan with the project sponsor, gather feedback, make necessary adjustments, and repeat the process until the communications management plan is approved by the sponsor.

Example of a communications management plan:

	Medium	Freq.	Resp.	Target
Daily chat PM Team	MS-Teams	Daily	PM	PM Team
Weekly video conference PM Team	MS-Teams	Weekly	PM	PM Team
Daily chat Work Package Leaders to specialists in the development teams	MS-Teams	Daily	WPL	WP Team Members
Daily chat PM Team with Work Package Leaders	MS-Teams	Daily	PM Team	WP Leaders
Weekly video conference	MS-Teams	Weekly	WPL	WP Team Members
Weekly video conference	MS-Teams	Weekly	PM Team	WP Leaders
Weekly report of Work Package Team Members to the Work Package leader with standard format.	MS-Teams	Weekly	WP Team members	WP Leaders

Weekly report of Work Package Leaders to the Project Management Team using standard format.	MS-Teams	Weekly	WP Leaders	PM Team
Bi-weekly briefing of Project Board Members by the Project Management Team	MS-Teams	Bi-weekly	PM Team	Project Board
Bi-weekly personal briefing of each member of the board by the project management team member delegated by the company of the project board member	In Person	Bi-weekly	Each PM Team Member	Each Project Board Member
Newsletter showing strengths goes out to all employees for informational and marketing purposes. Four editions: 1 at start + 1 every 3 weeks and 1 before WMC	Website e-mail	Every three weeks	PM Team	All employees of D, Ch, M
Press releases showing strengths goes out to all media in scope for informational and marketing purposes. Four editions: 1 at start + 1 every 3 weeks and 1 before WMC	Website e-mail	Every three weeks	PM Team	All media in scope
Brochure for marriage partners in German, English, and Japanese language. Three editions: start, in the middle, before WMC	Print	Monthly	PM Team	Marriage partners
Retrospectives followed by small in-house celebrations at phase-gates by PM Team Members with Work Package Leaders in the corresponding countries.	In person	At phase gates	PM Team	Work Package Leaders
Retrospectives followed by small in-house celebrations at phase-gates by Work Package Leaders with Team Members in the corresponding countries.	In person	At phase gates	Work Package Leaders	Team Members

Content of the standard status report on Microsoft Teams:

- Status of the work in scope for the reporting period using Earned Value Analysis method.
- Work that should have been completed but is not and the impact on interfaces.
- Corrective measures for time, cost, scope, and quality gaps.
- Outlook of work scheduled for the next reporting period.
- Issues encountered, and way of action recommended or implemented.

- Scope change requests
- Newly identified risks
- Miscellaneous.

7 Create the scope statement

1. Organize a brainstorming session with the project team, subject matter experts and other appropriate stakeholders.
2. **Create the product scope statement** (it is the description of the product, service, or capability that the project will create, its constituent deliverables, acceptance criteria and exclusions).
    a. Consult the deliverable based WBS which contains all components of the product. Describe in phrases the product that the project will create and its acceptance criteria.
    b. List its major deliverables and their respective acceptance criteria.
    c. Specify any exclusions explicitly, stating what is out of scope.

    Example of Product Scope Statement:

    Description:

    The project aims to create a web system with dedicated hosting capable of handling xxx users simultaneously. The system will provide real-time information on the status of transactions, following a status scheme to be created by the "Status Definition" project. It will allocate unique identifiers to each customer and order, allowing customers to recover their ID using their email address. The system will enable end users to place orders, track payment and delivery status, and access details of past transactions. Initially, the online solution will be implemented for one product line, with subsequent projects handling other product lines. The first release will support German and English languages.

    Major Deliverables:

    - Interface with the upgraded finance system released by the "Project Finance System"
    - Upgrades to the customer relationship management (CRM) system and sales system
    - Integration with the order management system of selected suppliers
    - Automation of current manual logistics handling
    - Integration of various system components
    - Creation of a new customer homepage
    - Development and implementation of performance reports

    Acceptance Criteria:

    - 100% fulfillment of all Must-Have Requirements for the product and each component
    - 80% fulfillment of all Should-Have Requirements for the product and each component

    Exclusions:

    - Marketing campaign targeting end users

- Other products or product lines, except for the selection made during the analysis phase at the beginning of project execution
- Languages other than German and English

3. **Create the project scope statement** (it is the description of the work necessary to create the product, service or capability described in the product scope). Consult phase based WBS. Describe the necessary work required to accomplish the described product. Include activities such as analysis, design, implementation, integration, customization, deployment, and creation of reports.

   Example of project scope statement:
   The project scope encompasses the following activities:

   - Analysis, design, and implementation of interfaces with the finance, CRM, and sales systems
   - Analysis of the current CRM and sales system to determine whether an upgrade or migration to new systems is preferable
   - Implementation of either an upgrade of the CRM and sales system or migration to new systems, including data conversion and migration
   - Definition of selection criteria for a logistics system, selection of a logistics management package, customization, and deployment
   - Analysis of products and product lines to select the products within the project's scope
   - Analysis of suppliers to determine which ones are within the project's scope
   - Integration with the selected suppliers' systems for the chosen product line
   - Creation of a new customer homepage
   - Definition and creation of performance reports

4. **Update Assumptions:** Consult the project charter, section Assumptions. Note that Assumptions are statements that are considered to be true, without concrete proof or evidence, for the purpose of planning a project. Assumptions are made based on the information available at the time and serve as the foundation for decision-making and project planning.

   Example of Assumptions:

   - Strong and supportive sponsorship from XZ direction will be granted
   - Strong and supportive collaboration with Finance and Sales will be granted, with subject matter experts available as per the approved schedule baseline
   - Strong and supportive collaboration with selected suppliers will be granted, and subject matter experts from their side will be available as per the approved schedule baseline
   - The "Finance System" and "Status Definition" projects will deliver their results on time, as defined in the approved schedule baseline of this project

5. **Update Constraints**. Consult the project charter, section Constraints. Note that constraints are limitations or restrictions that are imposed on the project by various factors, including key stakeholders. These limitations define boundaries within which the project must operate and are typically non-negotiable. Constraints can impact various

aspects of the project, such as its scope, schedule, budget, resources, and quality. Here are some common types of constraints:

- Time Constraints: These constraints relate to the project's timeline and can include fixed deadlines or specific milestones that must be met.
- Budget Constraints: Budget constraints refer to limitations on the financial resources allocated to the project. This could include a predefined budget that must not be exceeded.
- Resource Constraints: Resource constraints involve limitations on the availability, quantity, or type of resources that can be utilized for the project. This may include restrictions on personnel, equipment, or materials.
- Technical Constraints: Technical constraints are limitations imposed by technology or existing systems. For example, the project may need to adhere to specific software or hardware requirements.
- Legal and Regulatory Constraints: Legal and regulatory constraints refer to compliance requirements that the project must adhere to. This could involve industry-specific regulations, data privacy laws, or health and safety regulations.
- Stakeholder Constraints: Stakeholder constraints are limitations imposed by key project stakeholders. These stakeholders may have specific expectations, preferences, or requirements that need to be considered and accommodated.

Example of Constraints:

- The online system must run on iOS, Android, and Windows (technical constraint)
- The logistics system should have external costs in terms of money outflows not larger than xxx Euros (financial constraint)
- IT-Consulting XX must be used as the consulting provider (resource constraint)
- Phase 2 must be completed by the 2nd week of June (time constraint)

6. Assemble a draft of the Scope Statement, which consists of the product scope, the project scope, updated Assumptions, and updated Constraints as explained above.
7. Share the draft of Scope Statement with appropriate stakeholders, solicit feedback, adjust as needed and document the final version as one section of the Project Management Plan.

8 Define the lifecycle for the development of the solution

(Project phases and/or iterations & lifecycle type)

1. Document the phases and the major deliverables accomplished in each phase. To do so, reuse the phases defined in the phase based WBS and in the schedule diagram, which should contain the same phases.
2. Consult the following descriptions of lifecycle types. Determine and document if the project will use a predictive, iterative, incremental, Agile, or hybrid approach.
   a) Predictive Approach (Waterfall):
      a. Defines requirements and scope upfront during project planning.
      b. Emphasizes a sequential and linear progression of phases.
      c. Changes to the plan are treated as exceptions.
      d. Suitable when requirements are well-defined and stable, and there is little expectation of significant changes throughout the project.
   b) Iterative Approach:
      a. Gradually improves or expands the product through successive iterations.
      b. Gathers feedback and incorporates it into each iteration.
      c. Allows for progressive definition and refinement of requirements.
      d. Well-suited for projects with evolving or unclear requirements.
   c) Incremental Approach:
      a. Adds functionality to the product incrementally, piece by piece.
      b. Each increment delivers a usable subset of the final product.
      c. Allows for early customer feedback and early partial value realization for the client.
      d. Facilitates faster time-to-market for critical functionalities.
      e. Particularly beneficial when the customer can start using and benefiting from the product before its full completion.
   d) Agile Approach:
      a. Combines iterative and incremental practices in a flexible and adaptive manner.
      b. Emphasizes collaboration, customer involvement, and continuous improvement.
      c. Delivers tangible results in short iterations (sprints).
      d. Responds quickly to changing requirements and priorities.
      e. Promotes transparency, flexibility, and responsiveness in development.
   e) Hybrid Approach:

a. Integrates elements from multiple lifecycles based on project-specific needs.
b. Tailors the approach to different components or deliverables within a project.
c. Combines predictive, iterative, incremental, or agile practices as required.
d. Allows for customization of lifecycle phases, activities, and delivery methods.
e. Enables flexibility in selecting the most suitable approach for each project component.
f. Many projects adopt a hybrid approach because different deliverables may require different development approaches. For example,
    i. a software component may use an incremental approach,
    ii. while a behavior-changing component may follow an agile approach.
    iii. Additionally, a component involving physical component design, construction, and testing may utilize a predictive approach.
    iv. The hybrid approach provides versatility, optimizing development efficiency and effectiveness while managing risks effectively.

9 Gather functional requirements and quality attributes for the solution.

1. Identify stakeholders and engage in discussions, interviews, and workshops to elicit project requirements.
2. Document requirements in a clear and concise manner, ensuring they are measurable, achievable, and relevant to project objectives.
3. Analyse gathered requirements to identify dependencies, conflicts, and gaps.
4. Prioritize requirements based on their importance to project success, considering the MoSCoW method (Must have, Should have, Could have, Won't have).
5. Document requirements in a structured manner. Use clear and unambiguous language to describe each requirement, avoiding ambiguity and misunderstanding.
6. Conduct reviews with key stakeholders to validate and refine the documented requirements. Adjust as needed.
7. Document the final version as requirement documentation in the project management plan.

Example of functional requirements and quality attributes:
For reference and understanding of the context of the example functional requirements, read first the product scope.

Product Scope: The product is an online (digital) medical support system called OmeGha that caters to Ghana. It enables simultaneous video chats, handling a minimum of 88 video chats (2 per pharmacy) at a time. The system facilitates real-time communication between trained pharmacists and doctors, offering clear audio, video, and chat functions. When logged in, end-users are visible to others with their username and profession title. As a result, pharmacists can request doctors to join a video call, enabling collaborative treatment via video chat. Pharmacists can utilize the medical equipment available in their pharmacies. The first version of the system will support the English language exclusively.

Functional requirements

1) Must-Have
   - Prescription Management: Integrate a feature that allows doctors to electronically prescribe medications to be used by the pharmacists.
   - Fast and stable connection to the attending doctor.
   - Trained personnel as defined by an exam to be developed.
   - Availability of pharmacists, covered by emergency services during night-time and national holidays.
   - The pharmacists must be able to see whether a doctor is available for a call and be able to request a call.
   - Equipment must be easy to use for pharmacists.
2) Should-Have
   - Same quality and quantity of equipment based on regional population and needs.

- No appointments are needed; patients can visit the pharmacy without prior announcement.
- Connection to the nearest hospital if necessary.

3) Could-Have
   - After each call, the pharmacist has the option to rate the doctor's understandability of instructions for potential improvement.
   - Video calls will be recorded, allowing pharmacists and doctors to review previous calls and add additional thoughts or notes.
4) Won't-Have
   - Pharmacists will not be able to undertake surgeries.

Quality attributes:

1) Must-Have:
   - Prescription Management: Accuracy Rate of Prescription Transmission: Target: 95% or higher.
   - Connection Reliability Rate: Target: 95% or higher.
   - Exam Success Rate: Target: 90% or higher.
   - Emergency Coverage Rate: Target: 90% or higher.
   - Availability Status Update Time: Target: Less than 3 seconds.
   - Equipment Usability Satisfaction Score: Target: 8 out of 10 or higher.
2) Should-Have:
   - Equipment Standardization Compliance: Target: 90% or higher.
   - Patient Waiting Time: Target: 15 minutes or less.
   - Hospital Connectivity Time: Target: 10 seconds or less.
3) Could-Have:
   - Doctor's Instruction Understandability Rating: Target: 4 out of 5 or higher.
   - Call Recording and Review: Ensure successful recording and storage of all video calls for review and note-taking purposes.

10 Gather project management requirements.

1. Identify Stakeholders: Utilize the stakeholder classification matrix and involve relevant stakeholders, with a focus on those ranked 1, 2, and 3.
2. Conduct Stakeholder Interviews: Schedule and conduct interviews with stakeholders to understand their perspectives and expectations regarding project management. Use open-ended questions to encourage stakeholders to express their requirements, preferences, and concerns.
3. Identify Requirements for Project Management: Based on the gathered information, determine the project management areas that require specific management plans and identify the key elements to be included within those plans. This input may impact various management areas, including requirements, scope, schedule, cost, risk, quality, communications, resources, stakeholder engagement, procurement, change, and problem-solving.
4. Analyze Stakeholder Requirements: Analyze stakeholder requirements regarding their project management preferences and address any conflicting requirements using negotiation techniques and stakeholder ranking.
5. Consider the Development Approach: Assess stakeholder preferences for the development approach to be used, such as predictive, iterative, incremental, Agile, or hybrid. Understand the implications of the chosen approach on scope management, schedule management, and other management areas.
6. Evaluate Compliance with PM Methodology: Determine if the organization has a standard project management methodology or a PMO that provides guidance. Assess the level of compliance required with the existing methodology and identify any customizations needed to align with stakeholder requirements. If the organization does not have a mandatory PM methodology, declare that the project will utilize ISO 21502 as the PM Framework. Implement this project management framework using the processes, tools, techniques, and other training documents provided in this course.
7. Document and Validate Requirements: Document all identified requirements for project management in a clear and concise manner. Validate the requirements with stakeholders to ensure accuracy and completeness.
8. Provide Input for Planning: Use the elicited requirements as input for creating subsidiary management plans to effectively manage different aspects of the project.

Examples of project management requirements

- The sponsor requests to receive regular project updates and progress reports during her golf playing sessions.
- The financial director requests the use of earned value management (EVM) as a project performance measurement technique.
- Team members request short and focused meetings of 30 minutes with an agenda, to ensure efficient use of their time.

- The compliance director insists on having regular compliance reviews throughout the project, with documented evidence of compliance with relevant regulations and standards.
- The customer insists on having a dedicated project portal or platform where they can access real-time project updates, track progress, and provide feedback.
- The legal department requests that a comprehensive risk register and mitigation plan be developed to address potential legal and contractual risks.
- The human resources department requests that a portion of the project budget be allocated to training and skill enhancement programs for project team members.

11 Develop subsidiary management plans

1) Consult the document “Subsidiary Management Plans”.
2) Adapt the example provided in each subsidiary management plan to fit your project.
3) Read the generic process included in each subsidiary management plan. Adapt it as needed and incorporate the result into your case study as your subsidiary management plan. You can use the provided generic process for each subsidiary management plan BUT AVOID copying and pasting these processes without understanding them.

12 Project Organigram

1. Reuse the organigram defined in the project charter showing the levels of project governance and project management
2. Reuse the deliverable based WBS showing the level of work packages of the different deliverables
3. Assign responsibilities for work packages with names if known. Use “to be nominated” if the name of the work package leader is not known yet.

Example of organigram down to the level of work packages

Project Board Mr Money – Director Finance Company A Mrs Order – Director Compliance Company B Project Sponsor Mr Change – Director Sales Company C				
Project Manager Mrs. Wonderful				
Deliverable 1 Mr. One	Deliverable 2 Mrs. Two	Deliverable 3 Mr. Three	Deliverable 4 Mrs. Four	Deliverable 5 Mrs. Five
Work Package 1.1 Smith	Work Package 2.1 Gomez	Work Package 3.1 To be nominated	Work Package 4.1 To be nominated	Work Package 5.1 Naggi
Work Package 1.2 Johnson	Work Package 2.2 Gomez	Work Package 3.2 Engel	Work Package 4.2 To be nominated	Work Package 5.2 To be nominated
Work Package 1.3 Johnson	Work Package 2.3 Mangold			Work Package 5.3 Naggi

12 Integrate the project management plan

4 SMART Objectives leading to the goal

8 Development Lifecycle

9 Functional Requirements and Quality Attributes for the global solution.

7 Scope Statement (product scope, exclusions, project scope, updated assumptions, updated constraints)

1.a Deliverable based WBS

1.b Phase based WBS

2 Schedule

3 Budget

5 Answers to risks

6 Communications management plan

10 Project Management Requirements

11 Other subsidiary management plans

12 Project Organigram

Note: make sure that all sections of the PM-Plan are cross aligned. You may need several iterations from A to Z and from Z to A.

Evaluation Criteria

1. SMART Objectives (4)
    - Specificity: How specific the objectives are in addressing the project goals.
    - Measurability: The extent to which objectives can be measured.
    - Achievability: Realism and feasibility of the objectives.
    - Relevance: Alignment of objectives with the overall project goal.
    - Time-bound: Clear timelines for achieving the objectives.
2. Development Lifecycle (8)
    - Completeness: Coverage of all key stages of development.
    - Clarity: Clear definition and explanation of each stage.
    - Integration: How well the stages are integrated with each other.
    - Alignment: Alignment with project goals and objectives.
3. Functional Requirements and Quality Attributes (9)
    - Comprehensiveness: Coverage of all necessary functional requirements.
    - Quality Attributes: Specification of quality attributes for the solution.
    - Clarity: Clear and understandable description of requirements and attributes.
    - Alignment: Alignment with project objectives and stakeholder needs.
4. Scope Statement (7)
    - Product Scope: Clear definition of the product scope.
    - Exclusions: Clearly stated exclusions.
    - Project Scope: Comprehensive definition of the project scope.
    - Updated Assumptions and Constraints: Inclusion of updated assumptions and constraints.
5. Deliverable-based WBS (1.a) and Phase-based WBS (1.b)
    - Detail and Clarity: Level of detail and clarity in both WBS.
    - Comprehensiveness: Inclusion of all necessary deliverables and phases.
    - Structure: Logical and effective structuring of WBS.
6. Schedule (2)
    - Detail: Level of detail in the project schedule.
    - Realism: Feasibility and realism of the schedule.
    - Flexibility: Ability to accommodate changes and contingencies.
7. Budget (3)
    - Detail and Accuracy: Level of detail and accuracy in budget estimation.
    - Comprehensiveness: Inclusion of all cost elements.
    - Realism: Feasibility of the budget within project constraints.
8. Answers to Risks (5)
    - Identification: Effectiveness in identifying potential risks.
    - Mitigation Plans: Quality and feasibility of risk mitigation strategies.
    - Preparedness: Overall preparedness for dealing with identified risks.
9. Communications Management Plan (6)
    - Comprehensiveness: Coverage of all necessary communication aspects.
    - Clarity: Clarity in communication strategies and methods.
    - Stakeholder Involvement: Effectiveness in involving and informing stakeholders.
10. Project Management Requirements (10)

- Specificity: Clarity and specificity of management requirements.
- Relevance: Relevance of these requirements to the project's success.
- Completeness: Completeness in covering all necessary management aspects.

11. Project Organigram (12)
    - Clarity: Clarity and understanding of the organizational structure.
    - Roles and Responsibilities: Clear definition of roles and responsibilities.
    - Alignment with Project Goals: How well the organigram supports project goals.
12. Overall Alignment
    - Consistency: Consistency and coherence across all sections.
    - Alignment with Goals: Overall alignment of each section with the project goals.

Each section can be graded on a scale of 0-100%, with deductions for missing elements, lack of clarity, or misalignment with project goals. The overall grade would be an average of the grades across all sections. This approach will ensure a detailed and systematic evaluation of the Project Management Plan.