MACQUARIE University

Faculty of Science and Engineering

Department of Computing

Semester 1, 2024, Assignment 2

Project Management for (Digital) Sustainability

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COMP6770: Management of IT Systems and Projects

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1. Purpose & Scope

The report aims to outline the implementation of Digital Transformation initiatives at Macquarie University defined as part of the MQ SDG program's operating plan. The project scope aims to establish a digital roadmap focused on developing a core ERP system and a comprehensive systems architecture to serve as a foundation for innovation. It encompasses enhancing education and research through scalable digital tools, implementing digitally enabled ways of working for improved communication and efficiency and strengthening data governance and analytic capabilities for informed decision-making. Additionally, it aligns with staff development and cultural initiatives to foster a digital-first workplace, aiming to equip the university for efficient, innovative operations in a digital era. The major deliverables include the WBS for the implementation including the different charts (i.e. Gannt chart, Network Diagram, Resource graphs etc.) and the details about the approach selected to arrive at the costings, timeframes and resource allocation.

2. Development of WBS

The WBS has been created to accommodate the complete scope of the project. It has been divided into three major phases (Figure 1) adapted from the five phases of the project management lifecycle (Albrecht, 2018). Each phase is detailed with specific tasks aligned with the digital transformation initiatives.

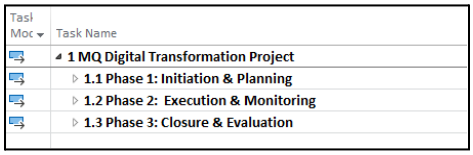


Figure 1: Screenshot of High-level structure of WBS from MS Project

2.1 Phase 1: Project Initiation & Planning

Phase 1 details the scoping and planning for the project (Figure 2).

- **Project Initiation:** Defines project scope, creates the charter, identifies stakeholders, and conducts a kickoff meeting to establish project foundations.
- **Digital Roadmap Development:** Involves stakeholder interviews and IT infrastructure analysis to craft a digital roadmap specific to university needs.
- **Digital Strategy Development:** Focuses on selecting key technologies, prioritizing digitalization areas, and setting data governance and analytics requirements.
- **Project Planning:** Includes resource allocation, budgeting, risk management, and governance structure setup, ensuring readiness for execution.

Figure 2: Detailed WBS of phase 1 with its tasks/subtasks

2.2 Phase 2: Execution & Monitoring

Phase 2 (Figure 3) starts with the implementation phase of the project, probably the most resource-intensive phase. The monitoring phase is parallelly started and the tasks are performed after completion of major implementation tasks.

- **Infrastructure Setup and Core ERP & Systems Implementation:**

  This phase involves infrastructure setup and executing major system upgrades, including hardware procurements and cloud setups. The ERP system's implementation includes integration, data migration, and testing.

- **Training & Support:**

  The project also focuses on preparing the end-users through comprehensive training and support structures, ensuring smooth adoption and ongoing assistance.

- **Monitoring & Control:**

  Continuous project tracking and stakeholder communication are essential to address any deviations from the plan and adjust as needed.

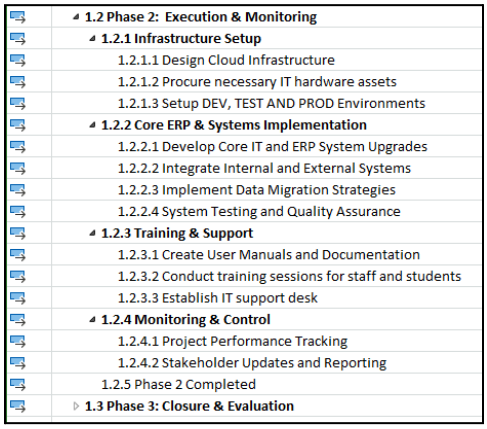


Figure 3: Detailed WBS of phase 2 with its tasks/subtasks

2.3 Phase 3: Closure & Evaluation

Phase 3 (Figure 4) starts towards the end of the execution phase with activities focusing on the evaluation and review.

- **Systems Deployment, Project Closure & Review:**

  After deploying the systems, the project moves into closure where performance is reviewed, feedback is gathered, and resources are released. Documentation of lessons learned and a post-implementation review are crucial for identifying future improvement areas.

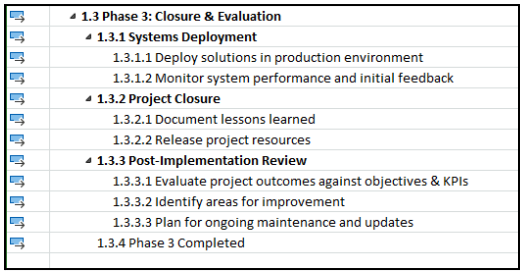


Figure 4: Detailed WBS of phase 3 with its tasks/subtasks

3. Implementation in MS Project

3.1 Basic Assignment Steps

3.1.1 Setting up the Project File

The WBS was set up in MS Project by creating a new project file in MS Project. Setting the project start date as 3/11/24 and Task Mode to 'Auto Schedule' for automatic scheduling (Figure 7 & Figure 8).

3.1.2 Defining Tasks

Tasks were defined and created keeping in mind the overall scope of the project (Figure 7 & Figure 8). Industry strategies also influenced the task creation (10 steps to create a digital transformation strategy roadmap, no date).

3.1.3 Assigning Duration

Duration for the tasks was assigned considering the fixed timeline and budget. Durations are added to the 'Duration' column in the Gantt chart (Figure 7 & Figure 8).

Timeline - 2 months

Budget - $400,000

3.1.4 Setting Dependencies

Dependencies between tasks were established considering the logical sequence of activities in the project. In MS Project, dependencies are set by updating the 'predecessor's' column in the Gantt Chart (Figure 7 & Figure 8).

3.1.5 Allocating Resources

Resources were allocated to each task based on its relevance. Team members were allocated to tasks with 25% allocation considering the working hour limitations (10 hr/week). Applicable resources for each task were added to the 'Resource Name' column of the Gantt chart (Figure 7 & Figure 8). All resources were defined in the resource sheet including work, material and cost (Figure 5 & Figure 6). The resources were not over-allocated and any over-allocations were adjusted accordingly, see Resource Graphs (Figure 9 to Figure 16).

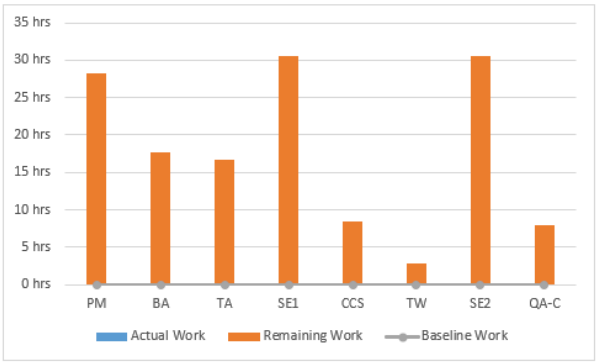
	Resource Name	Type	Initials	Max.	Std. Rate	Ovt.	Cost/Use	Accrue	Base	Code	Add New Colu
1	PM	Work	Project Manager	25%	$68.97/hr	$0.00/hr	$0.00	Prorated	Standard		
2	BA	Work	Busniess Analyst	25%	$50.35/hr	$0.00/hr	$0.00	Prorated	Standard		
3	TA	Work	Technical Analyst	25%	$50.35/hr	$0.00/hr	$0.00	Prorated	Standard		
4	SE1	Work	Software Engineer 1	25%	$55.30/hr	$0.00/hr	$0.00	Prorated	Standard		
5	CCS	Work	Cloud Computing Specialist	25%	$55.30/hr	$0.00/hr	$0.00	Prorated	Standard		
6	TW	Work	Technical Writer	25%	$44.72/hr	$0.00/hr	$0.00	Prorated	Standard		
7	SE2	Work	Software Engineer 2	25%	$55.30/hr	$0.00/hr	$0.00	Prorated	Standard		
8	ITS	Cost	IT SUPPORT- OutSourced					Prorated			
9	CSF	Cost	Cloud Service Fees					Prorated			
10	PROCURE	Material	Procurement Costs		$20,000.00		$0.00	Prorated			
11	GIT-E	Cost	GitHub Enterprise					Prorated			
12	T-TOOLS	Cost	Testing Tools					Prorated			
13	MS 360 E	Cost	Microsoft 365 E5					Prorated			
14	DEPL-TOOLS	Cost	Deployment Tools					Prorated			
15	QA-C	Work	Contract QA	100%	$55.30/hr	$0.00/hr	$0.00	Prorated	Standard		
16	DEV-TOOLS	Cost	Development Tools					Prorated			
17	ADF	Cost	Azure Data Factory					Prorated			

Figure 5: Resource Sheet

RESOURCE OVERVIEW

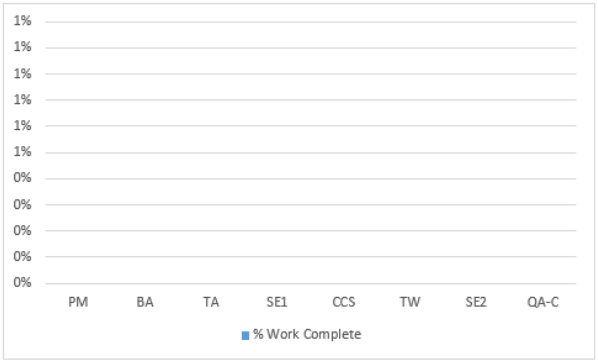
RESOURCE STATS

Work status for all work resources.



WORK STATUS

% work done by all the work resources.



RESOURCE STATUS

Remaining work for all work resources.

Name	Start	Finish	Remaining Work
PM	Mon 3/11/24	Wed 5/22/24	28.25 hrs
BA	Mon 3/11/24	Tue 5/21/24	17.75 hrs
TA	Wed 3/20/24	Tue 5/21/24	16.75 hrs
SE1	Wed 3/20/24	Tue 5/21/24	30.5 hrs
CCS	Wed 3/20/24	Tue 5/21/24	8.5 hrs
TW	Wed 3/20/24	Tue 5/21/24	2.75 hrs
SE2	Wed 3/20/24	Tue 5/21/24	30.5 hrs
QA-C	Thu 5/16/24	Thu 5/16/24	8 hrs

Figure 6: Resource Overview

Task Mode	Task Name	Duration	Start	Finish	Predecessors	Resource Names	Cost	Work
	1 MQ Digital Transformation Project	**52.63 days**	**Mon 3/11/24**	**Wed 5/22/24**		**MS 360 E[$2,460.00]**	**$128,934.21**	**143 hrs**
	1.1 Phase 1: Initiation & Planning	**26.5 days**	**Mon 3/11/24**	**Tue 4/16/24**			**$3,230.64**	**55 hrs**
	1.1.1 Project Initiation	**5.25 days**	**Wed 3/13/24**	**Wed 3/20/24**			**$566.73**	**9.5 hrs**
	1.1.1.1 Define project vision and scope	1 day	Wed 3/13/24	Wed 3/13/24		PM[25%]	$137.94	2 hrs
	1.1.1.2 Create Project Charter	1 day	Mon 3/18/24	Tue 3/19/24	4,6	PM[25%]	$137.94	2 hrs
	1.1.1.3 Stakeholder identification and analysis	1 day	Fri 3/15/24	Fri 3/15/24	4	BA[25%]	$100.70	2 hrs
	1.1.1.4 Project Kickoff Meeting	2 hrs	Wed 3/20/24	Wed 3/20/24	5,6	BA[25%],CCS[25%],PM[25%],SE1[25%],SE2[25%],TA[25%],TW[25%]	$190.15	3.5 hrs
	1.1.2 Digital RoadMap Development	**8.75 days**	**Thu 3/14/24**	**Tue 3/26/24**			**$1,081.48**	**20 hrs**
	1.1.2.1 Conduct interviews with key stakeholders	1 day	Thu 3/14/24	Thu 3/14/24	4	BA[25%]	$100.70	2 hrs
	1.1.2.2 Analyze Existing IT Infrastructure & ERP Systems	4 hrs	Fri 3/22/24	Fri 3/22/24	7	TA[25%],BA[25%]	$100.70	2 hrs
	1.1.2.3 Develop digital roadmap for MQ	2 days	Fri 3/22/24	Tue 3/26/24	9,10,13,12	BA[25%],TA[25%],PM[25%]	$678.68	12 hrs
	1.1.2.4 Complie, document and review requirements	1 day	Wed 3/20/24	Thu 3/21/24	7	BA[25%],TA[25%]	$100.70	2 hrs
	1.1.2.5 Survey on user needs and expectations	1 day	Wed 3/20/24	Thu 3/21/24	7	BA[25%]	$100.70	2 hrs
	1.1.3 Digital Strategy Development	**17.75 days**	**Mon 3/11/24**	**Wed 4/3/24**			**$826.52**	**14 hrs**
	1.1.3.1 Develop IT digitalization strategy	2 days	Mon 4/1/24	Wed 4/3/24	16,17,18,19,11	PM[25%]	$275.88	4 hrs
	1.1.3.2 Identify key technology solutions	1 day	Tue 3/26/24	Wed 3/27/24	11	TA[25%],CCS[25%]	$110.60	2 hrs
	1.1.3.3 Prioritize digitalization areas	1 day	Tue 3/26/24	Wed 3/27/24	11	BA[25%],PM[25%]	$137.94	2 hrs
	1.1.3.4 Assess data governance needs	1 day	Fri 3/29/24	Mon 4/1/24	11	BA[25%],TA[25%]	$100.70	2 hrs
	1.1.3.5 Define analytics capabilities requirements	1 day	Tue 3/26/24	Wed 3/27/24	11	BA[25%],TA[25%]	$201.40	4 hrs
	1.1.3.6 Strategy Development Ends	0 days	Mon 3/11/24	Mon 3/11/24			$0.00	0 hrs
	1.1.4 Project Planning	**26.5 days**	**Mon 3/11/24**	**Tue 4/16/24**			**$755.92**	**11.5 hrs**
	1.1.4.1 Develop detailed project plan	1 day	Mon 4/8/24	Mon 4/8/24	15	PM[25%],BA[25%]	$238.64	4 hrs
	1.1.4.2 Resource allocation and scheduling	1 day	Fri 4/12/24	Mon 4/15/24	22	PM[25%]	$137.94	2 hrs
	1.1.4.3 Budget estimation and approval	1 day	Tue 4/9/24	Wed 4/10/24	22	PM[25%]	$137.94	2 hrs
	1.1.4.4 Risk assessment and mitigation plan	1 day	Tue 4/9/24	Tue 4/16/24	22	PM[25%]	$137.94	2 hrs
	1.1.4.5 Establish project governance structure	4 hrs	Tue 4/9/24	Fri 4/12/24	22	PM[25%]	$68.97	1 hr
	1.1.4.6 Communications Plan	2 hrs	Tue 4/9/24	Tue 4/9/24	22	PM[25%]	$34.49	0.5 hrs
	1.1.4.7 Project Planning Stage Ends	0 days	Mon 3/11/24	Mon 3/11/24			$0.00	0 hrs
	1.1.5 Phase 1 Completed	0 days	Mon 3/11/24	Mon 3/11/24			$0.00	0 hrs
	1.2 Phase 2: Execution & Monitoring	**51.5 days**	**Mon 3/11/24**	**Tue 5/21/24**			**$117,812.49**	**80.5 hrs**
	1.2.1 Infrastructure Setup	**14.38 days**	**Wed 4/10/24**	**Tue 4/30/24**			**$22,982.24**	**16 hrs**
	1.2.1.1 Design Cloud Infrastructure	2 days	Fri 4/12/24	Thu 4/18/24	33	CCS[25%],CSF[$2,000.00]	$2,221.20	4 hrs
	1.2.1.2 Procure necessary IT hardware assets	2 days	Wed 4/10/24	Fri 4/12/24	15,24	TA[13%],PROCURE[1],PM[13%]	$20,238.64	4 hrs
	1.2.1.3 Setup DEV, TEST AND PROD Environments	2 days	Mon 4/29/24	Tue 4/30/24	32,33	SE1[25%],SE2[25%],GIT-E[$80.00]	$522.40	8 hrs
	1.2.2 Core ERP & Systems Implementation	**12 days**	**Wed 5/1/24**	**Thu 5/16/24**			**$9,396.80**	**56 hrs**
	1.2.2.1 Develop Core IT and ERP System Upgrades	6 days	Wed 5/8/24	Wed 5/15/24	33,34	SE1[25%],SE2[25%],GIT-E[$200.00],DEV-TOOLS[$2,000.00]	$3,527.20	24 hrs
	1.2.2.2 Integrate Internal and External Systems	2 days	Mon 5/6/24	Tue 5/7/24	33,34	SE2[25%],SE1[25%],DEV-TOOLS,GIT-E	$442.40	8 hrs

Figure 7: Project Gantt Chart

Task Mode	Task Name	Duration	Start	Finish	Predecessors	Resource Names	Cost	Work
	1.2.2.2 Integrate Internal and External Systems	2 days	Mon 5/6/24	Tue 5/7/24	33,34	SE2[25%],SE1[25%],DEV-TOOLS,GIT-E	$442.40	8 hrs
	1.2.2.3 Implement Data Migration Strategies	3 days	Wed 5/1/24	Fri 5/3/24	33,34	SE1[25%],SE2[25%],ADF[$3,700.00]	$4,363.60	12 hrs
	1.2.2.4 System Testing and Quality Assurance	1 day	Thu 5/16/24	Thu 5/16/24	36,37	T-TOOLS[$400.00],QA-C,DEV-TOOLS,GIT-E,SE1[25%],SE2[25%]	$1,063.60	12 hrs
	1.2.3 Training & Support	**2 days**	**Thu 5/16/24**	**Fri 5/17/24**			**$85,290.84**	**6 hrs**
	1.2.3.1 Create User Manuals and Documentation	4 hrs	Thu 5/16/24	Thu 5/16/24	36	TW[25%]	$44.72	1 hr
	1.2.3.2 Conduct training sessions for staff and students	4 hrs	Thu 5/16/24	Thu 5/16/24	36,41	TW[25%]	$44.72	1 hr
	1.2.3.3 Establish IT support desk	2 days	Thu 5/16/24	Fri 5/17/24	33,36	TA[25%],ITS[$85,000.00]	$85,201.40	4 hrs
	1.2.4 Monitoring & Control	**2.5 days**	**Fri 5/17/24**	**Tue 5/21/24**			**$142.61**	**2.5 hrs**
	1.2.4.1 Project Performance Tracking	2 hrs	Fri 5/17/24	Fri 5/17/24	32,36,37,38,39	PM[25%]	$34.49	0.5 hrs
	1.2.4.2 Stakeholder Updates and Reporting	2 hrs	Tue 5/21/24	Tue 5/21/24	11,15,22,32,33,36,	BA[25%],CCS[25%],PM[25%],SE1[25%],SE2[25%],TA[25%],TW[25%]	$108.13	2 hrs
	1.2.5 Phase 2 Completed	0 days	Mon 3/11/24	Mon 3/11/24			$0.00	0 hrs
	1.3 Phase 3: Closure & Evaluation	**52.63 days**	**Mon 3/11/24**	**Wed 5/22/24**			**$5,431.08**	**7.5 hrs**
	1.3.1 Systems Deployment	**2.25 days**	**Fri 5/17/24**	**Tue 5/21/24**			**$5,274.03**	**5 hrs**
	1.3.1.1 Deploy solutions in production environment	4 hrs	Fri 5/17/24	Mon 5/20/24	39	CCS[25%],SE1[25%],SE2[25%],DEPL-TOOLS[$5,000.00]	$5,165.90	3 hrs
	1.3.1.2 Monitor system performance and initial feedback	2 hrs	Tue 5/21/24	Tue 5/21/24	50	BA[25%],CCS[25%],SE1[25%],SE2[25%]	$108.13	2 hrs
	1.3.2 Project Closure	**1.38 days**	**Tue 5/21/24**	**Wed 5/22/24**			**$45.67**	**0.75 hrs**
	1.3.2.1 Document lessons learned	1 hr	Tue 5/21/24	Tue 5/21/24	51	TW[25%]	$11.18	0.25 hrs
	1.3.2.2 Release project resources	2 hrs	Wed 5/22/24	Wed 5/22/24	53	PM[25%]	$34.49	0.5 hrs
	1.3.3 Post-Implementation Review	**51.75 days**	**Mon 3/11/24**	**Tue 5/21/24**			**$111.39**	**1.75 hrs**
	1.3.3.1 Evaluate project outcomes against objectives & KPIs	1 hr	Tue 5/21/24	Tue 5/21/24	53	PM[25%]	$17.24	0.25 hrs
	1.3.3.2 Identify areas for improvement	2 hrs	Tue 5/21/24	Tue 5/21/24	53,56	PM[25%]	$34.49	0.5 hrs
	1.3.3.3 Plan for ongoing maintenance and updates	2 hrs	Mon 3/11/24	Mon 3/11/24		BA[25%],PM[25%]	$59.66	1 hr
	1.3.4 Phase 3 Completed	0 days	Mon 3/11/24	Mon 3/11/24			$0.00	0 hrs

Figure 8: Project Gantt Chart Continuation

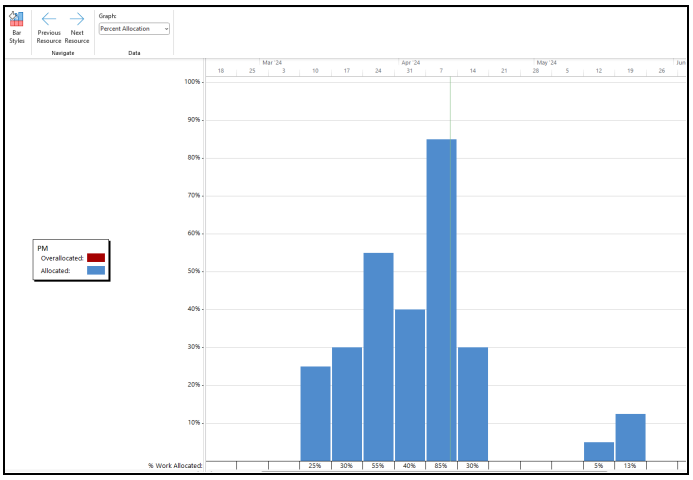


Figure 9: PM Resource Allocation Graph

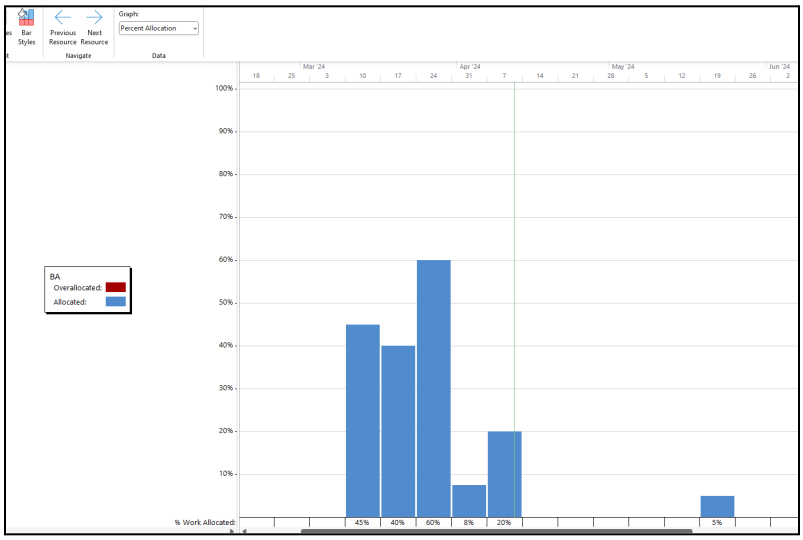


Figure 10: BA Resource Allocation Graph

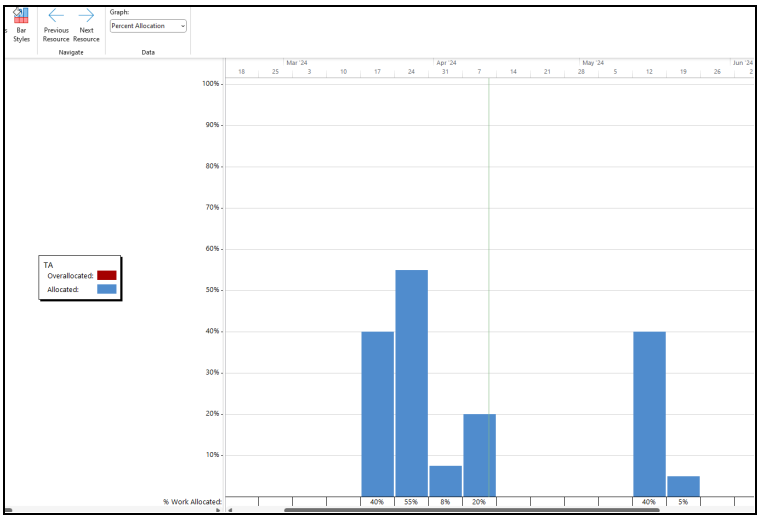


Figure 11: TA Resource Allocation Graph

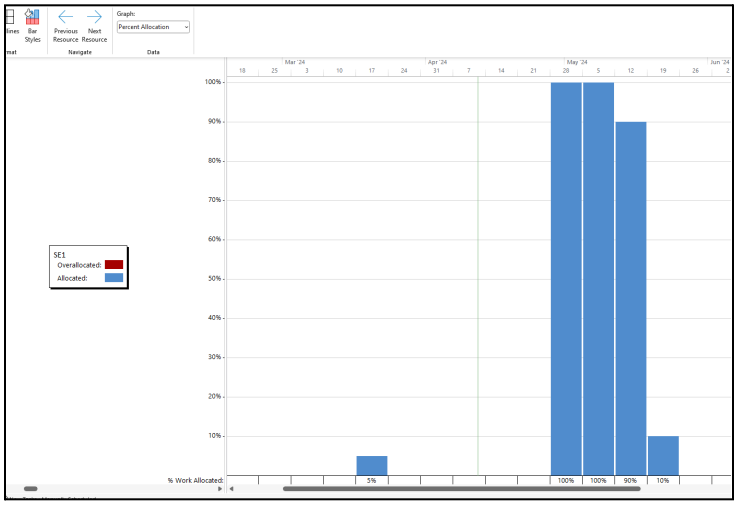


Figure 12: SE1 Resource Allocation Graph

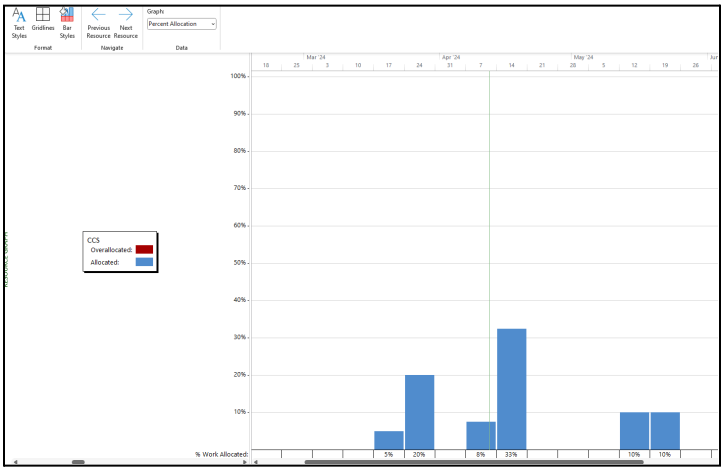


Figure 13: CCS Resource Allocation Graph

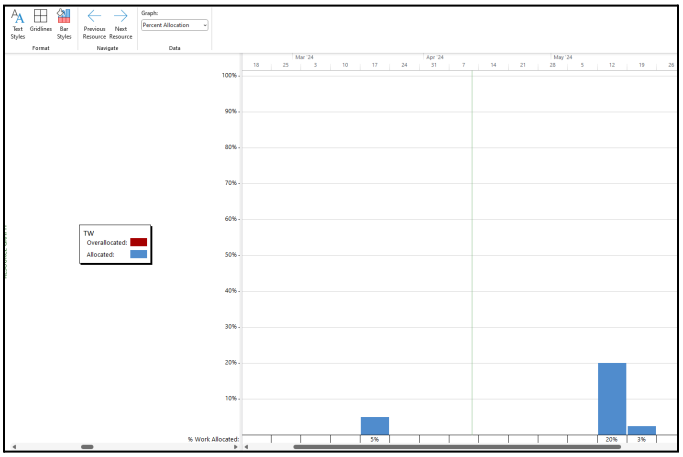


Figure 14: TW Resource Allocation Graph

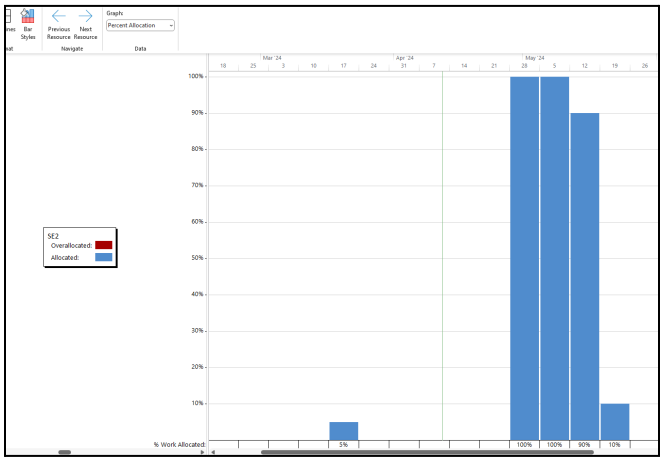


Figure 15: SE2 Resource Allocation Graph

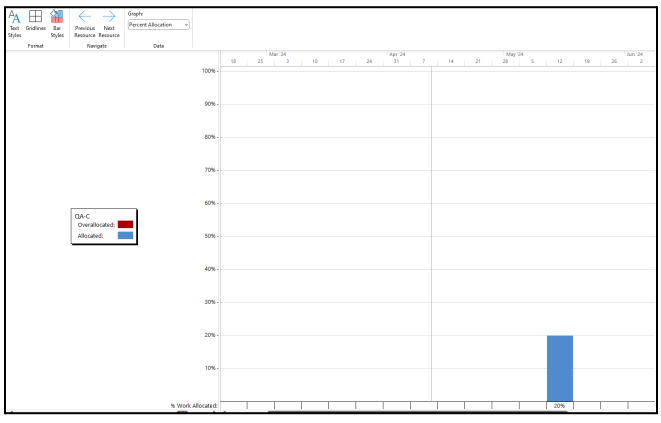


Figure 16: QA-C Resource Allocation Graph

4. Duration and Schedule Analysis

4.1 **Total Project Duration**

The total duration of the project = **52.63 days.**

The total duration of the tasks in the critical path = 23 days and 15 hours = **23.63 days**

4.2 **Critical Path**

The network diagram feature of MS Project provides the critical path for this project. These tasks in the critical path are highlighted in red (Figure 17, Gantt Chart View).

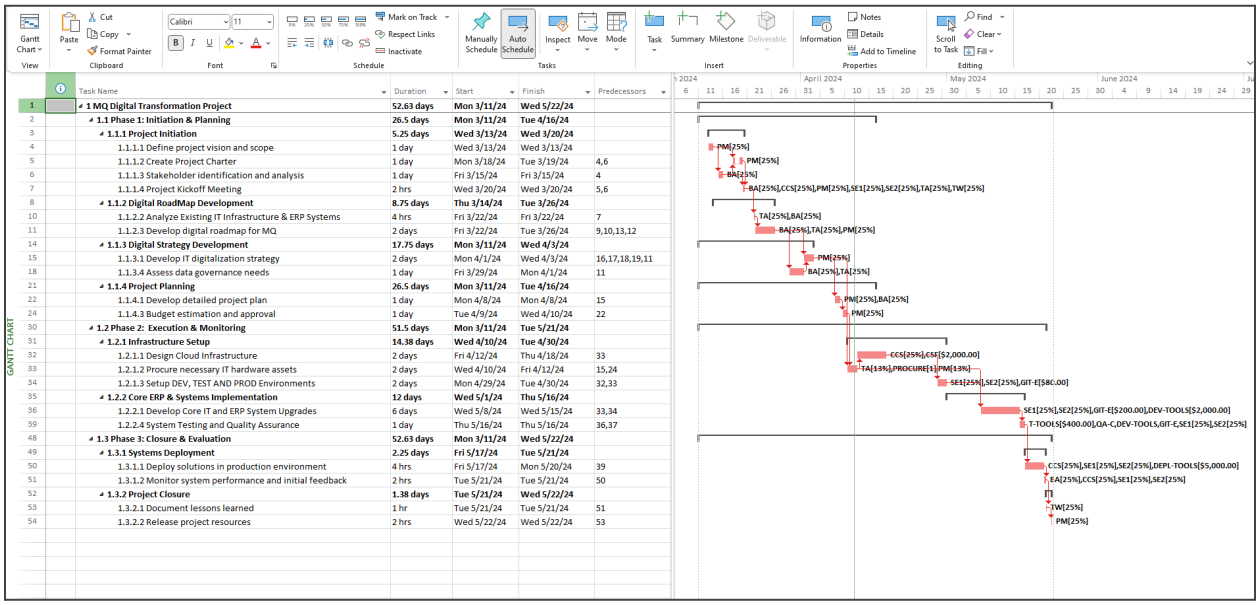
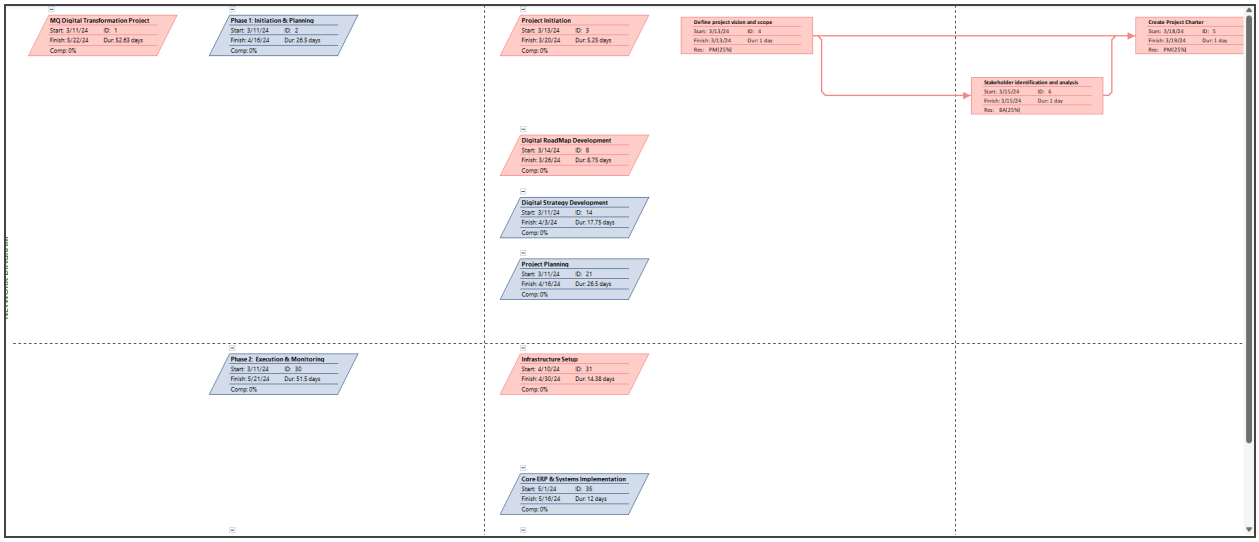
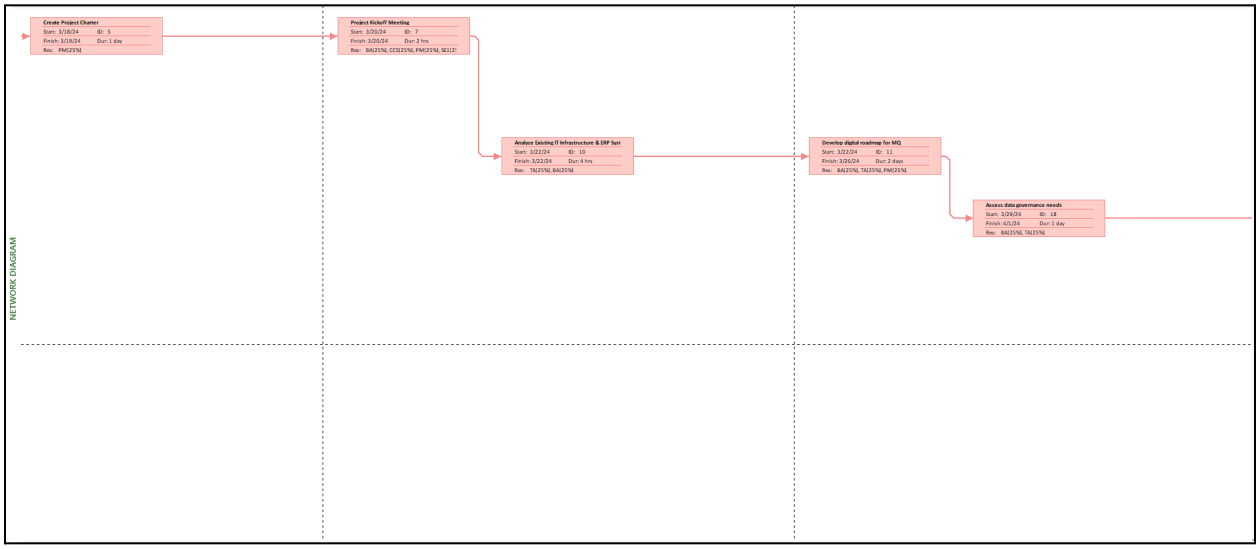
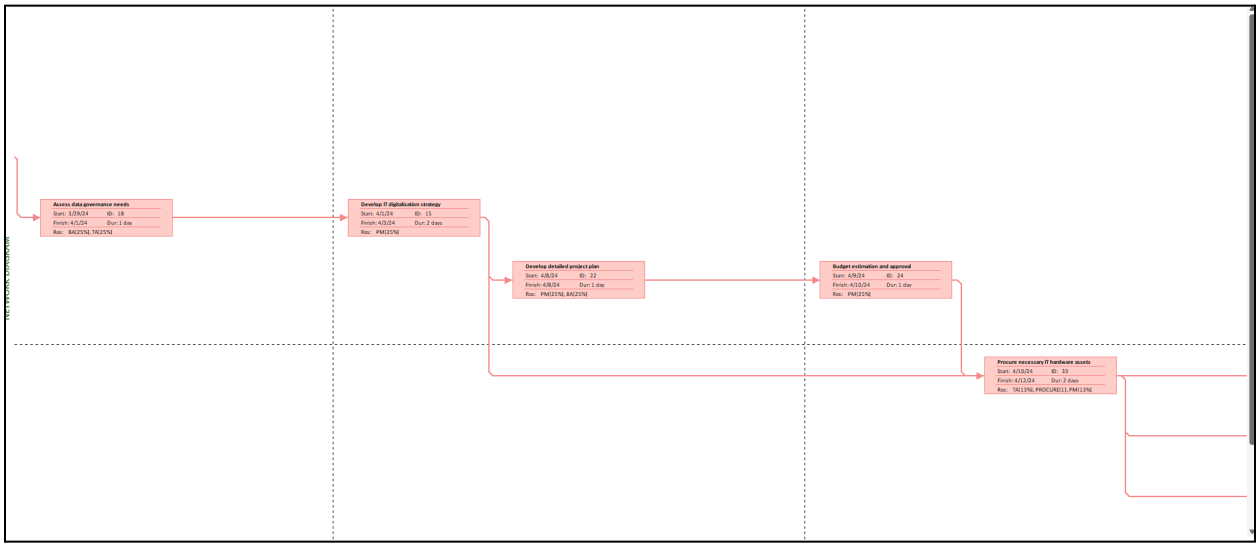


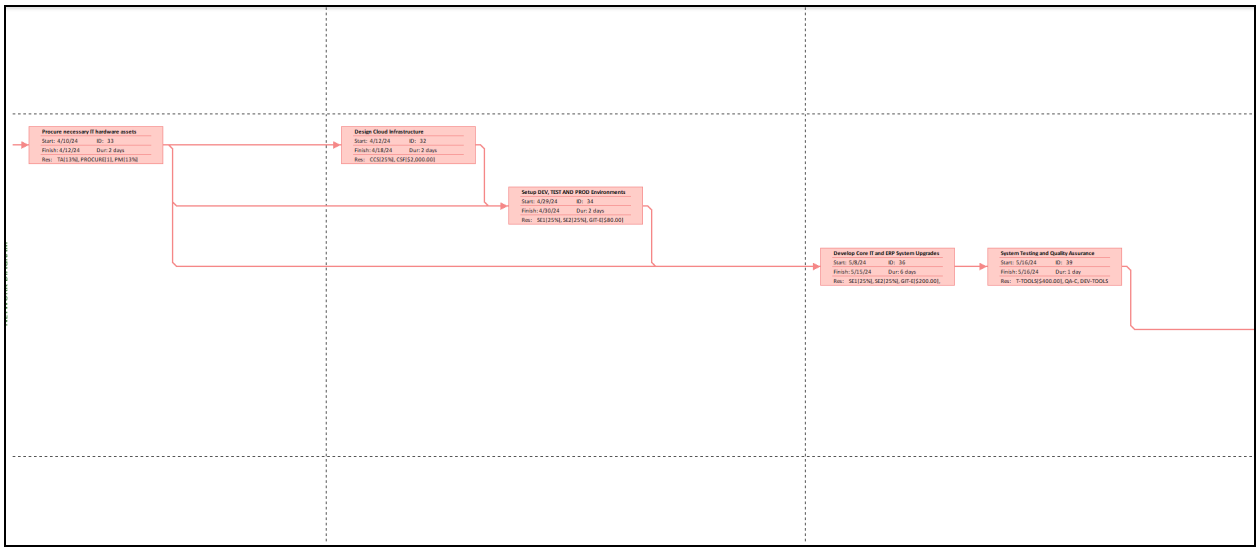
Figure 17: Critical tasks filtered from the Gantt Chart view and highlighted in red.

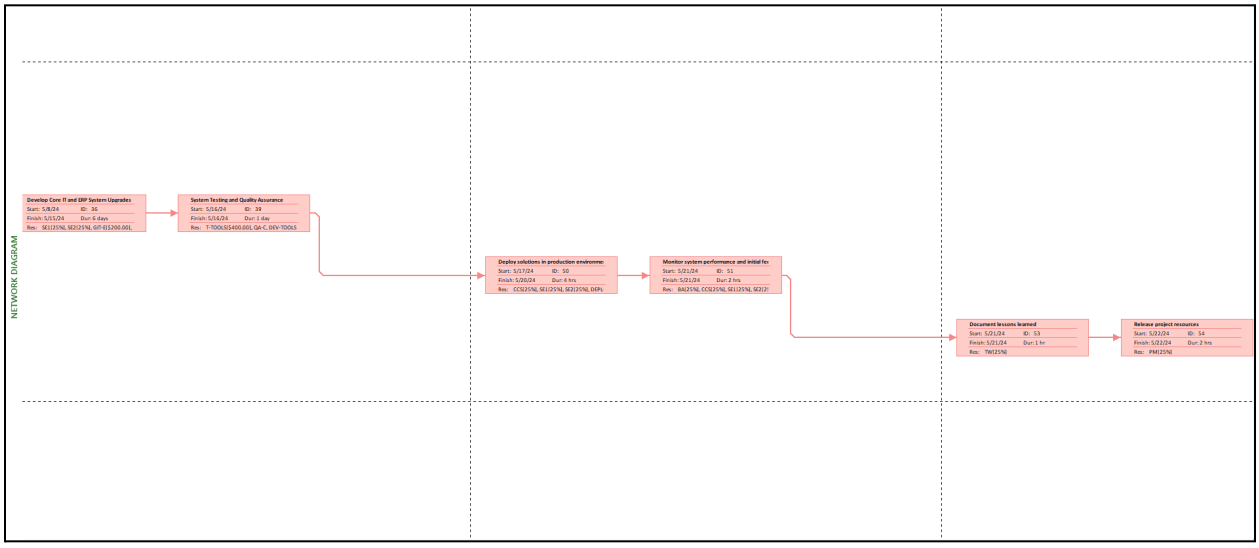
See below images of the expanded critical path from the Network Diagram view. The Network diagram view is filtered with critical tasks only for readability and all other tasks are hidden. The images should be read in landscape view.


MQ Digital Transformation Project
Start: 3/11/24 ID: 1
Finish: 5/22/24 Dur: 52.63 days
Comp: 0%
Phase 1: Initiation & Planning
Start: 3/11/24 ID: 2
Finish: 4/16/24 Dur: 26.5 days
Comp: 0%
Project Initiation
Start: 3/13/24 ID: 3
Finish: 3/20/24 Dur: 5.25 days
Comp: 0%
Define project vision and scope
Start: 3/13/24 ID: 4
Finish: 3/13/24 Dur: 1 day
Res: PM[25%]
Stakeholder identification and analysis
Start: 3/15/24 ID: 6
Finish: 3/15/24 Dur: 1 day
Res: BA[25%]
Create Project Charter
Start: 3/18/24 ID: 5
Finish: 3/19/24 Dur: 1 day
Res: PM[25%]
Digital RoadMap Development
Start: 3/14/24 ID: 8
Finish: 3/28/24 Dur: 8.75 days
Comp: 0%
Digital Strategy Development
Start: 3/11/24 ID: 14
Finish: 4/3/24 Dur: 17.75 days
Comp: 0%
Project Planning
Start: 3/11/24 ID: 21
Finish: 4/16/24 Dur: 26.5 days
Comp: 0%
Phase 2: Execution & Monitoring
Start: 3/11/24 ID: 30
Finish: 5/21/24 Dur: 51.5 days
Comp: 0%
Infrastructure Setup
Start: 4/10/24 ID: 31
Finish: 4/30/24 Dur: 14.38 days
Comp: 0%
Core ERP & Systems Implementation
Start: 5/1/24 ID: 39
Finish: 5/16/24 Dur: 12 days
Comp: 0%


NETWORK DIAGRAM
Create Project Charter
Start: 3/18/24 ID: 5
Finish: 3/19/24 Dur: 1 day
Res: PM[25%]
Project Kickoff Meeting
Start: 3/20/24 ID: 7
Finish: 3/20/24 Dur: 2 hrs
Res: BA[25%], CCS[25%], PM[25%], SE[2
Analyze Existing IT Infrastructure & ERP Syst
Start: 3/22/24 ID: 10
Finish: 3/22/24 Dur: 4 hrs
Res: TA[25%], BA[25%]
Develop digital roadmap for MQ
Start: 3/22/24 ID: 11
Finish: 3/26/24 Dur: 2 days
Res: BA[25%], TA[25%], PM[25%]
Assess data governance needs
Start: 3/29/24 ID: 18
Finish: 4/1/24 Dur: 1 day
Res: BA[25%], TA[25%]

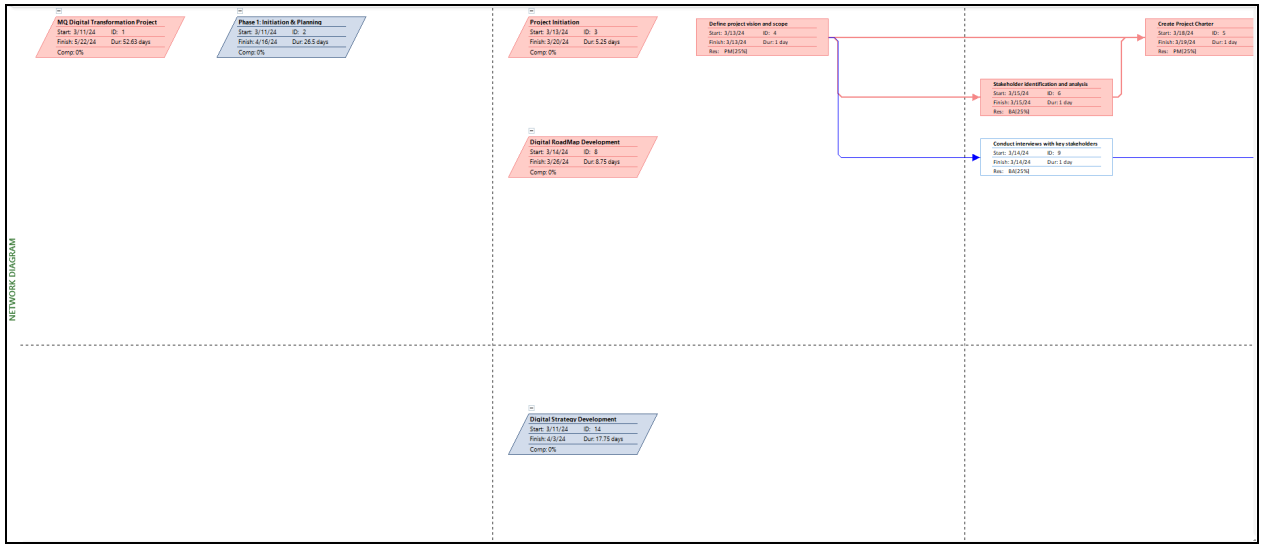

NETWORK DIAGRAM
Assess data governance needs
Start: 3/29/24 ID: 18
Finish: 4/1/24 Dur: 1 day
Res: BA[25%], TA[25%]
Develop IT digitalization strategy
Start: 4/1/24 ID: 15
Finish: 4/3/24 Dur: 2 days
Res: PM[25%]
Develop detailed project plan
Start: 4/8/24 ID: 22
Finish: 4/8/24 Dur: 1 day
Res: PM[25%], BA[25%]
Budget estimation and approval
Start: 4/9/24 ID: 24
Finish: 4/10/24 Dur: 1 day
Res: PM[25%]
Procure necessary IT hardware assets
Start: 4/10/24 ID: 33
Finish: 4/12/24 Dur: 2 days
Res: TA[13%], PROCURE[1], PM[13%]

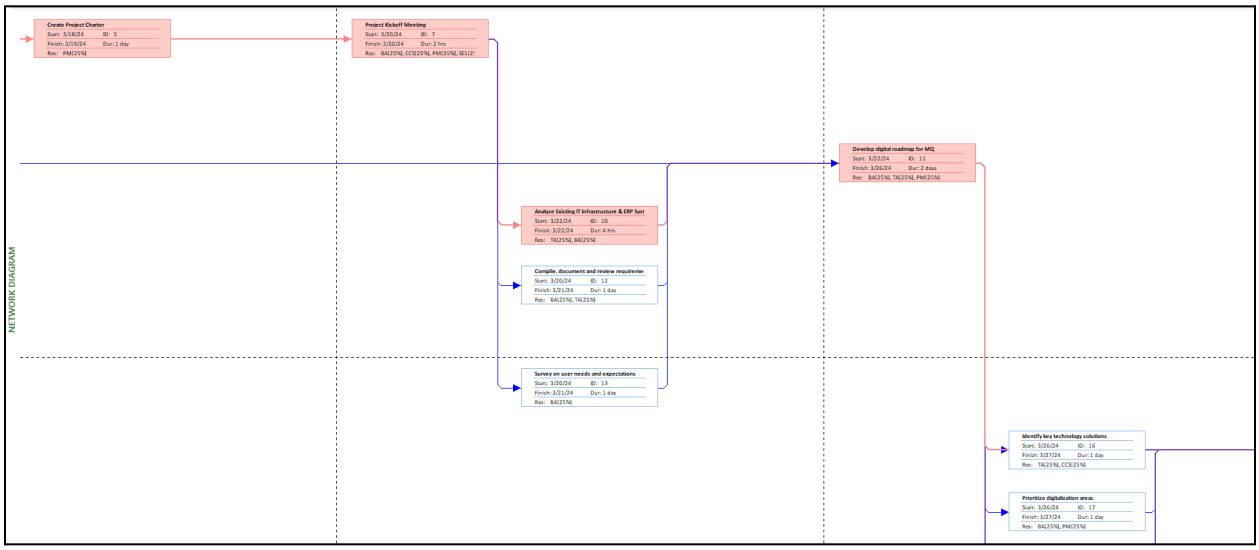


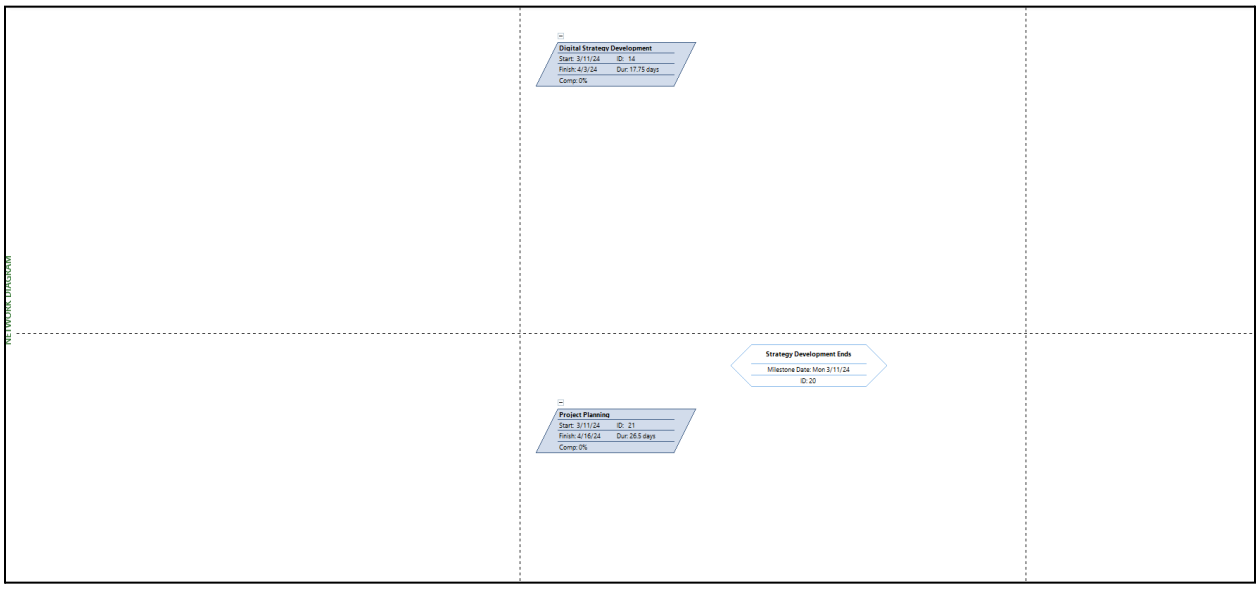


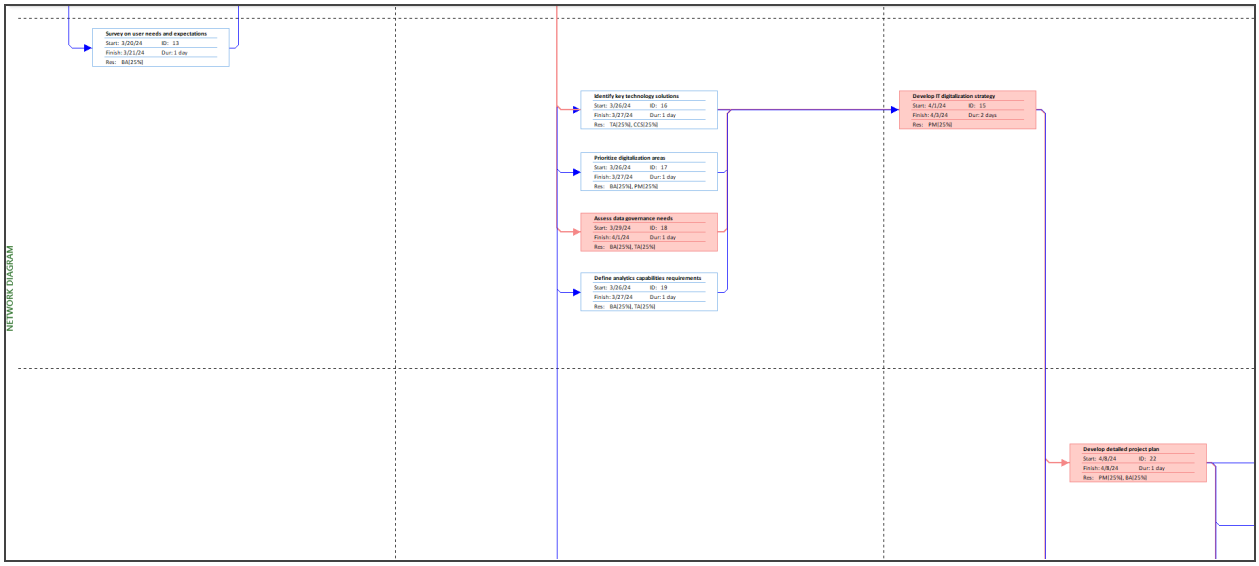
4.3 Network Diagram

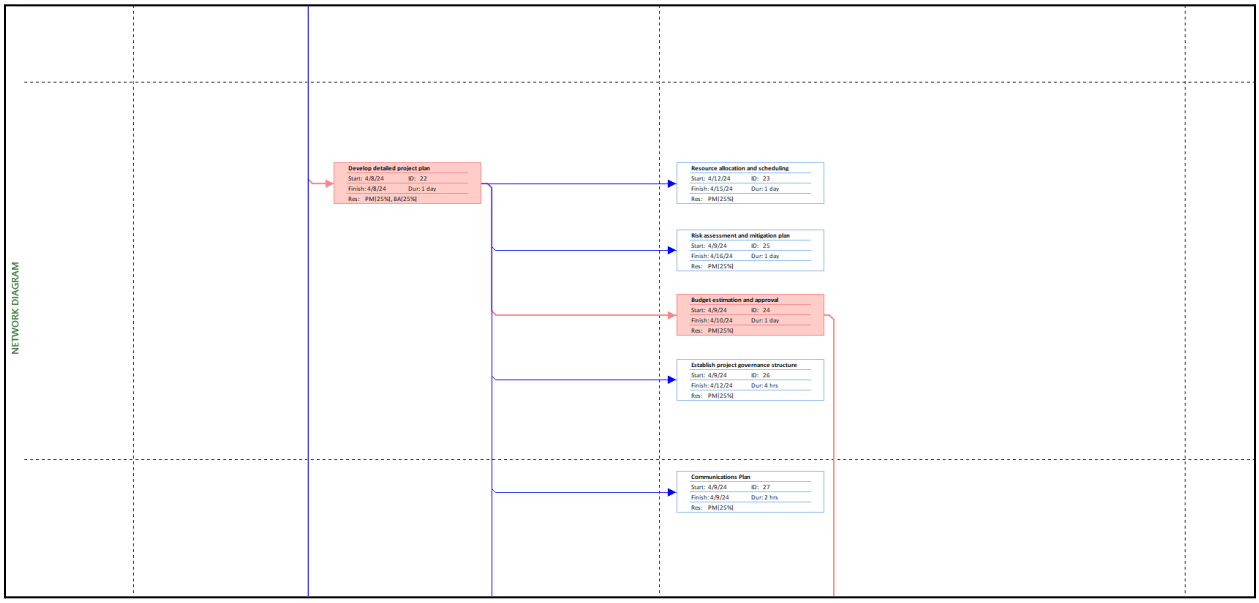
See below the complete Network Diagram with all the summary tasks, tasks and subtasks.

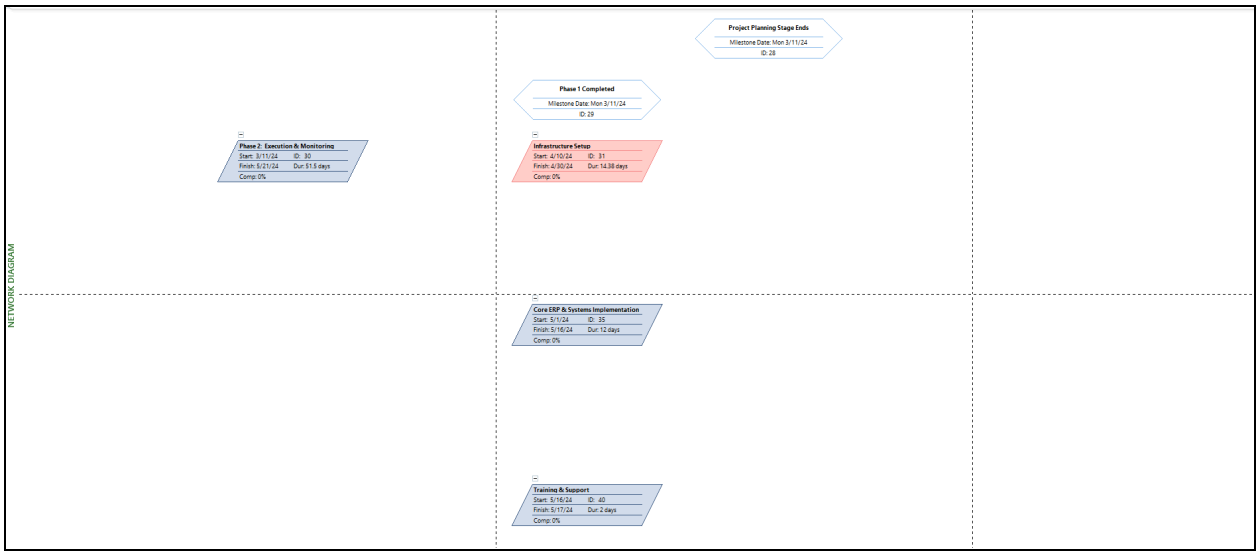

NETWORK DIAGRAM
MQ Digital Transformation Project
Start: 3/11/24 ID: 1
Finish: 5/22/24 Dur: 52.63 days
Comp: 0%
Phase 1: Initiation & Planning
Start: 3/11/24 ID: 2
Finish: 4/16/24 Dur: 26.5 days
Comp: 0%
Project Initiation
Start: 3/13/24 ID: 3
Finish: 3/20/24 Dur: 5.25 days
Comp: 0%
Define project vision and scope
Start: 3/13/24 ID: 4
Finish: 3/13/24 Dur: 1 day
Res: PM[25%]
Create Project Charter
Start: 3/18/24 ID: 5
Finish: 3/19/24 Dur: 1 day
Res: PM[25%]
Stakeholder identification and analysis
Start: 3/15/24 ID: 6
Finish: 3/15/24 Dur: 1 day
Res: BA[25%]
Conduct interviews with key stakeholders
Start: 3/14/24 ID: 9
Finish: 3/14/24 Dur: 1 day
Res: BA[25%]
Digital RoadMap Development
Start: 3/14/24 ID: 8
Finish: 3/26/24 Dur: 8.75 days
Comp: 0%
Digital Strategy Development
Start: 3/11/24 ID: 14
Finish: 4/3/24 Dur: 17.75 days
Comp: 0%

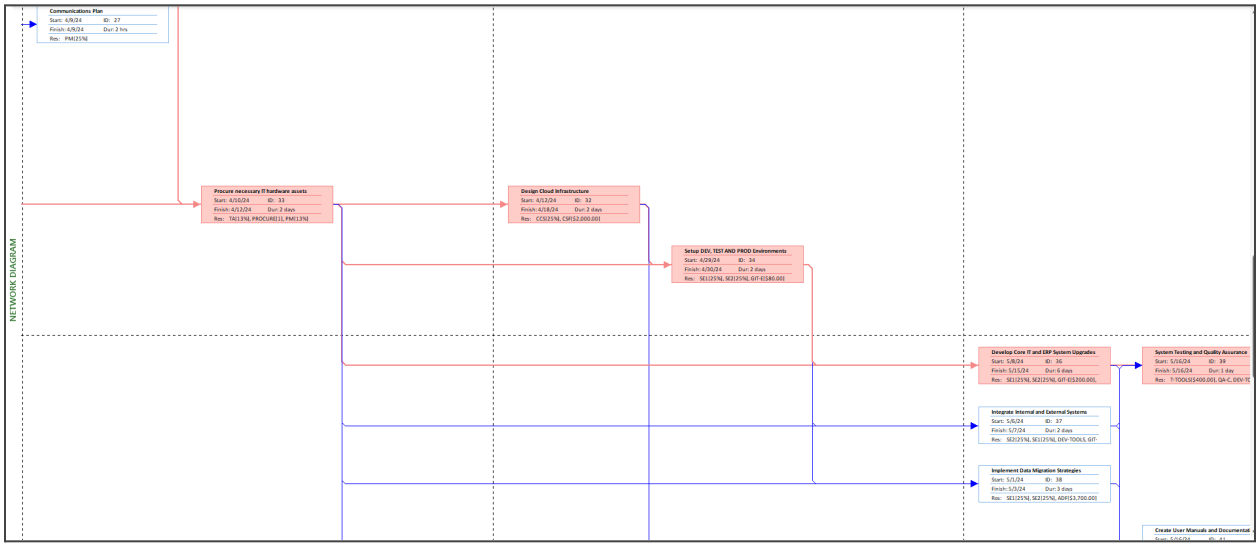

NETWORK DIAGRAM
Create Project Charter
Start: 3/18/24 ID: 5
Finish: 3/19/24 Dur: 1 day
Res: PM[25%]
Project Kickoff Meeting
Start: 3/20/24 ID: 7
Finish: 3/20/24 Dur: 2 hrs
Res: BA[25%], CCS[25%], PM[25%], SE1[2
Develop digital roadmap for MQ
Start: 3/22/24 ID: 11
Finish: 3/26/24 Dur: 2 days
Res: BA[25%], TA[25%], PM[25%]
Analyze Existing IT Infrastructure & ERP Syst
Start: 3/22/24 ID: 10
Finish: 3/23/24 Dur: 4 hrs
Res: TA[25%], BA[25%]
Compile, document and review requirem
Start: 3/20/24 ID: 12
Finish: 3/21/24 Dur: 1 day
Res: BA[25%], TA[25%]
Survey on user needs and expectations
Start: 3/20/24 ID: 13
Finish: 3/21/24 Dur: 1 day
Res: BA[25%]
Identify key technology solutions
Start: 3/26/24 ID: 16
Finish: 3/27/24 Dur: 1 day
Res: TA[25%], CCS[25%]
Prioritize digitalization areas
Start: 3/26/24 ID: 17
Finish: 3/27/24 Dur: 1 day
Res: BA[25%], PM[25%]

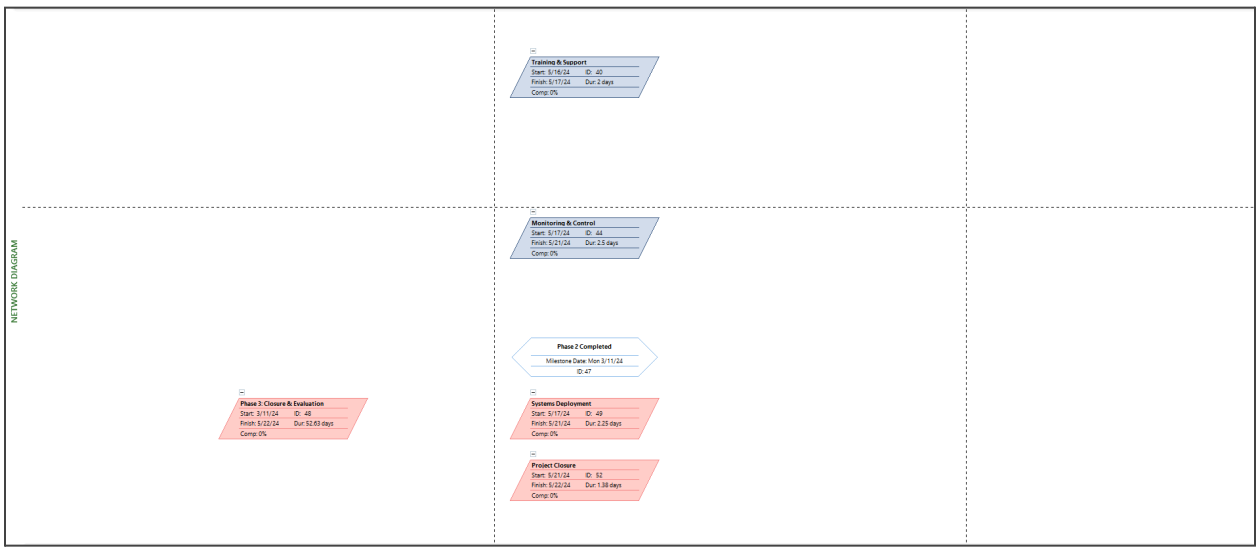

NETWORK DIAGRAM
Digital Strategy Development
Start: 3/11/24 ID: 14
Finish: 4/3/24 Dur: 17.75 days
Comp: 0%
Strategy Development Ends
Milestone Date: Mon 3/11/24
ID: 20
Project Planning
Start: 3/11/24 ID: 21
Finish: 4/16/24 Dur: 26.5 days
Comp: 0%

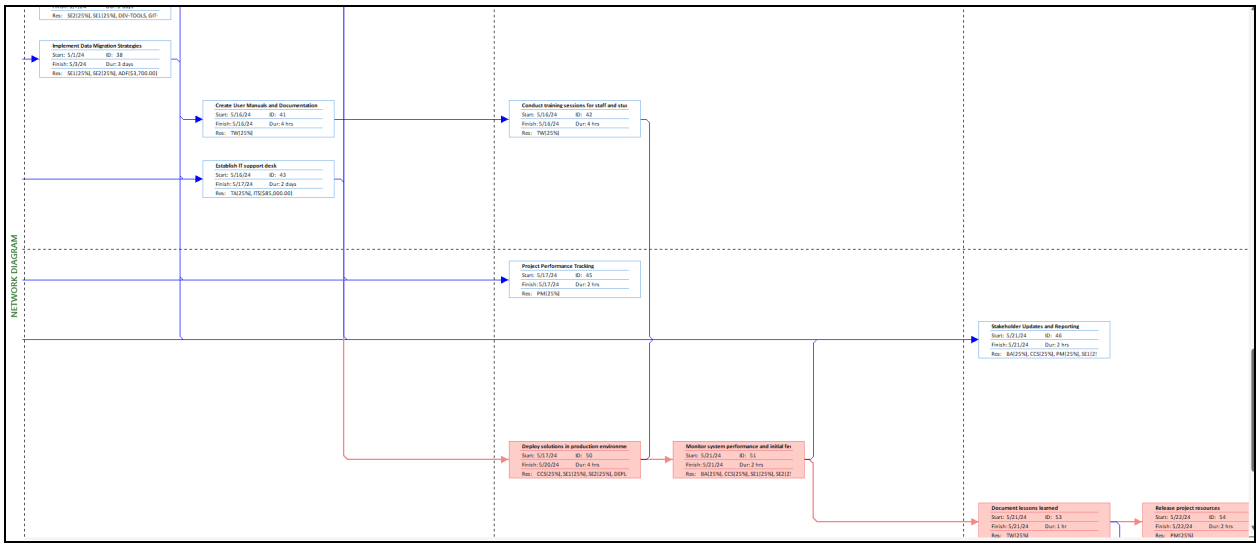

NETWORK DIAGRAM
Survey on user needs and expectations
Start: 3/20/24 ID: 13
Finish: 3/21/24 Dur: 1 day
Res: BA[25%]
Identify key technology solutions
Start: 3/26/24 ID: 16
Finish: 3/27/24 Dur: 1 day
Res: TA[25%], CCS[25%]
Prioritize digitalization areas
Start: 3/26/24 ID: 17
Finish: 3/27/24 Dur: 1 day
Res: BA[25%], PM[25%]
Assess data governance needs
Start: 3/29/24 ID: 18
Finish: 4/1/24 Dur: 1 day
Res: BA[25%], TA[25%]
Define analytics capabilities requirements
Start: 3/26/24 ID: 19
Finish: 3/27/24 Dur: 1 day
Res: BA[25%], TA[25%]
Develop IT digitalization strategy
Start: 4/1/24 ID: 15
Finish: 4/3/24 Dur: 2 days
Res: PM[25%]
Develop detailed project plan
Start: 4/8/24 ID: 22
Finish: 4/8/24 Dur: 1 day
Res: PM[25%], BA[25%]

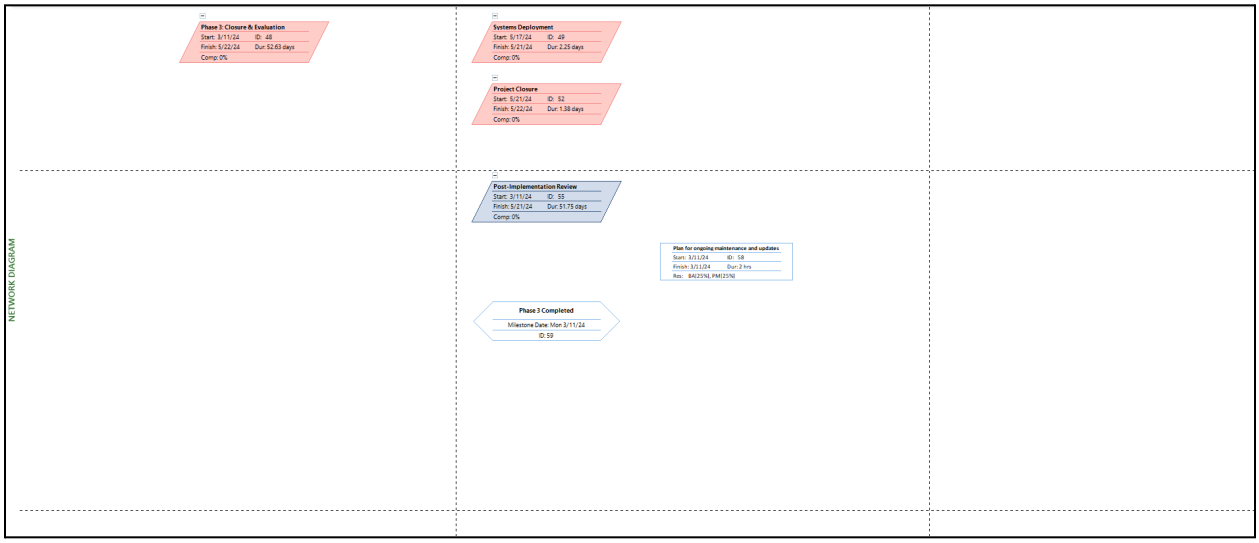

NETWORK DIAGRAM
Develop detailed project plan
Start: 4/8/24 ID: 22
Finish: 4/8/24 Dur: 1 day
Res: PM[25%], BA[25%]
Resource allocation and scheduling
Start: 4/12/24 ID: 23
Finish: 4/15/24 Dur: 1 day
Res: PM[25%]
Risk assessment and mitigation plan
Start: 4/9/24 ID: 25
Finish: 4/16/24 Dur: 1 day
Res: PM[25%]
Budget estimation and approval
Start: 4/8/24 ID: 24
Finish: 4/10/24 Dur: 1 day
Res: PM[25%]
Establish project governance structure
Start: 4/9/24 ID: 26
Finish: 4/12/24 Dur: 4 hrs
Res: PM[25%]
Communications Plan
Start: 4/9/24 ID: 27
Finish: 4/9/24 Dur: 2 hrs
Res: PM[25%]

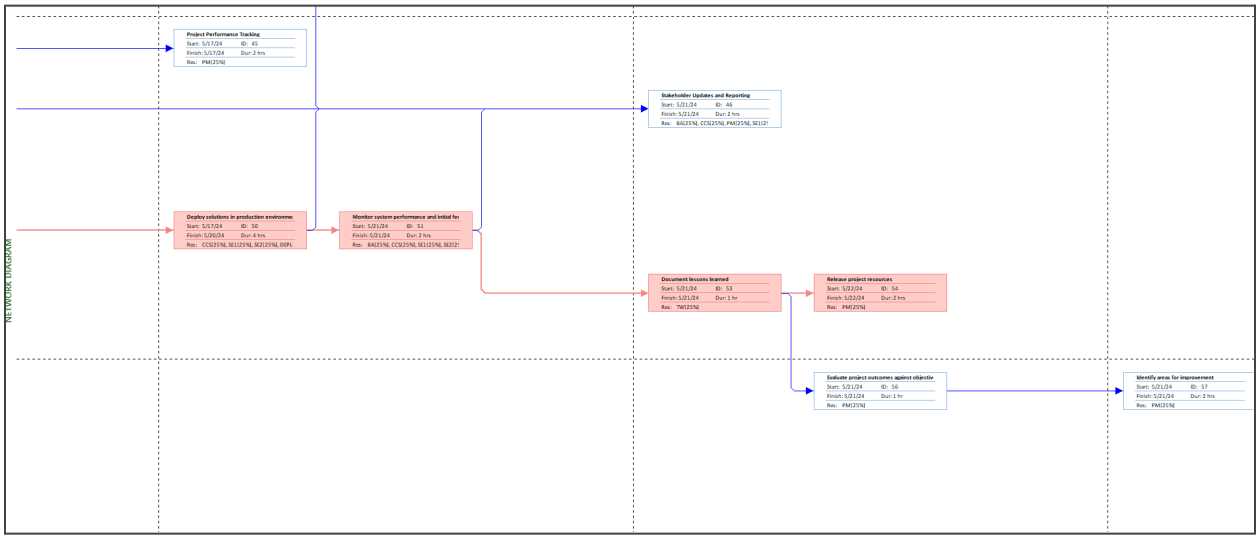

NETWORK DIAGRAM
Project Planning Stage Ends
Milestone Date: Mon 3/11/24
ID: 28
Phase 1 Completed
Milestone Date: Mon 3/11/24
ID: 29
Phase 2: Execution & Monitoring
Start: 3/11/24 ID: 30
Finish: 5/21/24 Dur: 51.5 days
Comp: 0%
Infrastructure Setup
Start: 4/10/24 ID: 31
Finish: 4/30/24 Dur: 14.38 days
Comp: 0%
Core ERP & Systems Implementation
Start: 5/1/24 ID: 35
Finish: 5/16/24 Dur: 12 days
Comp: 0%
Training & Support
Start: 5/16/24 ID: 40
Finish: 5/17/24 Dur: 2 days
Comp: 0%


NETWORK DIAGRAM
Communications Plan
Start: 4/9/24 ID: 27
Finish: 4/9/24 Dur: 2 hrs
Res: PM[25%]
Procure necessary IT hardware assets
Start: 4/10/24 ID: 33
Finish: 4/12/24 Dur: 3 days
Res: TA[13%], PROCURE[1], PM[13%]
Design Cloud Infrastructure
Start: 4/12/24 ID: 32
Finish: 4/18/24 Dur: 3 days
Res: CCS[25%], CSP[$2,000.00]
Setup DEV, TEST AND PROD Environments
Start: 4/29/24 ID: 34
Finish: 4/30/24 Dur: 2 days
Res: SE1[25%], SE2[25%], GIT-ES[$40.00]
Develop Core IT and ERP System Upgrades
Start: 5/8/24 ID: 36
Finish: 5/15/24 Dur: 6 days
Res: SE1[25%], SE2[25%], GIT-ES[$300.00],
System Testing and Quality Assurance
Start: 5/16/24 ID: 39
Finish: 5/16/24 Dur: 1 day
Res: T-TOOLS[$400.00], QA-C, DEV-TC
Integrate Internal and External Systems
Start: 5/6/24 ID: 37
Finish: 5/7/24 Dur: 2 days
Res: SE2[25%], SE1[25%], DEV-TOOLS, GIT-
Implement Data Migration Strategies
Start: 5/1/24 ID: 38
Finish: 5/3/24 Dur: 3 days
Res: SE1[25%], SE2[25%], ADF[$3,700.00]


NETWORK DIAGRAM
Training & Support
Start: 5/16/24 ID: 40
Finish: 5/17/24 Dur: 2 days
Comp: 0%
Monitoring & Control
Start: 5/17/24 ID: 44
Finish: 5/21/24 Dur: 2.5 days
Comp: 0%
Phase 2 Completed
Milestone Date: Mon 3/11/24
ID: 47
Phase 3: Closure & Evaluation
Start: 3/11/24 ID: 48
Finish: 5/22/24 Dur: 52.63 days
Comp: 0%
Systems Deployment
Start: 5/17/24 ID: 49
Finish: 5/21/24 Dur: 2.25 days
Comp: 0%
Project Closure
Start: 5/21/24 ID: 52
Finish: 5/22/24 Dur: 1.38 days
Comp: 0%


NETWORK DIAGRAM
Implement Data Migration Strategies
Start: 5/1/24 ID: 38
Finish: 5/9/24 Dur: 3 days
Res: SE1[15%], SE2[15%], ADF[$3,700.00]
Create User Manuals and Documentation
Start: 5/16/24 ID: 41
Finish: 5/16/24 Dur: 4 hrs
Res: TW[25%]
Establish IT support desk
Start: 5/16/24 ID: 43
Finish: 5/17/24 Dur: 2 days
Res: TA[25%], ITS[$85,000.00]
Conduct training sessions for staff and stak
Start: 5/16/24 ID: 42
Finish: 5/16/24 Dur: 4 hrs
Res: TW[25%]
Project Performance Tracking
Start: 5/17/24 ID: 45
Finish: 5/17/24 Dur: 2 hrs
Res: PM[15%]
Stakeholder Updates and Reporting
Start: 5/21/24 ID: 46
Finish: 5/21/24 Dur: 2 hrs
Res: BA[25%], CCS[25%], PM[25%], SE1[2
Deploy solutions in production environme
Start: 5/17/24 ID: 50
Finish: 5/20/24 Dur: 4 hrs
Res: CCS[25%], SE1[25%], SE2[25%], DEPL
Monitor system performance and initial fee
Start: 5/21/24 ID: 51
Finish: 5/21/24 Dur: 2 hrs
Res: BA[25%], CCS[25%], SE1[25%], SE2[2
Document lessons learned
Start: 5/21/24 ID: 53
Finish: 5/21/24 Dur: 1 hr
Res: TW[35%]
Release project resources
Start: 5/22/24 ID: 54
Finish: 5/22/24 Dur: 2 hrs
Res: PM[35%]

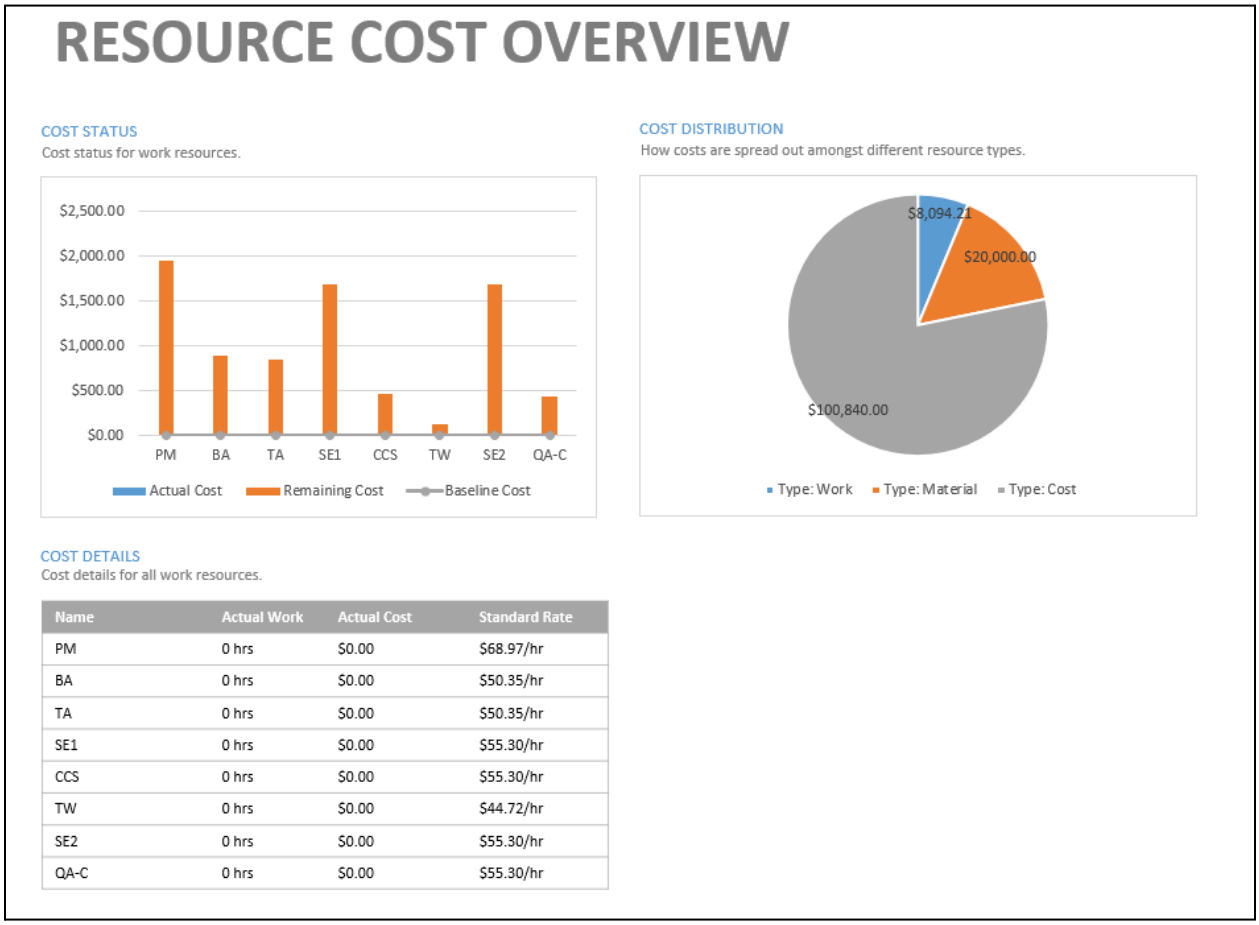

NETWORK DIAGRAM
Phase 3: Closure & Evaluation
Start: 3/11/24 ID: 48
Finish: 5/22/24 Dur: 52.63 days
Comp: 0%
Systems Deployment
Start: 5/17/24 ID: 49
Finish: 5/21/24 Dur: 2.25 days
Comp: 0%
Project Closure
Start: 5/21/24 ID: 52
Finish: 5/22/24 Dur: 1.38 days
Comp: 0%
Post-Implementation Review
Start: 3/11/24 ID: 55
Finish: 5/21/24 Dur: 51.75 days
Comp: 0%
Plan for ongoing maintenance and updates
Start: 3/11/24 ID: 58
Finish: 3/11/24 Dur: 2 hrs
Res: BA[25%], PM[25%]
Phase 3 Completed
Milestone Date: Mon 3/11/24
ID: 59


NETWORK DIAGRAM
Project Performance Tracking
Start: 5/17/24 ID: 45
Finish: 5/17/24 Dur: 2 hrs
Res: PM[25%]
Stakeholder Updates and Reporting
Start: 5/21/24 ID: 46
Finish: 5/21/24 Dur: 2 hrs
Res: BA[25%], CCS[25%], PM[25%], SE1[2
Deploy solutions in production environme
Start: 5/17/24 ID: 50
Finish: 5/20/24 Dur: 4 hrs
Res: CCS[25%], SE1[25%], SE2[25%], DEPL
Monitor system performance and initial fee
Start: 5/21/24 ID: 51
Finish: 5/21/24 Dur: 2 hrs
Res: BA[25%], CCS[25%], SE1[25%], SE2[2
Document lessons learned
Start: 5/21/24 ID: 53
Finish: 5/21/24 Dur: 1 hr
Res: TW[25%]
Release project resources
Start: 5/22/24 ID: 54
Finish: 5/22/24 Dur: 2 hrs
Res: PM[25%]
Evaluate project outcomes against objectiv
Start: 5/21/24 ID: 56
Finish: 5/21/24 Dur: 1 hr
Res: PM[25%]
Identify areas for improvement
Start: 5/21/24 ID: 57
Finish: 5/21/24 Dur: 2 hrs
Res: PM[25%]

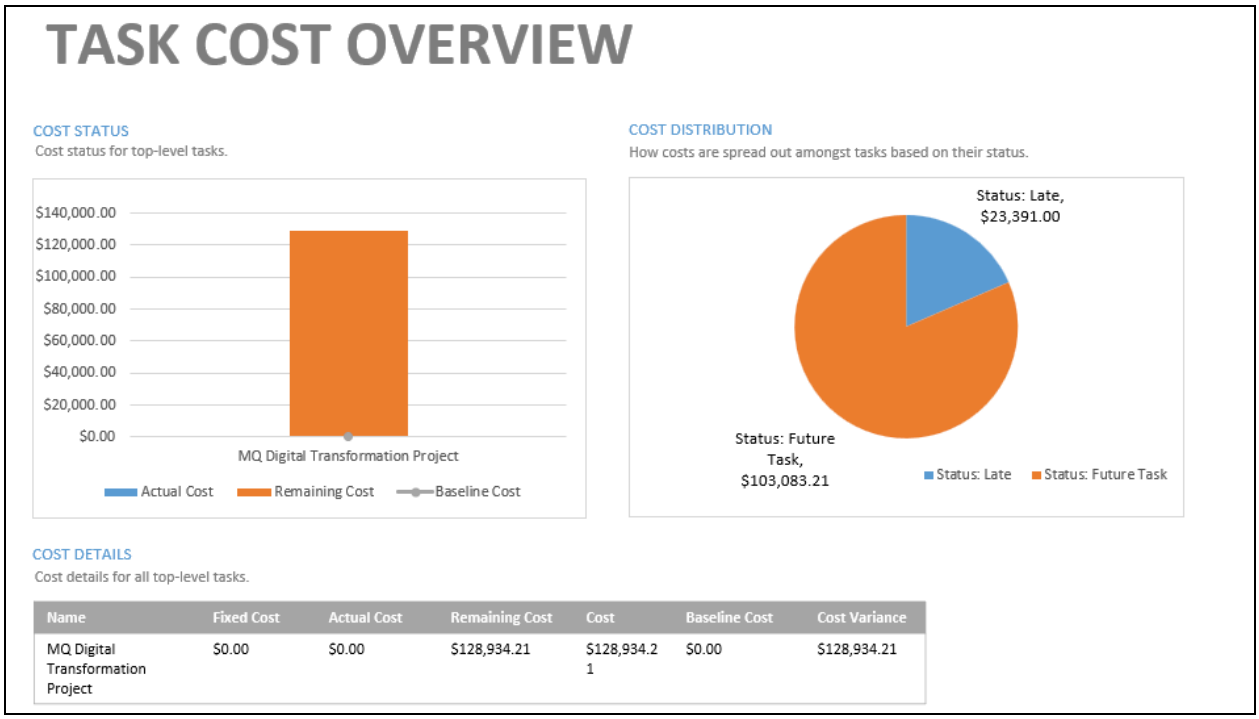
5. Discussion of Project Planning

5.1 Approach to Costing

Details about the different types of costs (resource sheet) are shown in Figure 5. Also, see the cost overview reports below.



Name	Actual Work	Actual Cost	Standard Rate
PM	0 hrs	$0.00	$68.97/hr
BA	0 hrs	$0.00	$50.35/hr
TA	0 hrs	$0.00	$50.35/hr
SE1	0 hrs	$0.00	$55.30/hr
CCS	0 hrs	$0.00	$55.30/hr
TW	0 hrs	$0.00	$44.72/hr
SE2	0 hrs	$0.00	$55.30/hr
QA-C	0 hrs	$0.00	$55.30/hr



5.1.1 Hourly wages

- Hourly wages for team members were calculated from the MQ Professional-Staff-Enterprise-Agreement. The full-time annual salary for Step 1 for each HEW Level was identified and the amount corresponding to a '2% increase from 28 July 2022' scale was selected. Based on the calculation, the hourly rates for the team are as follows:
    - PM (HEW Level 10): $68.97
    - BA and TA (HEW Level 7): $50.35
    - SE and CC (HEW Level 8): $55.30
    - TW (HEW Level 6): $44.72
- An additional staff dedicated to QA was hired on a Contract basis and was assigned to work on the System Testing task. The hourly rate for the Contract-QA was assumed to be the same as SE, i.e. $55.30.

5.1.1 Material & Other Costs

- As part of hardware procurement, a material cost of $20,000 is allocated to the project for sourcing IT hardware.
- Microsoft 365 E5. enterprise edition is selected to support collaboration among team members during the project timeline. The cost is calculated for 2 months (Compare Microsoft 365 Enterprise Plans | Microsoft 365, no date).
- Cloud Service Costs are allocated to support the storage requirements of the team during the project and to support cloud infrastructure (Pricing - Cloud Services | Microsoft Azure, no date).
- Software Development, Testing, and Deployment tools to support the System Implementation phase of the project. The cost for 2 months is calculated and allocated.
- For supporting data analytics-related tasks, Azure Data Factory is chosen as the potential vendor and prorated costs are allocated (Managed Databases | Microsoft Azure, no date).
- Git Enterprise is chosen as the core vendor to support core system development and the costs are allocated (Pricing Calculator, 2024).
- An outsourced IT support desk will be deployed to support the post-cut-over activities and manage IT issues. The support desk will be active after system deployment and will last till 1 month after the project implementation. Average costs depend on the number of users and costs per user per month (Adal, 2021). Therefore, allocated around $85,000 assuming that MQ has close to 10,000 users on average per month.

5.2 Approach to Timeframe & Allocation

- The project timeline was constrained to 2 months so the durations were adjusted to accommodate the tight deadlines.
- Similar projects influenced the decision-making process for timeframes and allocations like UTS Sydney digital transformation (Editor, 2020).
- Resource availability also influenced duration planning and allocations as the team members worked restricted hours per week.
- (Hakoune, 2020) suggests resource allocation strategies for effective project management.

6. References

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