Digital Transformation: A Project Management Case Study for Starlight Medical Center

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Summary

Project Overview: The goal of the digital transformation of Starlight Medical Center is to enhance operational Efficiency, improve patient care quality as well as ensuring better data security and management through the introduction of digital systems. Hospital Management System (HMS), Electronic Health Record (EHR), AI-Driven Diagnostics and telemedicine platform to streamline workflows and improve the overall services are the key integrations that will take place in this project.

Project Scope: The scope of the project includes the design, development and deployment of the following key components:

- **HMS**: appointment scheduling, inventory management and billing automations
- **EHR:** Facilitates secure, quick access to patient records
- **Telemedicine Platform:** Remote Consultation and diagnostics services
- **AI diagnostics system:** will use deep learning for accurate image-based diagnostics
- **Cybersecurity:** Ensures compliance with GDPR and HIPAA and ensures data protection
- **Training:** Provides the skills necessary to operate the new systems effectively

Out of scope: Excluded from the project are the following elements:

- **Biomedical equipment**
- **Hiring medical staff**
- **Improvement of non-digital medical services**

Objectives: The main objectives of the project are the following:

- **Increased Operational efficiency:** Administrative workload reduction by 40% and overhead costs by 20%
- **Improve Patient Care:** An achievement of 30% reduction in misdiagnoses
- **Enhance Data Security:** Implementation of robust cybersecurity measures to comply with regulatory standards
- **System Adoption:** Ensure an 85% adoption amongst staff within the first six months of the implementation

Timeframe: A catalytical date for the project completion is set for 31st of December 2025, with major milestones, such as system deployment and staff training, to occur throughout the year. The full system will go live by November 2025

Budget & Resources: To ensure financial control detailed budgeting and cost management is established with the total cost of 866.000$ and with a contingency plan of 10% is allocated for unexpected costs. The total budget of the project sums to 950.000$.

Risk Management: A management plan for the key identified risks, including cybersecurity threats, system failures, and data breaches is established. This plan consists of identification, assessment, and mitigation strategies to proactively address issues.

Stakeholder Management: Key stakeholders are involved in the project, such as, medical stuff, IT department, regulatory bodies, and patients. Regular communication and updates will ensure alignment with stakeholders' expectations, minimizing resistance, and optimizing adoption.

Metrics and KPIs: To track the project progress KPIs including EHR access time, system adoption rates, and cost reduction metrics will be complimenting Critical Success Criteria.

Conclusion: The project represents a transformative step for Starlight Medical Center by equipping it with cutting-edge digital tools to improve efficiency, enhance medical care, and ensure secure data management. The commitment of the project management team is to deliver these objectives within the defined scope, budget, and timeline.

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Acronyms/Abbreviations

Abbreviations	Definition
AI	Artificial Intelligence
WBS	Work Breakdown Structure
KPI	Key Performance Indicator
CSF	Critical Success Factors
EHR	Electronic Health Records
HMS	Health Management System
MoM	Minutes of Meetings
GDPR	General Data Protection Regulation
HIPAA	Health Insurance Portability & Accountability Act

Introduction

Company Profiles & Strategy

DigitalMed Solutions

DigitalMed Solutions is a technology company specializing in transforming healthcare organizations to improve efficiency, patient satisfaction, and data security. Our mission is to revolutionize healthcare operations by smoothly integrating smart, automated, and AI technologies to existing healthcare systems and providing thorough training for complete understanding of new systems and processes.

Starlight medical center

Starlight medical center is a mid-sized healthcare provider offering primary and specialized medical services. The company mainly focuses on services such as Services general consultations, diagnostics, and preventive healthcare. Additionally, it includes specialized departments, like cardiology, orthopedics and neurology. Lastly, there is an emergency department offering 24/7 support for critical patients.

The center includes four main employee categories presented in the table below

Categories	Number of Employees
Doctors	150
Nursing staff	250
Administrative staff	100
IT Team	50

Table 1. Starlight Medical Center employee breakdown

The main challenges faced by the clinic, which showcased the need for a digital transformation project include the need for improved patient experience and streamlined operations, based on patient surveys, the delays and inefficiencies due to manual processes and the data security and compliance concerns.

Selected Industry

Healthcare is one of the most important sectors in society, directly impacting public health and overall quality of life. Gopal et al. (2019) suggests that compared to other industries like media, banking, insurance, and retail, healthcare exhibits the least amount of digital innovation, which limits the increase of labor productivity. Radical changes in healthcare infrastructure, staff education, and budget allocation are required to improve this phenomenon.

Medical centers today are under increasing pressure, often dealing with high patient volumes that drain resources and create operational obstructions. These challenges highlight the need for smarter systems that help manage workflows more efficiently. At the same time, Stoumpos et al. (2023) explain how patients will determine the direction of the modern digital healthcare systems, by demanding improved experiences centered around personalization, comfort, accuracy, and immediate service delivery.

On top of this, the pace of medical innovation is accelerating. New technologies, such as AI-assisted diagnostics, electronic health records, and telemedicine, are redefining what's

possible in clinical care. However, as (Petzold & Steidle, 2023) suggest, a systematic coordination and evolution of the skillset of all medical professions is necessary for successful technology implementation.

Lastly, strict regulations such as GDPR and HIPAA demand that healthcare providers handle patient data with the highest standards of privacy and security. In this context, digital transformation in healthcare isn't just an upgrade; it's a necessary evolution for delivering safe, efficient, and future-ready care.

Paper Structure

The purpose of this paper is to provide an exhaustive and detailed project plan created by the project management team for the digital transformation of the Starlight medical Center. The project plan starts with the introduction of the companies involved and the project structure, which serves as essential context.

The main body of the report expands on the main characteristics, objectives, scoping inclusions and exclusions and deliverables of the transformation project. Key project management components such as the WBS, Gantt Chart, and budget sheet are included to demonstrate the specific digitization activities included, the hierarchical and chronological order of their execution along with the corresponding costing and resource allocation. Additional sections explore risk management, stakeholder engagement, and define the communication processes that will ensure cooperation and coordination throughout the project lifecycle.

The report also presents performance monitoring tools such as KPIs and CSFs, alongside ethical considerations relevant to healthcare digitalization. Lastly, each team member reflects on the main lessons learned from this case study.

Project Plan

Project Characteristics

Scope of work

One of the key aspects of managing digital transformation projects is project scope management (Al-Rubaiei et al., 2018). Scope alterations and misinterpretations could result in additional costs to the overall project budget. Furthermore, scope management guarantees the effective administration of all crucial project management areas, such as quality, cost, and time.

The scope of work defines the boundaries of the project, explaining what activities are included and excluded. It details the work to be performed, including key deliverables, features, systems, and exclusions.

The project focuses on the design, development, and deployment of the following digital healthcare systems for Starlight Medical Center.

Firstly, the central **Hospital Management System (HMS)**, will feature *billing and inventory management functionalities and automated appointment scheduling.* Increased

cybersecurity controls and access management will be included for data safety, along with a *Digital Electronic Health Records (EHR) system* with enhanced record access and analysis, processing, and reporting functionalities as suggested by Janett & Yeracaris (2020).

A **Telemedicine Platform** will also be created to provide video consultation and diagnosis services for patients, especially in cases of increased demand or special needs as suggested by Combi et al. (2016). The platform will work closely with the EHR and scheduling systems to enhance the usability of the application, while maintaining strong security standards.

Additionally, an **AI-Driven Diagnostic System** will be included to tackle the issue of misdiagnosis and increased data processing times. The diagnostic system is created with top performing deep learning models for CT/MRI image interpretation and classification.

The required **IT infrastructure enhancements** for all the above digital transformation measures will be included in the project's scope. These include network and hardware upgrades to support system performance, as well as data migration from legacy systems to the new digital platforms. Along comes the **Cybersecurity Framework,** with the implementation of penetration tests, encryption protocols, and GDPR/HIPAA compliance verification.

Following the deployment of all systems, the firm is responsible for developing training materials and manuals for **Staff Training** process**.** On-site training sessions and adoption workshops are going to take place to familiarize medical staff with the new technologies and increase adoption rates. Moreover, cybersecurity awareness programs will showcase the importance of careful and safe system usage.

To maintain focus and ensure resource efficiency, the following activities are explicitly **excluded** from this project:

- Procurement or enhancement of biomedical equipment and diagnostic machinery (e.g., MRI scanners, surgical robotics).
- Hiring additional medical staff.
- Non-digital patient care improvements.

Objectives

The project management team has identified some specific, measurable outcomes that are expected to be met by the project's completion and will determine the degree of success in terms of time management, cost management, performance increase, and stakeholder satisfaction. Such objectives should follow the SMART criteria (Specific, Measurable, Achievable, Relevant, Time-bound), as suggested by (Duca, 2021).

The primary goal of the digital transformation project at Starlight Medical Center is to design modern digital systems that increase the center's operational efficiency, patient care quality, and data security. The first measurable goal of the project is to reduce the amount of administrative workload by 40%, as measured by the manual documentation time per patient. The integration of EHR in all systems should ensure that 100% of digitized patient records can be accessed within 5 seconds, resulting to faster and more accurate clinical outcomes and overall better patient care. Automated billing, scheduling, and inventory systems are set to reduce administrative and overhead costs by 20%. Another objective refers to the minimization of misdiagnosis and prescription errors by 30%, through the

integration of AI-assisted diagnostic tools. The inventory management system is implemented in an effort to achieve 90% accuracy in real-time tracking of medical equipment and supplies, resulting in better logistics and procurement management. Lastly, the project aims to ensure at least 85% system adoption rate among staff within six months of implementation.

The project management team strives to guarantee the proper execution of all deliverables within the scope of the project, in addition to setting outcome-based targets. The objective is to complete the project within the predetermined budget and timeframe (with a maximum cost overrun of 5%), while actively engaging stakeholders and resolving issues to monitor and reduce risks.

Roles and Responsibilities

As the project management team, we have established clear agreements to ensure smooth collaboration and accountability throughout the project. For this matter, we allocated the following roles and responsibilities based on each member's main strengths and interests.

Role Titles	*Members*	*Descriptions*
Research & Content Lead	Emmanouil	Conducts research, gathers data, and drafts content for reports and presentations
Editor & Proofreader	Kyriakos	Reviews content, ensures quality and consistency in documentation
Documentation	Emmanouil	Organizes and writes project-related documents, deliverables and meeting notes
Presentation Creator	George	Design and preparation of presentations and visual materials
Meeting Coordinator	George	Schedules, documents, and manages meeting agendas and minutes
Communication	Kyriakos	Communication between team members and professor

Table 2. Team roles and responsibilities

The respective responsibility assignment matrix based on the allocated roles is displayed in Table 3, with the matrix annotations being R – Responsible, A- Accountable, C – Consulted and I – Informed.

Project Activity	Emmanouil	Kyriakos	George
Project Planning	C	A	R
Research	R	C	A
Content Drafting	R	C	A
Editing & Proofreading	A	R	C
Project Documentation	R	A	I
Presentation Design	A	C	R
Meeting Coordination	I	A	R
Communication	I	R	A

Table 3. RACI Matrix

Scoping

WBS Theory

A work breakdown structure (WBS) is a visual, hierarchical and deliverable-oriented deconstruction of a project. It includes the project's scope of work at the highest level, which is further broken down into smaller parts called work packages, which may include other sub-tasks (Novak et al., 2023). The successful completion of all internal tasks leads to the completion of the entire package.

The importance of the WBS for project management lies on the help it offers to identify the scope of work at various levels and assign responsibilities effectively. There are various advantages to creating a WBS (Su and Zheng, 2021). It helps in defining and organizing the work that is needed. It helps in the faster development of a schedule, and this is done by allocating the effort estimates to certain sections of the WBS

The Work Breakdown Structure developed for this digitization project is presented below. This WBS serves as a helpful tool for organizing tasks and responsibilities of this project, ensuring that all important aspects of the project are addressed.

We structured the WBS into 9 main levels, regarding what activities will be included in our project. The full WBS is presented below

- 1. Project Governance & Management
  1.1 Project Charter & Scope Definition
  1.2 Team Contract
  1.3 WBS and Gantt chart
  1.4 Stakeholder Identification & Communication Plan
  1.5 Budget Planning & Financial Management
  1.6 Risk Management Plan
  1.7 KPIs and other metrics
  1.8 Meeting Agendas
  1.9 Approval & Feedback Meetings with Stakeholders
  1.10 Issue resolution during project execution

- 2. Business Analysis & Requirements Gathering
  - 2.1 Staff workflow analysis (doctors, nurses, admin)
  - 2.2 QA and feedback gathering
  - 2.3 Documentation of user requirements
  - 2.4 Identification of operational and technical challenges
  - 2.5 Strategic plan for system development
  - 2.6 Budget reallocation
  - 2.7 Market research and solution benchmarking
  - 2.8 Request for Proposal (RFP) process and evaluation
  - 2.9 Vendor negotiations and contract finalization
- 3. Infrastructure Preparation & Procurement
  - 3.1 Network infrastructure upgrades
  - 3.2 Hardware and server enhancement
  - 3.3 System architecture design and scalability
  - 3.4 Infrastructure upgrades
  - 3.5 Secure data cleansing, transfer and storage
  - 3.6 Equipment procurement
- 4. Core System Development
  - 4.1 3rd party consultation meetings
  - 4.2 Electronic Health Record (EHR) access integration
  - 4.3 Appointment scheduling and patient registration systems
  - 4.4 Billing and financial transactions module
  - 4.5 Telemedicine Platform development
  - 4.6 AI Diagnostic Tools with CT and MRI diagnostic support algorithms
  - 4.7 Cybersecurity enhancement and integration with system
- 5. System Testing
  - 5.1 Unit and module testing
  - 5.2 System-wide testing
  - 5.3 Functionality and performance verification
  - 5.4 Pilot deployment and real-world usage simulation
  - 5.5 End-user feedback collection and issue tracking
- 6. Quality Assurance & Compliance
  - 6.1 Cybersecurity Penetration testing and vulnerability scanning
  - 6.2 Security incident response readiness
  - 6.3 GDPR compliance verification
  - 6.4 HIPAA compliance audit
  - 6.5 Documentation of data protection protocols
- 7. Training & Change Management
  - 7.1 Staff Training Program creation
  - 7.2 In-person sessions and materials
  - 7.3 Competency checks and quizzes
  - 7.4 Engagement plans for change adoption
- 8. Deployment & Rollout
  - 8.1 Deployment in test department
  - 8.2 Feedback-driven iteration
  - 8.3 Phased deployment across departments
  - 8.4 On-site support and issue handling
  - 8.5 Performance monitoring
- 9. Evaluation, Optimization & Closure
  - 9.1 System performance assessment
  - 9.2 User satisfaction survey

9.3 Enhancement planning and execution
9.4 Final report and stakeholder approval
9.5 Knowledge transfer and transition to maintenance

Time Planning

An accurate and detailed time planning process is essential for a clear and structured project development. The Gantt Chart is one of the most used tools to simply and effectively present and demonstrate the activities that a project includes along with the dependencies between them and the time frame for their execution.

Gantt Chart

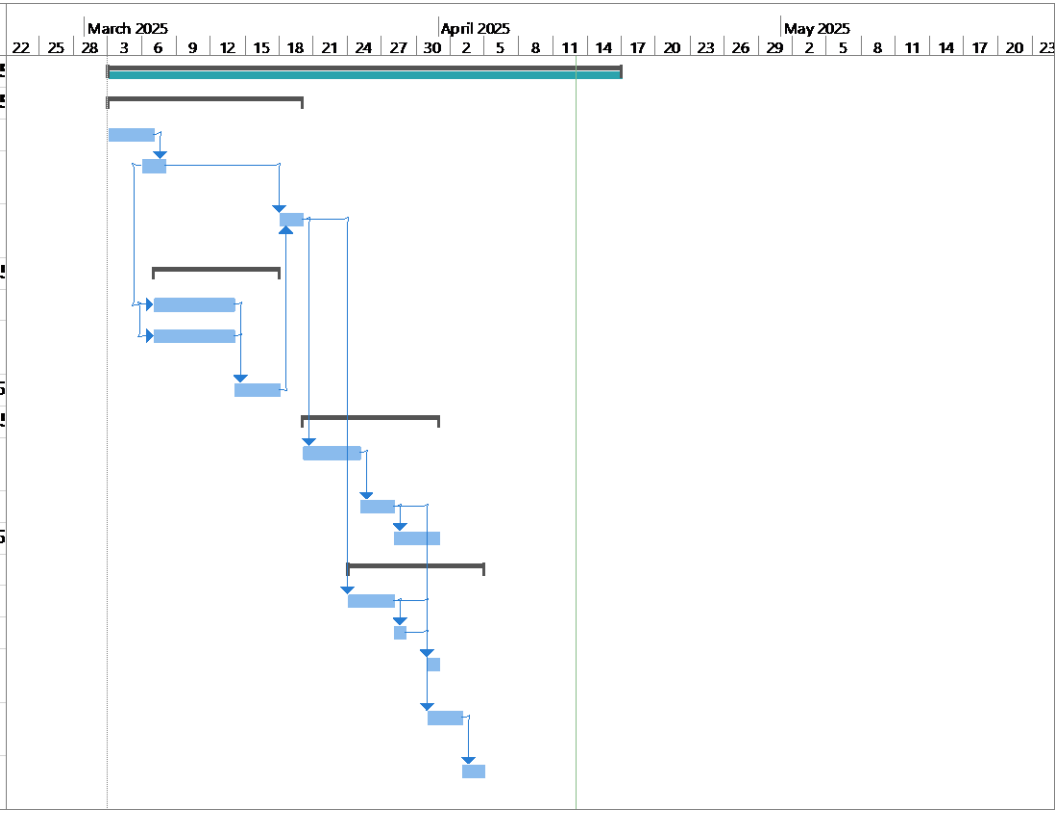
Introduction

A Gantt chart is a type of bar chart that illustrates a project schedule. It is one of the most important tools in project management, given that it is essential for human resource management, cost monitoring, material management, and time tracking and efficiency (Ramachandran & Karthi, 2019). The Gantt chart presents the interdependencies projected in WBS and ensures efficient management of timelines and resources (Novak et al., 2023).

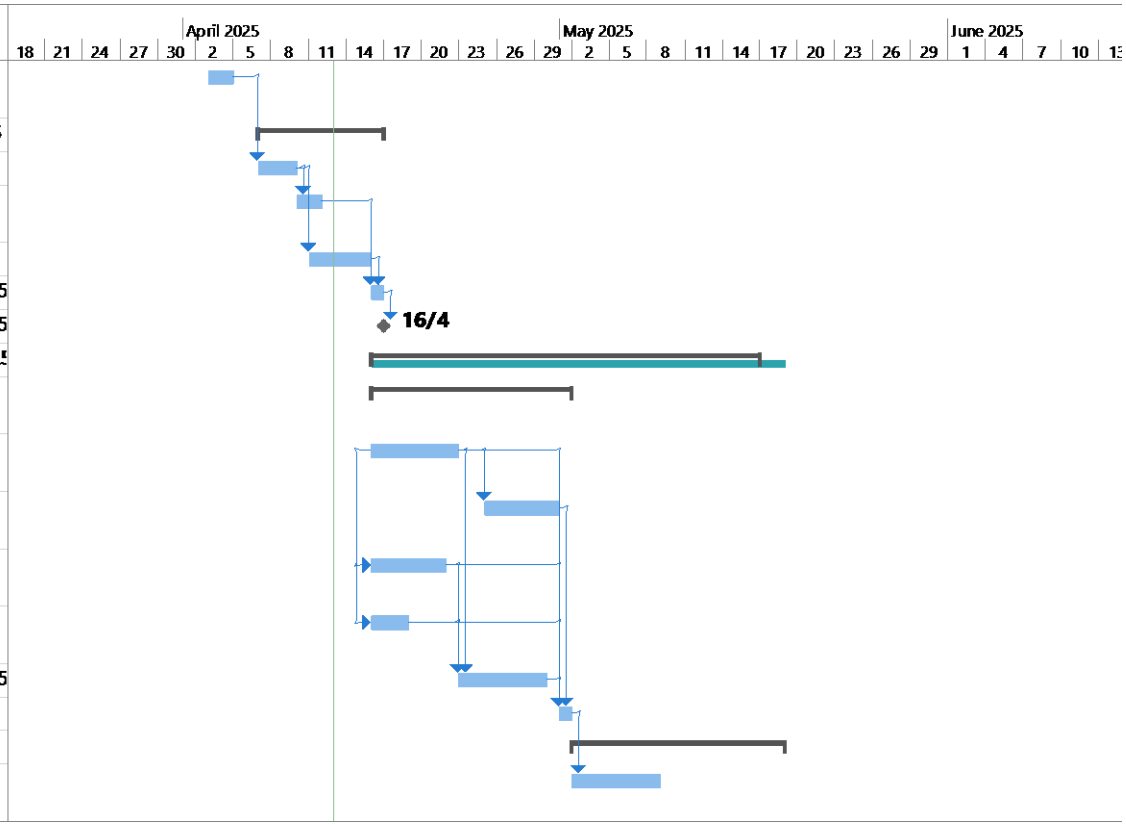
The detailed Gantt Chart created in Microsoft Project can be found in the Appendix. It contains detailed information on task start and completion dates and dependencies. The snapshots below show the full Gantt Chart diagram that analytically depicts the entire project's timeline.

Gantt Chart

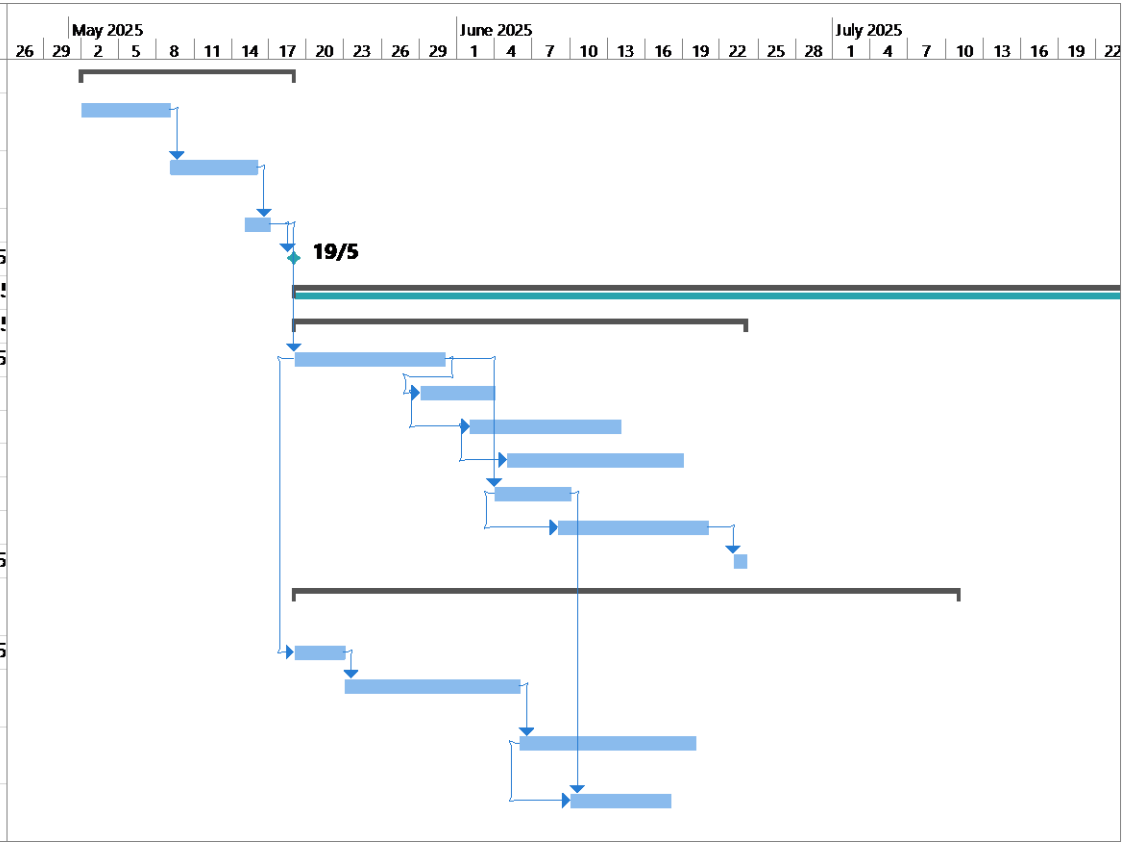
ID	Task Name	Duration	Start	Finish
1	**1. Planning & Approval**	**33 days**	**Mon 3/3/25**	**Wed 16/4/25**
2	*Define project scope and objectives*	**13 days**	**Mon 3/3/25**	**Wed 19/3/25**
3	Identify digital transformation goals	4 days	Mon 3/3/25	Thu 6/3/25
4	Document project objectives and expected outcomes	2 days	Thu 6/3/25	Fri 7/3/25
5	Finalize project scope inclusions and exclusions	2 days	Tue 18/3/25	Wed 19/3/25
6	*Conduct needs assessment with hospital staff*	**7 days**	**Fri 7/3/25**	**Mon 17/3/25**
7	Identify existing operational challenges	5 days	Fri 7/3/25	Thu 13/3/25
8	Gather input from doctors, nurses, and admin staff	5 days	Fri 7/3/25	Thu 13/3/25
9	Document key user requirements	2 days	Fri 14/3/25	Mon 17/3/25
10	*Identify key stakeholders and assign roles*	**8 days**	**Thu 20/3/25**	**Mon 31/3/25**
11	Create stakeholder matrix (internal and external)	3 days	Thu 20/3/25	Mon 24/3/25
12	Assign project roles and responsibilities	3 days	Tue 25/3/25	Thu 27/3/25
13	Develop stakeholder communication strat	2 days	Fri 28/3/25	Mon 31/3/25
14	*Approve budget and conduct risk assessment*	**10 days**	**Mon 24/3/25**	**Fri 4/4/25**
15	Discuss 1st Budget estimation	4 days	Mon 24/3/25	Thu 27/3/25
16	Meet with Board to approve budget	1 day	Fri 28/3/25	Fri 28/3/25
17	Finalize budget allocation per project component	1 day	Mon 31/3/25	Mon 31/3/25
18	Identify potential risks and mitigation strategies	3 days	Mon 31/3/25	Wed 2/4/25
19	Establish financial monitoring and control mechanisms	2 days	Thu 3/4/25	Fri 4/4/25



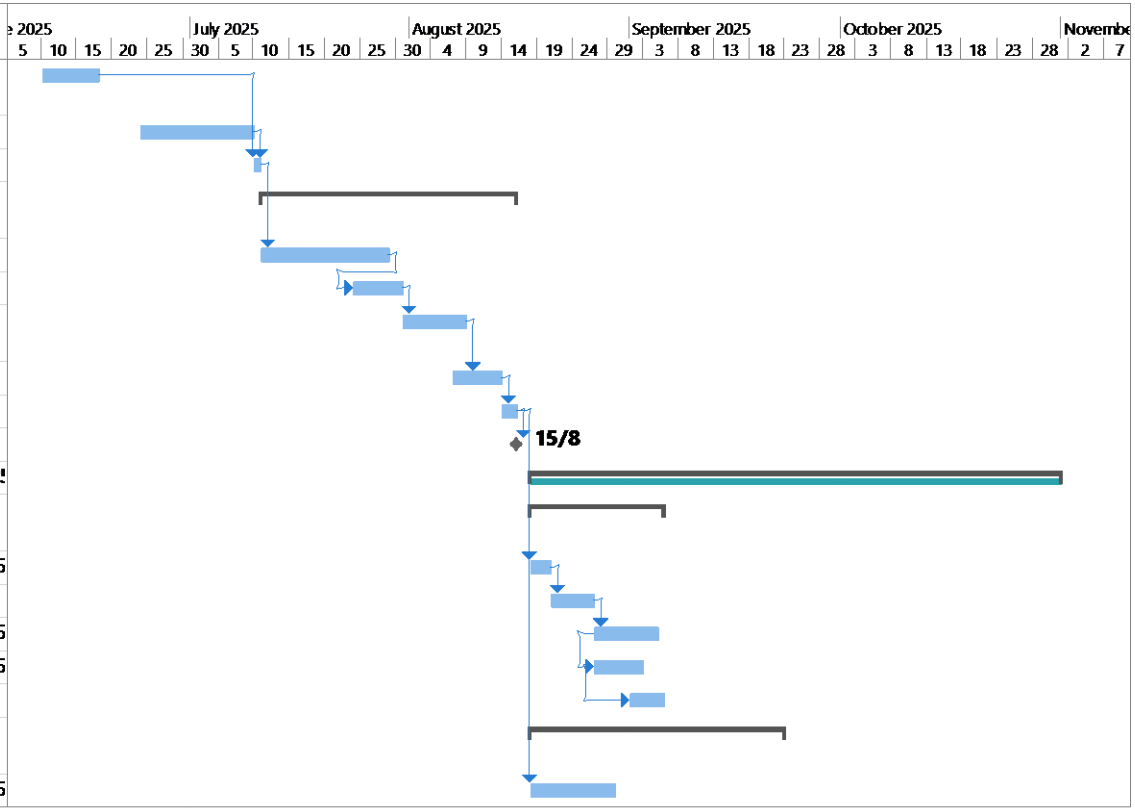
ID	Task Name	Duration	Start
19	Establish financial monitoring and control mechanisms	2 days	Thu 3/4/25
20	*Develop initial project charter*	**8 days**	**Mon 7/4/25**
21	Draft project charter	3 days	Mon 7/4/25
22	Discuss with stakeholders for charter approval	2 days	Thu 10/4/25
23	Establish project management framework	3 days	Fri 11/4/25
24	Schedule project kick-off meeting	1 day	Wed 16/4/25
25	Project Approval and Planning Completed	0 days	Wed 16/4/25
26	**2. Research & System Requirements**	**23 days?**	**Wed 16/4/25**
27	*Define system requirements (EHR, billing, security, AI integration)*	**12 days?**	**Wed 16/4/25**
28	Specify EHR system functionality and integration needs	5 days	Wed 16/4/25
29	Define cybersecurity protocols and access controls	4 days	Fri 25/4/25
30	Identify AI-driven diagnostic support requirements	4 days	Wed 16/4/25
31	Establish telemedicine platform specifications	3 days	Wed 16/4/25
32	Identify infrastructure upgrade needs	5 days	Wed 23/4/25
33	Finalize project deliverables	1 day?	Thu 1/5/25
34	*Select technology solutions and vendors*	**11 days**	**Fri 2/5/25**
35	Research available system solutions from 3rd party vendors	5 days	Fri 2/5/25



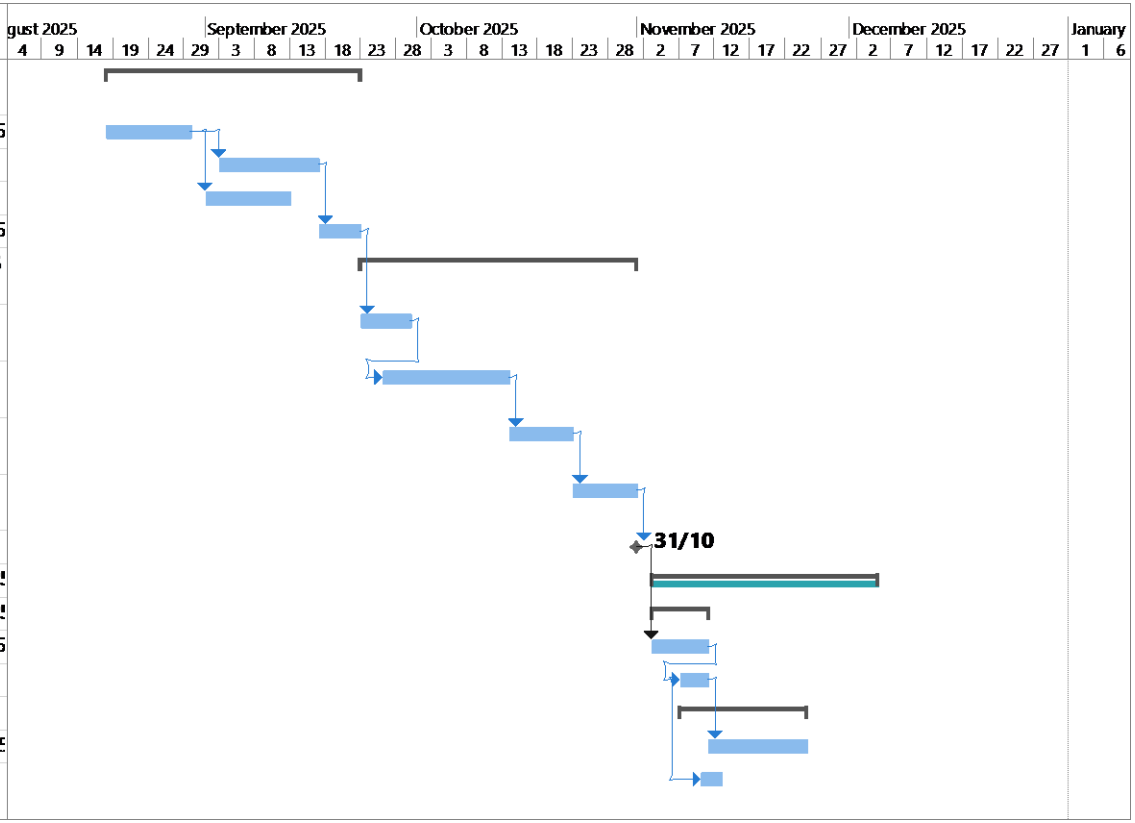
ID	Task Name	Duration	Start
34	*Select technology solutions and vendors*	**11 days**	**Fri 2/5/25**
35	Research available system solutions from 3rd party vendors	5 days	Fri 2/5/25
36	Compare vendor proposals and negotiate contracts	5 days	Fri 9/5/25
37	Obtain approval by project sponsor	2 days	Thu 15/5/25
38	Research and Project Scope completion	0 days	Mon 19/5/25
39	**System Development & Testing**	**65 days**	**Mon 19/5/25**
40	*Develop the hospital management system (HI*	**26 days**	**Mon 19/5/25**
41	Design system architecture and data flow	10 days	Mon 19/5/25
42	Consult 3rd party vendor for EHR integratic	4 days	Thu 29/5/25
43	EHR integration	10 days	Mon 2/6/25
44	Configure billing and scheduling systems	10 days	Thu 5/6/25
45	Consult cybersecurity 3rd party vendor	4 days	Wed 4/6/25
46	Implement cybersecurity measures	10 days	Mon 9/6/25
47	Finalize HMS 1.0	1 day	Mon 23/6/25
48	*Development of AI diagnostics system & Telemedicine*	**39 days**	**Mon 19/5/25**
49	Consult with 3rd party AI vendor	4 days	Mon 19/5/25
50	Develop AI algorithms for CT and MRI diagnostics	10 days	Fri 23/5/25
51	Integrate AI tools with hospital imaging systems	10 days	Fri 6/6/25
52	Establish end-to-end encryption for patient records	6 days	Tue 10/6/25



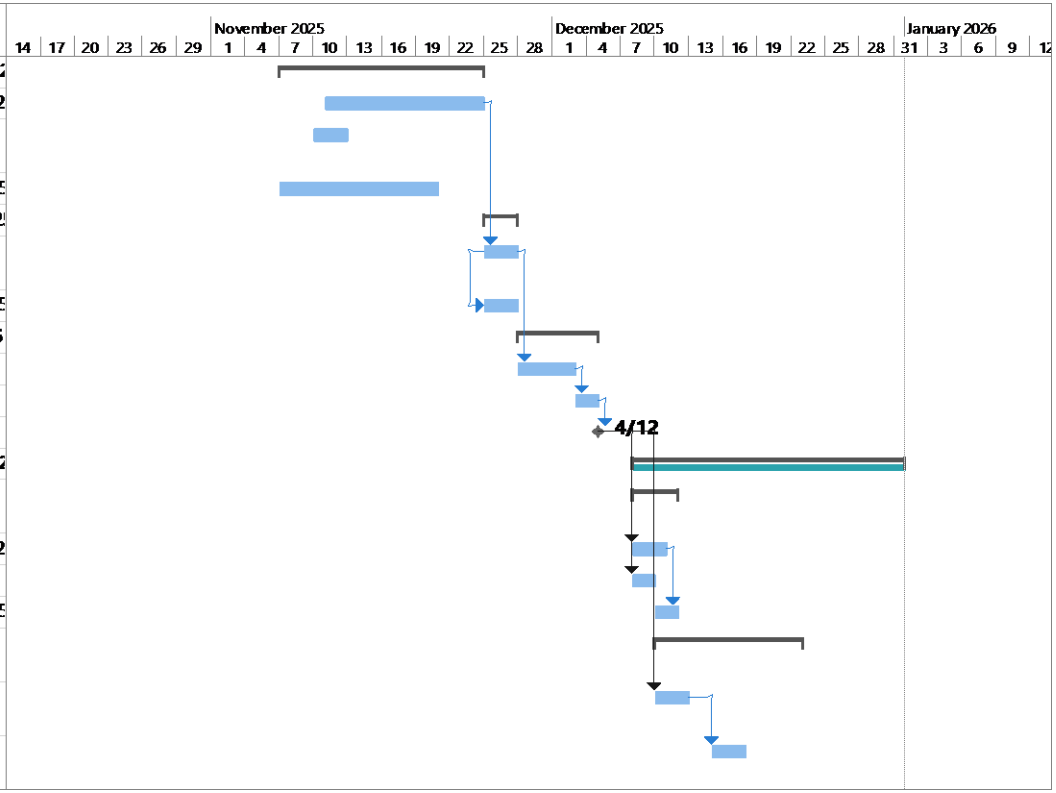
ID	Task Name	Duration	Start
52	Establish end-to-end encryption for patient records	6 days	Tue 10/6/25
53	Develop telemedicine functionality	12 days	Tue 24/6/25
54	Finalize AI and teleemdicine systems 1.0	1 day	Thu 10/7/25
55	*Conduct internal system testing and fix major issues*	**26 days**	**Fri 11/7/25**
56	Perform initial system functionality testing	12 days	Fri 11/7/25
57	Identify and document software bugs	5 days	Thu 24/7/25
58	Conduct penetration testing for security validation	7 days	Thu 31/7/25
59	Implement necessary system fixes	5 days	Thu 7/8/25
60	Final System Test	2 days	Thu 14/8/25
61	System Development & Testing Completion	0 days	Fri 15/8/25
62	**System Integration & Training**	**55 days**	**Mon 18/8/25**
63	*Deploy HMS in a pilot department for initial testing*	**15 days**	**Mon 18/8/25**
64	Select department for pilot implementation	3 days	Mon 18/8/25
65	Configure pilot system environment	4 days	Thu 21/8/25
66	Conduct real-time testing with hospital sta	7 days	Wed 27/8/25
67	Gather feedback	5 days	Wed 27/8/25
68	Make initial system refinements	5 days	Mon 1/9/25
69	*Train hospital staff on system usage and security procedures*	**26 days**	**Mon 18/8/25**
70	Develop training materials and manuals	10 days	Mon 18/8/25



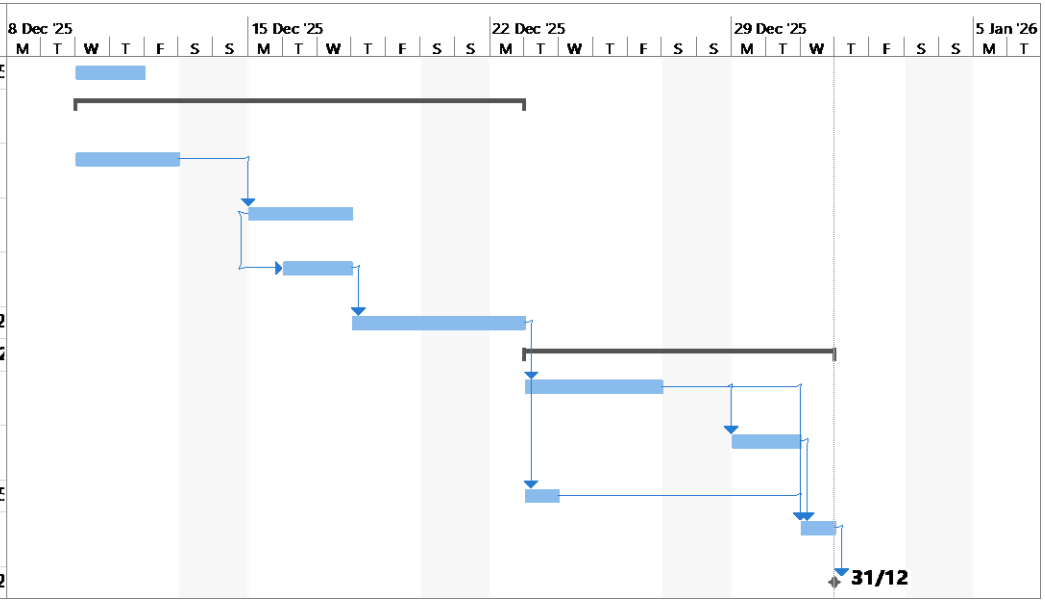
ID	Task Name	Duration	Start
69	*Train hospital staff on system usage and security procedures*	**26 days**	**Mon 18/8/25**
70	Develop training materials and manuals	10 days	Mon 18/8/25
71	Conduct in-person training sessions	10 days	Wed 3/9/25
72	Organize cybersecurity awareness worksh	10 days	Mon 1/9/25
73	Evaluate staff readiness through quizzes	4 days	Wed 17/9/25
74	*Optimize system performance based on feedback*	**29 days**	**Tue 23/9/25**
75	Analyze feedback from pilot testing and training	5 days	Tue 23/9/25
76	Update system functionalities based on user feedback	12 days	Fri 26/9/25
77	Conduct secondary user acceptance testing (UAT)	7 days	Tue 14/10/25
78	Finalize system configurations for full deployment	7 days	Thu 23/10/25
79	Training & Testing completion	0 days	Fri 31/10/25
80	**Full Deployment**	**24 days**	**Mon 3/11/2**
81	*Pre-Deployment Preparations*	**6 days**	**Mon 3/11/2**
82	Finalize deployment plan	6 days	Mon 3/11/25
83	Verify system configurations	2 days	Fri 7/11/25
84	**Full System Roll-out (Go-Live)**	**12 days**	**Fri 7/11/25**
85	Begin deployment in phases	10 days	Tue 11/11/2
86	Migrate existing hospital data to the new system	3 days	Mon 10/11/25



ID	Task Name	Duration	Start	Finish
84	**Full System Roll-out (Go-Live)**	**12 days**	**Fri 7/11/25**	**Mon 24/11/2**
85	Begin deployment in phases	10 days	Tue 11/11/25	Mon 24/11/2
86	Migrate existing hospital data to the new system	3 days	Mon 10/11/25	Wed 12/11/25
87	Provide on-site IT & vendor support	10 days	Fri 7/11/25	Thu 20/11/25
88	*Post-Deployment Stabilization*	**3 days**	**Tue 25/11/2**	**Thu 27/11/2**
89	Conduct live system validation to ensure funcitonality	3 days	Tue 25/11/25	Thu 27/11/25
90	Address immediate issues	3 days	Tue 25/11/25	Thu 27/11/25
91	*Compliance & Security Validation*	**5 days**	**Fri 28/11/25**	**Thu 4/12/25**
92	Conduct compliance audit (GDPR, HIPAA)	3 days	Fri 28/11/25	Tue 2/12/25
93	Perform final cybersecurity assessment	2 days	Wed 3/12/25	Thu 4/12/25
94	Full System Deployment Completed	0 days	Thu 4/12/25	Thu 4/12/25
95	**Evaluation & Optimization**	**18 days**	**Mon 8/12/25**	**Wed 31/12/2**
96	*Conduct final system audit and performance review*	**4 days**	**Mon 8/12/25**	**Thu 11/12/25**
97	Assess system efficiency and user satisfac	3 days	Mon 8/12/25	Wed 10/12/2
98	Verify functionality of all system compone	2 days	Mon 8/12/25	Tue 9/12/25
99	Identify areas requiring further optimizatic	2 days	Wed 10/12/2	Thu 11/12/25
100	*Gather user feedback and address necessary improvements*	**9 days**	**Wed 10/12/25**	**Mon 22/12/25**
101	Collect feedback via surveys and stakeholder meetings	3 days	Wed 10/12/25	Fri 12/12/25
102	Analyze data and categorize enhancement requests	3 days	Mon 15/12/25	Wed 17/12/25



ID	Task Name	Duration	Start	Finish
99	Identify areas requiring further optimizatic	2 days	Wed 10/12/2	Thu 11/12/25
100	*Gather user feedback and address necessary improvements*	**9 days**	**Wed 10/12/25**	**Mon 22/12/25**
101	Collect feedback via surveys and stakeholder meetings	3 days	Wed 10/12/25	Fri 12/12/25
102	Analyze data and categorize enhancement requests	3 days	Mon 15/12/25	Wed 17/12/25
103	Develop a post-implementation improvement plan	2 days	Tue 16/12/25	Wed 17/12/25
104	Implement prioritized system upgrades	3 days	Thu 18/12/25	Mon 22/12/2
105	*Project Closure & Transition to Maintenance*	**7 days**	**Tue 23/12/2**	**Wed 31/12/2**
106	Prepare and submit project completion report	4 days	Tue 23/12/25	Fri 26/12/25
107	Conduct final stakeholder review and approval	2 days	Mon 29/12/25	Tue 30/12/25
108	Document lessons learned for future proje	1 day	Tue 23/12/25	Tue 23/12/25
109	Officially close project and transition to maintenance phase	1 day	Wed 31/12/25	Wed 31/12/25
110	Project Optimized and Delivered	0 days	Wed 31/12/2	Wed 31/12/2



Deliverables

Project management relies heavily on deliverables, which are the particular outputs, products, or outcomes that a project aims to create and provide to its stakeholders. These can be intangible, like software or a training program, or tangible, like a infrastructure upgrades and medical machinery. Notably, a deliverable is something that was produced over time, using resources and effort, and it can be measured. In Table 4, we present the most important deliverables, based on the scope of this digitalization project, along with their estimated completion dates based on the Gantt chart provided.

KEY DELIVERABLE	PLANNED COMPLETION DATE
Approved Project Charter, Scope, and Stakeholder Plan	4/16/2025
Finalized Budget and Risk Management Plan	4/16/2025
Defined System Requirements (EHR, Billing, Security, AI)	5/1/2025
Selected Technology Solutions and Vendor Contracts Finalized	5/19/2025
Fully Operational Hospital Management System (HMS)	6/23/2025
AI-Powered Diagnostic Tools Integrated (CT, MRI support)	7/10/2025
Telemedicine Platform Fully Developed	7/10/2025
Successful Pilot Department Deployment	9/5/2025
Staff Trained on System Usage and Cybersecurity	9/22/2025
Finalized and Optimized Full System Configuration	10/31/2025
Full Hospital System Go-Live and Data Migration Completed	11/24/2025
Compliance and Security Validation (GDPR, HIPAA)	12/4/2025
Final System Audit, User Satisfaction Evaluation	12/31/2025
Project Closure and Transition to Maintenance	12/31/2025

Table 4. Project Deliverables

Cost Management

Introduction

In any healthcare digitalization project, comprehensive budgeting is crucial for the project's success. Staying within budget is one of the greatest challenges a project can face as poor resource allocation and insufficient criteria are major mistakes that can push a project off-budget.

The cost management report is an important tool to forecast the total cost of the project and being able to have financial control over the entire course of the project. Such a report should contain the resources needed as well as the total effort of every resource to complete

the task. Furthermore, the resource grouping is essential to be done in great care, so the cost management report is manageable for the people using it.

Cost management Process

The Cost management team will implement a strategy to be able to identify the resources needed as well as the estimated cost to complete every task. They are also responsible for providing a comprehensive report for the total cost of every phase and the utilization of every resource. Figure 1 displays a workflow diagram of the precise cost management procedure that the finance team is expected to follow, in order to guarantee accurate and comprehensive results.

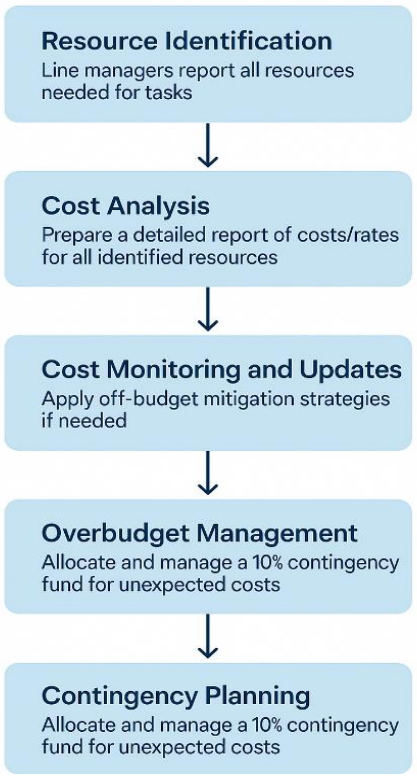


Figure 1. Cost management workflow

Budgeting Registry

Our team used a budgeting template to register the total budget of the project as the man-effort needed to complete every task. This registry consists of:

- The Tasks – All the second level tasks are identified
- The Resources – All the resources of the project are identified and allocated accordingly
- The Effort and Cost – the effort and cost of every resource is stated per task
- A complete resource registry – giving the type, rate and cost of period
- Reporting - A thorough reporting that gives the total cost of every phase, cost per resource, as well as effort per resource to avoid overutilization of certain resources

Budget Recap

The total cost of the project is 866.000$ in a total of 6 different phases:

1. Phase: 69.000$
2. Phase: 374.000$
3. Phase: 156.000$
4. Phase: 111.000$
5. Phase: 69.000$
6. Phase: 86.600$

The Grand Total of the Project's Budget with a 10% contingency goes up to 950.000$. The detailed budget analysis chart is presented in Tables 5 and 6, providing detailed analysis of the costing for each recourse category involved in this project.

The "BUDGETFINAL Team2.xlsx" file found in the Appendix of this report contains the detailed budget registry, as well as detailed resource-costing sheets offering additional budget breakdown.

											Resources			
Tasks	Software Developers & Cyber securit		Project Management		Finance and Procurement		Legal Advisors & Compliance Experts		Data analysts and Gatherers		Trainers		Syrveys	
Cost element	Effort	Cost	Effort	Cost	Effort	Cost	Effort	Cost	Effort	Cost	Effort	Cost	Effort	Cost
Phase 1														
Task 1.1		€ -	13	€ 14.560,00		€ -		€ -		€ -		€ -		€ -
Task 1.2		€ -		€ -		€ -		€ -	7	€ 5.040,00		€ -	50	€ 500,00
Task 1.3		€ -	8	€ 8.960,00		€ -		€ -		€ -		€ -		€ -
Task 1.4		€ -	2	€ 2.240,00	10	€ 7.200,00		€ -		€ -		€ -		€ -
Task 1.5	2	€ 3.200,00	8	€ 8.960,00	2	€ 1.440,00	2	€ 3.840,00		€ -		€ -		€ -
Phase 2														
Task 2.1	12	€ 19.200,00	4	€ 4.480,00		€ -		€ -	12	€ 8.640,00		€ -		€ -
Task 2.2	2	€ 3.200,00	2	€ 2.240,00	12	€ 8.640,00		€ -		€ -		€ -		€ -
Phase 3														
Task 3.1	26	€ 41.600,00	2	€ 2.240,00		€ -		€ -	5	€ 3.600,00		€ -		€ -
Task 3.2	39	€ 62.400,00	2	€ 2.240,00		€ -		€ -		€ -		€ -		€ -
Task 3.3	26	€ 41.600,00	2	€ 2.240,00		€ -		€ -		€ -		€ -		€ -
Phase 4														
Task 4.1	15	€ 24.000,00	3	€ 3.360,00		€ -		€ -	3	€ 2.160,00		€ -		€ -
Task 4.2	4	€ 6.400,00		€ -		€ -		€ -		€ -	26	€ 14.560,00		€ -
Task 4.3	29	€ 46.400,00		€ -		€ -		€ -	13	€ 9.360,00		€ -		€ -
Phase 5														
Task 5.1	6	€ 9.600,00	6	€ 6.720,00		€ -		€ -		€ -		€ -		€ -
Task 5.2	12	€ 19.200,00	2	€ 2.240,00		€ -		€ -	3	€ 2.160,00		€ -		€ -
Task 5.3	3	€ 4.800,00	3	€ 3.360,00		€ -		€ -	3	€ 2.160,00		€ -	20	€ 200,00
Task 5.4	2	€ 3.200,00	5	€ 5.600,00		€ -	5	€ 9.600,00		€ -		€ -		€ -
Phase 6														
Task 6.1	18	€ 28.800,00	4	€ 4.480,00		€ -		€ -	4	€ 2.880,00		€ -		€ -
Task 6.2	9	€ 14.400,00	2	€ 2.240,00		€ -		€ -	9	€ 6.480,00		€ -	50	€ 500,00
Task 6.3		€ -	7	€ 7.840,00		€ -	7	€ 13.440,00	7	€ 5.040,00		€ -	50	€ 500,00
Total	205	328.000 €	75	84.000 €	24	17.280 €	14	26.880 €	66	47.520 €	26	14.560 €	170	1.700 €

Table 5: Budget Registry (Part 1)

Guides and Manuals		Servers		Routers and wifi terminals		Tablets and smart devices		Work Stations		oject Management Softwa		Cloud Services		Internet Services		Total	
Effort	Cost	Item	Cost	Item	Cost	Item	cost	Item	Cost	License	Cost	Expense	Cost	Expense	Cost		
	€ -		€ -		€ -		€ -		€ -	10	€ 4.000,00	1	€ 3.000,00	1	€ 6.000,00	€ 27.560,00	
	€ -		€ -		€ -		€ -		€ -		€ -		€ -		€ -	€ 5.540,00	
	€ -		€ -		€ -		€ -		€ -		€ -		€ -		€ -	€ 8.960,00	
	€ -		€ -		€ -		€ -		€ -		€ -		€ -		€ -	€ 9.440,00	
	€ -		€ -		€ -		€ -		€ -		€ -		€ -		€ -	€ 17.440,00	€ 68.940,00
																	Total - Phase 2
	€ -		€ -		€ -		€ -		€ -		€ -		€ -		€ -	€ 32.320,00	
	€ -	25	€ 150.000,00	45	€ 67.500,00	70	€ 56.000,00	45	€ 54.000,00		€ -		€ -		€ -	€ 341.580,00	€ 373.900,00
																	Total - Phase 3
	€ -		€ -		€ -		€ -		€ -		€ -		€ -		€ -	€ 47.440,00	
	€ -		€ -		€ -		€ -		€ -		€ -		€ -		€ -	€ 64.640,00	
	€ -		€ -		€ -		€ -		€ -		€ -		€ -		€ -	€ 43.840,00	€ 155.920,00
																	Total - Phase 4
	€ -		€ -		€ -		€ -		€ -		€ -		€ -		€ -	€ 29.520,00	
250	€ 5.000,00		€ -		€ -		€ -		€ -		€ -		€ -		€ -	€ 25.960,00	
	€ -		€ -		€ -		€ -		€ -		€ -		€ -		€ -	€ 55.760,00	€ 111.240,00
																	Total - Phase 5
	€ -		€ -		€ -		€ -		€ -		€ -		€ -		€ -	€ 16.320,00	
	€ -		€ -		€ -		€ -		€ -		€ -		€ -		€ -	€ 23.600,00	
	€ -		€ -		€ -		€ -		€ -		€ -		€ -		€ -	€ 10.520,00	
	€ -		€ -		€ -		€ -		€ -		€ -		€ -		€ -	€ 18.400,00	€ 68.840,00
																	Total - Phase 6
	€ -		€ -		€ -		€ -		€ -		€ -		€ -		€ -	€ 36.160,00	
	€ -		€ -		€ -		€ -		€ -		€ -		€ -		€ -	€ 23.620,00	
	€ -		€ -		€ -		€ -		€ -		€ -		€ -		€ -	€ 26.820,00	€ 86.600,00
																	Total - Phase 6
250	5.000 €	25	150.000 €	45	67.500 €	70	56.000 €	45	54.000 €	10	4.000 €	1	3.000 €	1	6.000 €	€ 865.440	€ 865.440
																	Check

Table 6. Budget registry (Part 2)

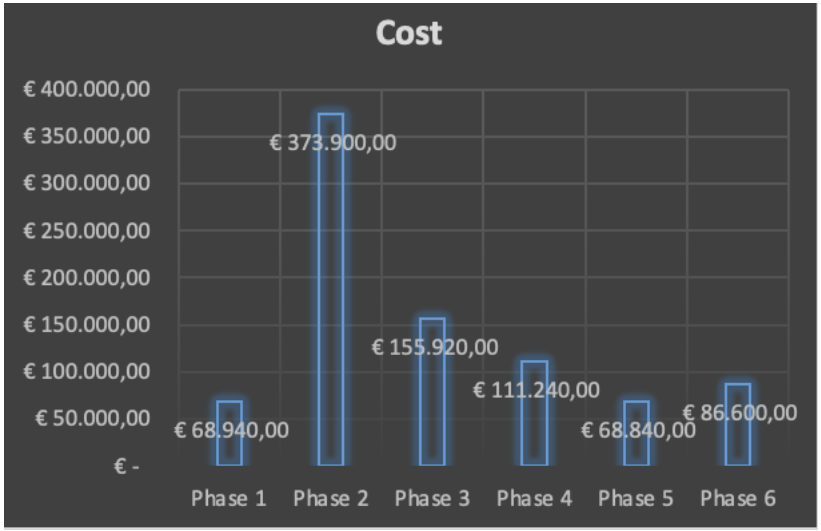


Figure 2. Cost bar chart per project phase

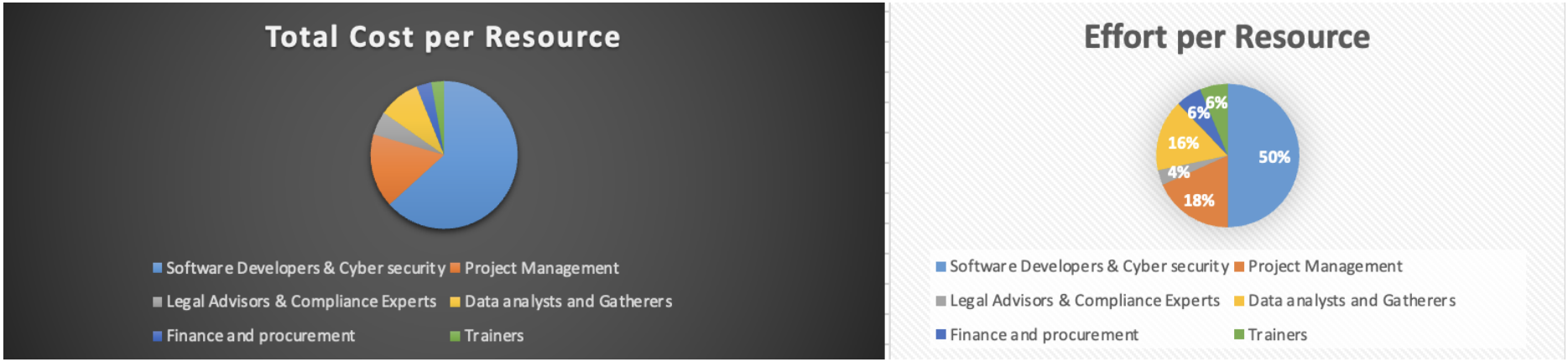


Figure 3. Total cost and total effort per resource pie charts

Risk Management

Introduction

The healthcare industry demonstrates notable deficiencies in digital processes; therefore, digital transformation projects can offer significant benefits from improved efficiency to enhanced patient care. Although the beneficial aspect of digitalization is proven, various risks are introduced and must be managed. Failing to address these risks could undermine the benefits of digital transformation and damage the public's trust in the healthcare system.

For example, one of the most critical concerns is data security. As Blix & Levay (2018) suggest cyberattacks, large-scale data breaches and system failures can jeopardize patient safety and require emergency interventions. To deal with such threats, effective risk management is crucial. Without proactive measures digitalization's potential is at risk, impacting both the patients and healthcare providers.

Risk Management Process

This project presents several potential risks that could impact project execution, system adoption, and long-term operational efficiency.

The Project Management team adopted a risk management strategy to identify, assess, and mitigate potential project risks. This process involves the steps presented in Figure 4, to ensure successful risk management.

Figure 4. Risk identification workflow

Risk Registry

Our team utilized a risk registry template to identify, assess, and present the key risks associated with our project. This template contains a brief description of each risk,

probability and impact metrics, the response handing strategy (mitigation, transfer, acceptance, avoidance), the updated risk metrics after the response, a contingency plan in case of unsuccessful risk handling and the risk status and an owner responsible for each risk. The metrics and descriptions were determined based on the project's scope and objectives, as well as the team’s research and discussions.

Major project risks and their associated contingency plans are better organized, tracked, and evaluated thanks to the comprehensive risk registry shown in Table 7.

Step 1 Identification - Description		Step 2 Assessment			Step 3 Response (mitigate, transfer, avoidance, accept)	Step 2 Assessment / Step 4 Monitoring			Contingency / Workaround		
		Severity prior to action				Severity after response					
Time	Brief description	**Probability**	**Impact**	**Rating**	**Response Handling**	**Probability**	**Impact**	**Rating**	**Contingency Plans: if response is ineffective**	**Status**	**Owner**
S1	System integration delays (due to compatibility issues)	3	4	12	Mitigate - Active Monitoring and prior testing	2	3	6	Consult system manufacturers / Develop infrastrucure from scratch	New: requires action plan	IT team
S2	Delays in regulatory approval (due to slow compliance checks)	2	4	8	Mitigate - Early engagement with regulatory authorities	1	2	2	Assign Compliance Team to accelerate approval process	Active: monitoring	Compliance and Legal Team
Quality	Brief description	**Probability**	**Impact**	**Rating**	**Response Handling**	**Probability**	**Impact**	**Rating**	**Contingency Plans**	**Status**	**Owner**
Q1	Technical failures (S/W and H/W malfunctions)	4	4	16	Mitigate - Implement manual backup systems and emergency protocols	3	3	9	Seek consultation from 3rd party	Actions complete: monitor	IT team
Q2	Cybersecurity threats	4	5	20	Mitigate - Implement multi-layer security (firewalls, encryption, MFA) to reduce the likelihood of a breach.	2	4	8	Restore data from backups / Notify authorities for security breach	Actions complete: monitor	IT team, Legal team
Q3	Inadequate Testing Procedures	3	4	12	Mitigate - Implement comprehensive testing at each development milestone to ensure quality.	2	3	6	Increase testing resources or outsource to specialized firms if internal measures fail.	Actions in progress	IT team
Q4	Defective Deliverables Due to Inadequate Review	4	4	16	Mitigate - Implement peer reviews and checklist-based quality audits before final delivery.	2	3	6	Escalate to senior quality management and introduce additional QA cycles if needed.	Actions in progress	Quality Assurance Supervisor
Cost	Brief description	**Probability**	**Impact**	**Rating**	**Response Handling**	**Probability**	**Impact**	**Rating**	**Contingency Plans**	**Status**	**Owner**
C1	Budget Overruns	3	4	12	Mitigate - contigency fund and continuous financial monitoring	2	3	6	Adjust project scope / request for budget increase	Actions complete: monitor	Finance team
C2	Unexpected Maintenance and Support Costs	2	4	8	Mitigate - Implement preventive system monitoring to detect issues before they escalate	1	4	4	Postpone non-critical upgrades to reallocate funds for urgent fixes	New: requires action plan	Finance team
Technical	Brief description	**Probability**	**Impact**	**Rating**	**Response Handling**	**Probability**	**Impact**	**Rating**	**Contingency Plans**	**Status**	**Owner**
T1	Software Integration Failure	3	4	12	Mitiate - Conduct frequent integration tests and use version control best practices.	2	3	6	Engage external consultants if issues persist.	New: requires action plan	IT Team
T2	Hardware Failures in Critical Systems	3	4	12	Mitiate - Conduct frequent integration tests and use version control best practices.	2	3	6	Keep swappable backups on-site; maintain service agreements with hardware vendors.	Action: Monitoring	IT Team
Other	Brief description	**Probability**	**Impact**	**Rating**	**Response Handling**	**Probability**	**Impact**	**Rating**	**Contingency Plans**	**Status**	**Owner**
O1	Employee resistance to change	3	4	12	Mitigate - comprehensive training and user-friendly design	2	3	6	One-on-one training sessions / ongoing support	Actions in progress	HR / training team
O2	Patient adoption of telemedicine	2	4	8	Transfer - let medical center HR team to deal with it	1	3	3	Make system changes to enhance acceptance	Actions complete: closed	Medical Center's HR team
O3	Non - compliance with regulations	2	4	8	Avoid - take all necessary actions to meet all regulatory requirements	1	3	1	None - risk avoided	Actions complete: closed	Compliance and Legal Team
Organizational	Brief description	**Probability**	**Impact**	**Rating**	**Response Handling**	**Probability**	**Impact**	**Rating**	**Contingency Plans**	**Status**	**Owner**
OR1	Insufficient Training for Team	4	3	12	Transfer - Hire external trainers or e-learning platforms.	2	2	4	Hire external trainers or e-learning platforms.	Active: monitoring	HR / training team
OR2	High Staff Turnover During Project	3	4	12	Mitigate - Improve staff retention via incentives, career growth opportunities, and feedback loops	2	3	6	Prepare succession plans and cross-train key team members to prevent disruptions	Active: monitoring	HR

Table 7. Risk registry

Stakeholder Management

Introduction

Stakeholders play a crucial role and determine the project success in every project and especially in healthcare industry as stakes are high. A wide range of individuals and organizations with unique requirements, expectations and concerns are impacted by the implementation of new digital solutions, such as health management systems and telemedicine. To ensure the interests of those involved are correctly addressed, risks are mitigated, and objectives are achieved effective stakeholder identification and management are essential (Odenbach-Wanner, 2024).

Key stakeholders in a medical center's digitalization project include executive leadership, IT and HR departments, medical staff, patients, regulatory bodies, third-party consultants, and training partners. The Medical Center Executive Board ensures that digital transformation aligns with strategic and financial goals, while the IT Department oversees system integration, cybersecurity, and maintenance. Doctors and medical staff require seamless, user-friendly solutions that enhance patient care without disrupting workflows, whereas patients demand accessible, secure, and efficient healthcare services. On the other hand, regulatory bodies ensure the standards for data security and compliance are met by digital implementations.

To minimize resistance, optimize adoption and maximize project's beneficial aspect, managing stakeholder expectations and communicating effectively and clearly with them is crucial. In order to provide clear insights into each stakeholder's needs a well-structured stakeholder registry is needed, as well as to ensure a smooth transition to digital healthcare solutions while addressing potential challenges proactively.

Stakeholder Management Process

The Project Management team will implement a stakeholder management strategy to ensure effective collaboration, communication, and alignment throughout the project, as presented in Figure 5.

Figure 5. Stakeholder identification workflow

Stakeholder Registry

Our team utilized a stakeholder registry template to identify, analyze, and present the key stakeholders involved in the project. This template contains:

- Each stakeholder's contact details
- Category (internal/external) and subcategory
- Current Engagement
- Interest and power metrics that showcase the overall impact of each stakeholder
- A brief description of each stakeholder's requirements and expectations
- A brief description of the actions and communication methods used to increase stakeholder engagement and participation, along with the desired engagement
- A brief contingency plan in case the stakeholder's response is ineffective and/or negative
- The monitoring level status to achieve stakeholder engagement based on the actions taken

In Tables 8 and 9, the full stakeholder registry is presented, which analytically explains all relevant information about the project's stakeholder categorization and handling.

Project:	Digital transformation for Starlight Medical Center	Stakeholder Registry
Date:	30/3/2025	

Data entry					Assessment			Stakeholder	
Role	Contact Name	Category	Subcategory	Current Engagement	Interest	Influence / Power	Classification / Impact	Requirements by stakeholder	Expectations by stakeholder
S1	Starlight Medical Center Management	External	Sponsor	Supportive	5	5	25	Succesful digital transition that enhances efficiency, complies with regulations, and showcases measurable improvements	Strategic alignment, measurable ROI, minimal disruptions, smooth implementation, ongoing technical support, staff compliance, long-term sustainability.
S2	Medical Center IT Department	External	Functional manager	Resistant	4	4	16	Seamless integration with existing infrastructure, clear documentation, compliance with IT policies and structured maintenance processes	Continuous updates, efficient troubleshooting, , seamless user experience, minimal system downtime, training for internal teams.
S3	Doctors / Medical Staff	External	User	Resistant	5	3	15	User-friendly interface, fast EHR access, AI-driven decision support, error reduction, seamless workflow integration, training resources	Increased efficiency, reduced administrative workload, reliable system performance, responsive IT support, enhanced diagnostic accuracy
S4	Medical Center Executive Board	External	Board of Executives	Neutral	4	5	20	Cost justification, compliance assurance, operational impact analysis and metrics, risk assessment, clear implementation strategy	Transparent reporting, alignment with strategic goals, measurable benefits, smooth transition, regulatory compliance, return on investment, positive hospital reputation
S5	Patients	External	Patients	Resistant	3	2	6	Data security, accurate and fast medical services, efficient appointment scheduling and a reliable telemedicine experience.	Enhanced healthcare experience, improved doctor-patient communication, quick issue resolution, strong data protection, intuitive user interfaces, reduced bureaucracy
S6	DigitalMed Project Management	Internal	Team	Leading	5	5	25	Efficient resource use, stakeholder alignment, adherence to timetable and budget, decision-making for contigencies, and an overall succesful project	Timely approvals, stakeholder cooperation, adherence to project deadlines, proactive issue resolution, stable budget allocation
S7	IT Consultants	External	Other	Neutral	3	3	9	Detailed system architecture, clear project scope, well-defined technical difficulties	Clear communication, responsive feedback, timely decision-making, access to relevant hospital IT teams
S8	DigitalMed Trainers	Internal	Team	Neutral	3	2	6	Comprehensive training materials, scenario-based learning, interactive modules, ongoing support channels	High staff engagement, positive training outcomes, smooth system onboarding, accessible resources
S9	DigitalMed IT Dpt	Internal	Supplier	Supportive	5	4	20	Clarity in tasks, realistic timelines, and easy access to all tools needed	Timely feedback from hospital IT teams, structured deployment phases, clear technical documentation, minimal system conflicts, compliance verification
S10	Regulatory Authorities	External	Regulatory Body	Resistant	3	5	15	Full HIPAA/GDPR compliance, patient data protection, secure data storage, reporting transparency, ethical AI use	Periodic compliance reports, responsive regulatory audits, secure system access protocols, data security
S11	Medical Center Data Governance Officer	External	Functional manager	Resistant	4	4	16	Data privacy compliance, secure access controls, robust cybersecurity sstem, accurate reporting	Transparent data policies, collaboration with IT teams, regulatory alignment, minimal data breaches
S12	DigitalMed Financial Dpt	Internal	Team	Neutral	3	3	9	Realistic system requirements, contingency fund management, cost efficiency strategies	Clear financial reporting, on-budget execution, optimized resource allocation, justification of expenses

Table 8. Stakeholder registry (Part 1)

	VAKIANIS KYRIAKOS	: Prepared by
	2	: Version

Handling / Follow up			
Actions / Communication	**Desired Engagement**	**Contingency Plans: if response is ineffective**	**Status**
Regular progress meetings, executive reports, strategic alignment sessions, decision-making involvement.	Leading	Adjust project KPIs to align with their strategic goals, increase meeting frequency	Monitoring
Technical workshops, system integration testing, direct collaboration with DigitalMed IT team, security briefings	Supportive	Provide additional technical support, hands-on training, and incease involvment in development to reduce resistance	Monitoring
Role-specific training programs, usability testing, feedback collection, interactive Q&A sessions.	Supportive	If resistance grows, appoint department representatives to advocate, adjust interface design, and involve staff in testing	Action taken
High-level reports, investment impact analysis, quarterly reviews, compliance briefings	Leading	Provide stronger ROI evidence, and regulatory risk assessments to justify project value and increase engagement	Monitoring
Awareness campaigns, user guides, telemedicine support , satisfaction surveys, public webinars	Supportive	Simplify access and invest in intuitive design and educational materials if feedback indicates confusion or mistrust.	Under assessment
Transparent executive summaries, frequent project tracking dashboards, stakeholder briefings, risk management sessions	Leading	Restructure project roles, increase oversight, and escalate issues to senior leadership for decision-making	Monitoring
External audits, best practice recommendations, integration validation, support and solution-integration sessions	Neutral	If performance issues arise, reassess vendor selection and establish stronger accountability mechanisms	Action taken
Hands-on workshops, e-learning modules, role-specific training materials	Supportive	If training impact is low, introduce adaptive learning techniques and expand training durations	Action taken
Agile development updates, bug tracking reports, system testing feedback loops, cybersecurity briefings	Supportive	Increase resource allocation, prioritize critical system updates, and introduce dedicated on-site IT support	Monitoring
Compliance reports, periodic audits, legal consultations, security framework adherence documentation	Neutral	If regulatory pushback occurs, engage legal teams and revise compliance strategies	Under assessment
Schedule regular briefings, provide access logs, ensure risk mitigation strategy alignment.	Supportive	Reinforce data governance responsibilities and provide ensurance for data security and regulation adherence	Action taken
Budget reports, ROI forecasts, cost-benefit analysis meetings, financial risk assessments	Supportive	Restructure financial planning and discuss alternative solutions and requirement planning in case of resistance	Monitoring

Table 9. Stakeholder registry (Part 2)

Metrics including KPIs and CSFs

Introduction

In order to monitor and evaluate the success of the digital transformation project at Starlight Medical Center, the team has developed specific Key Performance Indicators (KPIs) and Critical Success Factors (CSFs). While the CSFs play a strategic role in the areas that must be successfully addressed to ensure overall project success, the KPIs have a quantifiable role, as these data driven metrics track the performance and progress over the areas over time.

The development of relevant KPIs starts with the identification of key operational and strategic goals by the project management team, such reducing the costs, enhancing patient care and making stronger data security for each of these goals. For this purpose, the team determines measurable project components, for the most vital project aspects, as shown in Table 10. These raw data points are then structured into meaningful formulas to create KPIs that are presented in Table 11. For example, the EHR access time KPI might be calculated as the average time needed to access a patient's records, through a number of patient samples.

With this method, KPIs give a clear and objective insight into how well different aspects of the project are performing. They help the stakeholders and project management team to evaluate and control the project's progress as they can identify bottlenecks and make informed decisions in real time. Together CSFs and KPIs ensure the project is aligned with the scope and goal and remains adaptive throughout its lifecycle.

Metric	Description
Total System Uptime (hours)	Total hours the system was available
Total Scheduled System Hours	Total hours system was expected to run
Number of Staff Trained	Number of staff members who completed training
Total Staff Assigned to Training	All staff members required to take training
Number of Cybersecurity Incidents	Security breaches or threats detected
Total Admin Task Cost (Before/After)	Cost spent on admin tasks before vs after implementation
Number of Bugs (Critical/Major/Minor)	Bugs reported during pilot or deployment phases
Project Actual Cost	Total money spent
Project Budgeted Cost	Original planned budget
Total Post-Go-Live User Errors	Number of user mistakes made after deployment
Total Actions Attempted by Users	Interactions users attempted post-go-live
Training Feedback Scores	Survey scores given by participants after training
Total Appointments Scheduled Automatically	Appointments handled without manual input
Total Appointments Scheduled	Total appointments scheduled
Downtime During Deployment (minutes)	Minutes system was inaccessible during rollout
System Response Time (average, in sec)	Avg. time system takes to respond to user actions
EHR Access Time (average, in sec)	Avg. time to access electronic health records
Paperwork Volume Before/After	Quantity of paperwork pre- and post-system
Number of Patient Complaints	Number of formal complaints received
Total Patients Surveyed	Patients who provided feedback
Number of Staff Errors in Admin Tasks	Errors made by staff before/after deployment
Patient Satisfaction Survey Score	Score based on feedback (typically out of 100 or 5)
Data Migration Errors	Incorrect or failed records during migration
Total Records Migrated	All records transferred to new system

Table 10. Metrics description

KPI/CSF	Type	Formula	Optimal Value	Accepted Value	Monitoring Frequenc
System Uptime	KPI	(Total Uptime / Scheduled System Hours) × 100	≥ 99.9%	≥ 99.5%	Weekly
Training Completion Rate	KPI	(Staff Trained / Total Assigned) × 100	≥ 95%	≥ 90%	Weekly
Cybersecurity Incident Rate	KPI	Number of Incidents per Year	0 incidents	≤ 1 minor/year	Continuous Monitoring
Admin Task Cost Reduction	KPI	((Before - After) / Before) × 100	≥ 20%	≥ 15%	Quarterly
Bug Rate (per severity)	KPI	Bug Count by Severity / Test Sessions	0 Critical, ≤ 2 Major, ≤ 5 Minor	0 Critical, ≤ 3 Major, ≤ 10 Minor	Daily
Project Budget Variance	KPI	((Actual - Budgeted) / Budgeted) × 100	≤ 3%	≤ 5%	Quarterly
Post-Deployment User Error Rate	KPI	(User Errors / Total Actions) × 100	≤ 3%	≤ 5%	Weekly
Training Satisfaction Score	KPI	Average Score from Feedback	≥ 90%	≥ 85%	At Training Completion
Appointment Scheduling Efficiency	KPI	(Auto-Scheduled / Total Appointments) × 100	≥ 95%	≥ 85%	Monthly
HIPAA/GDPR Compliance	CSF	Compliance Audit Score	100%	≥ 98%	Biannually
System Response Time	KPI	Average of All Response Times	≤ 2 sec	≤ 5 sec	Daily
EHR Access Time	KPI	Avg. Time to Access Records	≤ 3 sec	≤ 10 sec	Weekly
Paperwork Reduction	KPI	((Before - After) / Before) × 100	≥ 40%	≥ 30%	Quarterly
Patient Satisfaction Score	KPI	(Sum of Scores / Total Responses) × 100	≥ 90%	≥ 80%	Biannually
Data Migration Accuracy	KPI	(1 - (Errors / Total Records)) × 100	≥ 99%	≥ 98%	Monthly
Regulatory Compliance Score	CSF	Compliance Assessment Results	100% compliance	≥ 95% compliance	Biannually

Table 11. KPIs and formulas

The charts in Figures 6-8 serve as visualization tools that graphically represent how the different metric values affect each KPI.

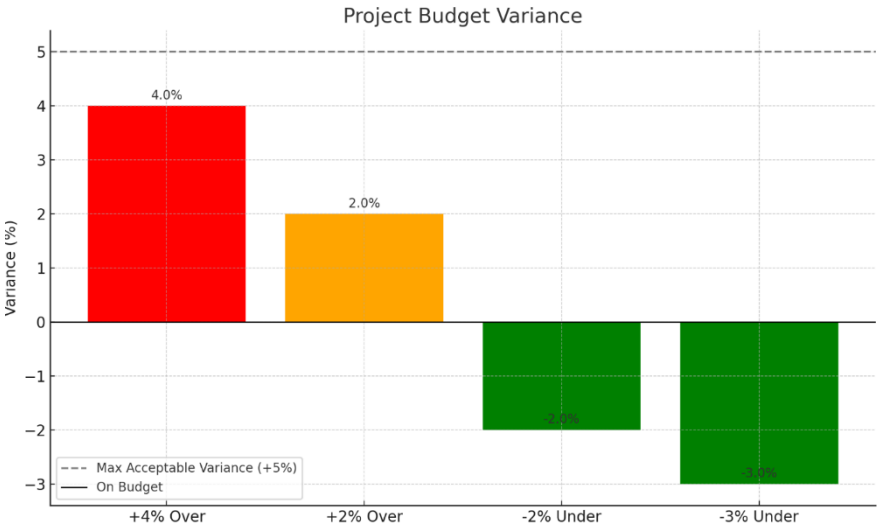


Figure 6. Project budget variance

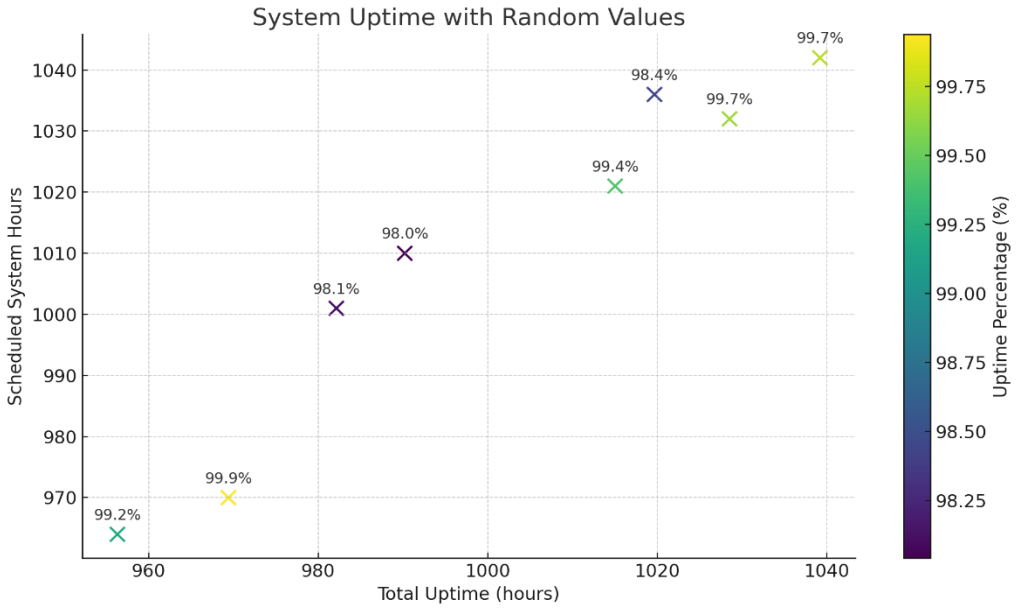


Figure 7. System uptime KPI plot

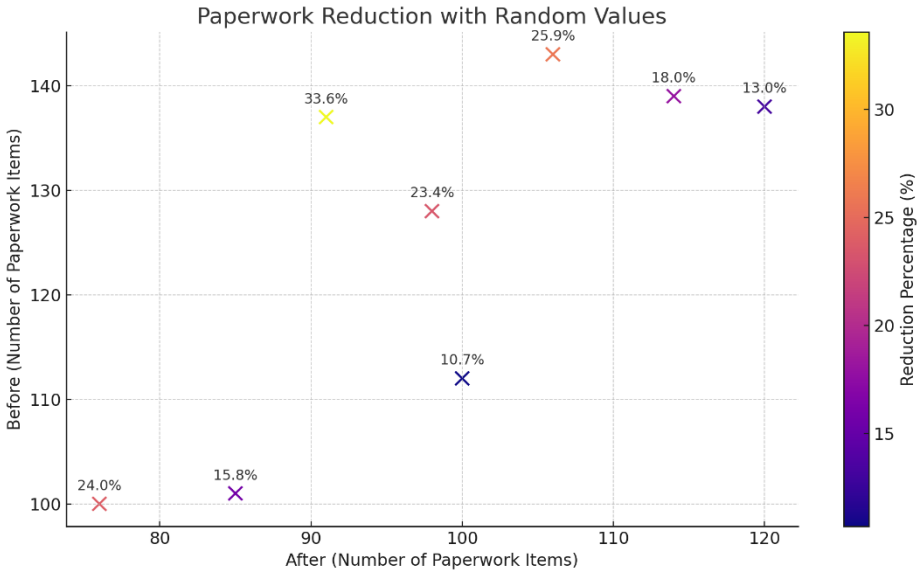


Figure 8. Paperwork reduction plot

Communication Plan

The project management team participated in weekly meetings which were organized and monitored through agendas, Moms and status reports. Attached we include 3 meeting reports to show the agendas, the process and the issue management implemented by the team.

The project management team has come up with a specific communication process that ensures effective collaboration, involvement and adherence to project guidelines for all project members. More specifically, weekly meetings are scheduled for all team members to align with project developments, discuss instructions and feedback and seek advice and input for better deliverable execution. These meetings are recorded through 3 main documents:

1. Agendas: Contain main progress and discussion points for the meeting, along with a conclusion based on meeting proceedings
2. MoMs: Record the most important points discussed during the meeting, including assigned action points, decisions taken by the team and main areas of attention
3. Status Reports: Contain a summary of the project progress, including progress metrics like attendance rate and deliverable completion percentage, as well as risk and issue handling history based on previews meetings

The documents from 3 of the team's meetings can be found in the Appendix of this project plan.

Ethical issues

The digital transformation of Starlight medical center raises a few ethical considerations that need to be addressed. Firstly, an issue connected with the patients of the hospital is their data privacy and confidentiality. The project should strictly follow all GDPR regulations to

prevent unauthorized access. Furthermore, patients need to be informed about the processes for personal data collection, sharing and usage during the use of AI diagnostic tools and the telemedicine platform. Additionally, there are ethical concerns about fairness and transparency in Ai tools. Diagnostic systems must be carefully tested to make sure they are accurate enough and don't treat some patients unfairly, creating inequalities in healthcare. Lastly, tracking staff activity through system logs and performance data raises ethical concerns about privacy and trust, so it's important to find a fair balance between monitoring and respecting their independence.

Conclusion

This Project Plan provides a detailed and comprehensive analysis of all key elements of the digital transformation project for Starlight Medical Center. Core project components such as scoping, time planning, risk and stakeholder management and team processes, have been thoroughly defined and presented for better project organization and execution.

In addition to modernizing internal operations, the proposed transformation seeks to greatly improve the standard of care and services delivered. It is anticipated that the project will transform the entire patient experience and promote more effective, responsive healthcare services by implementing cutting-edge medical technologies and digital tools.

In conclusion, this project enables Starlight Medical Center to fulfil the needs of a quickly changing healthcare environment and establishes a solid basis for significant, long-term improvements.

Lessons Learned

This digital transformation project case served as a great opportunity to enhance our project management skills. The process of creating a virtual company and deciding the total transformation activities to be implemented served as a great opportunity to enhance our decision-making skills as well as our research skills. Moreover, the project required great communication and collaboration from all team members, for better task delegation and completion. Additionally, we gained a clear understanding of the full process required to develop a thorough and professional project plan, helping to minimize misunderstandings and avoid omissions. Furthermore, the use of Excel and MS Project for more efficient data collection and presentation, offered as an opportunity to improve our technical and organizational skills. We also developed a deeper understanding of the importance of risk identification and contingency planning in large projects like ours. Overall, this project strengthened out critical thinking ability by facing and adapting to real word challenges.

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Appendix / Attachments

Team 2 Stakeholder Registry.xlsx

Risk_Registry_FINAL2_UPDATED.xlsx

KPIs_and_CSFs_Mapped.xlsx

BUDGETFINAL Team2.xlsx

GanttChart.mpp

Agenda_3.docx

Mom_3.docx

StatusReport_3.docx

Agenda_2.docx

Mom_2_F.docx

StatusReport_2.docx

Agenda_1.docx

MoM_1.docx

PROJECT STATUS 1.docx