

AMERICAN INTERNATIONAL UNIVERSITY-BANGLADESH (AIUB)



Software Development Project Management (SDPM)

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Abstract

Interactive learning comics combine visual storytelling with interactive technology, revolutionizing education. These comics employ captivating visuals, narratives, and multimedia elements to engage learners. Interactivity, including clickable elements, branching paths, and quizzes, transforms passive learning into active engagement. Learners' choices drive the narrative, fostering personalized and self-directed learning. Immediate feedback enhances comprehension and guides progress. The appeal of interactive comics spans formal education, online courses, and corporate training, accommodating diverse learning styles. Accessibility and collaborative potential further amplify their impact. This paper explores the design principles, benefits, and implications of interactive learning comics, illuminating their role in modern education. As technology advances, interactive learning comics stand as a dynamic tool to inspire learners and reshape the educational landscape.

1. Project Overview

The "Interactive Learning Comics for Enhanced Education" project endeavors to revolutionize education by combining visual storytelling and interactive technology. Our goal is to create a series of interactive learning comics that engage learners through captivating narratives, vibrant visuals, and interactive elements, fostering active participation and deeper comprehension. Collaborating with subject matter experts, instructional designers, and artists, we will develop compelling educational content spanning various subjects and scenarios. These interactive comics will empower learners to make choices, influencing the storyline and outcomes, while multimedia components like animations and sound effects enhance the learning experience. Integrated assessments and quizzes will provide immediate feedback, promoting active learning and self-assessment. The comics will adapt to individual preferences and paces, offering personalized educational journeys. Accessibility is paramount; the comics will be compatible with diverse devices and screen readers, ensuring inclusivity. Our project aims to transform traditional learning into an engaging and enjoyable experience, benefiting educators, students, professionals, and lifelong learners. By merging captivating narratives with interactive technology, we aspire to elevate engagement, retention, and overall learning outcomes. Through this innovative approach, we contribute to educational advancement, bridging the gap between storytelling and effective learning. The resulting interactive learning comics aim to empower learners, inspiring curiosity and active participation in the educational process.

2. Software Development Project Management Plan

The Interactive Learning Comics Platform project is a visionary endeavor aimed at creating a state-of-the-art online platform that merges the captivating allure of interactive comics with educational content. This platform seeks to revolutionize learning by offering users a dynamic and engaging experience, leveraging visual storytelling and interactive elements to enhance comprehension and retention.

3. Project Objective

1. Platform Development: Design and develop a user-centric online platform that seamlessly integrates interactive comics with educational material, fostering an immersive learning environment.
2. Content Diversity: Collaborate with subject matter experts and artists to generate a diverse collection of interactive comics spanning various subjects, accommodating a wide range of learners.
3. Engagement Enhancement: Infuse the platform with captivating narratives, visually appealing graphics, animations, and interactive activities to captivate users and maintain their engagement.
4. Universal Accessibility: Ensure the platform adheres to stringent accessibility standards, making it inclusive and navigable for users of all abilities.
5. Quality Assurance: Implement robust testing protocols to identify and rectify any glitches, ensuring a seamless and user-friendly experience.
6. Launch and Outreach: Successfully deploy the platform to the target audience, supported by strategic marketing and promotional initiatives.

4. Project Vision (and Scope)

- Development of an intuitive and responsive web-based platform.
- Creation of a diverse library of interactive learning comics across multiple subjects and difficulty levels.
- Integration of multimedia components such as animations, videos, and sound effects to enrich the learning experience.
- Implementation of interactive features, including clickable elements, branching narratives, and knowledge assessments.
- Establishment of user profiles, progress tracking, and personalized learning pathways.
- Adherence to universal accessibility guidelines to guarantee a barrier-free experience.
- Rigorous quality assurance testing and debugging to ensure flawless functionality.
- Timely deployment and launch of the platform to the intended audience.

5. Project Deliverable

1. Project requirements document
2. Project management plan documents
3. Design documents
4. Source Code
5. Testing Plan and Test Results
6. User Manual and Training Materials
7. Project management report
8. Maintenance and Support Plan
9. Deployment Plan

6. Project Management Tools

1. ClickUp software

7. project Schedule (Time)

A Gantt chart is a visual project management tool that provides a clear and comprehensive overview of a project's timeline, tasks, dependencies, and progress. It consists of a horizontal timeline representing the project's duration, with tasks listed vertically. Each task is represented as a bar on the timeline, indicating its start and end dates. Tasks can be linked to show dependencies, highlighting how certain tasks must be completed before others can begin.

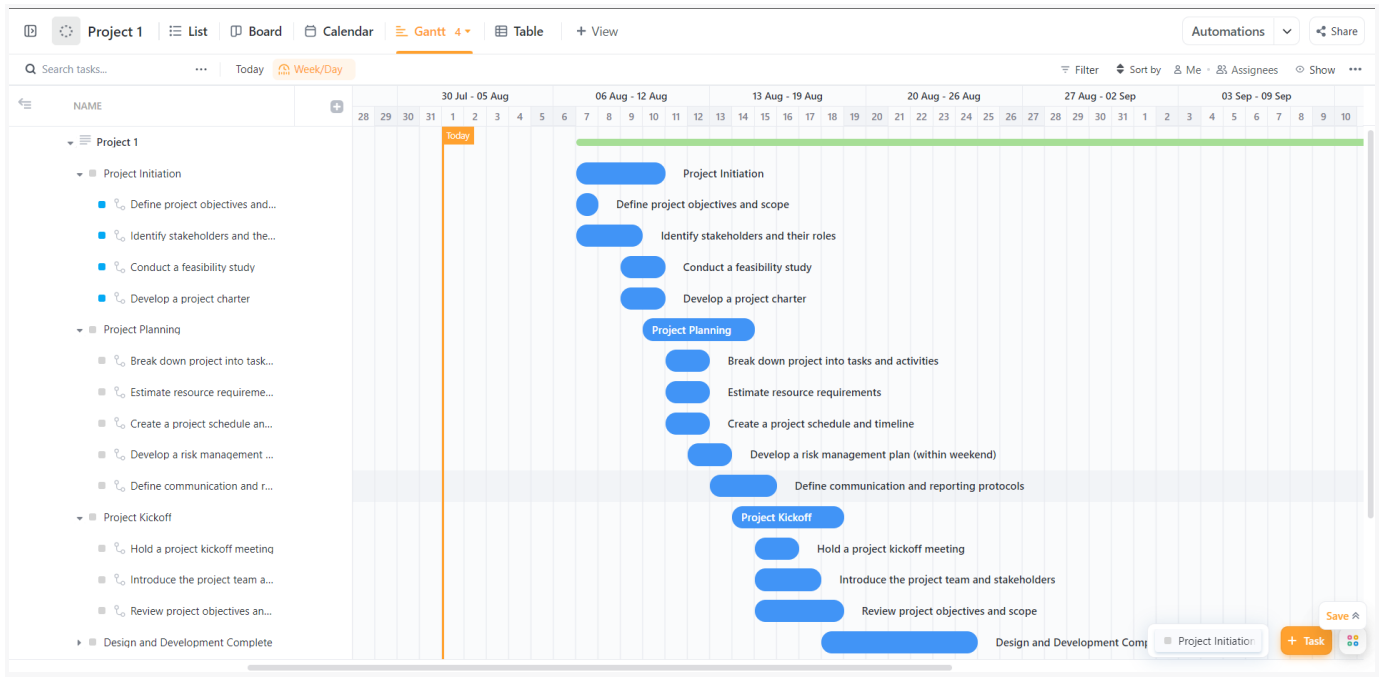


Figure 1: Project Gantt Chart (part A)

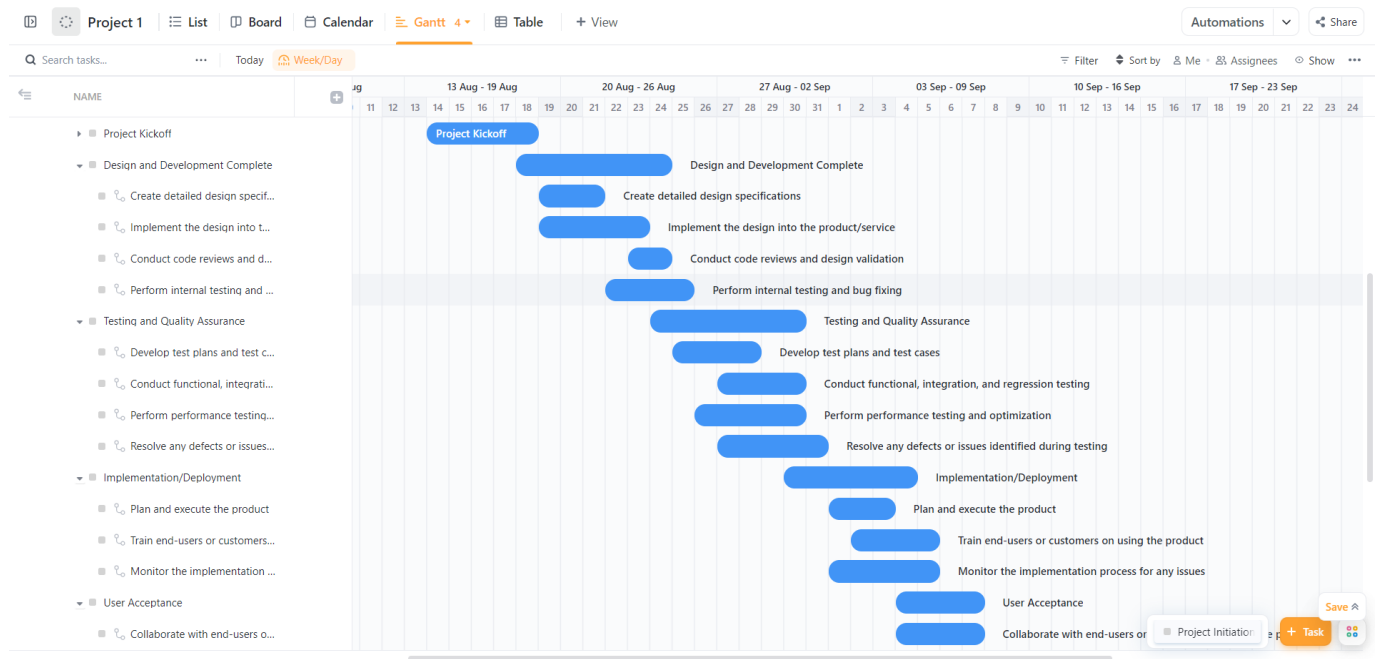


Figure 2 Project Gantt Chart (part B)

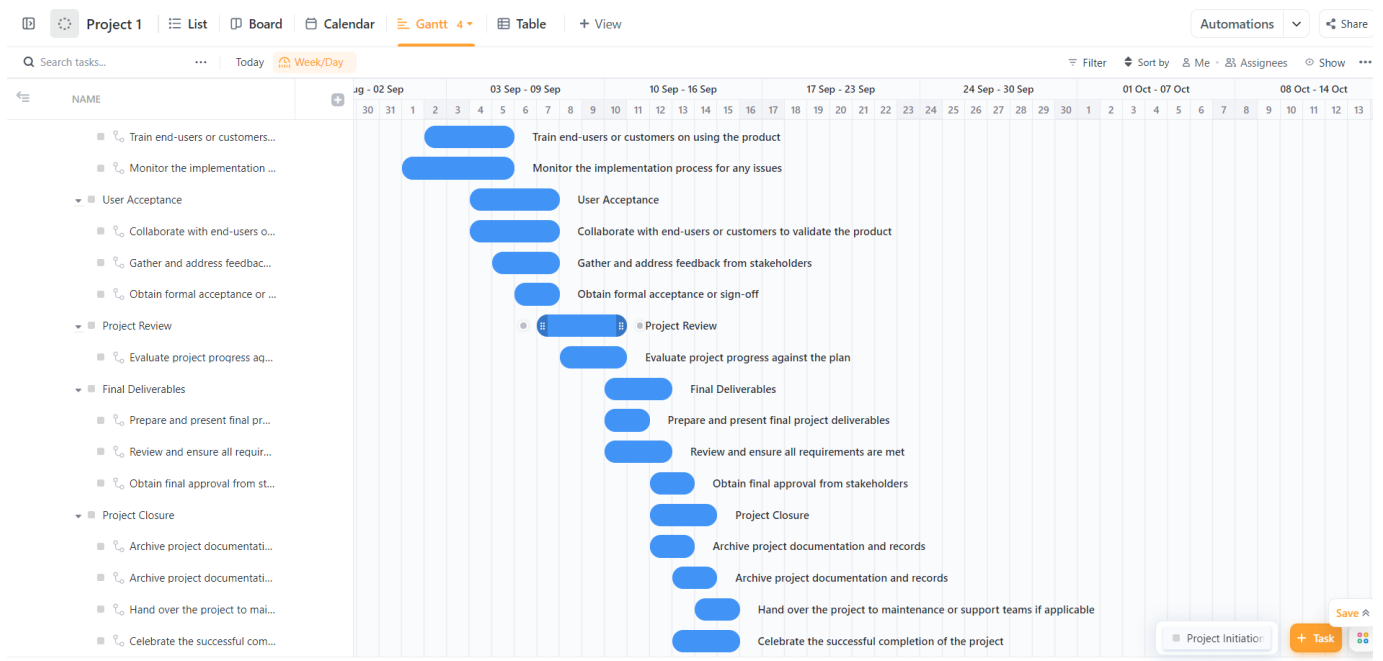


Figure 3: Project Gantt Chart (part c)

8. Budget Estimation (Cost)

Budget estimation is a crucial aspect of project planning that involves estimating the financial resources required to complete a project successfully. It involves forecasting and allocating funds for various project components, such as labor, materials, equipment, overhead, and contingencies. Accurate budget estimation ensures that a project is adequately funded and helps prevent cost overruns and financial surprises.

| Role | Due Date | Priority | Rate per Day | Total Days | Total |
|-------------------------------|----------|----------|--------------|------------|-----------|
| Project Engineer | Sep 16 | High | \$500 | 55 | \$27,500 |
| Project Manager | Sep 28 | High | \$700 | 60 | \$42,000 |
| Business Analyst | Sep 13 | High | \$300 | 40 | \$12,000 |
| Architect | Oct 3 | Medium | \$150 | 20 | \$3,000 |
| Software Developers | Nov 30 | Medium | \$400 | 90 | \$36,000 |
| Quality Assurance/Testers | Nov 30 | Medium | \$500 | 40 | \$20,000 |
| UX/UI Designers | Nov 20 | Medium | \$400 | 20 | \$8,000 |
| Database Administrators | Oct 25 | Medium | \$300 | 30 | \$9,000 |
| DevOps Engineers | Nov 25 | Medium | \$400 | 20 | \$8,000 |
| Security Experts | Oct 31 | Medium | \$500 | 90 | \$45,000 |
| Technical Writers | Oct 30 | Medium | \$300 | 30 | \$9,000 |
| Subject Matter Experts (SMEs) | Oct 28 | Medium | \$400 | 30 | \$12,000 |
| Hardware Expenses | | Medium | \$100,000 | - | \$100,000 |
| Food | | Medium | \$10,000 | - | \$10,000 |

Figure 4: Budget Estimation

| | | | | | | | | | | | | | | | | |
|-------------------------------|--|--|----------|--|----------|--|--------------|--|------------------|----------|-----------|------|----------|-------|--------|-----|
| Project 1 | | | | | | | List 2 | | Board | Calendar | Task 4 | Chat | Workload | Table | + View | Aut |
| Q Search tasks... | | | | | | | Filter | | Group by: Status | | Subtasks | Me | | | | |
| IN PROGRESS 16 TASKS | | | | | | | | | | | | | | | | |
| Project Engineer | | | DUE DATE | | PRIORITY | | RATE PER DAY | | TOTAL DAYS | | TOTAL | | | | | |
| Project Engineer | | | Sep 16 | | 🚩 | | \$500 | | 55 | | \$27,500 | | | | | |
| Project Manager | | | Sep 28 | | 🚩 | | \$700 | | 60 | | \$42,000 | | | | | |
| Business Analyst | | | Sep 13 | | 🚩 | | \$300 | | 40 | | \$12,000 | | | | | |
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| UX/UI Designers | | | Nov 20 | | 🚩 | | \$400 | | 20 | | \$8,000 | | | | | |
| Database Administrators | | | Oct 25 | | 🚩 | | \$300 | | 30 | | \$9,000 | | | | | |
| DevOps Engineers | | | Nov 25 | | 🚩 | | \$400 | | 20 | | \$8,000 | | | | | |
| Security Experts: | | | Oct 31 | | 🚩 | | \$500 | | 90 | | \$45,000 | | | | | |
| Technical Writers | | | Oct 30 | | 🚩 | | \$300 | | 30 | | \$9,000 | | | | | |
| Subject Matter Experts (SMEs) | | | Oct 28 | | 🚩 | | \$400 | | 30 | | \$12,000 | | | | | |
| Hardware Expenses | | | 📅 | | 🚩 | | \$100,000 | | - | | \$100,000 | | | | | |
| Food | | | 📅 | | 🚩 | | \$10,000 | | - | | \$10,000 | | | | | |
| Utilities | | | 📅 | | 🚩 | | \$50,000 | | - | | \$50,000 | | | | | |
| Extra | | | 📅 | | 🚩 | | \$20,000 | | - | | \$20,000 | | | | | |

Figure 5: Budget Estimation

9. Project Resource Planning

Project resource planning is the strategic process of identifying, allocating, and managing the necessary resources to successfully execute a project. Resources include human capital, equipment, materials, finances, time, and any other assets required to achieve project goals within the defined constraints.

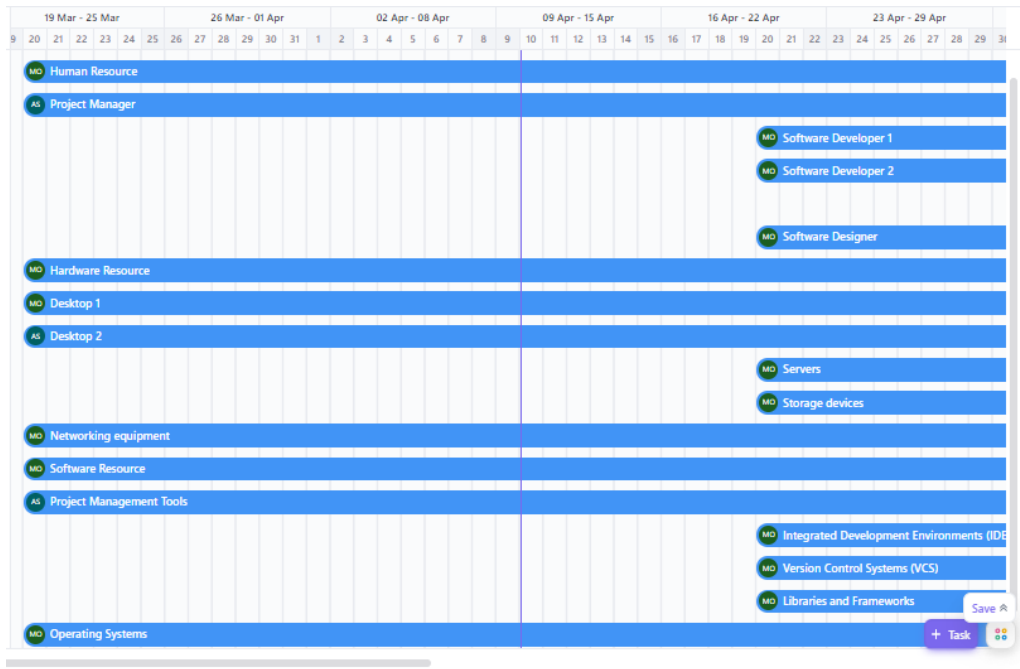


Figure 6: Resource planning



Figure 7: Resource planning

10. Project Risk Management

Project risk management is the systematic process of identifying, analyzing, assessing, mitigating, and monitoring potential risks that could impact a project's objectives, schedule, budget, or quality. Effective risk management aims to proactively address uncertainties and minimize the negative impact of risks while maximizing opportunities for project success.

| | | | | | | | | |
|-----------------------------------|-------|----------|----------|------------|-------------|------------|----------------|---|
| High 5 TASKS | | ASSIGNEE | DUE DATE | CATAGORY | VALUE LEVEL | RISK LEVEL | PRIORITY LEVEL | P |
| ✓ Budget over | MO | May 30 | Employee | High Value | High Risk | High | | |
| ✓ Lack of communication | MO AS | May 30 | Manager | Low Value | High Risk | High | | |
| ✓ Project team members leaving | MO | May 30 | Employee | Low Value | Low Risk | High | | |
| ✓ Stakeholder issue | AS | May 30 | Admin | High Value | High Risk | High | | |
| ✓ Unmet expectations | MO | May 30 | Employee | High Value | Low Risk | High | | |
| + New task | | | | | | | | |
| Medium 3 TASKS | | ASSIGNEE | DUE DATE | CATAGORY | VALUE LEVEL | RISK LEVEL | PRIORITY LEVEL | P |
| ✓ Deadlines over | MO | May 30 | Employee | Low Value | High Risk | Medium | | |
| ✓ Programmatic risks | MO | May 30 | Employee | High Value | Low Risk | Medium | | |
| ✓ Operational or management risks | AS | May 30 | Manager | Low Value | Low Risk | Medium | | |
| + New task | | | | | | | | |
| Low 1 TASK | | ASSIGNEE | DUE DATE | CATAGORY | VALUE LEVEL | RISK LEVEL | PRIORITY LEVEL | P |
| ✓ Technical issues | MO | May 30 | Business | Low Value | High Risk | Low | | |
| + New task | | | | | | | | |

+ Task

Figure 8: Risk management

11. Project Quality Assurance

Project quality assurance (QA) is a systematic process that ensures the project's products, services, and deliverables meet established quality standards and satisfy stakeholder expectations. Quality assurance activities focus on preventing defects and errors from occurring during project execution by implementing effective processes, standards, and controls.

| | | | | | | | | |
|---|--------------|--------|----------|---------------|----------|-------|-------|---------|
| Quality Assurance + NEW TASK | | STATUS | PROGRESS | APPROVAL DATE | CRITICAL | MAJOR | MINOR | REMARKS |
| 4 TASKS | | | | | | | | |
| Software Functionality Testing 3 | APPROVED | 100% | May 17 | | ✓ | | | |
| Software Functionality Testing Integration Testing | APPROVED | 100% | May 17 | | ✓ | | | |
| Software Functionality Testing System Testing | APPROVED | 100% | Tomorrow | | | ✓ | | |
| Software Functionality Testing Acceptance Testing | APPROVED | 100% | Tomorrow | | ✓ | | | |
| Software Performance Testing 1 | NEW APPROVAL | 0% | May 18 | | | | | |
| Software Performance Testing Load Testing | NEW APPROVAL | 0% | May 18 | | | | | |
| Software Compatibility Testing 4 | NEW APPROVAL | 0% | May 22 | | | | | |
| Software Compatibility Testing Browser Compatibility Testing | NEW APPROVAL | 0% | May 22 | | | | | |
| Software Compatibility Testing Operating System Compatibility Testing | NEW APPROVAL | 0% | Apr 22 | | | | | |
| Software Compatibility Testing Hardware Compatibility Testing | NEW APPROVAL | 0% | May 22 | | | | | |
| Software Compatibility Testing Software Version Compatibility Testing | NEW APPROVAL | 0% | Apr 22 | | | | | |
| Security Testing | NEW APPROVAL | 0% | May 25 | | | | | |
| + New task | | | | | | | | |

+ Task

Save A

Figure 9: Project Quality Assurance

12. Conclusions

In conclusion, effective project management is a dynamic and multifaceted process that demands careful planning, precise execution, and continuous monitoring. Through the strategic utilization of project management methodologies, tools, and best practices, organizations can navigate complex challenges, optimize resource allocation, and achieve their desired objectives. From defining clear project goals and scope to allocating resources, managing risks, and ensuring quality, each facet of project management contributes to the overall success of initiatives. Project managers play a pivotal role in orchestrating diverse teams, aligning stakeholders' interests, and steering projects toward successful outcomes. Their ability to communicate, adapt, and make informed decisions is essential in maintaining project momentum and mitigating potential setbacks. Furthermore, the integration of innovative approaches, such as interactive learning comics or advanced digital tools, showcases the evolving landscape of project management and its capacity to adapt to emerging trends and technologies. The inclusion of these methodologies not only enhances project outcomes but also enriches the overall project experience for all involved. As organizations continue to pursue growth, innovation, and efficiency, a robust project management framework remains the cornerstone of effective execution. By embracing the principles of project management and fostering a culture of collaboration, accountability, and continuous improvement, businesses can navigate the complexities of modern projects with confidence and achieve sustainable success.