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**SOEN 6481: Software Project Management**

**Journal URL:** [**hhttps://github.com/OmniaAlam/SOEN6481**](https://github.com/AlamOmnia/SOEN6481)

# Week 5: 17th February-9th March 2024

Date: 7th March 2024

**Key Concepts Learned**

**Chapter 7:**

* **The key attributes of a software project for monitoring and control:**

**Scope:**

* + Define and manage project boundaries.
  + Prevent scope creep by controlling changes.

**Schedule:**

* + Track progress against planned timeline.
  + Monitor dependencies and critical path activities.

**Cost:**

* + Monitor project expenditures against budget.
  + Manage budget changes as needed.

**Quality:**

* + Ensure software meets specified quality standards.
  + Conduct reviews, testing, and quality assurance processes.

**Risk Management:**

* + Identify, assess, and mitigate project risks.
  + Implement risk response plans.

**Stakeholder Satisfaction:**

* + Gather feedback to assess expectations and needs.
  + Ensure project meets stakeholders' expectations.

**Communication:**

* + Exchange information efficiently among team members and stakeholders.
  + Regularly update status, hold meetings, and share reports.

**Resource Management:**

* + Track allocation and utilization of human and financial resources.
  + Optimize resource allocation to maximize efficiency.

**Performance Metrics:**

* + Measure productivity, defect rates, and customer satisfaction.
  + Monitor project progress indicators.
* **Resource leveling process:**

**Balancing Resource Demand**:

* Adjust project schedule to balance resource demand with availability.

**Identifying Resource Constraints**:

* + Recognize limitations in personnel, equipment, or other critical resources.

**Analyzing Resource Workloads**:

* + Evaluate resource workload over the project timeline.
  + Identify periods of high demand and potential conflicts.

**Adjusting Task Dependencies**:

* + Modify task dependencies to distribute resource demand.
  + Reschedule tasks, split tasks, or rearrange task sequences as needed.

**Optimizing Project Schedule**:

* + Update schedule to reflect smoothed resource allocation.
  + Adjust task start/end dates, milestones, and deadlines accordingly.

**Considering Project Constraints**:

* + Ensure resource leveling aligns with project deadlines, dependencies, and scope requirements.

**Monitoring and Adjusting**:

* + Continuously monitor resource allocation and project conditions.
  + Revise resource leveling strategies as needed to adapt to changes.
* **The methods to measure progress of a task.**

**Percentage Completion**:

* + Assign a percentage indicating progress.

**Task Duration**:

* + Compare actual duration with planned duration.

**Work Breakdown Structure (WBS)**:

* + Break down task into subtasks and track their completion.

**Checklists**:

* + Create and mark off specific actions or deliverables.

**Kanban Boards**:

* + Visualize task's workflow stages and move card accordingly.

**Burn Down Charts**:

* + Plot remaining work against time to visualize progress.

**Earned Value Management (EVM)**:

* + Compare earned value with scheduled value to assess progress.

**Task Dependencies**:

* + Monitor completion of predecessor tasks.

**Feedback and Reviews**:

* + Gather feedback from team members and stakeholders.

**Key Performance Indicators (KPIs)**:

* + Define and track relevant metrics for the task's objectives.
* **The measures that can be taken if the project schedule deviates from the planned schedule**

**Identify the Root Causes**:

* + Investigate reasons behind the deviation.
  + Determine factors contributing to the schedule deviation.

**Re-evaluate the Schedule**:

* + Review project schedule for adjustments.
  + Reallocate resources, adjust dependencies, or revise timelines.

**Communicate with Stakeholders**:

* + Keep stakeholders informed about the deviation.
  + Communicate actions being taken to address it.

**Prioritize Tasks**:

* + Identify critical tasks or deliverables.
  + Focus on completing critical tasks first.

**Resource Optimization**:

* + Reallocate resources from non-critical to critical tasks.
  + Bring in additional resources if necessary.

**Implement Fast-Tracking or Crashing**:

* + Overlap sequential activities (fast-tracking).
  + Add resources to critical tasks (crashing).

**Manage Scope Changes**:

* + Assess impact of scope changes on schedule.
  + Implement change control procedures.

**Risk Management**:

* + Assess and mitigate risks impacting schedule.
  + Develop contingency plans.

**Monitor Progress Closely**:

* + Increase monitoring and oversight.
  + Implement regular progress reviews.

**Document Lessons Learned**:

* + Document lessons learned from deviation.
  + Use insights to improve future project planning.
* **The measures that can be taken if the project cost is deviating from the planned budget**
* **Identify Cost Deviation Causes**:
  + Investigate the reasons behind the cost deviation.
  + Determine factors contributing to the budget overrun.
* **Re-evaluate Budget**:
  + Review project budget for adjustments.
  + Identify areas where costs can be reduced or reallocated.
* **Communicate with Stakeholders**:
  + Inform stakeholders about the budget deviation.
  + Discuss actions being taken to address it.
* **Cost Control Measures**:
  + Implement cost control measures to manage expenses.
  + Monitor and manage expenses closely.
* **Scope Management**:
  + Evaluate scope changes impacting project cost.
  + Implement change control procedures.
* **Vendor Negotiations**:
  + Negotiate with vendors for discounts or cost reductions.
  + Explore alternative vendors or suppliers.
* **Resource Optimization**:
  + Optimize resource allocation to minimize costs.
  + Use resources efficiently to reduce expenses.
* **Risk Management**:
  + Assess and mitigate risks impacting project cost.
  + Develop contingency plans for cost overruns.
* **Value Engineering**:
  + Explore opportunities for cost-saving without compromising quality.
  + Re-evaluate project requirements and specifications.
* **Document Lessons Learned**:
  + Document lessons learned from cost deviation.
  + Use insights to improve cost estimation and budgeting in future projects.

**Chapter 8:**

* **Importance of project data:**

**Performance Evaluation**:

* + Evaluate project progress and performance against planned objectives.
  + Identify areas of success and areas needing improvement.

**Decision Making**:

* + Base decisions on real data rather than assumptions or intuition.
  + Make informed decisions regarding resource allocation, schedule adjustments, and risk mitigation.

**Risk Management**:

* + Identify and assess project risks based on historical data and trends.
  + Implement proactive measures to mitigate risks and minimize their impact on the project.

**Resource Allocation**:

* + Optimize resource allocation based on data-driven insights.
  + Allocate resources efficiently to maximize productivity and minimize costs.

**Forecasting and Planning**:

* + Use historical data to forecast future project outcomes and trends.
  + Develop more accurate project plans and schedules based on past performance data.

**Performance Improvement**:

* + Identify patterns and trends in project data to identify areas for improvement.
  + Implement corrective actions and process improvements based on data analysis.

**Stakeholder Communication**:

* + Communicate project status, progress, and performance to stakeholders based on objective data.
  + Build trust and transparency by providing evidence-based insights.

**Benchmarking**:

* + Compare current project performance with industry standards or benchmarks.
  + Identify opportunities for improvement and best practices based on benchmarking data.

**Lessons Learned**:

* + Capture project data for lessons learned documentation.
  + Use insights from past projects to inform future project planning and execution.

**Compliance and Reporting**:

* + Ensure compliance with regulatory requirements and project standards.
  + Generate accurate and reliable reports based on project data for internal and external stakeholders.
* **Steps to get project data**

**Data Privacy and Security**:

* + Ensure that sensitive or confidential data is properly identified and protected.
  + Implement appropriate access controls to prevent unauthorized access to archived data.
  + Encrypt sensitive data to protect it from unauthorized disclosure or theft.

**Data Integrity**:

* + Verify the integrity and accuracy of the data being archived.
  + Conduct data validation checks to ensure that the archived data is complete and consistent.

**Data Retention Policies**:

* + Review and adhere to data retention policies and legal requirements.
  + Determine the appropriate retention period for archived data based on regulatory obligations and organizational policies.

**Documentation**:

* + Document the archiving process, including the types of data archived, the methods used, and the rationale for retention.
  + Maintain detailed records of archived data to facilitate retrieval and audit trails.

**Backup and Redundancy**:

* + Backup archived data to multiple locations or storage devices to prevent data loss.
  + Implement redundancy measures to ensure data availability in case of hardware failure or other disasters.

**Metadata Management**:

* + Manage metadata associated with archived data to facilitate search and retrieval.
  + Maintain metadata integrity and consistency to ensure accurate categorization and organization of archived data.

**Data Accessibility**:

* + Ensure that archived data remains accessible to authorized users as needed.
  + Establish procedures for requesting and accessing archived data, including permissions and authentication mechanisms.

**Compliance and Legal Considerations**:

* + Ensure compliance with legal and regulatory requirements governing data retention and archiving.
  + Consult legal counsel or compliance experts to ensure that archiving practices align with relevant laws and regulations.

**Data Disposal**:

* + Establish procedures for securely disposing of data that has reached the end of its retention period.
  + Implement data destruction methods that comply with data privacy regulations and minimize the risk of data exposure.

**Regular Review and Update**:

* + Periodically review and update the archived data to ensure its relevance and accuracy.
  + Remove outdated or obsolete data to free up storage space and maintain data integrity.
* **Importance of resource release:**
* Optimal Utilization: It ensures resources are efficiently reallocated when no longer needed.
* Cost Management: Helps control project costs by avoiding unnecessary expenditures.
* Flexibility: Allows for adjustments based on changing project needs and priorities.
* Risk Mitigation: Reduces risks associated with resource shortages or missed opportunities.
* Stakeholder Confidence: Demonstrates organizational competence and responsiveness.
* Performance Improvement: Enhances project performance by avoiding resource bottlenecks.
* Long-Term Planning: Contributes to better resource forecasting and planning based on historical data.

**Application in Real Projects:**

We worked on our project where I have made an estimated budget based on the WBS.

I have also created the WBS with each phases have their deliverables.

**Peer Interactions:**

We had our regular meetings and discussed our part via communication channels.

**Challenges Faced:**

Time management has become a huge issue during my work schedule. I am trying to organize myself every day.

**Personal Development activities:**

I have read the chapter 7,8.

**Goals for the Next Week:**

We will work on either poster or project presentation.