PPM – midterm exam – open questions

Chapter 1

1. what roles do traditional process management duties of planning, organizing, and controlling play in project management, if any?

The traditional managerial duties of planning, organizing, and controlling all apply to project management. Project managers must be technically well versed, proficient at administrative functions, willing and able to assume leadership roles, and goal oriented. The project manager is the person most responsible for keeping track of the big picture.

2. Why is project management challenging?

Projects present challenges for many reasons; by their nature, they are often dramatic departures from the routine process-oriented work employees are accustomed to. Projects face budget, time, and resource constraints and these resources must often be marshaled from across the organization.

3. Why are projects important?

Today's businesses face a set of pressures that make projects crucial in helping an organization achieve its strategic goals. These pressures include shortened product life cycles, narrow product launch windows, increasingly complex and technical products, the emergence of global markets, and an economic period marked by low inflation.

4. Why is project management considered an excellent training ground for future senior executives in many organizations?

Project management offers a blend of technical and behavioral challenges, making it an ideal training ground for future senior executives. Managers develop skills in project selection, budgeting, resource management, planning, and tracking. Additionally, they hone their abilities in team-building, conflict management, leadership, negotiation, and navigating organizational politics.

5. What is a project?

Project is a "a temporary endeavor undertaken to create a unique product or service." A synthesis of the definitions offered might be that projects are customer-focused, complex, one-time processes limited by budget, schedule, and resources that are developed to resolve a clear goal or set of goals.

6. What changes in the business environment have necessitated a greater use of project management skills?

Today's businesses face a set of pressures that make projects crucial in helping an organization achieve its strategic goals. These pressures include shortened product life cycles, narrow product launch windows, increasingly complex and technical products, the emergence of global markets, and an economic period marked by low inflation.

7. What are key differences between projects and processes?

process - ongoing, day-to-day activities in which an organization engages while producing goods and services. Processes use existing systems, properties, and capabilities in a continuous, repetitive manner.

Projects - take place outside the normal, process-oriented world of the firm, and project management activities remain unique and separate from the way process-oriented work is performed.

8. Pick any organization in the recent business news and provide examples of both project and process work that this company is well known for.

Amazon's project work includes developing Amazon Prime Air drone delivery service, aimed at revolutionizing package delivery through complex technological innovation. On the process side, Amazon is known for efficient fulfillment centers, optimizing inventory management and order processing to improve customer service.

9. Describe the activities that occur at each stage of a project.

The project life cycle consists of conceptualization, planning, execution, and termination stages.

- Conceptualization - scoping, resource identification, and stakeholder engagement.
- Planning - detailed specifications and scheduling.
- Execution - focuses on development or creation.
- Termination - project delivery, resource reassignment, and formal closure.

10. Use the project life cycle and intensity level graph to describe your journey in your current degree program. Provide the number of credit hours you have earned and the number remaining in your program and briefly describe key events that show peaks or valleys in the five components.

In my degree program, I've completed 90 credit hours with 150 remaining. During conceptualization, enthusiasm was high. Planning saw peak intensity in organizing

courses. Execution brought high intensity in coursework and resource utilization. As I near termination, intensity remains high for completing courses. Client interest peaks as I prepare for graduation and career transition.

11. Where in the project life cycle are the intensity level of resources and client interest at their highest? Why is this the case?

Resource intensity peaks during execution due to the actual work being performed, requiring high commitment of financial, human, and technical resources. Client interest peaks initially during conceptualization, where input is provided, and again during termination when the project nears completion and benefits are imminent.

12. Rank the determinants of project success from most important to least important and justify your rankings.

1. Client acceptance: Ultimately, the project's success hinges on satisfying the client's needs and expectations.

2. Performance specifications: Meeting technical requirements ensures the project achieves its intended functionality.

3. Conformance to schedule: Adherence to deadlines is crucial for project management and stakeholder expectations.

4. Conformance to budget: Staying within budget is important for resource efficiency, but may be flexible depending on circumstances.

13. Discuss the internal and external measures of project success.

Internal measures of project success include time, cost, and performance, which are constraints within the project's scope. Time refers to adherence to deadlines, cost entails staying within budget, and performance involves meeting technical specifications.

External measure of project success is client acceptance, indicating whether the project satisfies customer needs and expectations. If the project meets internal criteria but fails to gain client acceptance, it's not considered a complete success.

Chapter 2

1. What is meant by the statement, "successful project management is contextual"?

The organization's culture, structure, and strategy significantly impact the success or failure of a project. These contextual factors provide the backdrop for project activities, shaping how they unfold. Understanding these underlying issues is crucial for effective project management.

2. What is strategic management and what role do projects play in it?

Strategic management involves making decisions to help an organization achieve its objectives. Projects are essential in strategic management as they serve as steps towards realizing the organization's strategic vision. Firms often use their mission or vision statement to assess new project opportunities, integrating them into their strategic planning process.

3. Define the term stakeholder and discuss the major groups of stakeholders.

Stakeholders are individuals or groups with a vested interest in a project's outcome, capable of influencing it positively or negatively. They can be broadly categorized into internal and external groups. Internal stakeholders include top management, project team members, and functional managers, while external stakeholders encompass clients, competitors, suppliers, and intervenor groups.

4. Consider your current major and the courses that comprise it. From the perspective of your university, and more specifically, from the department that "owns" this major, identify the stakeholders of this major. List the stakeholders in two categories, internal and external and assess the environment and the goals of each of these stakeholders.

Internal stakeholders:

- Students pursuing the major
- Faculty in the Computer Science department
- Academic advisors

External stakeholders:

- Graduates of the program
- Area employers hiring graduates
- Local community

The goals of internal stakeholders may include program growth, student placement in high-profile jobs, achieving high scores on certification tests, securing research funding, and ensuring high retention and graduation rates. External stakeholders may seek well-prepared graduates, workforce development, and contributions to the local economy through innovation and technology advancement.

5. What are Block's six steps to stakeholder management and what should be accomplished in each step?

1. Assessing the environment - involves investigating the project's impact and considering its visibility.

2. Identifying goals - helps in understanding stakeholders' motivations and potential concerns.

3. Assessing own capabilities - involves evaluating organizational strengths and weaknesses.

4. Defining the problem - sets the groundwork for addressing stakeholder needs and concerns.

5. Developing solutions - entails creating action plans to address stakeholder requirements.

6. Testing and refining solutions - involve iterative adjustments based on feedback and evolving project conditions.

6. What are the three types of organizations presented by the author and how are they different?

1. Functional organizations - group individuals by business activity or duties.

2. Project organizations - focus solely on project execution, with resources dedicated to projects as needed.

3. Matrix organizations - combine elements of both functional and project structures, balancing authority between project emphasis and functional departmentalization.

7. What are the advantages and disadvantages of using a functional structure to manage a project?

Advantages of using a functional structure:

- Efficient division of labor based on expertise
- Allows employees to specialize and develop skills
- Clear career paths within functional departments

Disadvantages:

- Functional siloing may hinder communication and collaboration between departments

- Lack of centralized project management function can lead to coordination challenges
- Projects may not receive sufficient attention or resources if not aligned with departmental priorities

8. Describe the two forms of a matrix organization and indicate the advantages of each for project management.

Matrix organizations can be weak or strong, also known as functional matrix and project matrix, respectively.

In a weak matrix, the functional manager retains control over resources and project components, resembling a functional organization. In contrast, a strong matrix empowers the project manager with greater control, resembling a project organization.

The advantages of a weak matrix include clearer lines of authority and better integration with functional departments. On the other hand, a strong matrix provides enhanced project focus and faster decision-making, making it suitable for competitive environments.

9. What is a pure project structure for an organization? What are the advantages of using this structure?

A pure project structure focuses solely on running projects, with each project operating as a self-contained unit led by a project manager. Advantages of this structure include clear project authority, improved communication among team members, access to trained project management professionals, and increased flexibility to respond to environmental opportunities.

10. What are the elements of organizational structure?

Organizational structure comprises three main elements: formal reporting relationships, departmental grouping, and communication systems. This includes defining hierarchy levels, departmental organization, and implementing systems for effective communication and coordination across the organization.

11. Describe the ways that individuals are grouped within an organization.

Individuals within an organization are typically grouped based on function, product, geography, or project. Functional grouping involves organizing people based on similar activities, while product grouping clusters employees by product lines. Geography grouping focuses on physical location, while project grouping organizes individuals involved in the same project into one department.

12. Consider your weekly routine and how it might be managed as a pure project structure. What changes would be required for you to convert from a process mentality to a project mentality?

In a pure project structure, daily activities are viewed as components of larger projects. For example, a student's degree plan becomes a "college degree project," and employment can be seen as a "career advancement project." To shift from a process mentality to a project mentality, one must adopt a long-term view of goals and tasks, with the individual acting as the project manager overseeing various aspects of their life projects. This involves autonomy in decision-making and prioritizing tasks to align with project objectives.

13. Compare and contrast the three alternative forms and purposes of project management office models with regards to place in organization, function, and effectiveness in project management.

Project Management Offices (PMOs) come in three alternative forms: weather station, control tower, and resource pool.

- The weather station PMO tracks project progress, serving as an information hub.
- The control tower PMO views project management as a critical skill, focusing on skill development and improvement.
- The resource pool PMO maintains a pool of skilled project professionals to deploy as needed.

These PMO models vary in their level of involvement in project management, ranging from passive monitoring to active skill development and resource allocation.

14. Define organizational culture and explain how it is developed.

Organizational culture refers to the unwritten rules and norms guiding behavior within an organization. It's developed through various factors like technology, environment, location, reward systems, rules, procedures, key members, and critical incidents. These elements shape and influence the shared values and behaviors among organizational members, which are passed on to new members as part of the company's culture.

15. Compare the organizational culture among the students in this class with a contrasting student organizational culture from another class at this or another institution. Identify key differences in how these two different cultures developed using factors discussed in this book.

The organizational culture among students in this class may differ from that of another class at a different institution due to factors like technology, environment, location, reward systems, rules, procedures, key members, and critical incidents. These factors influence attitudes, values, and behaviors within each class or institution.

16. What are three ways that organizational culture impacts project management?

Organizational culture impacts project management in several ways.

- Firstly, it shapes departmental interactions and support for project goals.
- Secondly, it influences employee commitment to project objectives relative to other goals.
- Thirdly, it affects project planning processes, including resource allocation and work estimation.
- Finally, it influences how project team performance is evaluated and project outcomes are perceived by managers.

17. Describe the phenomenon called "escalation of commitment" and where it fits in the lore of organizational culture.

"Escalation of commitment" is when organizations persist with a failing project despite evidence suggesting it should be terminated. This phenomenon often stems from organizational culture, where key members or critical incidents influence decision-making. It reflects an unwillingness to acknowledge failure and can result in continued investment in a doomed project.

Chapter 3

1. Describe or define any four important attributes for screening models used to evaluate projects.

1. Realism - The model should reflect organizational objectives and strategic goals.

2. Capability - It should be able to respond to changes in project conditions.

3. Flexibility - The model should be easily modifiable to accommodate trial applications.

4. Ease of use - It should be simple enough for people in various roles within the organization to use effectively.

These attributes ensure that the screening model is cost-effective, comparable across projects, and capable of supporting decision-making processes.

2. Provide an example of a numeric and non-numeric project selection model and indicate what advantage each might hold over the other.

A weighted scoring model - projects are evaluated based on predefined criteria, with scores assigned to each criterion. This quantitative approach enables systematic comparison and prioritization of projects.

The checklist model - involves assessing projects against qualitative criteria without assigning numerical scores. This approach offers simplicity and flexibility, catering to decision-makers who prioritize qualitative aspects.

The advantage of the weighted scoring model lies in its quantitative nature, facilitating objective comparison among projects. Conversely, the checklist model provides a more intuitive evaluation process, suitable for decision-makers who prefer qualitative assessments.

3. Describe any four types of risk that projects may hold.

1. Technical risks - These arise from new or unproven technologies, which may lead to technical failures or performance issues.

2. Financial risks - Stemming from the financial investments made in the project, these risks include cost overruns, budget constraints, and revenue shortfalls.

3. Safety risks - Associated with hazards that may compromise the safety of project stakeholders, such as workers or end-users. Failure to address safety risks can result in accidents or injuries.

4. Quality risks - These pertain to the potential shortcomings in the quality of the project deliverables, which could lead to dissatisfaction among stakeholders, rework, or product failures.

4. How does a checklist project screening model work?

A checklist project screening model involves creating a list of criteria relevant to project selection. Each potential project is then evaluated against these criteria, typically rated as high, medium, or low. The project with the highest overall score is selected for implementation.

5. What are the advantages and limitations of simple scoring models?

Simple scoring models offer advantages such as easy alignment with strategic goals and straightforward usability. However, they have limitations including less accurate scaling

and dependency on the relevance and accuracy of selected criteria and weights assigned to them.

6. What is the time value of money principle and how does it apply to project selection?

The time value of money principle states that money today is worth more than the same amount in the future due to inflation and the opportunity cost of not being able to invest it. In project selection, this principle helps assess which project offers the highest return on investment by comparing the present value of future cash flows.

7. How can a payback period approach be used to evaluate potential projects?

The payback period approach evaluates projects by estimating the time needed to recover the initial investment. It compares the investment to annual cash savings using the formula: payback period = investment / annual cash savings.

8. What is an internal rate of return and what advantages and disadvantages are accrued by using it to evaluate projects?

Internal Rate of Return (IRR) is a method of evaluating project investments by determining the discount rate that equates the present values of a project's cash inflows and outflows. Advantages of using IRR include its ability to compare alternative projects based on expected return on investment. However, IRR may yield conflicting solutions if cash flows are irregular, and it does not directly indicate the actual rate of return for a project.

9. Inatech is contemplating two different projects and decides to perform a financial analysis to determine which is more financially lucrative. Project A and B have the cash flows as shown and Inatech uses a required rate of return of 10% and an inflation rate of 4%. Compute the payback in years and the net present value for both projects and offer advice as to the best course of action.

Year	A	B
0	-$250,000	-$400,000
1	$75,000	$125,000
2	$155,000	$230,000
3	$200,000	$288,000
4	$175,000	$265,000
5	$160,000	$225,000

Answer:

Year	A	Cumulative A	Discount	NPV A	B	Cumulative B	NPV B
0	-$250,000	-$250,000	1.000	-$250,000	-$400,000	-$400,000	-$400,000
1	$75,000	-$175,000	0.877	$65,789	$125,000	-$275,000	$109,649
2	$155,000	-$20,000	0.769	$119,267	$230,000	-$45,000	$176,978
3	$200,000	$180,000	0.675	$134,994	$288,000	$243,000	$194,392
4	$175,000	$355,000	0.592	$103,614	$265,000	$508,000	$156,901
5	$160,000	$515,000	0.519	$83,099	$225,000	$733,000	$116,858

The NPV for project A is $256,764 and the NPV for project B is higher at $354,778. Project A has a longer discounted payback, 3.3 years, compared to project B's payback of 3.2 years. The best course of action based solely on financial considerations is to opt for project B if only one can be implemented.

10. Inatech is contemplating two different projects and decides to perform a financial analysis to determine which is more financially lucrative. Project A and B have the cash flows as shown and Inatech uses a required rate of return of 8%. Compute the internal rate of return for both projects to determine which is worth of funding.

Year	A	B
0	-$500,000	-$400,000
1	$260,000	$200,000
2	$170,000	$100,000
3	$125,000	$100,000
4	$75,000	$50,000
5	$25,000	$25,000

Answer: Project A has an IRR of 1.85%. The net present value table based on this percentage is as follows:

Year	A	Discount	NPV
0	-$500,000	1	-$500,000
1	$260,000	0.893	$232,143
2	$170,000	0.797	$135,523
3	$125,000	0.712	$89,973
4	$75,000	0.636	$47,664
5	$25,000	0.567	$14,186

Project B has an IRR of 1.91%. The net present value table based on this percentage is:

Year	B	Discount	NPV
0	-$400,000	1	-$400,000
1	$200,000	0.893	$178,571
2	$100,000	0.797	$119,579
3	$100,000	0.712	$71,178
4	$50,000	0.636	$31,776
5	$25,000	0.567	$14,186

Both projects fall short of the hurdle rate of 8%, so Inatech should avoid both. The NPV for project A is $18,488 and for project B is $15,290.

11. What two simple rules should be followed when choosing a project selection approach?

1. Maintain objectivity and consistency to avoid bias and ensure fair evaluation of projects.

2. Use a diverse range of selection methods that consider both financial and non-financial factors to make well-rounded decisions.

12. What is project portfolio management and what are its objectives and initiatives?

Project portfolio management involves the strategic management of an organization's projects. Its objectives include selecting, supporting, and managing a collection of projects to align with the company's goals. Initiatives include decision-making, prioritization, and realignment of projects to maximize value and achieve strategic objectives.

13. Rank the problems in implementing portfolio management from largest to smallest and justify your rankings.

1. Scarce resources (human labor, cash, raw materials) - Most significant problem due to direct impact on project execution and overall portfolio success.

2. Conservative technical committees favoring certain projects - Can lead to bias in project selection, hindering innovation and strategic alignment.

3. Out-of-sync projects and portfolios - Disrupts alignment with company objectives and market demands, potentially wasting resources.

4. Unpromising projects - While impactful, may not pose as significant a challenge as other issues, but can still drain resources if not addressed.

14. What are three keys to success for project portfolio management? Which is most important?

1. Flexible structure and freedom of communication - Allows for adaptation to changing circumstances and encourages collaboration, fostering innovation and agility.

2. Low-cost environmental scanning - Enables the organization to stay informed about market trends and competitor activities without significant investment, facilitating timely adjustments to the project portfolio.

3. Time-paced transition - Ensures that projects are initiated, developed, and concluded at optimal times, maximizing resource utilization and portfolio effectiveness.

The most important key to success may vary depending on the organization's context. However, flexible structure and communication freedom are fundamental, enabling effective decision-making and adaptation.

15. What are the three phases or categories of the portfolio selection process? Provide an example of an activity or step that is completed within each phase.

1. Preprocess phase - defining selection methodologies and strategy principles. An example activity in this phase is developing criteria for evaluating projects.

2. Process phase - prescreening, individual project analysis, portfolio selection, and portfolio adjustment. An example activity in this phase is conducting a detailed analysis of each project against predefined criteria.

3. Post-process phase - project development, evaluation, and portfolio completion. An example activity is reviewing the performance of selected projects and making necessary adjustments to the portfolio.

Chapter 4

1. Comment on the project profiles Aziza Chaouni and Her Project to Save a River and Dr. Elattuvalapil Sreedharan, India's Project Management Rock Star. What evidence is offered of project leadership skills in these vignettes?

Both Aziza Chaouni and Dr. Elattuvalapil Sreedharan exhibit exceptional project leadership skills. Chaouni demonstrates vision, long-term planning, and collaboration with diverse stakeholders over a 20-year project. Sreedharan emphasizes clear vision, accountability, transparent communication, and punctuality, integrity, and professional competence, ensuring project success.

2. Describe the four things that are necessary to promote the partnership idea between the project manager and the team.

To promote the partnership idea between the project manager and the team, four key elements are essential: a shared purpose, the right to say no, collective accountability, and unwavering honesty. This entails mutual involvement in defining project goals, allowing different opinions, shared responsibility for outcomes, and fostering transparent communication.

3. What are any four key differences between managers and leaders?

1. Execution:

- Managers - Controls and solves problems; monitors results and applies corrective action.
- Leaders - Motivates and inspires, energizes people to overcome obstacles and show personal initiative.

2. Outcomes:

- Managers - Produces a degree of predictability and order, seeks to maintain the status quo.
- Leaders - Produces change, challenges the status quo.

3. Focus:

- Managers - Efficiency of operations.
- Leaders - Effectiveness of outcomes.

4. Time – Frame:

- Managers - Short term, avoiding risks, maintain and imitating.

- Leaders - Long term, taking risks, innovating and originating.

4. Why are projects often underfunded in the concept stage?

- The project's goals are deliberately vague.
- The project lacks a top management sponsor.
- The project requirements were deliberately understated.
- There are other projects under development competing for the same scarce resources.
- An attitude of distrust exists between top management and project managers.

5. What are some ways project managers can acquire additional resources if they feel their project lacks sufficient support?

Project managers facing resource shortages can adopt several strategies. They may hire temporary contract employees to address personnel shortages or negotiate with top management to secure additional support. Successful negotiation and influence skills are crucial, as resource allocation often involves interactions with higher management. Ultimately, effective leadership lies in the ability to maintain project viability by addressing resource needs through various means.

6. Your author makes the statement that "Successful project managers must operate on the boundaries." Explain what is meant by this statement and provide an example.

"Operating on the boundaries" refers to project managers navigating ambiguous situations, balancing technical and behavioral aspects, and shifting focus between long-term strategy and day-to-day operations. They engage stakeholders at all levels, understand motivations, and inspire optimal performance. For example, a project manager adeptly handles technical challenges while fostering teamwork and addressing organizational dynamics for project success.

7. What can a project manager do to motivate project team members?

Motivation comes from within each individual, so it cannot be created solely by the project manager. A skillful project manager recognizes this and is knowledgeable about his project team members, enabling him to recruit talent, mold the team, and apply motivational techniques as necessary.

8. Communicating is an important aspect of a project leader's job and what better way to do so than through project meetings! What purposes do project team meetings serve?

- They define the project and major team players.

- They provide an opportunity to revise, update, and add to all participants' knowledge base on the subject.
- They assist team members to understand how their individual efforts fit into the overall whole of the project.
- They help all stakeholders increase their commitment to the project.
- They provide a collective opportunity to discuss the project and decide on individual work assignments.
- They provide visibility for the project manager's role in managing the project.

9. The authors draw a contrast between having a vision and fighting fires. Briefly describe these skills within the context of project management and support your position that one skill is more important than the other for a project manager.

Vision in project management involves maintaining focus on the project's ultimate goal, aligning it with organizational objectives. Firefighting skills are crucial for swiftly resolving crises that threaten project elements. While opinions may differ, visionary skills are often considered more important as they ensure project alignment with long-term goals and strategic direction.

10. What are the differences between task-oriented behavior and group maintenance behavior? Give three examples of each type of behavior.

Task-oriented behavior focuses on completing project tasks, while group maintenance behavior ensures team cohesion and morale. Examples of task-oriented behavior include clarifying communication, summarizing discussions, and consensus testing. Examples of group maintenance behavior include supporting team members, setting standards, and analyzing team processes.

11. What is emotional intelligence and why is it important for a project leader to possess?

Emotional intelligence is the leader's ability to navigate the emotional aspects of interactions with their team. It includes self-awareness, self-regulation, motivation, empathy, and social skill. It's crucial for project leaders as it helps build strong relationships with team members, fostering an effective and supportive team environment.

12. Much research has been published regarding the important characteristics of effective leaders. What are five traits that surveys have found to be important and which of your five is most important?

The list contains these traits, listed in order of percentage of respondents: honest, competent, forward-looking, inspiring, intelligent, fair-minded, broad-minded, straightforward, imaginative, and dependable.

13. Define the concept of time orientation. What are its implications for project leadership behavior?

Time orientation refers to an individual's focus on the past, present, or future. It's important for project leadership as it influences how leaders plan, prioritize, and execute tasks. Understanding team members' time orientations helps leaders tailor their communication and management approaches to effectively collaborate with diverse perspectives.

14. What are the temporal skills discussed in the text and what impact would they have on a project manager's success?

The text discusses temporal skills such as time warping, creating future vision, chunking time, predicting, and recapturing the past. These skills are crucial for a project manager's success as they enable effective planning, visioning, time management, prediction, and learning from past experiences. By mastering these skills, project managers can adapt to various project stages and requirements, enhancing overall project outcomes.

15. What is a project champion and why is it important to have one?

A project champion is someone who passionately advocates for a project, overcoming organizational resistance. They're crucial because they drive projects forward, especially when enthusiasm within the organization is lacking. Without champions, projects may struggle to progress.

16. What are any three types of project champions and how are they different?

Three types of project champions are the creative originator, the entrepreneur, and the godfather or sponsor. The originator is the idea's source, the entrepreneur adopts and sells it, while the godfather secures resources and protects the project. Additionally, project managers can serve as champions if they possess sufficient organizational authority.

17. Give two examples each of traditional and nontraditional project champion duties. Which set of duties is more important? Why?

Traditional duties:

- Technical understanding: Ensuring comprehension of project complexities and requirements.
- Leadership: Guiding and motivating team members to achieve project goals.

Nontraditional duties:

- Visionary: Inspiring a shared vision of project success among stakeholders.

- Politician: Navigating organizational politics to garner support and resources for the project.

Both sets of duties are crucial, but nontraditional duties may hold greater importance as they often require more nuanced skills and have a significant impact on project success in complex organizational environments.

18. What four competencies determine success as project leaders?

- The new leader understands and practices the power of appreciation. They are connoisseurs of talent, more curators than creators.
- The new leader keeps reminding people what's important.
- The new leader generates and sustains trust.
- The new leader and the led are intimate allies.

19. What factors dictate an increased need to develop project management professionalism within an organization?

- for many organizations, project work is becoming the standard
- there is a critical need to upgrade the skills of those doing project work
- there is a need to create a career path for those serving as project managers.

20. What are the practical steps that organizations can take to begin developing a core of project management professionals?

- Matching personalities to project roles based on suitability.
- Implementing formal training programs for project management skills.
- Establishing a reward system specific to project management achievements.
- Creating a distinct career path for project professionals, providing equal opportunities for advancement.

Chapter 5

1. Rank the key steps in information development from most to least important and justify your rankings.

1. Problem or need statement - Identifying the underlying problem or need sets the foundation for the project's direction.

2. Information gathering - Comprehensive research ensures informed decision-making and effective problem-solving.

3. Alternative analysis - Exploring different solutions provides options for addressing the problem or need.

4. Project objectives - Clearly defined objectives establish the project's goals, scope, and success criteria.

5. Constraints - Understanding time, budget, and client constraints guides project planning and execution.

2. What is a statement of work and what are the key elements it contains?

A statement of work (SOW) is a detailed description of project requirements, including objectives, work description, outcomes, and constraints. Key elements of an effective SOW include an introduction with a problem statement, technical project description, and timeline with milestones.

3. What is work authorization?

Work authorization is the formal approval given to commence a project after preparing and approving scope definition, planning documents, management plans, and contractual agreements. It often involves a formal sign-off, addressing contractual obligations for external clients.

4. What are three common elements in most work authorization contracts?

Three common elements in most work authorization contracts are contractual elements, consideration, and contracted terms.

- Contractual elements - specify promised functionality or performance criteria.
- Consideration - involves items promised in exchange for reciprocal commitments.
- Contracted terms - outline commitments agreed upon by both parties, including excusable delays, allowable costs, liquidated damages, inspection criteria, and responsibility for defect correction.

5. What is the difference between a turnkey contract and a cost-plus contract? Include in your discussion the advantages and disadvantages of each.

turnkey contract - places all responsibility on the project organization for successful performance. It works well with clear contracts and reasonable initial cost estimates, but the contractor bears all unforeseen costs.

Cost-plus contract - fixes the contractor's fee in advance, with the requesting party paying for all costs plus the fee. This shifts risk to the requesting party, as there's little incentive for the contractor to control costs.

6. You have decided to install a naturalistic outdoor pool in your backyard, replete with caves, live plants, boulders and sparkling waterfalls, capable of comfortably accommodating the party guests you occasionally. Which would better suit you, a turnkey contract or a cost-plus contract? Support your reasoning and enumerate the potential weaknesses of both approaches.

For the outdoor pool project, a turnkey contract is preferable as it ensures the contractor takes full responsibility for delivering specified features. However, risks include underestimated costs or missed elements, leading to extra expenses. A cost-plus contract provides cost transparency but shifts risk to the homeowner, potentially resulting in higher costs and uncertainty about the final project expense.

7. What is contained in scope reporting and what function does it serve?

Scope reporting involves determining the information to be regularly reported, recipients of the reports, and how the information will be acquired and shared. It typically includes cost performance, schedule status, and technical performance against plans. Recipients may include project managers, team members, clients, top management, and other relevant internal and external stakeholders.

8. The Project Management Research in Brief for Chapter 5 discusses Information Technology (IT) Project "Death Marches." What are the facts about such projects and what conclusions does the article present?

The Project Management Research in Brief for Chapter 5 highlights the challenges faced by IT projects, including significant delays and budget overruns. On average, these projects can be 6 to 12 months behind schedule and exceed budgets by 50% to 100%. This leads to wasted effort, burnout, and missed deadlines. "Death march" projects, where parameters exceed the norm by at least 50%, are particularly problematic due to unrealistic demands. To prevent such situations, thorough assessment of project goals, budget, personnel, and schedule is essential.

9. What is a scope statement and what are the key steps in the scope statement process?

The scope statement is a crucial document that outlines important project parameters before proceeding to the development phase. The key steps in the scope statement process include: establishing project goal criteria, developing the management plan, creating a work breakdown structure, and establishing a scope baseline.

10. List any five important points to remember when defining work packages.

1. They form the lowest level in the work breakdown structure.

2. Each work package has a deliverable result.

3. Each work package has one owner.

4. Work packages may be considered as individual projects by their owners.

5. Work packages may include multiple milestones.

11. What is hierarchy among the deliverable, work package, subdeliverable, and project? Create an example starting with the most macro element, cascading through to the lowest element.

The hierarchy among project elements starts with the project itself, which encompasses all its deliverables. Within each deliverable, there are subdeliverables, and within each subdeliverable, there are work packages. For example, consider a construction project:

1. Project: Building a new office complex

- Deliverable: Construction of the main building

- Subdeliverable: Structural framework

- Work Package: Pouring concrete for foundation

12. Provide an example of work breakdown structure and indicate what purpose WBS serves.

A work breakdown structure (WBS) serves to break down a project into manageable tasks or activities, facilitating planning, scheduling, and resource allocation. For example, in planning a study tour of Mexico, the WBS might include categories like transportation, housing, business visits, recreation visits, and curriculum. Each category can then be further divided into specific tasks, such as booking flights, arranging accommodations, scheduling site visits, and developing educational materials.

13. Provide an example of a work package and a WBS code and indicate the information they provide.

A work package represents a specific task within a project, such as designing a syllabus for an introductory course. It is the lowest level in the work breakdown structure (WBS). A WBS code, like 2.3.8, is assigned to each work package for tracking purposes, allowing for precise monitoring of costs and financial control throughout the project.

14. What is organization breakdown structure?

The Organization Breakdown Structure (OBS) involves assigning project work to specific organizational units responsible for performing those activities. It helps define the work to be accomplished and allocate it to the owners of the work packages within the company.

15. What is the purpose of controls? Describe any three types of control systems.

Control systems are crucial for managing changes to the project baseline systematically. They focus on aspects like configuration, design, trends, documents, acquisition, and specification.

Configuration control - monitors project scope against the original baseline.

Design control - oversees scope, schedule, and costs during the design stage.

Document control - ensures timely dissemination of important documentation.

16. What is configuration management and why is it important?

Configuration management involves formal documented procedures to identify, document, control, and report changes to the functional and physical characteristics of a product, service, or component. It's crucial for maintaining the baseline scope of a project and managing project changes systematically. With complex projects involving multiple teams or subcontractors, configuration management ensures all parties are informed of changes and helps maintain project alignment with requirements and objectives.

17. What are two common reasons that project or specification changes must be made?

Two common reasons for project or specification changes are initial planning errors by the design team and the emergence of new knowledge or environmental conditions during project progress. Additionally, mandates from external entities or client requests for new features can also necessitate changes.

18. What takes place at the project closeout step?

At the project closeout step, project managers prepare necessary records and reports for themselves and clients. This includes historical records, post-project analysis, and financial closeout documentation. These records serve various purposes such as resolving contractual disputes, serving as a training tool, and facilitating project auditing tasks.

19. How should the project closeout step be planned?

Project closeout planning is integral to scope management. It involves identifying the records and reports needed by both project managers and clients at the project's completion. Planning should begin early in the scope development process to ensure useful information collection throughout the project. Starting with clear goals establishes

what completion entails. Effective project closeout requires proactive consideration of the information to be collected, supported by a robust tracking and filing system.

20. Provide an example of one sustainable project management practice that organizations with a commitment to sustainability may implement.

One sustainable project management practice is implementing projects that prioritize environmental and social responsibility. This includes engaging in sustainable projects, employing eco-friendly practices during project execution, developing sustainable supplier relationships, and integrating sustainability into project design.

21. Describe the triple bottom line of sustainability and describe the relationship between each of the three components.

The triple bottom line of sustainability encompasses economic, social, and environmental dimensions. These components are interrelated, with actions in one area affecting the others. For example, economic growth can impact the environment and social well-being, while social policies may influence economic outcomes. Achieving sustainability requires balancing and integrating all three dimensions in a collaborative manner.

Chapter 7

1. How does risk level vary with project life cycle stages? Where is the period of highest risk impact? Why?

Risk varies throughout the project life cycle, peaking during the concept phase and gradually decreasing during development, execution, and termination phases. The concept phase poses the highest risk due to high uncertainty about project outcomes. As the project progresses, uncertainties are resolved, reducing risk. However, during the execute and finish phases, although risk is lower, the stakes are higher, as project completion and acceptance are critical for success. Thus, the period of highest risk impact occurs late in the project's life cycle.

2. What are the four distinct stages of systematic risk management and what takes place at each?

The four stages of systematic risk management are:

1. Risk identification - Identifying specific risk factors that may affect the project.

2. Analysis of probability and consequences - Assessing the likelihood and impact of identified risks.

3. Risk mitigation strategies - Developing plans to minimize the impact of significant risks.

4. Control and documentation - Documenting risk management activities and lessons learned for future projects.

3. What are any four common categories of risk? What is an element of each category?

1. Financial risk - Involves the exposure to financial losses, such as up-front capital expenditures.

2. Technical risk - Arises from unique technical elements or new technology, posing uncertainties in project execution.

3. Commercial risk - Pertains to uncertainties in achieving success in the marketplace despite definite commercial intent.

4. Execution risk - Encompasses unknowns and challenges associated with carrying out the project plan effectively.

4. What are the basic qualitative methods for identifying risk factors? What are the advantages and disadvantages of each method?

1. Brainstorming: Involves team collaboration to generate ideas quickly.

- Advantages - rapid idea generation.
- Disadvantages - dominance by certain members or judgmental behavior.

2. Delphi method: Collects expert opinions anonymously in rounds.

- Advantages -avoiding dominance but may lack real-time synergy.
- Disadvantages - potential inability to articulate methods or screening out valuable ideas.

3. "Experience counts" approach: Seeks input from individuals with relevant project experience.

- Advantages - richness of observations.
- Disadvantages - lack of structure may result in less knowledge transfer.

4. Past history analysis: Examines patterns from previous projects.

- Advantages - using historical data.
- Disadvantages - it may not reliably predict the future.

5. Multiple assessments: Involves diverse team members specializing in different aspects of the project.

- Advantages include comprehensive risk identification

- Disadvantages: pitfalls include challenges of group discussion.

5. Your project team is interested in determining an overall risk factor for your project to develop a personal submarine constructed entirely of Popsicle sticks and wood glue. Describe how you would develop reasonable estimates for each of the probability of failure categories and each of the consequence of failure categories.

To estimate the probability of failure for our personal submarine project, we would assess the maturity of the design, complexity of the craft, and dependency on new technologies. For consequence of failure, we'd consider cost implications, schedule delays, reliability issues, and impact on performance. A risk impact matrix could organize this information efficiently. The design's maturity, complexity, and reliance on new technology influence the probability of failure, while failure consequences are influenced by factors like cost, schedule, reliability, and performance, especially critical for an underwater vessel.

6. What are the four alternatives a project organization can adopt in deciding how to address their risks? What are the advantages and disadvantages of each? Which is best and why?

1. Accepting risks is suitable for minor issues with low likelihood or consequence.

2. Minimizing risks involves prevention or mitigation strategies.

3. Sharing risks distributes them among project members but requires clear contracts.

4. Transferring risks shifts them to another party through contractual agreements, relieving the organization but at a cost.

The best approach depends on the risk severity and available resources. Acceptance is suitable for minimal risks, while more serious risks may warrant mitigation, sharing, or transfer depending on the organization's capabilities and priorities.

7. There are four alternatives a project organization can adopt in deciding how to address their risks. Develop four different scenarios, one each for which each of the alternatives would be appropriate. Justify your selections.

1. Accept Risk - A software development company faces minor risks of project requirement changes for a mobile app. They accept the risk, focusing on timely delivery without additional measures.

2. Minimize Risk - An aerospace firm mitigates risks in a new aircraft design by extensively testing critical components to ensure reliability under various conditions, reducing potential failures.

3. Share Risk - A construction company collaborates with subcontractors on an infrastructure project, allocating responsibilities and liabilities through contracts to distribute risks and minimize impacts.

4. Transfer Risk - A pharmaceutical company partners with a contract research organization for clinical trials, transferring responsibilities and associated risks to expedite drug development while focusing on core competencies.

8. What are fixed-price contracts and liquidated damages? Which party to the contract bears the burden?

Fixed-price contracts - set a project price before work begins, with the project organization bearing the costs of any difficulties encountered.

Liquidated damages - are penalty clauses activated at project milestones, with the project organization responsible for paying these penalties.

9. What are the two types of contingency reserves and how are they handled?

Task contingency - is used to offset budget or schedule uncertainties at the individual task level.

Managerial contingency - addresses higher-level risks, such as scope changes, at the project level.

These reserves are allocated to cover unforeseen circumstances and ensure project success.

10. How do mentoring and cross-training mitigate risk?

Mentoring - pairs junior with senior project managers, helping juniors learn best practices and mitigate risks by providing guidance and support.

Cross-training - ensures team members understand their own roles as well as those of others, enabling flexibility and risk mitigation by allowing members to fill in for each other as needed.

11. What does change management accomplish and what are the components of an effective change management program?

Change management ensures that changes to the project are effectively identified, evaluated, and implemented to minimize disruption and maximize project success. An effective change management program includes components such as documentation of changes, risk assessment, reduction plans, and clear guidelines on who, what, when, why, and how changes are made to the baseline project plan.

12. What is the PRAM methodology and what are its salient features?

The PRAM (Project Risk Analysis and Management) methodology, developed by the European Association for Project Management, is an integrated program for managing project risks throughout its life cycle. It emphasizes the need for risk management to be integrated at every stage of the project and employs various risk management strategies tailored to different points in the project life cycle. PRAM combines multiple risk management approaches into a cohesive and systematic framework.

13. Pick any three steps in the PRAM methodology and explain the deliverables generated by that step.

Define—a clear unambiguous, shared understanding of all key aspects of the project documented, verified, and reported.

Identify—all key risks and responses identified; both threats and opportunities classified, characterized, documented, verified, and reported.

Evaluate —diagnosis of all important difficulties and comparative analysis of the implications of responses to these difficulties, with specific deliverables like a prioritized list of risks.