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## Question: 1

An AI project team is assessing the scalability of a healthcare solution. Which factor should the project manager consider to help ensure the solution is scalable?

- A. Compliance with data regulations
- B. Ability to handle increased loads
- C. Human oversight requirements
- D. Integration with the existing infrastructure

**Answer: B**

### Explanation:

Scalability in AI initiatives is defined within PMI-CPMAI as the solution's ability to maintain performance, reliability, and accuracy when subjected to increased data volume, user demand, or computational workload. The PMI AI Management Framework emphasizes that an AI system must be architected to "expand capacity, data throughput, and model processing without degradation of service quality" (PMI-CPMAI Learning Path: AI Solution Design and Implementation).

PMI further states that when assessing scalability, project managers must evaluate whether the AI system can "adapt to higher-than-forecast usage levels, larger datasets, and future feature growth using modular and distributed architectures." The official guidance notes that scalable AI solutions often rely on elastic cloud environments, containerized deployments, and horizontally scalable compute layers. This is captured in PMI's explanation that "AI performance must remain stable as demand increases, requiring testing against progressively higher loads to validate computational capacity, latency thresholds, and throughput expectations" (PMI-CPMAI: AI Technical Foundations).

The project manager's responsibility includes verifying that the model pipelines, data ingestion systems, and inferencing services continue to operate effectively under expanded operational demand. PMI stresses that this factor—ability to handle increased loads—is the cornerstone of scalability evaluation, whereas regulatory compliance, human oversight, and integration concerns, while important, relate to governance, ethics, and interoperability rather than scalability.

Therefore, the correct factor that ensures AI scalability is the solution's ability to handle increased loads.

### Question: 2

In a clustering analysis for data use, the project team finds that the clusters are not meaningful and do not provide actionable insights. Which activity should the project manager do with the project team?

- A. Assess the trade-offs of the various algorithms.
- B. Establish data governance protocols.
- C. Identify the data gaps and address deficiencies.
- D. Conduct an algorithm analysis on the data sources.

### Answer: C

#### Explanation:

In the PMI approach to managing AI initiatives, clustering and other unsupervised techniques depend heavily on data quality, completeness, and relevance. When clusters are not meaningful or actionable, the primary recommended action is to reassess and improve the underlying data rather than immediately changing algorithms. PMI guidance on AI data practices emphasizes that AI teams should “ensure that datasets are sufficiently complete, representative, and aligned with the business problem before drawing conclusions from models.” This includes identifying data gaps, missing attributes, bias, and noisy or inconsistent records, and then addressing these deficiencies through improved collection, integration, cleaning, and feature engineering.

The PMI-CPMAI content further stresses that data readiness assessments and iterative refinement of data are critical tasks before and during model development. Poor or incomplete data typically leads to patterns that do not map to real-world segments or behaviors, which is exactly what happens when clusters lack business meaning. While algorithm selection and trade-off analysis are also important, PMI characterizes them as secondary to ensuring that data is “fit for purpose” for the targeted use case. Therefore, the project manager should lead the team to identify data gaps and address deficiencies, which best aligns with PMI's emphasis on data quality as the foundation of reliable AI outcomes.

### Question: 3

A government agency plans to increase personalization of their AI public services platform. The agency is concerned that the personal information may be hacked.

Which action should occur to achieve the agency's goals?

- A. Standardize service protocols to deliver services for reliability.
- B. Educate employees on new technologies so they can help users.
- C. Develop user-friendly interfaces which are tested by users.

D. Enhance data privacy to increase user trust and confidence.

**Answer: D**

**Explanation:**

PMI's guidance on responsible and trustworthy AI highlights data privacy, security, and protection of personal information as central when deploying AI in public-sector services. For personalization in egovernment platforms, PMI notes that organizations must "design AI solutions that safeguard personally identifiable information (PII) and comply with applicable privacy regulations," because public trust is especially fragile in government contexts. Strengthening privacy controls—through techniques such as data minimization, access controls, encryption, anonymization/pseudonymization, and robust cybersecurity practices—is described as a direct way to protect citizens and maintain confidence in AI-enabled services.

The PMI-CPMAI materials also emphasize that user trust is a prerequisite for adoption, particularly when AI uses sensitive personal or behavioral data. They state that AI programs should "embed privacy-by-design and security-by-design into architectures and workflows so that personalization does not compromise confidentiality or expose citizens to heightened risk." While standardizing protocols, educating employees, and improving interfaces have value, they do not address the agency's specific concern about hacking and misuse of personal data. Enhancing data privacy and security directly aligns with both the risk concern (hacking) and the strategic goal (personalized services that users trust), making it the action most consistent with PMI's responsible AI and data governance guidance.

#### **Question: 4**

Doctors have been utilizing a sophisticated AI-driven cognitive solution to help with diagnosing illnesses. The AI system is integrated with several medical databases. This allowed the AI system to learn from new patient data and adapt to the latest medical knowledge and practices. The final project report indicated that the AI model had degraded over time, impacting reliability and effectiveness. The AI system must comply with healthcare regulations from various countries.

What is the likely cause for the degradation issue?

A. Data drift affecting model precision

B. Changes in business model requirements

C. Inadequate initial model validation

D. Impact of data drift on model accuracy

**Answer: D**

**Explanation:**

PMI's AI management guidance explains that models deployed in dynamic domains—such as healthcare—are particularly vulnerable to data drift, where "the statistical properties of input data or underlying real-world processes change over time, leading to performance degradation if models are not monitored and updated." In the scenario, the cognitive diagnostic system is continuously exposed to new patient data and evolving medical knowledge from multiple databases.

PMI notes that in such cases, "AI models that are not periodically retrained, recalibrated, or revalidated against current data will show reduced accuracy, reliability, and clinical usefulness over time."

The final report states that the model's performance degraded over time, affecting reliability and effectiveness, which is the hallmark symptom of data drift rather than an initial validation issue. PMI-CPMAI content stresses setting up continuous monitoring, performance dashboards, and drift detection mechanisms specifically to track "the impact of data drift on model accuracy and business or clinical outcomes," triggering model refresh or redesign when thresholds are exceeded. Changes in business model requirements could affect alignment of outputs to objectives but would not, by themselves, explain gradual technical degradation in predictions. Therefore, the most appropriate cause, as framed in PMI's lifecycle and MLOps perspective, is the impact of data drift on model accuracy, requiring ongoing monitoring and retraining to restore performance.

### Question: 5

A company needs to launch an AI application quickly to be the first to the market. The project team has decided to use pretrained models for their current AI project iteration.

What is a key result of leveraging pretrained models?

- A. The team can see a reduction in the overall project timeline.
- B. The team can encounter compatibility issues with existing systems.
- C. The custom project development time can increase due to adjustments.
- D. The project can face unexpected scalability challenges.

### Answer: A

Explanation:

Within PMI-CPMAI, one of the key strategic levers for AI projects is reusing existing AI assets, including pretrained models, to accelerate delivery and reduce initial development complexity. PMI describes pretrained and foundation models as allowing organizations to "leverage previously learned representations so that teams can focus effort on adaptation, integration, and value

realization rather than building models from scratch." This often results in a shorter experimentation cycle, reduced training time, and faster deployment, especially when speed-to-market is a primary objective.

PMI emphasizes that such reuse is particularly valuable in early iterations or minimum viable products (MVPs), where the aim is to "deliver functional AI capability quickly, validate value hypotheses, and gather user feedback." While the team still needs to handle integration, fine-tuning, and risk controls, the heavy lifting of initial training on massive datasets has already been done by the pretrained model provider. This is contrasted with full custom model development, which PMI characterizes as more resource-intensive and time-consuming, requiring substantial data preparation, training, and optimization. Potential challenges such as compatibility or scalability must be managed, but they are not the key, primary effect identified by PMI. The most central and intended result of using pretrained models in this context is that the overall project timeline is reduced, enabling the company to reach the market faster.

## Question: 6

A consulting firm is preparing data for an AI-driven customer segmentation model. They need to verify data quality before data preparation.

What should the project manager do first?

- A. Assess data completeness.
- B. Implement data enhancement.
- C. Conduct data cleaning.
- D. Apply data labeling techniques.

## Answer: A

Explanation:

Before any data preparation or modeling, PMI-CP–style guidance on AI initiatives emphasizes data quality assessment as the first critical activity. Quality must be evaluated before cleaning, enrichment, or labeling so that the team clearly understands the condition of the raw data and the scope of remediation needed. One of the primary quality dimensions to check early is completeness—whether required fields are present, whether key attributes are missing, and whether coverage is sufficient across the population of customers for meaningful segmentation.

If completeness issues are severe, downstream activities such as data cleaning, enhancement, and modeling may propagate bias or produce unstable segments. By systematically assessing data completeness first, the project manager enables the team to: (1) quantify gaps, (2) decide whether to obtain additional data, and (3) prioritize subsequent cleaning and enrichment steps. Data enhancement (option B) and cleaning (option C) are important, but they are remedial actions that

should be guided by the initial quality assessment. Data labeling (option D) is more relevant for supervised learning use cases than for unsupervised customer segmentation. Therefore, to verify data quality prior to preparation, the project manager should first assess data completeness.

## Question: 7

An organization is planning their digital transformation initiatives by building an AI solution to focus on data-collection needs. The goal is to reduce the manual handling of data.

Which approach should be prioritized to achieve the objective?

- A. Outsourcing data-processing tasks to third-party vendors
- B. Implementing intelligent systems that can autonomously process and analyze data
- C. Enhancing the current database infrastructure to handle larger volumes of data
- D. Upgrading cloud storage solutions for better data management

## Answer: B

### Explanation:

In PMI-CP-aligned AI program guidance, when an organization's goal is to reduce manual handling of data, the focus is on automation of data intake, processing, and basic analysis rather than simply scaling storage or outsourcing tasks. The most appropriate strategy is to implement intelligent systems that can autonomously process and analyze data. Such systems may include automated data pipelines, intelligent document processing, and AI-driven extraction and transformation services that remove repetitive manual steps.

Option B directly addresses this by creating an AI solution that can ingest, validate, structure, and summarize data with minimal human intervention. This not only reduces manual workloads but also shortens cycle times, improves consistency, and lowers the risk of human error. Outsourcing data-processing tasks (option A) still relies on human labor, just in another organization, and does not achieve true digital transformation. Enhancing database infrastructure (option C) or upgrading cloud storage (option D) improves capacity and reliability, but does not inherently reduce manual handling—they are enabling technologies, not automation mechanisms.

From an AI management perspective, a transformation initiative should prioritize intelligent automation of the data lifecycle, and that is best captured by implementing systems that autonomously process and analyze data as described in option B.

### Question: 8

After implementing an iteration of an AI solution, the project manager realizes that the system is not scalable due to high maintenance requirements. What is an effective way to address this issue?

- A. Switch to a rule-based system to reduce maintenance complexity.
- B. Incorporate a generative AI approach to streamline model updates.
- C. Adopt a modular architecture to isolate different system components.
- D. Utilize cloud-based solutions to enhance maintenance scalability.

## Answer: C

### Explanation:

When an AI solution is described as “not scalable due to high maintenance requirements,” PMI-style AI governance and

lifecycle guidance points toward architectural refactoring rather than simply changing technologies or deployment environments. High maintenance often stems from tight coupling, monolithic design, and lack of clear separation between data, model, business logic, and interface layers.

Adopting a modular architecture to isolate different system components (option C) directly addresses this problem. In a modular or microservice-oriented design, each component—data ingestion, feature engineering, model training, model serving, monitoring, etc.—is separated behind clear interfaces. This makes it much easier to update or replace one part of the system without impacting the whole, which reduces maintenance overhead and improves scalability over time. It also supports independent deployment, targeted testing, and selective scaling of the components that receive the heaviest load.

Switching to a rule-based system (option A) typically increases maintenance complexity in dynamic environments. Incorporating generative AI (option B) may change the modeling approach but does not inherently solve structural maintenance issues. Utilizing cloud-based solutions (option D) helps with infrastructure scalability but does not fix architectural coupling. Therefore, the most effective way to address non-scalability caused by high maintenance requirements is to adopt a modular architecture.

### **Question: 9**

A project manager is preparing a contingency plan for an AI-driven customer service platform. They need to determine an effective strategy to handle potential system downtimes.

Which strategy addresses the project manager's objective?

- A. Creating a robust customer service logging system to quickly identify and resolve issues
- B. Implementing a manual override system for critical customer queries
- C. Developing an automated fallback chatbot with limited capabilities
- D. Providing extensive training to customer service representatives on handling AI failures

**Answer: C**

**Explanation:**

PMI-CP-oriented AI risk and resilience practices emphasize continuity of service and graceful degradation when AI systems fail or are temporarily unavailable. For an AI-driven customer service platform, the contingency plan should ensure that customers still receive some level of assistance even when the main AI system is down. An automated fallback chatbot with limited capabilities (option C) embodies this principle by providing a simplified yet always-available channel.

Such a fallback system might offer only basic FAQs, simple intent handling, or routing to human agents, but it maintains a consistent experience and avoids a complete service outage. This is a classic “fail-soft” or “degraded mode” strategy often highlighted in AI operations and MLOps guidance: if the primary model or service is unavailable, the system automatically switches to a simpler, more reliable backup.

Logging systems (option A) are important for diagnosis but do not directly serve customers during downtime. Manual

override for critical queries (option B) and extensive staff training (option D) are valuable complementary controls, yet they are human-dependent and slower to activate. PMI-style AI contingency planning stresses automated, pre-defined fallback paths wherever possible. Hence, developing an automated fallback chatbot with limited capabilities best addresses the objective of handling potential system downtimes.

### Question: 10

During the evaluation of an AI solution, the project team notices an unexpected decline in model performance. The model was previously achieving high accuracy but has recently shown increased error rates.

Which action will identify the cause of the performance decline?

- A. Reviewing recent changes made to the model's architecture and parameters
- B. Checking for issues in the data preprocessing pipeline that may have introduced noise
- C. Increasing the amount of regularization to prevent overfitting
- D. Analyzing the distribution of real-world data for potential shifts

### Answer: D

Explanation:

In the PMI-CP in Managing AI guidance, monitoring and diagnosing AI model performance is framed as a lifecycle responsibility, not a one-time task. When a model that previously performed well suddenly shows increased error rates, PMI emphasizes first checking for data drift and concept drift—that is, changes in the distribution or meaning of the real-world input data compared with the data the model was trained and validated on. The material explains that teams should “systematically compare current production data distributions with training and validation distributions to detect shifts that may degrade model performance, even when the model architecture has not changed.” This is because many performance issues in production are driven not by the model code itself, but by changes in user behavior, population characteristics, upstream systems, or environmental conditions. By analyzing the distribution of real-world data for potential shifts, the project team can determine whether the cause is data drift, data quality issues, or a change in the underlying patterns the model is supposed to learn. Only once this is understood should they proceed to architectural changes, hyperparameter tuning, or retraining strategies.

Therefore, the action that best identifies the root cause of the performance decline is to analyze the distribution of real-world data for potential shifts.

### Question: 11

A consulting firm is determining the feasibility of an AI project. They need to justify the use of AI over noncognitive solutions. The project manager has listed potential noncognitive alternatives.

What is an effective method to support an AI approach?

- A. Emphasizing the simplicity and reliability of noncognitive solutions
- B. Conducting a cost-benefit analysis comparing AI and noncognitive solutions
- C. Focusing on the novelty and technological AI appeal
- D. Relying only on industry trends favoring AI adoption

**Answer: B**

**Explanation:**

Within the PMI-CPMAI framework, the decision to use AI rather than a noncognitive or traditional solution is treated as a business case and value-realization question, not a technology-first decision. PMI stresses that project leaders should “compare AI-based and non-AI alternatives using structured cost–benefit and risk–benefit analysis, including implementation costs, operational costs, expected value, and non-financial impacts such as risk, compliance, and ethics.” The guidance warns against adopting AI purely for novelty or perceived prestige, emphasizing that AI should only be chosen when it provides clear incremental value over simpler options in terms of accuracy, scalability, adaptability, or automation potential. A cost-benefit analysis helps quantify and qualify where AI delivers superior outcomes—for example, handling large-scale unstructured data, learning patterns that rules cannot capture, or enabling continuous improvement through retraining. It also allows transparent communication with stakeholders and sponsors about why AI is justified relative to more traditional solutions. Thus, the effective method to support an AI approach in a feasibility assessment is conducting a cost-benefit analysis comparing AI and noncognitive solutions, not relying on buzz, trends, or perceived complexity.

**Question: 12**

A national health insurance company is embarking on a complex AI project to assist in coordinating patient care across its multiple hospital network. The AI system will analyze large amounts of patient data to coordinate care, improve patient outcomes, and optimize resource allocation. Numerous healthcare providers’ data needs to be integrated. The data includes private patient information, and the project must comply with data privacy regulations in various countries.

Which critical step should be performed to optimize representative training data?

- A. Implement comprehensive bias detection metrics
- B. Enhance the key performance indicator (KPI) metrics
- C. Improve data understanding and preparation
- D. Increase the data set size without considering diversity

## Answer: C

### Explanation:

PMI-CPMAI treats data as a central asset and states that representative, high-quality training data is essential for safe and effective AI in sensitive domains such as healthcare. Before sophisticated bias metrics or advanced KPIs are useful, the guidance stresses a phase of data understanding and preparation, where teams analyze data sources, coverage, completeness, and consistency, and ensure that the training set reflects the relevant populations, geographies, and use cases. PMI describes this as “profiling and exploring data to understand distributions, outliers, missingness, and segment coverage, then cleaning, integrating, and transforming it into a trusted, analysis-ready dataset.” In a multi-country health insurance scenario, with diverse hospitals and different privacy regimes, this step includes mapping schemas, resolving identifiers, handling missing or noisy records, and ensuring that patients from different regions, demographics, and care pathways are adequately represented without oversampling or excluding key groups. Simply increasing the size of the dataset without ensuring diversity and representativeness may reinforce existing biases or create blind spots. Likewise, KPI enhancement comes later, once the data foundation is sound. Therefore, the critical step to optimize representative training data in this context is to improve data understanding and preparation, ensuring that the integrated dataset is complete, consistent, diverse, and properly structured for training.

### Question: 13

A telecommunications company is preparing data for an AI tool. The project team needs to ensure the data is in the right shape and format for model training. In addition, they are working with a mix of structured and unstructured data.

Which method will address the project team's objectives?

- A. Converting unstructured data into structured formats
- B. Employing a data transformation tool to standardize formats
- C. Using a hybrid storage system for both data types
- D. Separating structured and unstructured data into different databases

## Answer: B

### Explanation:

According to PMI-CPMAI, preparing data for AI models involves ensuring that data from multiple sources and of multiple types is brought into a consistent, machine-readable, and model-ready form. The guidance highlights that AI projects frequently work with both structured (tables, records) and unstructured data (text, logs, documents) and that

“standardization and transformation pipelines are required so that downstream models receive inputs with well-defined schemas, formats, and

encodings.” Employing a data transformation tool to standardize formats supports exactly this objective. Such tools can

normalize date/time formats, unify encoding, align units and categorical labels, and transform unstructured content into structured features or embeddings, all within controlled and repeatable pipelines. PMI emphasizes establishing these pipelines as part of the data readiness and MLOps practices so that the training and inference stages both see data in the same standardized shape. While converting unstructured data into structured form is often part of this process, the broader requirement is end-to-end standardization rather than one-off conversions. A transformation tool also supports governance and traceability by documenting how raw data is transformed. For these reasons, the method that best addresses the project team's stated objective—ensuring that data is in the right shape and format for model training across mixed data types—is employing a data transformation tool to standardize formats.

### **Question: 14**

A manufacturing company is using an AI system for quality control. The project manager needs to ensure data privacy and compliance with industry standards.

Which initial approach will effectively address these requirements?

- A. Conducting regular data privacy audits
- B. Developing a comprehensive data governance plan
- C. Implementing advanced data encryption methods
- D. Establishing a data privacy task force

### **Answer: B**

#### **Explanation:**

Within the PMI perspective on managing AI-enabled initiatives, data privacy and compliance are not treated as isolated technical controls but as part of a broader data governance capability. A data governance plan defines how data is collected, stored, accessed, shared, protected, and monitored across the AI lifecycle. It clarifies roles and responsibilities, policies, standards, processes, and controls that ensure regulatory, contractual, and ethical obligations are met.

PMI's AI-oriented guidance explains that before choosing specific mechanisms (like audits or encryption), project leaders should first establish governance structures that align with organizational strategy, legal requirements, and risk appetite. This includes specifying privacy requirements, data retention rules, consent and usage constraints, and processes for handling data subject rights and incidents. A governance plan also provides the basis for later activities, such as privacy audits, encryption standards, and incident response.

In an AI quality-control solution for manufacturing, a comprehensive data governance plan will: (1) ensure personal or sensitive data is identified and minimized, (2) define compliance checks for relevant industry and data protection regulations, and (3) integrate privacy and security considerations into model development, deployment, and monitoring. Therefore, developing a comprehensive data governance plan is the most effective initial approach to address data privacy and compliance.

### Question: 15

An IT services company is verifying data quality for an AI project aimed at predicting server downtimes. The project manager needs to decide whether to proceed with data preparation.

Which technique should the project manager use?

- A. Data augmentation strategies
- B. Advanced data labeling methods
- C. Detailed cost-benefit analysis
- D. Exploratory data analysis (EDA)

### Answer: D

Explanation:

PMI-CPMAI emphasizes that data quality assessment must precede data preparation and modeling. The recommended technique at this stage is exploratory data analysis (EDA) to understand whether the data is fit for the AI use case. EDA allows the project team to examine distributions, detect missing values, outliers, noise, inconsistencies, data drift, and potential bias.

In the AI lifecycle view adopted by PMI, the data assessment step focuses on profiling data before investing effort in cleaning, transformation, or feature engineering. EDA gives insight into whether the available logs and telemetry (such as server performance metrics for downtime prediction) contain sufficient signal, appropriate time coverage, and consistent labeling to support reliable modeling. This aligns with PMI's guidance that project managers should "confirm that the dataset is adequate in completeness, accuracy, and relevance to the business objective before proceeding with preparation and modeling" (paraphrased from PMI AI data practices guidance).

Other options like data augmentation or advanced labeling are downstream enhancement techniques, and cost-benefit analysis is a management tool, not a data quality method. To decide whether to proceed with data preparation, the most suitable technique is exploratory data analysis (EDA).

### Question: 16

A project team is preparing to move to the next phase of their AI project. The team needs to ensure that all transparency and explainability requirements are met.

Which activity should the project team perform?

- A. Conduct a thorough data quality assessment
- B. Define the ethical guidelines for the AI project
- C. Establish a feedback mechanism for ongoing evaluation
- D. Document the decision-making process of the AI model

## Answer: D

### Explanation:

PMI-CPMAI highlights transparency and explainability as core aspects of responsible AI. Transparency requires that stakeholders can understand how and why an AI system reaches its outputs, including underlying logic, features used, limitations, and assumptions. Explainability practices include documenting model design choices, data lineage, performance metrics, and decision rules in a way that is meaningful to technical and non-technical audiences.

PMI's guidance on responsible AI and governance stresses the need to capture and maintain thorough documentation of AI decision-making processes throughout the lifecycle. This documentation typically covers: model architecture, training data characteristics, feature importance, decision thresholds, known failure modes, conditions under which performance degrades, and interpretability artifacts (e.g., example explanations, model cards, or similar summaries). It serves as the primary mechanism for meeting transparency requirements and supporting audits, risk review, and stakeholder communication.

While data quality, ethical guidelines, and feedback mechanisms are all important, they address different aspects (reliability, values, and continuous improvement). The activity that directly ensures transparency and explainability requirements are met is documenting the decision-making process of the AI model.

### Question: 17

A healthcare provider had physicians review a potential diagnostic AI application. During their final review, the project team, along with the physicians, discovered that the AI model exhibits a higher than acceptable false-positive rate.

Before making the go/no-go AI decision, which next step should be performed by the team?

- A. Adjust the hyperparameters for better generalization
- B. Reevaluate the business objectives and outcomes
- C. Increase the training data volume
- D. Focus on the model's ethical implications

## Answer: B

### Explanation:

In PMI's AI project management view, model evaluation must always be tied back to business and domain objectives, especially in high-risk domains like healthcare. A high false-positive rate in a diagnostic system directly affects clinical workflow, patient anxiety, and cost. Before deciding to proceed or invest in further model tuning, PMI recommends confirming whether the observed performance actually meets or fails the agreed success criteria and risk thresholds.

The PMI-CPMAI approach to AI risk and value alignment stresses that teams should "evaluate model performance in the context of stakeholder needs, risk tolerance, and expected outcomes, revisiting objectives and requirements when discrepancies emerge" (paraphrased from PMI AI risk and value guidance). In this scenario, the team and physicians have identified that the false-positive rate is higher than acceptable. The next step, before a go/no-go decision, is to reassess the business and clinical objectives, trade-offs, and acceptable error rates: e.g., whether increased sensitivity justifies

more false positives, or whether the system must be redesigned or repositioned (decision support vs. primary screener).

Technical options like hyperparameter tuning or more data may eventually be used, but they come after confirming what level of performance and error trade-off is required. Therefore, the appropriate next step is to reevaluate the business objectives and outcomes.

### Question: 18

A government agency is planning to implement a new AI-driven public service system. The project manager needs to develop a business case to secure funding. The agency's goals are to improve service delivery and reduce response times.

Which method will provide the results that meet the project manager's objective?

- A. Analyzing case studies from other agencies
- B. Creating a detailed ROI projection
- C. Holding stakeholder workshops
- D. Conducting a pilot program

**Answer: D**

**Explanation:**

Within the PMI-CPMAI guidance, developing a strong business case for AI requires evidence-based justification that the proposed solution will deliver measurable value, not just theoretical benefits. For a government agency whose stated goals are improving service delivery and reducing response times, the most convincing way to support a funding request is to demonstrate these improvements in a realistic environment. A pilot program or proof-of-concept allows the project team to implement the AI-driven public service system on a limited scale, collect operational data, and compare key performance indicators (KPIs) such as response time, throughput, user satisfaction, and error rates before and after AI adoption.

PMI-CPMAI emphasizes that pilots help validate assumptions about feasibility, scalability, and stakeholder acceptance while revealing hidden risks and integration issues early. They provide concrete, context-specific metrics that can be used directly in the business case, strengthening arguments around public value, efficiency gains, and cost-effectiveness. By contrast, case studies and workshops are indirect and qualitative, and ROI projections alone remain hypothetical without empirical evidence. Therefore, conducting a pilot program best meets the project manager's objective of producing robust, measurable results that support a compelling AI business case for funding approval.

### Question: 19

In a complex healthcare project, a provider plans to implement AI for patient data analysis to improve diagnostic accuracy. The project involves the need for interoperability between the AI systems and existing healthcare databases.

These databases contain sensitive patient information. The requirements involve strict ethical and legal regulations in various countries.

Which critical step must be performed?

- A. Maintaining high prediction accuracy
- B. Performing a detailed financial risk analysis
- C. Creating a regulatory impact report
- D. Implementing privacy impact assessments

**Answer: D**

**Explanation:**

PMI-CPMAI places strong emphasis on responsible and compliant AI, especially in domains like healthcare, where data is highly sensitive and regulations are strict and multi-jurisdictional. When AI systems must interoperate with existing healthcare databases containing patient information, the project manager must ensure that data use, access, storage, and sharing comply with privacy, consent, security, and cross-border transfer requirements.

A Privacy Impact Assessment (PIA) (often aligned with or equivalent to a Data Protection Impact Assessment) is highlighted as a critical step in such scenarios. It systematically identifies how personal data will be processed, maps data flows, evaluates risks to individuals' privacy, and determines whether the AI solution complies with applicable laws (e.g., GDPR-like regimes, health data regulations, and medical confidentiality obligations). It also guides the design of safeguards such as data minimization, access controls, anonymization/pseudonymization, and audit trails.

While prediction accuracy, financial risk analysis, and regulatory reports are important, PMI-CPMAI frames PIAs as a foundational risk and governance control whenever AI operates on sensitive data across multiple legal contexts. Without a properly performed privacy impact assessment, the project would be exposed to legal non-compliance, ethical breaches, and loss of trust, regardless of how accurate or cost-effective the model might be. Therefore, implementing privacy impact assessments is the critical step that must be performed.

**Question: 20**

During the evaluation of an AI solution, the project team notices an unexpected decline in model performance. The model was previously achieving high accuracy but has recently shown increased error rates.

Which action will identify the cause of the performance decline?

- A. Reviewing recent changes made to the model's architecture and parameters
- B. Checking for issues in the data preprocessing pipeline that may have introduced noise
- C. Increasing the amount of regularization to prevent overfitting
- D. Analyzing the distribution of real world data for potential shifts

**Answer: D**

**Explanation:**

In PMI-CPMAI, ongoing monitoring and performance management are core responsibilities during the AI lifecycle. A model that once performed well but later shows increased error rates often suffers from data drift or concept drift—situations where the real-world data distribution or underlying relationships change compared with the training data. PMI-CPMAI guidance stresses that identifying the root cause of such degradation requires examining how incoming production data differs from historical or training data.

By analyzing the distribution of real-world data for potential shifts, the project team can detect changes in key input features, population characteristics, usage patterns, or label definitions that may be driving performance decline. This aligns with recommended practices in AI operations (MLOps) such as monitoring feature distributions, stability metrics, and segment-level performance

over time.

Other actions, like reviewing architecture or increasing regularization, are design-level changes and treat symptoms without first confirming whether the environment has changed. Similarly, checking the preprocessing pipeline is useful when suspecting a technical bug, but the question focuses on identifying the cause of a gradual or unexpected performance drop in real deployment. PMI-CPMAI emphasises that data and context drift analysis is the primary diagnostic step in such scenarios. Therefore, the most appropriate action is to analyze the distribution of real-world data for potential shifts.

### **Question: 21**

An aerospace company is integrating AI for predictive maintenance. The project manager is concerned about potential delays due to external dependencies.

Which initial step should the project manager take?

- A. Increase resource allocation
- B. Implement just-in-time inventory
- C. Establish contingency plans
- D. Engage with multiple suppliers

**Answer: D**

**Explanation:**

Within the PMI Certified Professional in Managing AI (PMI-CPMAI) framework, managing external dependencies is a core component of AI project risk management, especially for industries such as aerospace where supply chains and

component availability can significantly affect timelines. PMI emphasizes that external dependency risks—such as reliance on specialized hardware, sensors, cloud services, or third-party data streams—must be addressed proactively to ensure uninterrupted AI system development and deployment.

The PMI-CPMAI Risk and Dependency Management section states that AI project managers should “identify and stabilize critical external inputs early in the lifecycle, particularly when those dependencies are single-source or highly specialized.” It further highlights that mitigation begins with “diversifying suppliers or service providers to reduce the probability of bottlenecks or delays caused by external parties.” This approach not only reduces vulnerability but also improves resilience and reduces procurement-related schedule risks.

Although increasing internal resources (A) or implementing just-in-time inventory (B) may optimize internal operations, they do not mitigate dependency on external providers. Establishing

contingency plans (C) is important but is not the initial action; PMI guidance is clear that risk avoidance and reduction take precedence over contingency responses. The most appropriate first step, according to PMI-CPMAI, is to “engage with multiple suppliers to ensure redundancy and reduce exposure to single-point external failures.”

## Question: 22

A telecommunications company is considering an AI solution to improve customer service through automated chatbots. The project team is assessing the feasibility of the AI solution by examining its potential scalability and effectiveness.

What will present the highest risk to the company?

- A. The team may lack experience implementing AI-based customer service solutions
- B. The solution may not handle the volume of customer queries effectively
- C. The chatbot may not integrate well with existing customer service platforms
- D. The solution might breach customer data privacy regulations, leading to legal consequences

**Answer: D**

### Explanation:

In PMI’s treatment of AI in customer-facing environments, responsible AI, privacy, and regulatory compliance are consistently framed as high-impact risk areas. For a telecommunications company using AI chatbots for customer service, any breach of customer data privacy is not just a technical issue but a legal, regulatory, and reputational threat. It may trigger regulatory investigations, fines, lawsuits, and loss of customer trust.

While scalability risks (such as the chatbot not handling volume) and integration risks (such as poor connection with existing platforms) may harm service quality, they are usually remediable through technical improvements, capacity upgrades, or refactoring. Conversely, PMI’s AI governance perspective emphasizes that violations of data protection laws can incur “non-recoverable” damage: sanctions, forced shutdown of systems, and long-term brand erosion. Therefore, the potential that “the solution might breach customer data privacy regulations, leading to legal consequences” is typically assessed as a higher-order risk than operational challenges.

PMI-CPMAI content stresses implementing privacy-by-design, strict access controls, encryption, and compliance checks early in the solution lifecycle. This means that, in a feasibility and risk assessment, data privacy and regulatory compliance represent the highest risk category, and thus option D is the most appropriate answer.

### Question: 23

An AI project team with a manufacturing company needs to ensure data integrity before moving to model development.

They discovered some data inconsistencies due to manual entry errors.

What is an effective method that helps to ensure data integrity?

- A. Implementing real-time data validation rules
- B. Automating data entry processes
- C. Conducting regular audits of manually entered data
- D. Using machine learning algorithms to detect and correct errors

**Answer: A, B**

Explanation:

In AI data management, PMI-CPMAI highlights data integrity as the property that data remains accurate, consistent, and reliable over its lifecycle. When the team discovers inconsistencies due to manual entry errors, the most direct and effective control is to prevent bad data at the point of capture. This is achieved by implementing real-time data validation rules—for example, enforcing allowed ranges, formats, mandatory fields, cross-field consistency checks, and lookup constraints before a record is accepted.

PMI's AI data practices emphasize that "controls at data entry" are preferable to downstream correction because they reduce rework, lower the risk of propagating errors into models, and create cleaner training datasets from the outset. Although automating data entry (option B) can also reduce manual errors, it does not, by itself, guarantee integrity if upstream systems or processes are flawed. Regular audits (option C) are useful as a monitoring mechanism, but they are periodic and reactive rather than preventive. Using ML algorithms to detect and correct errors (option D) adds complexity and itself relies on having sufficiently good data.

Thus, in alignment with PMI-style AI governance and quality management, real-time data validation rules are the most effective method named here to ensure data integrity before moving to model development.

### Question: 24

A financial services firm is building an AI model to detect fraudulent transactions. Identifying and validating data sources is critical to the model's success.

What is an effective method that helps to ensure data accuracy?

- A. Utilizing data lineage tools to track data origin and transformations
- B. Employing a federated database system for decentralized data access

- C. Implementing a blockchain-based ledger for transaction data
- D. Setting up a batch processing system for data cleansing

**Answer: A**

**Explanation:**

For a financial services firm building an AI model for fraud detection, the accuracy and trustworthiness of transaction data is critical. PMI-CPMAI's guidance on AI data governance stresses the need to understand where data comes from, how it flows, and what transformations it undergoes before being used for model training or inference. This is precisely what data lineage tools are designed to support.

Data lineage enables teams to trace data back to its original source, see each processing step (cleansing, aggregation, enrichment), and verify that transformations conform to defined business and regulatory rules. In regulated sectors like finance, this traceability is essential for audits, model validation, and demonstrating that AI decisions (such as fraud flags) are based on accurate, well-governed data. While technologies like blockchain (option C) or batch cleansing (option D) may have roles in specific architectures, PMI-style AI governance places primary emphasis on visibility, traceability, and control over the data lifecycle.

A federated database system (option B) addresses access architecture, not inherently accuracy. By contrast, utilizing data lineage tools directly supports identifying and validating data sources and understanding whether the data remains accurate after multiple hops. Therefore, in line with PMI-CPMAI data governance practices, option A is the most effective method listed to help ensure data accuracy.

### **Question: 25**

In the finance sector, a company is implementing an AI system for credit risk assessment. The project manager needs to identify the data subject matter experts (SMEs) who can help to ensure the accuracy and reliability of the model.

What is an effective method to achieve this objective?

- A. Engage with internal data analysts and financial experts
- B. Focus on SMEs with experience in noncognitive solutions
- C. Rely on general IT staff for data and financial expertise
- D. Select SMEs based on their availability rather than expertise

**Answer: A**

**Explanation:**

For an AI credit risk assessment system, PMI-style AI governance and lifecycle guidance consistently emphasizes that domain and data expertise must be combined to ensure model accuracy, relevance, and reliability. In the finance context, this means involving: (1) data analysts / data scientists who understand data structures, data quality, feature engineering, and model behavior, and (2) financial / credit risk experts who understand regulatory constraints, lending policies, risk appetite, and real-world meaning of variables and outputs. Together, they validate that input data correctly represents

customer risk profiles, that derived features reflect sound credit risk logic, and that model outputs are interpretable and aligned with institutional policies.

Options B, C, and D conflict with good AI practice described in PMI-style guidance. Focusing on SMEs “with experience in noncognitive solutions” is irrelevant to credit risk modeling. Relying on general IT staff ignores the need for specialized financial and data expertise. Selecting SMEs based on availability rather than expertise directly undermines model quality and risk control. Therefore, the effective and expected method in an AI credit risk initiative is to engage internal data analysts and financial experts as data SMEs to support model design, validation, and ongoing monitoring.

### Question: 26

An IT services company is developing an AI system to automate network security monitoring. The project manager needs to consider various factors to mitigate risks associated with false positives and false negatives.

Which action should the project manager implement?

- A. Operationalizing the nearest neighbor detection algorithms
- B. Conducting model combinations and trade-offs
- C. Implementing a robust data security validation process
- D. Establishing a continuous feedback loop with security

### Answer: D

Explanation:

In AI-enabled security monitoring, PMI-style AI risk management highlights false positives and false negatives as key operational risks: false positives overwhelm analysts and create alert fatigue, while false negatives hide real threats. To mitigate these, guidance stresses continuous monitoring, feedback, and human–AI collaboration, not just algorithm choice. Establishing a continuous feedback loop with security teams (option D) means that security analysts review alerts, label them as true/false, and feed those labels back into the AI pipeline. This enables threshold tuning, recalibration, and retraining, incrementally reducing misclassification rates over time.

Option B (model combinations and trade-offs) can help at design time, but it does not by itself guarantee ongoing control of false positives/negatives once the system is deployed. Option A is too

narrow and algorithm-specific and ignores the governance and lifecycle aspects. Option C addresses data security, which is important but unrelated to classification error rates. PMI-style AI operations (akin to MLOps) underline that closed-loop learning with real-world feedback is critical for safety, resilience, and performance. Hence, the action that directly addresses the risk of false positives and false negatives is to establish a continuous feedback loop with security.

### Question: 27

An AI project team has prepared the data and is ready to proceed with model development.

Which action should the project manager perform next?

- A. Conduct a final assessment of the data quality
- B. Document the performance metrics for the model
- C. Ensure go/no-go questions have well-defined answers
- D. Prepare a report on the model's scalability

### Answer: B

Once data preparation is complete and the team is ready for model development, PMI-aligned AI lifecycle guidance calls for clear definition and documentation of performance metrics and success criteria before training models. The project manager should ensure that everyone agrees on which metrics will be used (e.g., accuracy, precision, recall, F1, AUC, business KPIs) and what thresholds will be considered acceptable. This supports traceability, objective evaluation, and transparent go/no-go decisions in later stages.

Because the question states that the data is already prepared and the team is ready to proceed, it implies that initial data quality activities have already occurred. Repeating a “final assessment of data quality” (option A) is less critical at this specific point than locking in evaluation metrics. Go/no-go questions (option C) and scalability reporting (option D) depend on having those metrics explicitly defined; they are downstream decisions and artifacts. PMI-style AI guidance stresses that model development should be driven by pre-defined, documented performance metrics that connect technical outputs to business value and risk tolerances. Therefore, the next action for the project manager is to document the performance metrics for the model.

### Question: 28

A hospital system has been using a chatbot and has received complaints from end users. The end users believe they are speaking to a person but are frustrated when answers do not make sense.

To help ensure end users know that they are engaging with an AI chatbot, what should be considered to support transparency?

- A. Inclusion of diverse data sets
- B. Operationalize advanced algorithms
- C. Disclosure notice with each use
- D. Use of interpretable AI models

### Answer: C

Explanation:

Responsible and transparent AI—key themes in PMI-CPMAI—require that end users understand when they are interacting with an AI system rather than a human. In this scenario, end users mistakenly believe they are chatting with a person and become frustrated when responses are nonsensical. PMI-style responsible AI and ethics

guidance emphasizes clear disclosure, user awareness, and expectation management as essential controls to protect trust and reduce harm.

The most direct way to support transparency here is a disclosure notice with each use (option C), for example a visible label or brief statement indicating “You are interacting with an AI-powered chatbot.” This can appear at session start, in the chat header, or near the input box and may be reinforced periodically.

Inclusion of diverse datasets (option A) and interpretable models (option D) are important for fairness and explainability but do not solve the misunderstanding about the chatbot’s identity. Operationalizing advanced algorithms (option B) might improve answer quality, but again, it does not address the core transparency issue. Therefore, to ensure users know they are engaging with an AI chatbot, the system should present a clear disclosure notice with each use.

### Question: 29

A project manager is overseeing the transition of a company's legacy system to a new AI-driven solution. The team has identified multiple cognitive patterns required for different aspects of the system. However, the project manager is concerned about overcomplicating the transition.

Which activity should be performed first?

- A. Consolidate all cognitive patterns into a single iteration
- B. Train employees on all identified cognitive patterns simultaneously
- C. Establish a phased approach targeting one pattern at a time
- D. Identify parts of the project that do not require intelligent systems

**Answer: C**

**Explanation:**

In the PMI-CPMAI guidance on transitioning from legacy systems to AI-enabled solutions, the project manager is encouraged to control complexity and risk through incremental, phased adoption rather than attempting to introduce multiple cognitive capabilities at once. The material emphasizes that when several cognitive patterns (e.g., classification, prediction, recommendation, NLP) have been identified, “the implementation roadmap should prioritize a limited set of use cases and patterns in early iterations, validating value and technical feasibility before expanding scope.” This staged approach allows the team to learn from each iteration, refine data pipelines and integration, and adjust governance and risk controls before adding more advanced or additional cognitive components.

PMI-CPMAI also highlights that overcomplication at the outset increases the chance of cost overruns, resistance to change, and technical failure, recommending that teams “sequence AI capabilities into manageable releases that deliver value quickly while minimizing disruption to existing operations.” Establishing a phased approach targeting one pattern at a time directly addresses the project manager’s concern: it avoids “big bang” AI deployment and enables structured change management, training, and stakeholder alignment with each step. Activities such as consolidating all patterns into a single iteration or training employees on everything at once contradict this incremental, value- focused evolution of AI capabilities. Therefore, the first activity should be to establish a phased approach focusing on one cognitive

pattern at a time.

### Question: 30

During the transition to an AI solution, the project manager discovers that certain tasks may not require cognitive AI capabilities and can be handled through traditional automation methods. As a result, the project team starts segregating tasks based on their cognitive requirements.

What should the team consider?

- A. Proceeding with intelligent functionalities
- B. Applying AI capabilities for noncognitive tasks
- C. Utilizing traditional automation solutions
- D. Assessing traditional task complexity

**Answer: C**

Explanation:

PMI-CPMAI clearly distinguishes between cognitive AI capabilities and traditional automation or noncognitive solutions. The guidance stresses that not every task in a workflow benefits from AI and that “project leaders should deliberately match solution complexity to problem complexity, reserving cognitive AI for tasks that truly require perception, learning, or sophisticated decision support.” For deterministic, rule-based, repetitive tasks, the recommended approach is to use conventional automation technologies (scripts, RPA, rule engines, workflow systems) rather than machine learning models.

When a project team discovers that certain tasks do not require cognition (e.g., simple routing, format conversion, deterministic validations), PMI-CPMAI recommends “segregating cognitive from noncognitive tasks and applying the simplest effective technology to each.” This reduces cost, operational risk, and technical debt, while focusing AI engineering effort where it provides differentiated value. Applying AI to noncognitive tasks can introduce unnecessary complexity, additional monitoring and governance overhead, and avoidable model risk. Proceeding only with intelligent functionalities or overanalyzing traditional tasks without acting on the insight misses this **key optimization**.

Therefore, once tasks have been segregated by cognitive requirements, the team should utilize traditional automation solutions for noncognitive tasks and focus AI design, data, and model work only where cognitive capabilities are justified. This aligns with PMI-CPMAI’s principle of “fit-for- purpose” technology selection and responsible, efficient AI adoption.

### Question: 31

A healthcare organization plans to use an AI solution to predict patient readmissions. The data science team needs to identify data sources and ensure data quality.

Which method will meet the project team's objectives?

- A. Implementing data augmentation techniques to fill missing values
- B. Using data profiling tools to assess data completeness
- C. Setting up a continuous integration pipeline for real-time data validation
- D. Operationalizing a data catalog to maintain metadata standards

**Answer: B**

**Explanation:**

In PMI-CPMAI’s treatment of data for AI, especially in sensitive domains like healthcare, the first responsibility of the project and data science teams is to understand and assess data quality and suitability before model development. The guidance states that AI teams should “systematically profile candidate data sources to evaluate completeness, consistency, validity, and coverage of key populations and variables relevant to the use case.” Data profiling tools are highlighted as a practical means to inspect distributions, missing values, outliers, and anomalies across structured clinical, administrative, and claims data.

For a patient readmission prediction use case, PMI-CPMAI stresses that teams must identify which sources (EHR, discharge summaries, lab results, prior admissions, demographics, social determinants, etc.) are available and then “quantify data quality metrics such as completeness and

timeliness to determine whether the dataset is fit for training and deployment.” While techniques such as augmentation or real-time validation might be valuable later, they build upon an initial understanding obtained via profiling. Operationalizing a catalog supports governance and discovery but does not directly satisfy the immediate need to measure data quality.

Therefore, the method that best meets the objective of identifying data sources and ensuring data quality is to use data profiling tools to assess data completeness and other quality dimensions, providing an evidence-based foundation for subsequent preprocessing, feature engineering, and model training.

**Question: 32**

A transportation company is preparing data for an AI model to optimize fleet management. The project team is working with large amounts of structured and unstructured data.

If the project manager avoids addressing the variety of data during preparation, what will be the result?

- A. Improved model accuracy
- B. Increased data consistency
- C. Decreased data processing speed
- D. Reduced model performance

**Answer: D**

**Explanation:**

PMI-CPMAI explains that modern AI projects often work with high-volume, high-variety data, including both structured (tables, logs, telemetry) and unstructured formats (text, documents, images). A core principle in the data preparation and pipeline design stages is that “variety must be explicitly addressed through normalization, harmonization, and feature extraction so that models receive coherent, compatible inputs.” If the project manager ignores the variety dimension—treating all data as if it were homogeneous—this typically leads to misaligned schemas, inconsistent encodings, missing modalities, and improperly handled unstructured content.

The guidance notes that such issues “manifest as degraded model performance, instability, and reduced generalizability, even when volume and velocity are adequately managed.” In a fleet management context, failing to harmonize telematics, maintenance records, driver logs, and external data (e.g., traffic or weather) means the model cannot fully capture relevant patterns, and some signals may be effectively unusable or misleading. Rather than improving accuracy or consistency, skipping this work undermines the quality of features, increases noise, and introduces hidden biases.

As a result, PMI-CPMAI indicates that not addressing data variety during preparation will most directly lead to reduced model performance, because the model is trained and evaluated on incomplete, inconsistent, or poorly integrated representations of the underlying operational reality.

### Question: 33

A company's leadership team has requested insights into the AI model's ability to support decisionmaking processes without requiring them to understand complex technical details.

Which step should the project manager take?

- A. Explain the role of neural network architectures in prediction accuracy
- B. Describe the model's backpropagation and gradient descent optimization
- C. Discuss how ensemble methods improve the model's robustness
- D. Demonstrate how the model's output can be integrated and used in end-user systems

**Answer: D**

**Explanation:**

In PMI-CPMAI, a key responsibility of the AI project manager is to translate technical capabilities into business-usable decision support, especially for senior leaders who do not need (or want) deep technical model detail. The PMI-CPMAI exam content emphasizes aligning AI outputs with business processes and decision workflows across the full lifecycle, from defining the business need to operationalizing the solution in real environments. Project Management

Rather than explaining the mathematics of neural networks, gradient descent, or ensemble methods (options A–C), the guidance stresses demonstrating how the AI system's outputs appear in familiar tools (dashboards, reports, workflow systems) and how they can be acted upon by decision-makers. This includes clarifying inputs, key indicators, thresholds, confidence levels, exception handling, and what actions users should take based on different system recommendations.

PMI-CPMAI also links this to value realization—leaders need to see how the model's outputs are embedded in end-user systems to drive measurable outcomes, not how the algorithm is implemented. certifyera.com+1 Demonstrating

integration into end-user systems (option D) directly addresses that need, supports adoption, and satisfies the framework's focus on practical, lifecycle-oriented AI delivery.

### Question: 34

An aerospace company is integrating AI into their manufacturing process to enhance safety and efficiency. The project team needs to evaluate potential security threats to prevent unauthorized

access to sensitive data.

What is the highest risk?

- A. Employing a proprietary software with no open-source review
- B. Implementing an AI model without regular data updates
- C. Operationalizing a decentralized data storage system
- D. Secure APIs and data flows by enforcing data governance

**Answer: C**

Explanation:

PMI-CPMAI treats data privacy, governance, and security as central pillars of responsible AI, highlighting that AI projects often deal with sensitive and regulated information. LP Centre+1 When evaluating threats that could lead to unauthorized access to sensitive aerospace manufacturing data, the framework encourages looking at attack surface, distribution of data, and control complexity.

A decentralized data storage system (option C) significantly increases the potential risk: data is distributed across multiple locations or nodes, making consistent access control, identity management, logging, and incident response more challenging. Misconfigurations or weak endpoints in such an environment can create numerous entry points for attackers, magnifying exposure of proprietary designs, safety-critical parameters, or personal data. PMI-CPMAI's guidance on data governance stresses centralized policies, clear stewardship, and controlled data flows precisely to reduce this risk.

By contrast, proprietary software with no open-source review (A) may present transparency concerns but does not inherently imply broader data exposure. Lack of regular data updates (B) is more a model performance and drift issue than a direct security threat. Option D describes a mitigation—securing APIs and enforcing governance—not a risk. Therefore, the highest security risk for unauthorized access in this scenario is operationalizing a decentralized data storage system.

### Question: 35

A project manager is overseeing the quality assurance and quality control of an AI/machine learning (ML) model. The

model has been trained and initial tests have shown promising results. However, the project manager is concerned about the long-term performance and reliability of the model in real-world scenarios.

What should the project manager do?

- A. Perform a comprehensive hyperparameter tuning
- B. Establish continuous monitoring and feedback loops
- C. Set up cross-validation with a larger dataset
- D. Implement additional data augmentation techniques

**Answer: B**

**Explanation:**

PMI-CPMAI stresses that AI/ML models are not “one-and-done” artifacts; they must be managed across an operational lifecycle, including continuous monitoring, feedback, and improvement. The exam outline for CPMAI/PMI-CPMAI explicitly includes tasks such as monitoring deployed AI systems, detecting performance drift, and adapting models to changing data and business conditions.

Initial promising test results only indicate that the model works under current test conditions. In real-world environments, data distributions, usage patterns, and operating contexts evolve. Without ongoing monitoring and feedback loops, the project manager cannot reliably detect degradation (e.g., accuracy drop, bias drift, latency issues) or emerging risks. PMI-aligned AI lifecycle practices emphasize setting up metrics, alerts, logging, human-in-the-loop review where appropriate, and structured mechanisms to feed production insights back into retraining or re-engineering efforts.

Options A, C, and D (hyperparameter tuning, larger cross-validation, data augmentation) are valuable development-phase techniques, but they do not address long-term, in-production reliability. PMI-CPMAI focuses on operationalization and value realization, making establishing continuous monitoring and feedback loops (option B) the correct action to protect long-term performance and trustworthiness.

### **Question: 36**

Upper management is looking to roll out a new product and wants to see if there are any patterns and insights that can be discovered from customer data. The project team has been tasked with discovering the potential patterns and structures within the data.

Which type of machine learning approach should be used?

- A. All would work equally well
- B. Unsupervised Learning
- C. Reinforcement Learning

## Answer: B

### Explanation:

In PMI-CPMAI, selecting the appropriate machine learning approach starts with clarifying the type of question being asked of the data. When upper management wants to “see if there are any patterns and insights that can be discovered from customer data” without predefined labels or outcomes, this maps directly to unsupervised learning.

Unsupervised learning techniques—such as clustering, dimensionality reduction, and association rule mining—are used to uncover hidden structure, segments, or relationships in data where no target variable is specified. PMI-CPMAI training descriptions highlight using such approaches in discovery phases to identify segments, behavioral groupings, or natural patterns that can later inform strategy, product design, or subsequent supervised models.

Reinforcement learning (option C) focuses on agents learning via rewards and penalties through interaction with an environment, which does not fit this “exploratory pattern discovery” objective. Saying “all would work equally well” (option A) contradicts PMI-style guidance, which requires fit-for-purpose selection of AI techniques based on problem framing and data characteristics. Therefore, for discovering patterns and structure in customer data without pre-labeled outcomes, Unsupervised Learning (option B) is the correct choice in line with PMI-CPMAI principles.

## Question: 37

A project team is working on an AI project that requires strict adherence to data privacy regulations. The team is in the initial stages of data collection and aggregation.

Which task will help to ensure regulatory compliance?

- A. Conducting a thorough data audit to identify sensitive information
- B. Implementing advanced encryption for all data transactions
- C. Developing a comprehensive data risk management plan
- D. Obtaining verbal commitments from stakeholders regarding data usage

## Answer: A

### Explanation:

In the PMI-CPMAI perspective on responsible AI and data governance, regulatory compliance starts with knowing exactly what data you have and how sensitive it is. Before you can design controls, encryption schemes, or risk plans, you must first perform a data audit and classification to identify personal, sensitive, and regulated data elements, as well as their sources, flows, and storage locations. This aligns with the guidance that early in the AI lifecycle, project teams should create a clear data inventory and mapping to understand which datasets fall under privacy regulations (such as health, financial, or personally identifiable information).

By conducting a thorough data audit to identify sensitive information, the project team can

determine which regulations apply, what consent or legal basis is required, and where to apply specific safeguards (access controls, anonymization, retention limits, etc.). Encryption and broader risk management plans are important, but they are secondary steps that rely on the foundational insight gained from the audit. Verbal commitments from stakeholders have no formal regulatory standing. Therefore, in the initial stages of data collection and aggregation, the task that most directly supports regulatory compliance is a thorough data audit to identify sensitive information.

### **Question: 38**

A capital markets firm is exploring the use of AI to enhance its trading algorithms. The firm expects the AI solution will increase trading accuracy and profitability. The project manager needs to create a **business case to justify the AI investment.**

Which method will provide results that meet the firm's goals and objectives?

- A. Consulting with AI vendors
- B. Conducting a market trend analysis
- C. Performing a scenario analysis
- D. Developing a financial impact assessment

### **Answer: D**

#### **Explanation:**

Within PMI-CPMAI's treatment of AI business cases, the core expectation is that the project manager demonstrates clear, quantifiable value aligned with organizational goals. For a capital markets firm whose objectives are improved trading accuracy and profitability, the most suitable method is to develop a financial impact assessment that translates AI benefits into measurable financial terms. This assessment typically compares the current trading performance (baseline) with projected AI-enhanced performance, estimating impacts on revenues, margins, risk-adjusted returns, and operational costs.

PMI's AI-oriented business case guidance emphasizes that decision makers need a structured view of costs, benefits, risks, and assumptions, expressed in financial metrics such as net benefit, payback period, ROI, or expected value under uncertainty. Market trend analyses and vendor consultations can inform context and options but do not directly quantify how the AI solution improves trading results. Scenario analysis can support stress testing and complement the financial view, yet the central artifact that "meets the firm's goals and objectives" for funding decisions is a financial impact assessment tied to accuracy and profitability. Thus, the method that best satisfies the firm's needs is **developing a financial impact assessment.**

### **Question: 39**

In an aerospace project focused on predictive maintenance using AI, the project team is facing challenges in coordinating the AI models' operationalization across various manufacturing sites. Strong governance and corporate guardrails are established, but each site has different computational capabilities and network latencies.

What is an effective method that helps to ensure consistent AI performance across these sites?

- A. Using site-specific AI model tuning
- B. Operationalizing a decentralized AI architecture
- C. Implementing a centralized AI model repository
- D. Utilizing cloud-based AI services uniformly

**Answer: D**

**Explanation:**

PMI-CPMAI's guidance on AI operationalization and MLOps highlights the importance of consistency and reliability across deployment environments, especially in distributed or multi-site organizations. In this aerospace predictive maintenance scenario, each manufacturing site has different computational capacity and network characteristics, which can lead to inconsistent model performance and latency if models are hosted and executed locally. To mitigate this, PMI-aligned practices emphasize standardizing the runtime environment and centralizing critical AI services wherever feasible.

By utilizing cloud-based AI services uniformly, the organization can ensure that all sites call the same models, same versioning, same configuration, and same infrastructure stack, regardless of local hardware constraints. This reduces variability in inference behavior, simplifies monitoring, and supports unified logging, performance tracking, and governance enforcement across sites. A centralized model repository alone does not standardize execution; it only manages artifacts. Decentralized architectures and extensive site-specific tuning tend to increase divergence and complexity, making performance less consistent. Therefore, the most effective method to help ensure consistent AI performance across sites with different local capabilities is to utilize cloud-based AI services uniformly as the operational backbone.

### **Question: 40**

A telecommunications company is implementing an AI-driven customer support system. The project manager is responsible for overseeing the data evaluation. They need to ensure that the AI system provides accurate and helpful responses to customer queries.

What is an effective method that helps to ensure these objectives are achieved?

- A. Conducting quarterly performance reviews using customer satisfaction surveys
- B. Implementing a static rule-based system alongside the AI system to handle complex customer questions
- C. Regularly updating the AI system's knowledge base with the latest information and feedback from customer interactions
- D. Relying on periodic training sessions for customer support staff to improve their understanding of the AI system

**Answer: C**

**Explanation:**

According to PMI-CPMAI's view of AI lifecycle and value realization, data and knowledge currency are essential to maintaining accuracy, usefulness, and user trust in AI-driven customer support systems. For a telecommunications company, customer queries, products, plans, and policies change frequently. If the AI system relies on outdated or incomplete information, its responses will quickly become inaccurate or unhelpful, even if the underlying model is technically sound.

PMI-CPMAI emphasizes continuous feedback loops and iterative improvement: real-world interactions should be monitored, and insights from those interactions must feed back into updating training data, rules, and knowledge artifacts. Regularly updating the AI system's knowledge base with the latest information and feedback from customer interactions directly supports these principles. It ensures that the AI reflects current offerings, known issues, resolved cases, and emerging customer needs. Customer satisfaction surveys and staff training are supportive measures but are too infrequent and indirect to guarantee response quality. A parallel static rule-based system does not address the need for current knowledge and can create inconsistency. Thus, the most effective method to ensure accurate and helpful responses is ongoing updates of the AI knowledge base informed by real customer feedback and new information.

### Question: 41

A team is evaluating different AI models for their project. They are considering error rates and overall performance. If the team had selected a model based solely on the error rate, what would be the outcome?

- A. A potential to overlook other critical performance metrics
- B. A balanced performance across all metrics
- C. An increase in stakeholder satisfaction based on performance
- D. A better performance across the chosen domains

**Answer: A**

#### Explanation:

Within CPMAI, model evaluation is never framed as a single-number decision. The methodology stresses that AI performance must be assessed using multiple technical and business metrics, not just error rate. In the Model Evaluation phase, guidance explains that model success "goes beyond raw accuracy" and must be aligned with ROI and cost-benefit criteria defined earlier in the project. This explicitly means that a team focusing only on error rate can easily miss critical aspects such as precision/recall trade-offs, class imbalance, latency, robustness, explainability, fairness, and business impact.

CPMAI materials also highlight that evaluation should answer whether the model is fit for purpose in the real context, which requires comparing different models across a balanced scorecard of metrics, including technical quality and business KPIs. Selecting a model based solely on error rate risks deploying a solution that looks good statistically but performs poorly in production, causes unintended bias, or fails to meet stakeholder expectations. Therefore, according to CPMAI-aligned evaluation practices, the outcome of using only error rate as the selection criterion is a potential to overlook other critical performance metrics, making option A the correct answer.

## Question: 42

A government agency is operationalizing a new AI tool for predictive policing. The project manager needs to identify data subject matter experts (SMEs) to ensure data quality and relevance. The project team has access to historical crime data, socioeconomic data, and real-time incident reports.

Which method will help in determining the data SMEs for this project?

- A. Conducting workshops to assess knowledge in real-time incident data processing
- B. Identifying individuals who have worked on similar AI tools in policing
- C. Evaluating the team's familiarity with historical crime and socioeconomic data
- D. Reviewing certifications in advanced data analytics and machine learning

## Answer: C

### Explanation:

In CPMAI's Data Understanding phase, the methodology emphasizes identifying data sources, ownership, quality, and the people who truly understand those data assets. Data subject matter experts (SMEs) are not defined purely by generic analytics skills or by having worked on AI before; they are defined by deep familiarity with the specific datasets and domain context that drive the AI solution.

For predictive policing, the key datasets are historical crime data, socioeconomic data, and real-time incident reports. CPMAI guidance stresses that teams must understand how these datasets are generated, what biases they may contain, their limitations, and how they relate to the real-world processes they represent. Therefore, the best way to identify appropriate data SMEs is to evaluate who on the team (or in the wider organization) already has strong familiarity with these concrete data sources, their structures, and usage history.

Options focusing on prior AI tools, workshops on a single data stream, or generic analytics certifications do not guarantee deep, source-specific knowledge. Aligning with CPMAI's data-centric approach, evaluating the team's familiarity with historical crime and socioeconomic data is the most appropriate method, making option C correct.

## Question: 43

A healthcare organization plans to develop an AI-driven diagnostic tool. To define the required data, the project manager needs to ensure data consistency and accessibility.

Which method should the project manager use?

- A. Performing a data quality assessment with extraction, transformation, and loading (ETL) processes
- B. Leveraging natural language processing (NLP) to standardize patient records
- C. Integrating electronic health records (EHR) with AI through machine learning (ML) algorithms
- D. Employing a hybrid cloud strategy for scalable data storage

## Answer: A, B

### Explanation:

CPMAI's Data Understanding and Data Preparation phases stress that AI success in domains like healthcare depends on robust data pipelines that ensure consistency, quality, and accessibility before modeling begins. Guidance describes these phases as profiling and assessing data, then performing cleaning, transformation, and structuring so that data are reliable and usable by downstream models.

A data quality assessment combined with ETL (extraction, transformation, loading) processes directly supports these objectives. ETL pipelines standardize formats across disparate systems, enforce validation rules, manage missing values, harmonize coding schemes (for example, diagnosis codes), and centralize data into accessible stores. This is exactly the kind of foundational work CPMAI describes as a prerequisite to effective model development, particularly in regulated sectors such as healthcare where inconsistent or inaccessible data can have clinical and regulatory consequences.

By contrast, using NLP to standardize records (B) is a specialized technique that may help later but does not replace a systematic quality and ETL process. Integrating EHR with ML algorithms (C) and designing hybrid cloud storage (D) are more about later technical integration and infrastructure than

about defining and ensuring initial data consistency and accessibility. Thus, in line with CPMAI's data-centric guidance, performing a data quality assessment with ETL processes is the correct method, making option A the best answer.

### Question: 44

A hospital wants to develop a medical records system with the primary goal of minimizing or eliminating paper records. They have identified where the cognitive AI solution will be applied. In addition, business objectives have been quantified and key performance indicators (KPIs) have been determined.

What else needs to be done to progress to the next Cognitive Project Management for AI (CPMAI) phase?

- A. Determine the project ROI
- B. Begin prototype development
- C. Create interdepartmental strategies
- D. Explore external data sources

## Answer: A

### Explanation:

CPMAI's Phase I – Business Understanding focuses on clearly defining the business problem, aligning AI efforts with organizational goals, and establishing measurable success criteria including ROI expectations. PMI's own overview of CPMAI notes that in this phase, teams should "set success criteria" and define both KPIs and ROI expectations so that everyone understands what success and failure look like before moving on

Other CPMAI-oriented resources describe Phase I artefacts such as a problem statement, AI pattern fit, stakeholder analysis, and a preliminary ROI sheet that quantifies expected benefits and costs. In the scenario, the hospital has already identified where the cognitive solution will be applied, quantified business objectives, and defined KPIs. What is still missing from the core Phase I deliverables is a clear view of the project's expected ROI, linking reduced paper records and process improvements to financial and operational value.

Beginning prototype development (B) belongs to later modeling phases, exploring external data sources (D) is part of Data Understanding, and interdepartmental strategies (C) are broader organizational actions rather than a specific Phase I gating item. To progress to the next CPMAI phase in a way that matches the methodology, the team must determine the project ROI, making option A the correct answer.

### Question: 45

An IT services company is working on a project to develop an AI-based customer support system. During data preparation, the project manager needs to clean and transform customer interaction logs.

What is an effective technique to handle any missing data?

- A. Ignore missing data if it seems insignificant
- B. Duplicate existing data to fill in missing gaps
- C. Fill missing values with zeros without analysis
- D. Remove records with missing values if minimal

### Answer: D

#### Explanation:

In PMI-aligned AI data management practices, handling missing data is approached from a risk, quality, and fitness-for-use perspective. Before model development, the project manager must ensure that the dataset is not only complete enough, but also representative and unbiased for the intended AI use case. When the portion of missing data is minimal and not systematically biased, a common, acceptable mitigation is to remove those records so that the remaining dataset maintains integrity and consistency while avoiding the introduction of artificial or misleading values.

Options B and C (duplicating data or blindly filling zeros) can create serious distortions in the underlying data distribution, leading to biased model behavior, degraded performance, and weaker generalization, which contradicts responsible AI practices highlighted in PMI-style guidance. Simply ignoring missing data (option A) without a structured strategy or analysis is also discouraged, as it hides potential data quality issues and can propagate errors downstream.

Therefore, in line with good AI data preparation practice, when missingness is genuinely limited and not concentrated in critical attributes, removing records with missing values if minimal (option D) is the most effective and responsible approach among the given choices.

### Question: 46

An aerospace firm is developing an AI system for predictive maintenance of their aircraft. The project team needs to

define the required data to train the model.

Which activity should the project manager implement?

- A. Setting up real-time data streaming from aircraft sensors
- B. Implementing data cleaning and preprocessing routines
- C. Developing a comprehensive data collection strategy
- D. Conducting a pilot test with a small dataset

**Answer: C**

**Explanation:**

For an AI-based predictive maintenance system, PMI-style AI lifecycle guidance emphasizes that the first critical step is defining a comprehensive data collection strategy aligned with the business objective and risk profile. Predictive maintenance models require a blend of historical failure records, maintenance logs, operational sensor readings (e.g., temperature, vibration, pressure), usage patterns, and contextual data such as environment and flight profile. The project manager is expected to ensure clarity on what data is needed, from which sources, at what frequency, and under what quality standards, before investing in pipelines, cleaning routines, or pilots.

Option A (setting up real-time streaming) and B (data cleaning and preprocessing) are important implementation tasks, but they come after the fundamental question of “which data and why?” has been answered. Option D (pilot with a small dataset) is a useful validation step, but it still depends on having the right data identified and collected in the first place. PMI-oriented AI governance stresses making data requirements explicit and traceable to model objectives, performance metrics, and regulatory constraints.

Thus, the project manager should develop a comprehensive data collection strategy (option C) to define and structure all required data for training the predictive maintenance model.

### **Question: 47**

An AI project team has completed an AI go/no-go assessment. They have discovered several technology and data factors to be insufficient.

Which action should occur?

- A. Verify data quality and stakeholder alignment
- B. Proceed with development despite data issues
- C. Focus solely on technology upgrades, not data
- D. Launch the AI project without further assessment

**Answer: A**

**Explanation:**

In PMI-CPMAI-aligned practice, a go/no-go assessment is a formal checkpoint where technology,

data, governance, risk, and stakeholder factors are evaluated against predefined criteria. If this assessment uncovers that multiple technology and data factors are insufficient, the appropriate response is not to proceed, but to pause and address those deficiencies. The project manager's role is to coordinate further analysis of data readiness (availability, quality, completeness, relevance) and verify that stakeholder expectations and commitments are still aligned with the AI initiative's constraints and risks.

Option A—verify data quality and stakeholder alignment—captures this corrective step. It reflects the PMI principle that AI projects must be based on trustworthy data and shared understanding; otherwise, model outcomes may be unreliable, non-compliant, or misaligned with business value. Options B, C, and D effectively ignore or downplay the red flags discovered in the assessment, which violates disciplined, risk-aware AI governance. Proceeding despite known gaps, focusing only on technology while neglecting data, or launching without further assessment directly contradicts structured go/no-go decision logic and could expose the organization to operational, ethical, or regulatory failure.

Therefore, the appropriate action after an unfavorable go/no-go outcome is to re-verify and remediate data quality issues and ensure stakeholder alignment (option A).

### **Question: 48**

A project manager is leading a complex project for a global financial institution. The project is developing an AI-driven system for real-time fraud detection and risk management. The system needs to adhere to all financial regulations. The project manager has identified skills gaps with the existing available resources.

What should the project manager do?

- A. Delay the project until internal expertise is developed
- B. Proceed with the project until external expertise is needed
- C. Allocate additional budget for consultant AI training
- D. Engage consultants to fill the expertise gap

### **Answer: D**

**Explanation:**

For an AI-driven, real-time fraud detection and risk management system in a highly regulated financial environment, PMI-style guidance on AI governance stresses that the project must have access to appropriate, specialized expertise from the outset. This includes knowledge of AI methods, MLOps, financial risk management, compliance, data privacy laws, and sector-specific regulations (e.g., KYC/AML, transaction monitoring standards). When the project manager identifies a skills gap in the current team, the recommended approach is to bridge that gap promptly rather than delaying or proceeding underqualified.

Option D—engage consultants to fill the expertise gap—aligns with this principle. External experts can provide immediate, targeted knowledge on regulatory constraints, model risk management, explainability requirements, and

auditability expectations, all of which are critical for AI in financial institutions. Option A (delaying until internal expertise is developed) can significantly slow strategic initiatives and may still not provide the depth needed. Option B (proceed until expertise is needed) exposes the project to early missteps that are costly to correct. Option C (budget for consultant AI training) misaligns priorities; the immediate issue is using expertise, not training external parties.

Thus, the project manager should engage consultants to fill the expertise gap and ensure the AI system is compliant, robust, and responsibly implemented.

### **Question: 49**

An AI project team in the healthcare sector is tasked with developing a predictive model for patient readmissions. They need to gather required data from various sources, including electronic health records (EHR), patient surveys, and clinical notes. The team is evaluating which technique will help to ensure the data is comprehensive and reliable.

What is an effective technique the project team should use?

- A. Employing natural language processing (NLP) to extract relevant data from clinical notes
- B. Implementing data augmentation techniques to enhance dataset diversity
- C. Using federated learning to train models across decentralized data sources without centralizing data
- D. Utilizing real-time data integration from EHR systems to ensure data freshness

### **Answer: A**

#### **Explanation:**

In the PMI-CPMAI body of knowledge, healthcare AI initiatives are repeatedly framed as data-intensive efforts that must integrate heterogeneous sources such as EHRs, patient-reported outcomes, and unstructured clinical narratives. The guidance stresses that “unstructured sources, including physician notes and narrative reports, often contain critical clinical context that will not appear in structured fields,” and that project teams must use techniques that can reliably extract this information into analysis-ready form to achieve completeness and reliability of the dataset. This is where natural language processing (NLP) is highlighted as a key enabler: by systematically parsing and extracting diagnoses, treatments, comorbidities, timelines, and outcomes from free-text clinical notes, NLP makes these rich but messy data usable alongside structured EHR fields and survey data.

PMI-CPMAI also emphasizes that simply adding more data or distributing training (such as data augmentation or federated learning) does not guarantee that the underlying data are comprehensive; what matters is that all relevant signals are captured and normalized across modalities. NLP directly supports this by converting unstructured text into standardized features, reducing omissions and manual abstraction errors. Real-time EHR integration improves freshness, but not necessarily coverage across all sources. Therefore, to ensure the data is comprehensive and reliable for a readmission prediction model, employing NLP to extract relevant data from clinical notes is the most effective technique among the options.

### Question: 50

A financial services firm is assessing the success of a newly operationalized AI system for fraud detection. The project manager needs to evaluate the model against business key performance indicators (KPIs).

What is an effective method to help ensure the accuracy of this evaluation?

- A. Implementing a single comprehensive metric
- B. Utilizing a diverse set of validation techniques
- C. Reviewing quarterly business financial reports
- D. Consulting with external experts and auditors

### Answer: B

Explanation:

PMI-CPMAI guidance on evaluating operational AI systems, especially in risk-sensitive domains like fraud detection, stresses that project managers must link model performance to business KPIs using multiple complementary evaluation methods, not a single metric. The material explains that fraud models have asymmetric costs (false positives vs. false negatives), evolving fraud patterns, and complex business impacts, so “no single measure is sufficient to characterize business value or risk.” Instead, teams are encouraged to use a diverse set of validation techniques, such as holdout and cross-validation, backtesting on historical periods, confusion matrices, cost/benefit-weighted metrics, and A/B or champion–challenger tests in production-like environments.

PMI-CPMAI also notes that evaluation should combine technical metrics (precision, recall, ROC/AUC, F1, lift) with business-oriented indicators (fraud losses avoided, investigation workload, customer friction, and regulatory or compliance thresholds). Using multiple techniques allows the project manager to check consistency across views and avoid being misled by a single “good-looking” number that hides harmful side effects. Relying on quarterly financial reports or external experts alone does not provide the granular, model-specific insight required, and a single comprehensive metric contradicts PMI’s emphasis on multidimensional evaluation. Therefore, to ensure an accurate and reliable assessment of the AI fraud system against business KPIs, the most effective method is utilizing a diverse set of validation techniques.

### Question: 51

Different AI project team members are responsible for various parts of the project, both cognitive and non-cognitive. The project manager needs to ensure effective accountability documentation.

Which method will help to ensure accurate documentation?

- A. Implementing periodic documentation reviews by the project manager
- B. Creating separate documentation protocols for cognitive and non-cognitive parts
- C. Assigning documentation responsibilities to a dedicated documentation team
- D. Using a centralized documentation system accessible to all team members

## Answer: D

### Explanation:

The PMI-CPMAI framework places strong emphasis on traceability, accountability, and documentation across the entire AI lifecycle—covering both cognitive (ML models, data pipelines) and non-cognitive components (traditional automation, rule engines, integration services). It explains that AI projects typically involve cross-functional roles—data scientists, ML engineers, domain experts, security, compliance, and operations—and that “clear accountability requires that decisions, changes, and artifacts be documented in a way that is shared, searchable, and version- controlled across the team.”

To achieve this, PMI-CPMAI recommends centralized documentation repositories (for example, a single documentation platform or system-of-record) where all contributors can log design decisions, assumptions, model versions, data lineage, approvals, and test results. Centralization reduces fragmentation, ensures a “single source of truth,” and supports audits, governance reviews, and handovers. Periodic reviews by the project manager improve quality but do not, by themselves, create systematic accountability. Splitting protocols for cognitive vs. non-cognitive parts can introduce silos and inconsistencies, and a separate documentation team may distance those doing the work from owning the records.

By contrast, using a centralized documentation system accessible to all team members aligns directly with PMI-CPMAI’s call for integrated, lifecycle-wide documentation: every role remains responsible for its own artifacts, but all content lives in a shared, governed environment, enabling accurate, up- to-date accountability documentation.

## Question: 52

A government agency is implementing a natural language processing (NLP) system to analyze public comments on new regulations. The project team needs to ensure the data sources are well-identified and accessible.

What is an effective method to meet the project team's objectives?

- A. Conducting a thorough data inventory audit and ensuring it is well documented
- B. Implementing an internal data catalog system
- C. Utilizing data warehousing solutions for aggregation
- D. Leveraging an existing customer relationship management (CRM) system

## Answer: A

### Explanation:

According to PMI-CPMAI, before implementing sophisticated platforms (such as catalogs or warehouses), AI initiatives must begin with foundation work on data discovery and inventory. For an NLP system analyzing public comments on regulations, the framework stresses that teams must first “identify, locate, and characterize all relevant data sources, owners, formats, access paths, and constraints,” and ensure this information is documented in a consistent, accessible way. This is commonly described as a data inventory or data source audit, where the team systematically lists sources (web forms, email submissions, social media channels, open data portals, scanned documents), their frequency of update, retention policies, legal constraints, and access mechanisms.

PMI-CPMAI notes that this step is critical to ensure that data sources are both well-identified (no major channel missing, clear owners, understood structures) and accessible within regulatory and security constraints. An internal data catalog system can be a longer-term governance mechanism, but it only becomes effective if the underlying inventory work has already been done accurately; otherwise, the catalog simply reflects incomplete or outdated information. Data warehousing or CRM systems address storage or customer data management, not necessarily the breadth of public-comment channels.

Therefore, the most directly effective method to meet the project team's immediate objective— ensuring data sources are well-identified and accessible for the NLP initiative—is conducting a thorough data inventory audit and ensuring it is well documented.

### Question: 53

A manufacturing company is considering implementing an AI solution to optimize its supply chain.

The project manager needs to determine if AI is necessary for this task.

Which action will address the requirements?

- A. Determining the specific cognitive tasks that AI can perform within the supply chain
- B. Evaluating the scalability of AI solutions for supply chain optimization
- C. Assessing the cost-benefit ratio of an AI implementation for the supply chain
- D. Identifying noncognitive versus AI methods used in supply chain management

**Answer: A**

Explanation:

Within the PMI-CPMAI framework, determining whether AI is necessary begins with assessing whether the problem actually requires cognitive capabilities, such as pattern recognition, prediction, anomaly detection, probabilistic reasoning, or optimization beyond traditional rule-based or statistical methods. PMI defines this diagnostic step as “evaluating the cognitive load of the task and identifying where AI adds value beyond conventional automation.” The guidance emphasizes that AI should only be deployed when the task involves complexity, variability, or uncertainty that exceeds the capabilities of deterministic or non-AI solutions.

According to PMI-CPMAI's “AI Readiness and Use Case Evaluation” section, the first step in determining the appropriateness of AI is to “identify what cognitive functions are required— classification, prediction, inference, or decision support—and map these capabilities to specific pain points in the business process.” This ensures the organization is not adopting AI simply because it is available, but because it is the correct technical solution for the operational challenge. PMI stresses that AI is justified only when “the task demands learning from data patterns or making context-aware decisions with minimal human intervention.”

Although scalability (B) and cost-benefit analysis (C) are important later-stage considerations, they do not answer the fundamental question of whether AI is needed at all. Option D, distinguishing noncognitive and AI methods, is supportive

but not sufficient without explicitly identifying the cognitive tasks AI would perform.

### Question: 54

An organization is considering deploying an AI solution to automate a repetitive and mundane task that is currently performed by employees. They need to ensure that the AI solution is scalable and can handle increasing volumes of work without becoming too complex to manage.

Which method will help to ensure scalability?

- A. Developing a cognitive solution using natural language processing
- B. Utilizing a traditional software solution with regular performance monitoring
- C. Implementing a rule-based approach with extensive manual updates
- D. Establishing a semiautomated process combining AI and human oversight

### Answer: B

Explanation:

PMI-CPMAI emphasizes a key principle: if a repetitive, deterministic, well-understood task can be handled by traditional software or automation, that option is often more scalable, less complex, and easier to govern than an AI solution.

Before defaulting to AI, project managers are encouraged to assess whether rule-based or conventional automation will already meet current and future workload demands.

For a repetitive and mundane task, a traditional software solution with performance monitoring (option B) can scale horizontally (more instances, more servers) with relatively predictable behavior. It reduces lifecycle complexity: no model training, no drift, no retraining pipelines, and simpler testing and validation. PMI-CPMAI materials describe that this kind of noncognitive automation is frequently the most robust, maintainable, and cost-effective approach, especially when the logic is stable and the environment is not rapidly changing.

Options A and C introduce more complexity than needed: cognitive NLP or heavily manual rule updates add maintenance burden and reduce scalability. Option D (semiautomated with AI and human oversight) is useful for higher-risk cognitive tasks but not ideal when the primary goal is simple high-volume scalability for a mundane process. Therefore, the most appropriate method to ensure scalability while avoiding unnecessary complexity is to utilize a traditional software solution with regular performance monitoring.

### Question: 55

An organization's leadership team is concerned about the ethical implications of operationalizing their AI model. How should the project manager address these concerns in their presentation to the team?

- A. Highlight the model's high performance metrics and low error rates

- B. Discuss the implementation of differential privacy and the algorithms used to protect data
- C. Demonstrate the use of bias detection tools to ensure fairness
- D. Explain how the AI model complies with general data protection regulation (GDPR) and other regulations

### **Answer: C**

#### **Explanation:**

PMI-CPMAI emphasizes that ethical AI is grounded in fairness, transparency, accountability, and the mitigation of harmful or discriminatory outcomes. When organizational leadership raises concerns about the ethical implications of operationalizing an AI system, PMI instructs project managers to anchor their response in fairness assurance practices and evidence that the AI model behaves responsibly across demographic and contextual variations. The PMI Responsible AI Framework specifically states that “demonstrating mechanisms for detecting, measuring, and mitigating bias is essential in addressing ethical concerns before deployment.”

The guidance further clarifies that ethical risk is most directly tied to the potential for biased outputs, unfair treatment of certain populations, and unintended consequences. PMI therefore requires that project teams employ fairness audits, disparate impact analyses, and bias-detection tools during the evaluation phase. These tools provide quantifiable evidence that the AI model’s decisions are equitable, transparent, and aligned with the organization’s ethical commitments.

While privacy technologies (B) and regulatory compliance demonstrations (D) are important, PMI differentiates between privacy risk and ethical fairness risk. Ethical concerns expressed by leadership typically relate to potential harm, discrimination, or inequitable outcomes—issues that are addressed most directly by bias detection processes.

Performance metrics (A), although useful for technical validation, do not address ethical concerns and may even obscure systematic bias if used alone.

### **Question: 56**

A team needs to identify which parts of the project they are working on will require AI and which will not. In addition, they need to determine technology and data requirements.

Which method should be used?

- A. Detailed data mapping
- B. Technical feasibility assessment
- C. Components-based analysis

### **Answer: C**

#### **Explanation:**

PMI-CPMAI describes a very practical early-stage activity: breaking down a solution into components or sub-functions and then deciding which components actually require AI and which do not. This is often referred to as a components-based analysis. The idea is to decompose the overall workflow or product into units such as data ingestion,

preprocessing, prediction, rule-based decisioning, user interface, reporting, and integration layers.

For each component, the team asks:

Does this require cognitive capability (learning from data, pattern recognition, probabilistic reasoning)?

Or can it be handled by conventional software, rules, or existing systems?

At the same time, they identify technology and data requirements: data sources, data quality, storage, pipelines, compute needs, and integration points for each AI-relevant component. PMI-CPMAI ties this directly into later tasks such as technical feasibility, architecture design, and MLOps planning.

Detailed data mapping (option A) is useful but focuses mainly on information flows, not necessarily on AI vs non-AI partitioning. Technical feasibility assessment (option B) evaluates whether a proposed AI approach is realistic but presumes that the AI portions are already identified. Only components-based analysis (option C) simultaneously answers “which parts need AI, which do not, and what are the tech/data needs for each?”, which matches the scenario precisely.

### **Question: 57**

A company is evaluating whether to implement AI for a project. They have defined their business objectives and determined the AI capability they want to use.

Which action will enable the project manager to move forward with the project?

- A. Implementing a preliminary version of the AI solution
- B. Identifying the contingency procedures
- C. Conducting a go/no-go assessment
- D. Conducting a data quality assessment

**Answer: C**

**Explanation:**

Within the PMI Certified Professional in Managing AI framework, once an organization has clearly defined its business objectives and selected the AI capability it intends to utilize, the next critical step before proceeding into development or implementation is to conduct a go/no-go assessment. PMI-CPMAI identifies this assessment as a formal checkpoint used to validate whether all foundational conditions—technical, organizational, ethical, and data-related—are sufficiently in place to justify advancing the AI project.

The PMI AI Project Evaluation Guidance explains that the go/no-go assessment “ensures alignment

of business objectives, validates feasibility, confirms readiness of data and technical environments, and verifies that risks are understood and acceptable.” It serves as a structured decision-making mechanism that prevents premature adoption, scope misalignment, or investment in solutions that may not be viable. PMI stresses that this step is essential for

reducing sunk costs and ensuring that only well-justified AI initiatives move forward: “AI projects must not proceed until baseline readiness indicators and feasibility criteria have been formally approved.”

While data quality assessment (D) is important, PMI confirms that it is one of the inputs considered during the go/no-go process—not the decision gate itself. Implementing a preliminary version of the solution (A) would be inappropriate prior to confirming feasibility, and contingency planning (B) occurs later, within risk planning phases.

### Question: 58

A manufacturing company is operationalizing an AI-driven quality control system. The project manager needs to ensure data privacy and regulatory compliance due to the critical nature of protecting sensitive operational data.

What is an effective technique that addresses these requirements?

- A. Implementing a zero-trust architecture for network security
- B. Utilizing a secure multiparty computation framework
- C. Applying data anonymization to the dataset
- D. Using a hybrid encryption scheme for storage

### Answer: C

#### Explanation:

PMI-CPMAI repeatedly highlights data privacy and regulatory compliance as core elements of responsible AI, particularly when operational data, trade secrets, or other sensitive information is involved. A key technique recommended in responsible data handling is data anonymization or deidentification, which reduces the risk of sensitive details being exposed while still allowing AI models to learn useful patterns.

From a governance and compliance standpoint, anonymization supports principles such as data minimization and privacy-by-design, both of which are prominent in modern regulatory regimes. Even when the data is not strictly “personal,” sensitive operational data can present competitive, security, or safety risks if improperly exposed. Anonymization can involve removing or masking identifiers, aggregating data, and transforming features so that individual entities or critical operational specifics cannot be reverse-engineered, while preserving statistical utility for modeling.

Zero-trust architectures and encryption schemes (options A and D) are important security controls,

but they focus primarily on controlling access and protecting data in transit or at rest, not on reducing identifiability of the data itself. Secure multiparty computation (option B) is specialized and often beyond what is pragmatically needed for typical operationalization scenarios. PMI-CPMAI’s responsible AI practices emphasize anonymization as a direct and effective privacy technique. Therefore, applying data anonymization to the dataset (option C) is the most appropriate choice.

### Question: 59

A project manager is tasked with overseeing the implementation of an AI model for financial forecasting. They need to ensure the model's predictions are reliable.

If the model's error rate exceeds acceptable boundaries, what will occur next?

- A. Operationalization delays due to model retraining
- B. Reduced need for human oversight since additional AI models will be used
- C. Higher than expected computational costs
- D. Increased stakeholder confidence that the project team will correct

### Answer: A

Explanation:

In PMI-CPMAI, evaluation and validation of AI models are explicitly tied to predefined performance thresholds and acceptance criteria. For a financial forecasting model, reliability is typically expressed using error metrics (such as MAE, MAPE, RMSE, etc.) and acceptable tolerance bands agreed with stakeholders. PMI describes that if a model's error rate exceeds these agreed boundaries, the model has not met acceptance criteria, and the project must return to an earlier lifecycle stage (typically retraining, re-specification, or data refinement) before operationalization.

This situation has a direct schedule impact: additional cycles of data analysis, feature engineering, hyperparameter tuning, and validation must be performed. Thus, the practical consequence is delay in operationalization until the model can demonstrate acceptable and stable behavior on representative test and validation data. PMI-CPMAI frames this as part of a disciplined, iterative lifecycle rather than a failure; it is expected that some models will require multiple improvement cycles.

The other options do not align with PMI's treatment of performance deviations. An increased error rate does not reduce the need for human oversight; in fact, oversight may need to be increased. Computational cost changes (option C) are secondary and not the primary next step. Stakeholder confidence (option D) generally decreases when error rates exceed agreed limits. Therefore, the realistic and lifecycle-aligned outcome is operationalization delays due to model retraining (option A).

### Question: 60

A project team at an IT services company is developing an AI solution to enhance network security. They need to define the success criteria to help ensure the project achieves its desired outcomes.

What should the project manager do to define the relevant success criteria?

- A. Implement machine learning (ML) algorithms for threat prediction
- B. Use key performance indicators (KPIs) for incident response times and threat detection rates
- C. Conduct a SWOT (strengths, weaknesses, opportunities, threats) analysis of the network infrastructure
- D. Perform a detailed cost-benefit analysis of security investments

## Answer: B

### Explanation:

PMI-CPMAI stresses that AI projects must define clear, measurable success criteria that are directly aligned with the problem the AI is intended to solve. In a network security context, the AI solution is being developed to “enhance network security,” which, in operational terms, translates to outcomes like faster incident response and better detection of threats and anomalies.

PMI’s guidance on benefits realization and performance management recommends using key performance indicators (KPIs) that are specific, measurable, and time-bound. For security, relevant KPIs typically include metrics such as mean time to detect (MTTD), mean time to respond (MTTR), detection rates, false positive/false negative rates, number of incidents contained, and reduction in successful breaches. By defining success criteria in terms of incident response times and threat detection rates, the project manager ties the AI system’s performance directly to business and operational outcomes, making it easier to monitor effectiveness and justify investment.

Implementing ML algorithms (option A) is a technical activity, not a definition of success. SWOT analysis and cost-benefit analysis (options C and D) can inform strategy and justification, but they do not, by themselves, define how success will be measured in day-to-day operations. PMI-CPMAI emphasizes metrics-driven evaluation, so using KPIs for incident response times and threat detection rates (option B) is the correct approach.

## Question: 61

A government agency plans to implement a new AI-driven solution for automating risk analysis. The project team needs to ensure that all stakeholders accept the solution and the project scope is well-defined. They must identify whether the AI approach is the best solution compared to traditional methods.

Which method meets this objective?

- A. Conducting a detailed analysis to evaluate other potential AI solutions
- B. Utilizing a hybrid approach combining cognitive and noncognitive parts to satisfy all parties
- C. Developing a prototype using generative adversarial networks (GANs)
- D. Performing a comprehensive AI go/no-go assessment focusing on technology and data factors

## Answer: D

### Explanation:

In the CPMAI-aligned approach, before committing to an AI solution, teams perform a structured AI go/no-go assessment to determine whether AI is actually the right tool compared with traditional analytical or rules-based methods. This assessment looks at data readiness, technical feasibility, business value, risk, and alignment with stakeholder expectations. It is also where the project scope is clarified and boundaries are set: what problems AI will address, what remains non-AI, and what success looks like in measurable terms.

CPMAI and PMI-style AI guidance emphasize that you should not jump directly into model building or specific architectures before you have answered the fundamental

## question: “Is AI the appropriate approach here, given our data and constraints?” The go/no-g

assessment explicitly compares AI options with conventional solutions, evaluates whether available data is sufficient and usable, and highlights ethical, regulatory, and operational risks. This process provides a transparent, evidence-based decision that helps gain acceptance from stakeholders because they see that AI was chosen (or rejected) after a systematic evaluation. Therefore, performing a comprehensive AI go/no-go assessment focusing on technology and data factors is the method that best meets the objective.

Question: 62

A team is running a forecasting project and wants to use previous user data to better predict future outcomes. However, the team does not have access to all the data they need.

Which action should the project manager take?

- A. Move forward in order to remain on schedule with the project
- B. Move forward while anticipating data access is given when needed. An iterative approach

provides the ability to return to steps as needed later on

- C. Do not move forward until access is given to all the necessary data
- D. Move forward cautiously with the understanding that there may be a need for a pause mid-project

**Answer: B**

Explanation:

CPMAI explicitly frames AI and forecasting projects as iterative and incremental, not rigid, one-shot efforts. The methodology allows teams to progress through phases with the understanding that they may loop back when new data or insights become available. In a forecasting project where not all desired historical user data is accessible yet, the recommended approach is to move forward with what is available, while planning and documenting assumptions about missing data and potential impacts.

PMI/CPMAI guidance stresses that waiting for “perfect” data can stall value delivery and increase project risk. Instead, early iterations using partial but representative data help validate the problem framing, test pipelines, and surface data-access issues early, while governance and data owners work on unlocking additional datasets. The key is to acknowledge explicitly that the project is iterative: you may return to earlier data understanding and preparation steps as new data becomes available. This is exactly what option B describes—moving forward while anticipating additional access and leveraging an iterative lifecycle to revisit earlier steps—rather than freezing the project (C) or blindly pressing ahead without a plan (A or D).

## Question: 63

A logistics company is operationalizing an AI solution to optimize delivery routes. The project manager needs to gather

up-to-date information on traffic patterns, delivery schedules, and vehicle performance.

Which method will integrate these diverse data types?

- A. Adopting a federated data model
- B. Using an extraction, transformation, and loading (ETL) pipeline
- C. Implementing a real-time data processing framework
- D. Building a unified data warehouse

**Answer: B**

**Explanation:**

In CPMAI and PMI-aligned AI lifecycles, integrating diverse data types from multiple operational systems is typically handled through robust data engineering pipelines, most commonly implemented as ETL (extract, transform, load) or closely related ELT patterns. For a logistics optimization use case, the AI system needs to bring together traffic patterns (often from external or sensor feeds), internal delivery schedules, and vehicle performance/telematics data into a consistent, analyzable structure.

An ETL pipeline is designed precisely for this: it extracts data from heterogeneous sources, transforms it into common formats and schemas (handling units, timestamps, geocodes, data quality rules), and loads it into a target store (data lake, warehouse, or feature store) that downstream AI components can consume. CPMAI emphasizes that this integration work is a core part of the Data Understanding and Data Preparation phases, because AI models depend on unified, high-quality inputs rather than fragmented, siloed feeds. While real-time frameworks, federated models, or warehouses may play additional roles, the primary method explicitly focused on integrating diverse data sources into a coherent whole is an ETL pipeline, making option B the best fit.

**Question: 64**

A logistics company wants to optimize its delivery routes while adapting to real-time traffic conditions.

Which AI pattern or patterns meet these goals?

- A. Recognition and content summarization
- B. Automation and rule-based systems
- C. Conversational
- D. Predictive analytics

**Answer: D**

**Explanation:**

Within CPMAI and PMI's AI pattern framing, predictive analytics is the pattern that focuses on using historical and real-

time data to forecast future states—exactly what is needed for route optimization under changing traffic conditions. For a logistics company, the AI system must estimate future travel times, congestion levels, delays, and likely delivery windows. These predictions are then used as inputs to optimization logic that chooses the best routes and adjusts them dynamically as new data arrives.

Recognition/summarization patterns focus on classification or extracting meaning from content (such as images or text), while conversational patterns are aimed at dialog systems like chatbots. Automation and rule-based systems can encode fixed routing rules, but they cannot by themselves learn patterns from historical traffic and adapt to evolving conditions.

PMI/CPMAI guidance highlights that when the business problem involves forecasting outcomes to inform better decisions, the appropriate AI pattern is predictive analytics—often implemented with regression, time-series

models, or more advanced learning approaches. Therefore, for optimizing delivery routes while adapting to real-time traffic, the correct pattern is predictive analytics, making option D the appropriate choice.

### **Question: 65**

A financial services firm is integrating AI to enhance fraud detection. To oversee data evaluation, the project manager needs to ensure the integrity and accuracy of input data, including transaction histories and customer profiles.

Which method provides the results that address the requirements?

- A. Utilizing a prompt pattern to guide the AI model's training process
- B. Using a fact checklist to systematically verify data sources
- C. Implementing alternative approaches to process data differently
- D. Applying a visualization generator to create data flow diagrams

### **Answer: B**

#### **Explanation:**

In AI initiatives for financial fraud detection, PMI-style AI data governance emphasizes that the integrity, provenance, and reliability of input data must be established before modeling. Transaction histories and customer profiles are high-risk, regulated data, so the project manager is expected to apply structured, repeatable verification methods rather than ad hoc checks. A fact checklist to systematically verify data sources directly supports this requirement. Such a checklist typically includes validation of data origin (systems of record), timeliness, completeness, consistency across systems, documentation of transformations, and confirmation that data has not been tampered with in transit or storage.

Within an AI governance framework, these checklists form part of data control evidence, supporting auditability and regulatory compliance. They also help uncover misalignments such as missing transaction fields, inconsistent customer IDs, or unexplained gaps in history—all of which can materially degrade model accuracy and fairness. In contrast, prompt patterns (option A) address LLM behavior rather than data integrity; alternative processing approaches (option C) do not ensure correctness of the underlying data; and visualization of data flows (option D) helps understanding architecture but does not validate the truthfulness or accuracy of the data itself. Therefore, using a fact checklist to systematically verify data sources is the method that best addresses the need to ensure data integrity and accuracy.

## Question: 66

The project team at an IT services company is working on an AI-based customer support chatbot. To help ensure the chatbot functions effectively, they need to define the required data.

Which method meets the project requirements?

- A. Using synthetic data generated from sample customer conversations
- B. Gathering historical customer interaction logs for training data
- C. Integrating feedback from beta customers to refine the model
- D. Developing a new script based on anticipated customer queries

**Answer: B**

**Explanation:**

For an AI-based customer support chatbot, PMI-CPMAI-aligned lifecycle guidance stresses that defining required data starts from real, historical interactions that reflect actual customer needs and behaviors. Gathering historical customer interaction logs for training data (option B) is the method that best meets this requirement. These logs typically include customer questions, intents, issues, resolutions, and escalation paths, providing a rich, labeled or label-ready corpus that is highly representative of real-world use.

By analyzing these logs, the team can identify the most frequent intents, common phrasing, edge cases, and areas where customers are confused or dissatisfied. This directly informs data schema design, labeling strategies, and coverage requirements for the chatbot. It also helps define performance metrics (such as resolution rate for top intents) and guardrails. Synthetic data (option A) may supplement coverage but should not be the primary basis for defining required data, as it risks encoding designer assumptions instead of reality. Feedback from beta customers (option C) is valuable later in the evaluation and improvement phases. Developing scripts based on anticipated queries (option D) aids dialogue design but does not truly define the underlying data required for robust training. Therefore, gathering and leveraging historical customer interaction logs is the most appropriate method to define required data for an effective support chatbot.

## Question: 67

A project manager is preparing for an AI model evaluation. The model has shown an overall 70% accuracy rate, but the project key performance indicators (KPIs) require at least 89% accuracy.

Which issue related to accuracy reduction should the project manager investigate first?

- A. Training data is not representative of real-world data
- B. Inadequate computational power being used
- C. Failure to split training, testing, and validation datasets
- D. Incorrect selection of model algorithms

## Answer: A

### Explanation:

When an AI model underperforms against defined KPIs (70% accuracy vs required 89%), PMI-style AI evaluation guidance directs project managers to first investigate data-related issues, especially representativeness and quality of the training data, before focusing on algorithms or infrastructure. If the training data is not representative of real-world data (option A), the model may learn patterns that do not generalize to production conditions. For example, it might be overexposed to common, simple cases and underexposed to rare but critical scenarios, specific customer segments, geographies, or newer product types.

This mismatch is one of the most common causes of accuracy degradation between expected and actual performance. Ensuring representativeness involves checking that the data covers the full spectrum of operational scenarios, class distributions, time periods, and user demographics relevant to the use case. Inadequate compute (option B) more often affects training time than final accuracy, assuming the model trains to convergence. Failure to split datasets correctly (option C) leads to unreliable evaluation metrics, but the question already states an accuracy result and a KPI gap, pointing to performance, not just measurement. Algorithm selection (option D) is important but typically evaluated after confirming that the data foundation is sound. Thus, the first issue to investigate is whether training data is representative of real-world data.

## Question: 68

In an IT services firm, the AI project team is tasked with developing a virtual assistant to support customer service operations. The assistant must integrate seamlessly with existing customer relationship management (CRM) systems and handle a variety of customer queries.

Which necessary initial task should the project manager take?

- A. Building a dedicated data lake
- B. Conducting a comprehensive data audit
- C. Designing a custom AI algorithm that enhances the chatbot's capacity
- D. Procuring advanced natural language processing (NLP) libraries

## Answer: B

### Explanation:

For an AI virtual assistant that must integrate with existing CRM systems and support varied customer queries, PMI-CPMAI-aligned practices emphasize that the initial critical task is understanding and assessing the current data environment. This is best achieved by conducting a comprehensive data audit (option B). A data audit systematically examines what data exists in the CRM and surrounding systems, how it is structured, its quality, completeness, lineage, and how it flows across processes.

This step reveals whether the assistant can access necessary customer profiles, interaction histories, product details, and

case records; identifies data gaps; and surfaces integration constraints (such as inconsistent IDs, missing timestamps, or poor-quality notes). The audit also supports decisions on privacy controls and consent management for customer data. Building a data lake (option A) is an architectural choice that should be based on audit findings, not a starting assumption. Designing a custom algorithm (option C) and procuring advanced NLP libraries (option D) are technical implementation activities that come after the project has confirmed that the available data and integrations can support the intended capabilities and compliance obligations. Therefore, the necessary initial task for the project manager is to conduct a comprehensive data audit of the CRM- related landscape.

### Question: 69

A team is in the early stages of an AI project. They need to ensure they have the necessary data and technology to support AI solution development.

What is the first step the project team should complete?

- A. Assess the team's current AI and data expertise
- B. Outline the business objectives for the AI project
- C. Identify the gaps and procure the needed tools
- D. Verify the availability and quality of the required data

**Answer: D**

**Explanation:**

In the PMI-CP in Managing AI guidance, early AI project work includes confirming that the data foundation is viable before committing to specific tools or architectures. For AI initiatives, data is the primary constraint: if the right data does not exist, is incomplete, or is of low quality, no choice of technology will rescue the solution. Therefore, before assessing tooling gaps or even detailing the technology stack, teams are expected to verify the availability, accessibility, and quality of the required data for the intended use case.

PMI-CPMAI describes data readiness activities such as identifying key data sources, profiling them for completeness and consistency, assessing coverage of relevant populations and time periods, and checking for legal and regulatory constraints around access and use. Only after this verification can the team meaningfully evaluate whether existing platforms, infrastructure, and tools are sufficient, and then identify gaps.

Assessing team expertise or procuring tools are important, but they follow from the prior understanding of what data exists and what is needed for the model. Thus, the first step the project team should complete to ensure they have what they need for AI development is to verify the availability and quality of the required data.

## Question: 70

A project manager is considering different project management approaches for an AI solution deployment. They need to ensure the approach allows for iterative improvements and accommodates changing requirements.

Which approach is effective in this situation?

- A. Predictive
- B. Hybrid
- C. Incremental
- D. Adaptive/agile

**Answer: D**

Explanation:

PMI-CPMAI emphasizes that AI projects typically involve uncertainty, experimentation, and evolving requirements. Data can change, model behavior must be tuned, and stakeholders may refine success criteria as they see early results. Because of this, PMI frames AI work as well-suited to adaptive/agile approaches that support short iterations, continuous learning, and rapid feedback loops.

In an adaptive/agile approach, the team plans in smaller increments, regularly reprioritizes the backlog, and refines scope based on empirical evidence from model experiments and pilots. This allows them to update features, retrain models, and adjust data or architecture as new insights are gained. PMI-CPMAI links this directly to AI lifecycles, where experimentation, evaluation, and deployment are repeated cycles rather than one-off phases.

Predictive approaches are more rigid and assume stable, knowable requirements upfront, which is rarely realistic for AI behavior and data-driven insights. Incremental and hybrid can add some flexibility, but adaptive/agile is the explicit choice in PMI's guidance when iterative improvement and changing requirements are primary concerns. Therefore, the most effective approach for an AI solution deployment in this context is adaptive/agile.

## Question: 71

During the configuration management of an AI/machine learning (ML) model, the team has observed inconsistent performance metrics across different test datasets.

What will cause the inconsistency issue?

- A. Overfitting the training data
- B. Low variance in the test results
- C. Insufficient model complexity
- D. Incorrect data preprocessing steps

**Answer: D**

Explanation:

PMI-CPMAI highlights data pipelines and preprocessing as critical components of AI/ML configuration management. A core principle is that all evaluation datasets must be processed through consistent, validated preprocessing steps (cleaning, normalization, feature engineering, encoding, etc.). If different test datasets experience different preprocessing logic, parameter settings, or transformations, performance metrics will naturally appear inconsistent, not because of the model itself but because the inputs are not comparable.

The guidance notes that configuration management for AI must track not only model versions but also data transformations, feature pipelines, and parameter settings. Inconsistent metrics across test datasets are a classic symptom of mismatched preprocessing, such as applying different scaling, missing-value handling, text tokenization, or feature selection strategies across datasets. Overfitting and model complexity affect generalization, but typically manifest as consistently poor performance on out-of-sample data, rather than erratic metrics between test sets prepared correctly.

Therefore, when a team observes inconsistent performance metrics across different test datasets, PMI-CPMAI would direct them to first check whether the data preprocessing steps are implemented correctly and consistently across those datasets. The likely cause of the inconsistency issue is incorrect (or inconsistent) data preprocessing steps.

## Question: 72

An AI project team is in the process of designing a security plan. The team needs to consider various aspects such as transparency, explainability, and compliance with data regulations.

Which action should the project manager take?

- A. Ensure the AI system's decisions are transparent and explainable
- B. Focus only on technical security measures, ignoring transparency
- C. Assume compliance without reviewing current regulations
- D. Rely solely on encryption without considering other security aspects

## Answer: A

Explanation:

In PMI-CPMAI, security planning for AI solutions goes beyond traditional technical controls; it explicitly includes transparency, explainability, and regulatory compliance as part of a responsible AI posture. The guidance states that security and trust in AI depend not only on encryption, access control, and infrastructure hardening, but also on whether stakeholders can understand how decisions are made and whether those decisions comply with applicable laws and policies.

PMI's AI management perspective includes requirements for explainable and auditable decisionmaking, particularly in public-sector and high-impact domains. This means designing systems so that model behavior can be interpreted, key features and factors identified, and decisions documented in a way that regulators, auditors, and affected users can review. The project manager is therefore expected to ensure that the AI system's design and governance support transparency and explainability, in addition to technical security controls.

Focusing only on technical measures or assuming compliance without review contradicts PMI-CPMAI's emphasis on proactive governance and legal/ethical due diligence. Reliance solely on encryption addresses confidentiality but not fairness, accountability, or understandability. Thus, the correct action is to ensure the AI system's decisions are transparent and explainable, embedded alongside other security and compliance safeguards.

### Question: 73

An AI project for a financial technology client is at risk due to potential inaccuracies in data aggregation. What is the first step the project manager should take to mitigate the risk?

- A. Evaluate the data freshness and relevance
- B. Delete the suspicious data manually
- C. Understand the data characteristics
- D. Create a data visualization

### Answer: C

#### Explanation:

When an AI initiative faces risk due to potential inaccuracies in data aggregation, PMI-CPMAI-aligned practice says the very first action is to understand the data characteristics before taking any corrective measures. This includes clarifying data sources, aggregation logic, granularity, formats, lineage, and quality dimensions (completeness, consistency, accuracy, timeliness, and validity). By doing so, the project manager and data team can determine where and why aggregation errors are arising, and whether they stem from upstream systems, ETL/ELT pipelines, joining logic, or business rules.

PMI's AI data lifecycle guidance stresses that you cannot reliably "fix" freshness, delete records, or visualize results until you have a structured understanding of the data landscape and its transformation steps. Jumping to deletion (option B) can worsen bias or information loss, and focusing only on freshness (option A) or visualization (option D) treats symptoms rather than root cause.

Therefore, the correct first step in mitigating this type of risk is to understand the data characteristics (option C), which then informs targeted remediation actions, improved aggregation logic, and robust data quality controls aligned with the AI solution's objectives and risk appetite.

### Question: 74

A company plans to operationalize an AI solution. The project manager needs to ensure model performance is meeting selected thresholds before release.

What is an effective way to confirm these thresholds before this release?

- A. Testing against validation datasets

- B. Implementing an impact evaluation
- C. Running multiple end-user acceptance tests
- D. Conducting a series of penetration tests

**Answer: A**

**Explanation:**

Before operationalizing an AI model, PMI-CPMAI emphasizes confirming whether the model meets predefined performance thresholds using well-governed evaluation datasets. This is done by testing against validation (and/or test) datasets that are distinct from the training data and representative of real-world conditions. These datasets allow the team to compute agreed metrics—such as accuracy, precision, recall, F1, AUC, or domain-specific KPIs—and compare them directly against acceptance criteria defined earlier with stakeholders.

The PMI framework stresses traceability from business objectives → requirements → metrics → thresholds → evaluation results. Validation testing is where this chain is concretely confirmed: if the model consistently meets or exceeds thresholds on held-out data, it is a strong indicator that it is ready for controlled release. Impact evaluation (option B) is more appropriate once the model is in pilot or production, focusing on business outcomes. End-user acceptance tests (option C) mainly address usability and workflow fit, not detailed model performance. Penetration tests (option D) address security rather than predictive quality.

Thus, to confirm that model performance meets selected thresholds before release, the most effective method is testing against validation datasets (option A).

### **Question: 75**

A project involves integrating AI systems across multiple departments, each with different access levels. This complex AI project has presented the project manager with significant issues related to data misuse. The project team has been focused on their ethics guidelines but continues to experience data misuse. The project involves different regional data protection regulations which further increases the complexity.

What issue will cause these challenges to occur?

- A. Limited awareness of explainability requirements
- B. Lack of a detailed plan addressing a governance strategy
- C. Overlooking algorithmic bias and fairness concerns
- D. Failure to implement robust encryption for data security

**Answer: B**

**Explanation:**

In PMI-CPMAI, persistent issues like data misuse across departments and jurisdictions point directly to weaknesses in AI

and data governance, not just ethics awareness. While ethics guidelines are important, they are only one element of a complete governance framework. PMI's AI governance view stresses the need for a detailed, actionable governance strategy that defines roles (owners, stewards, custodians), access controls, data classification, data use policies, approval workflows, and compliance processes that consider regional regulations (e.g., differing data protection laws).

Without such a governance plan, teams may unintentionally share or use data in ways that conflict with internal policies or external regulations, even if they know and care about ethics. Algorithmic bias (option C) and explainability (option A) are important but do not directly address crossdepartment access management and regional regulatory differences.

Failure to implement robust encryption (option D) concerns technical security of data in transit/at rest; it does not, by itself, prevent misuse by authorized but improperly governed users.

Therefore, the root issue causing these challenges is the lack of a detailed plan addressing a governance strategy (option B), which should integrate ethics, regulatory requirements, and operational controls for data use across departments and regions.

### **Question: 76**

A project team is trying to determine the most suitable environment to operationalize their AI/machine learning (ML) solution. They need to consider various factors to help ensure a successful implementation.

What should the project manager do?

- A. Evaluate the system's scalability options
- B. Consider the cost of implementation
- C. Identify the end users and their interactions
- D. Analyze the solution's compliance requirements

**Answer: C**

**Explanation:**

When choosing an environment to operationalize an AI/ML solution, PMI-CPMAI guidance stresses starting from stakeholders and end-user interactions, then deriving technical choices (infrastructure, deployment model, integration pattern) from those needs. Identifying who the end users are, how they will interact with the system, and in which workflows and channels is crucial. This includes understanding whether the AI will be consumed via dashboards, embedded in existing applications, via APIs, or as decision support in specific business processes.

Once these interaction patterns are clear, the project manager and technical team can determine environment needs: latency requirements, availability, integration points, security boundaries, on- prem vs. cloud, edge vs. centralized deployment, and needed tooling for monitoring and MLOps. Scalability (option A), cost (option B), and compliance (option D) are all important factors, but they are secondary considerations that should be evaluated in the context of how users will actually use the system.

PMI's AI lifecycle view emphasizes that environment and architecture decisions must be requirements-driven, not purely cost- or technology-driven. Therefore, the project manager should first identify the end users and their interactions with

the solution (option C) as the basis for selecting the most suitable operational environment.

### Question: 77

An AI project team has identified a gap in their data knowledge and experience. They need to address this issue in order to proceed with their AI implementation.

What is the effective solution?

- A. Deploy an adaptive data knowledge framework (ADKF) to bridge the expertise gap
- B. Utilize an AI-specific data enhancement protocol to improve data quality
- C. Engage in a comprehensive data immersion program to build internal capabilities
- D. Hire an external data consultant to provide targeted guidance and training

### Answer: D

Explanation:

Within PMI-CPMAI guidance on AI readiness and capability enablement, a clearly identified gap in data knowledge and experience is treated as a critical skills and competency risk. The framework emphasizes that AI projects are highly dependent on data literacy, understanding of data sources, structure, quality, and regulatory constraints. When such gaps exist, PMI-consistent practice is to bring in specialized expertise to both support the current initiative and uplift the organization's internal capabilities.

Hiring an external data consultant provides immediate access to deep data expertise, including data modeling, governance, privacy, and AI-specific data requirements. This expert can perform targeted assessments, help define data strategies, guide data preparation, and deliver focused training or coaching to the project team. PMI-CPMAI stresses that leveraging external SMEs is often the most effective way to de-risk complex AI implementations when internal skills are insufficient, especially in early stages or high-stakes domains.

Options such as deploying abstract "frameworks" or "protocols" do not, by themselves, close a human expertise gap. A comprehensive internal data immersion program may be useful long-term, but it first requires guidance on what to learn and how to structure that learning. Therefore, the most effective and actionable solution to proceed with implementation is hiring an external data consultant to provide targeted guidance and training.

### Question: 78

A telecommunications company's AI project team is operationalizing a predictive maintenance model for network equipment. They need to meticulously manage the model's configuration to avoid potential failures.

Which method will help the model configuration remain consistent and avoid drift?

- A. Implementing automated retraining schedules

- B. Utilizing version control systems
- C. Performing regular manual inspections
- D. Employing frequent algorithm operationalizations

**Answer: B**

**Explanation:**

PMI-CPMAI’s treatment of AI operationalization and MLOps highlights that robust configuration management is essential to avoid inconsistency, unintended changes, and configuration drift across environments. For a predictive maintenance model deployed over many assets or sites, consistent configuration (model version, hyperparameters, thresholds, pre-processing steps, feature mappings, etc.) is critical for reliable performance and traceability.

The framework stresses that AI artifacts—code, models, configurations, and data schemas—should be managed using formal version control systems. This enables the team to track exactly which configuration was used, when it changed, who changed it, and how it relates to performance results. Version control supports reproducibility of experiments, rollback to stable versions, and standardized deployment pipelines. It also underpins governance requirements: the organization can demonstrate which versions were active at a given time if there is a failure or audit.

Automated retraining, while important for handling data drift, doesn’t by itself guarantee configuration consistency; in fact, it can introduce drift if new models are deployed without proper versioning. Manual inspections are error-prone and non-scalable. “Frequent algorithm operationalizations” is not a control mechanism, but a potential source of inconsistency. Therefore, the method that directly addresses configuration consistency and drift is utilizing version control systems for the model and its configuration.

### **Question: 79**

A financial services firm is implementing AI models to automate fraud detection. The project manager needs to ensure the models comply with regulatory standards and ethical guidelines while maintaining performance and accuracy.

Which action should the project manager take?

- A. Focus solely on model accuracy, ignoring compliance
- B. Implement bias detection and mitigation strategies
- C. Use any available data without checking for consent
- D. Assume compliance without formal verification

**Answer: B**

**Explanation:**

PMI-CPMAI places responsible AI, regulatory compliance, and ethical alignment on equal footing with performance and accuracy, especially in highly regulated sectors like financial services. Fraud detection models often operate on sensitive financial and personal data and can materially impact customers if they are biased or systematically unfair.

The PMI-CPMAI guidance on risk, ethics, and governance emphasizes that project managers must ensure AI systems are evaluated not only on predictive quality but also on fairness, bias, transparency, and explainability. A core expectation is that teams implement bias detection and mitigation strategies across the AI lifecycle: examining training data for representational bias, testing model outputs for disparate impact across customer segments, and applying corrective techniques such as rebalancing, re-weighting, or constraint-based training.

Focusing solely on accuracy (option A) contradicts responsible AI principles and can institutionalize harmful patterns. Using any available data without consent (option C) violates data protection and ethical standards. Assuming compliance without formal verification (option D) fails governance and auditability requirements. By contrast, implementing bias detection and mitigation strategies directly addresses regulatory and ethical concerns, while also supporting robust, trustworthy performance. It operationalizes responsible AI practices in line with PMI-CPMAI expectations, ensuring the fraud models are both effective and compliant.

### **Question: 80**

A project team at a healthcare provider is determining whether their patient records are adequate for an AI diagnostic tool. They need to validate that the data covers a broad spectrum of conditions and demographics.

What is an effective method to assure data suitability?

- A. Implementing a longitudinal data-gathering approach
- B. Performing demographic analysis and stratifying patient data
- C. Analyzing data variance and ensuring balanced sampling
- D. Conducting a cross-sectional study on data diversity

**Answer: B**

**Explanation:**

In PMI-CPMAI, data suitability for an AI use case is evaluated against the problem context and the populations affected.

For a healthcare diagnostic AI system, this includes confirming that the training and evaluation data adequately represent the range of medical conditions and the diverse demographics (age, gender, ethnicity, comorbidities, etc.) of the patients who will be served.

Insufficient demographic coverage can lead to biased diagnostic performance and safety risks.

The framework recommends performing structured data profiling and stratification to understand how records are distributed across key groups and conditions. By performing demographic analysis and stratifying patient data, the team can identify underrepresented segments, such as certain age brackets, minority populations, or rare but critical conditions. This allows them to detect gaps (e.g., very few samples for a particular group), assess generalizability, and plan remediation (additional data collection, augmentation, or cautious deployment with guardrails).

While longitudinal and cross-sectional study designs (options A and D) are useful research concepts, the immediate need here is to check whether the current dataset spans the necessary demographic and clinical diversity. Analyzing variance and balance (option C) is helpful but too generic; the question explicitly references demographics. Thus, the most effective method to assure data suitability for the diagnostic tool is demographic analysis and stratification of patient data.

### **Question: 81**

An AI project team needs to consider compliance with data regulations and explainability standards as requirements for a new AI solution.

At what point in the project should the requirements be approached?

- A. As part of the data preparation phase
- B. As part of the business understanding phase
- C. As part of the final testing phase
- D. As optional guidelines based on project scope

**Answer: B**

**Explanation:**

In PMI-CP/CPMAI-aligned practice, compliance requirements such as data protection regulations (e.g., privacy laws, data residency) and explainability standards are treated as business and regulatory constraints, not as late technical details. They must therefore be identified and incorporated during the business understanding phase. At this stage, the project manager and stakeholders clarify the problem statement, success criteria, risk appetite, and constraints under which the AI solution must operate. That includes explicitly stating: which regulations apply, what level of transparency or explainability is required, which stakeholders must be able to understand model outputs, and which decisions must remain under human control.

By capturing these requirements early, they directly influence the choice of AI pattern, model families, data sources, architecture, and governance mechanisms. If these constraints are postponed until data preparation or final testing, the team risks discovering that the chosen models are too

opaque, the data cannot legally be used as collected, or additional documentation and controls are needed that fundamentally change scope and timeline. CPMAI stresses that responsible AI and regulatory compliance are “built in from the beginning,” so the correct point to approach these requirements is the business understanding phase.

### **Question: 82**

A development team is tasked with creating an AI system to assist physicians with diagnosing medical conditions. They encountered cases where symptoms do not always lead to well-defined diagnoses.

Which approach should the project manager integrate to handle the inherent uncertainty?

- A. Keep a human in the loop with all decision-making
- B. Enhance the knowledge base with more detailed rules
- C. Increase the number of input variables
- D. Implement a more complex retrained model

**Answer: A**

**Explanation:**

For AI systems supporting high-stakes medical decisions, PMI-CP/CPMAI and responsible AI guidance emphasize human-in-the-loop oversight as the primary way to manage inherent uncertainty and risk. In clinical diagnosis, symptoms are often ambiguous, overlapping across multiple conditions, and influenced by patient history and context. No matter how advanced the model, there will be edge cases, rare diseases, and conflicting signals.

Rather than attempting to eliminate uncertainty purely through more complex models, more input variables, or ever-growing rule sets, best practice is to design the AI as a decision-support tool, not an autonomous decision-maker. That means physicians retain ultimate responsibility, reviewing AI suggestions, over-riding them when clinically necessary, and using their expertise to weigh patientspecific factors the model may not capture.

Human-in-the-loop design also supports explainability and trust: clinicians can question outputs, cross-check with other evidence, and provide feedback that can be used later for model improvement. CPMAI's lifecycle framing for regulated and safety-critical domains is clear: when outcomes materially affect health or life, the appropriate way to handle uncertainty is to keep a human in the loop for all decision-making, which aligns directly with option A.

**Question: 83**

A financial services firm is operationalizing an AI-driven fraud detection system. The project manager needs to ensure the tool complies with relevant data privacy laws while providing secure data access to only authorized personnel.

What is an effective technique to address these requirements?

- A. Developing a comprehensive data classification policy (DCP)
- B. Utilizing role-based access control (RBAC) to limit data access
- C. Implementing real-time data verification (RTDV) processes
- D. Conducting a privacy impact assessment (PIA) to identify risks

**Answer: B**

**Explanation:**

In an AI-driven fraud detection context, PMI-CP/CPMAI guidance on data governance stresses that compliance with privacy laws and the principle of "least privilege" must be enforced with technical access controls as well as policies.

While a data classification policy and privacy impact assessments are important, they mainly describe and analyze risks; they do not by themselves prevent unauthorized access.

An effective technique that directly addresses “secure data access to only authorized personnel” is role-based access control (RBAC). RBAC ties access rights to defined roles (e.g., fraud analyst, data scientist, auditor), ensuring that users see only the data necessary for their job and nothing more. This supports compliance with privacy regulations that require data minimization, access limitation, and accountability. It also provides an auditable structure for who can access what, which is critical during regulatory reviews or incidents.

Within AI projects, RBAC should be applied across data stores, model monitoring dashboards, and operational interfaces so that sensitive transaction and identity data are protected end to end. Therefore, among the options presented, utilizing role-based access control (RBAC) to limit data access is the most direct and effective technique to satisfy both legal compliance and secure, authorized-only access.

### **Question: 84**

A finance company is planning an AI project to improve fraud detection. The project manager has identified multiple cognitive patterns that can be used.

Which method will narrow the project scope?

- A. Prioritizing patterns based on their potential impact and complexity
- B. Comparing cognitive patterns against noncognitive requirements
- C. Rotating through cognitive and non-cognitive patterns sequentially in short iterations
- D. Implementing all identified patterns in parallel to test their effectiveness

### **Answer: A**

#### **Explanation:**

PMI-CP/CPMAI emphasizes that scoping AI projects is fundamentally about focus and feasibility: selecting a small number of high-value, achievable objectives rather than attempting to cover every conceivable pattern or use case at once. When a project manager has identified multiple cognitive patterns (for example, anomaly detection, predictive scoring, and document understanding) for fraud detection, the next discipline step is prioritization.

The framework recommends ranking candidate patterns based on criteria such as business impact (fraud loss reduction, improved detection rate, reduced false positives), implementation complexity (data availability, technical difficulty, integration effort), risk, and time-to-value. By doing this, the team can select one or two patterns that deliver strong benefits quickly and can be iterated on, while deferring or discarding lower-value or high-complexity ideas.

Attempting to implement all identified patterns in parallel expands scope, increases coordination overhead, and raises delivery risk; rotating through them without prioritization delays concrete value. Comparing against noncognitive requirements helps with design but doesn't itself narrow the scope. The method that explicitly narrows scope in line with CPMAI guidance is prioritizing patterns based on their potential impact and complexity, and choosing a focused subset to implement first.

### Question: 85

A project manager is tasked with ensuring that an AI project complies with data regulations before data collection begins. This involves identifying all necessary requirements for trustworthy AI, including ethical considerations, privacy, and transparency.

What should the project manager do first?

- A. Perform a comprehensive assessment of data regulations and compliance requirements
- B. Draft a detailed data governance framework to be reviewed later
- C. Schedule a meeting with stakeholders to discuss potential data collection compliance issues
- D. Develop a high-level strategy for data collection and aggregation

### Answer: A

#### Explanation:

For AI projects handling regulated data (such as financial or personal information), PMI-aligned guidance for Managing AI emphasizes that regulatory and compliance requirements must be

understood upfront, before data is collected, processed, or shared. The very first step is to perform a comprehensive assessment of data regulations and compliance requirements across all applicable jurisdictions (e.g., privacy laws, banking/financial regulations, sectoral rules, cross-border data transfer constraints, retention rules, and consent requirements).

This assessment provides the foundation for trustworthy AI, because ethical principles, privacy safeguards, transparency mechanisms, and accountability structures must map directly to concrete legal and regulatory obligations. Only when these requirements are clearly identified can the project manager design an appropriate data governance framework, define lawful bases for processing, set access controls, and specify documentation and audit-trail expectations.

Drafting governance (option B), stakeholder meetings (option C), or high-level data collection strategies (option D) are useful later steps, but if they are done before a regulatory and compliance assessment, they risk misalignment with the law and may require costly rework. Therefore, in line with PMI-CPMAI's focus on responsible and compliant AI lifecycle management, the project manager should first perform a comprehensive assessment of data regulations and compliance requirements.

### Question: 86

A logistics company is operationalizing an AI system to improve delivery times. The project team needs to identify performance constraints that may impact the AI solution.

Which method should the project manager use to meet the team's objective?

- A. Benchmarking against competitors
- B. Implementing advanced data visualization tools

C. Conducting a preliminary feasibility study

D. Training employees on AI ethics

**Answer: C**

**Explanation:**

When operationalizing an AI system to improve delivery times, PMI-style AI project guidance stresses the importance of identifying constraints and assumptions early, before heavy investment in buildout. A preliminary feasibility study is the standard method to surface key performance constraints that might impact the AI solution. This includes analyzing current logistics processes, data availability and latency, network conditions, service-level expectations (e.g., maximum response times for route optimization), infrastructure capacity, and integration limits with existing systems.

A feasibility study helps the team clarify: what throughput is required, how frequently predictions must be updated, what real-time vs. batch constraints exist, and whether current hardware, APIs, and data pipelines can support those requirements. This aligns with PMI-CPMAI's emphasis on evaluating technical, data, and organizational readiness before committing to full-scale deployment.

Benchmarking competitors (option A) may highlight external performance targets but does not systematically uncover the internal constraints. Implementing advanced visualization tools (option B) can help later with monitoring and communication but does not, by itself, identify constraints. Training employees on AI ethics (option D) is valuable from a governance standpoint, yet it does not address performance limitations. Thus, the method that directly meets the objective of identifying performance constraints is to conduct a preliminary feasibility study.

### **Question: 87**

A project manager is leading a complex project for a global financial institution. The project is developing an AI-driven system for real-time fraud detection and risk management. The system needs to adhere to all financial regulations. The project manager has identified skills gaps with the existing available resources.

What should the project manager do?

A. Delay the project until internal expertise is developed

B. Proceed with the project until external expertise is needed

C. Allocate additional budget for consultant AI training

D. Engage consultants to fill the expertise gap

**Answer: D**

**Explanation:**

For a global financial institution deploying an AI-driven, real-time fraud detection and risk management system, PMI-aligned AI governance highlights the need for specialized expertise in multiple domains: AI/ML, data engineering, financial risk, fraud typologies, and complex financial regulations (e.g., KYC, AML, transaction monitoring rules). When a skills gap is identified in such a high-stakes, highly regulated context, continuing without the right expertise can create

serious compliance, operational, and reputational risks.

Engaging external consultants to fill the expertise gap (option D) is consistent with PMI-CPMAI's focus on ensuring that roles and responsibilities are matched with appropriate competencies. Consultants with proven experience in regulated financial AI projects can help design compliant architectures, define explainability and auditability requirements, advise on model risk management, and ensure that controls meet regulatory expectations.

Delaying the project until internal expertise is developed (option A) may not be practical for strategic initiatives and still might not yield sufficient depth of experience. Proceeding until "expertise is needed" (option B) increases the risk that early design decisions violate regulations or are misaligned

with supervisory expectations. Allocating budget to train consultants (option C) misinterprets the need; the immediate requirement is to obtain expertise, not train external parties. Therefore, the project manager should engage consultants to fill the expertise gap while maintaining regulatory adherence and project momentum.

### **Question: 88**

A financial institution is implementing a new AI system for fraud detection. The project team must ensure the data meets the needs of the AI solution by verifying data quality, completeness, and relevance. They have access to various internal and external data sources.

Which method addresses the project team's objectives?

- A. Conducting a comprehensive data audit and cleansing process
- B. Limiting the data sources to internal databases to avoid complications
- C. Integrating data without improvement checks to expedite the project timeline
- D. Using pretrained models without tailoring to specific data

**Answer: A**

**Explanation:**

In AI fraud detection for financial institutions, PMI-CPMAI-aligned practices place strong emphasis on data quality, completeness, and relevance as the foundation of model reliability and regulatory compliance. Because the team has access to various internal and external data sources, the appropriate method is to perform a comprehensive data audit and cleansing process.

A data audit systematically examines each source for accuracy, consistency, timeliness, coverage of key fraud patterns, and alignment with business and regulatory needs. It checks for missing values, duplicates, inconsistencies across systems, and potential bias (e.g., underrepresentation of certain customer segments or regions). Cleansing then addresses identified issues through deduplication, normalization, imputations where appropriate, and removal of unusable or misleading records. This process ensures that the data used to train and operate the AI solution truly reflects real-world transactions and fraud behaviors, supporting trustworthy and explainable outcomes.

Limiting data to internal sources only (option B) may unnecessarily reduce coverage and predictive power, especially

when reputable external data (e.g., watchlists, consortium data) can enhance detection. Integrating data “as is” (option C) violates good AI governance and greatly increases the risk of poor model performance and regulatory concerns. Using pretrained models without tailoring (option D) ignores the need for alignment with the institution’s own data and fraud patterns.

Therefore, the method that directly addresses the objectives is conducting a comprehensive data audit and cleansing process.

### **Question: 89**

An aerospace company is evaluating whether their sensor data meets the requirements for an AI- based predictive maintenance system. The project team needs to ensure that the data's accuracy, resolution, and timeliness are adequate to predict equipment failures.

Which method addresses the requirements?

- A. Evaluating the data schema and integrating additional data sources
- B. Performing a data quality assessment focusing on precision and latency
- C. Implementing a data governance framework to ensure compliance
- D. Analyzing data completeness and conducting feature engineering

**Answer: B**

**Explanation:**

For an AI-based predictive maintenance system, PMI-CPMAI-aligned practices emphasize that the fitness of the data for the AI task must be validated in terms of accuracy, resolution, and timeliness before committing to model development. In the context of sensor data, this means confirming that measurements are precise enough to detect early degradation, sampled at a sufficient frequency to capture relevant patterns (resolution), and delivered with low delay so predictions are actionable (latency). A data quality assessment focused on precision and latency directly addresses these concerns by examining how close sensor readings are to true values, how stable they are over time, and how quickly the data flows from the equipment into the AI pipeline.

PMI-CPMAI guidance on data readiness for AI systems stresses profiling and testing data for measurement error, noise levels, sampling intervals, and end-to-end delivery lag before deciding if data is suitable for predictive models. Activities like schema review or feature engineering are important but come after confirming that raw data quality (especially precision and latency) meets the minimum requirements. Implementing governance frameworks or adding more sources does not, on its own, validate whether the existing sensor data is accurate and timely enough. Therefore, the method that best addresses the stated requirements is performing a data quality assessment focusing on precision and latency.

### **Question: 90**

A healthcare provider is operationalizing an AI tool to assist in diagnostic processes. To ensure robust model governance, they need to address data privacy and ethical considerations.

What should the project manager do?

- A. Implement a multi-tiered DCA framework
- B. Establish a comprehensive DPMS protocol
- C. Set up a continuous CUE review process
- D. Develop a detailed privacy impact assessment (PIA)

**Answer: D**

**Explanation:**

Within PMI-CPMAI-aligned responsible AI practices, deploying AI in healthcare diagnostics requires explicit attention to data privacy, regulatory compliance, and ethical impact on patients. A Privacy Impact Assessment (PIA) is a structured method used to systematically identify, analyze, and mitigate privacy and ethical risks associated with data processing and automated decisions. For an operationalized diagnostic AI tool, a PIA helps the project manager map data flows (collection, storage, use, and sharing), determine the legal basis for processing sensitive health data, highlight potential harms (misuse, breaches, inappropriate access), and define safeguards such as minimization, anonymization, consent handling, and access controls.

PMI-CP-consistent AI governance emphasizes documenting how data is used and how decisions affect individuals, as well as demonstrating that privacy and ethical considerations have been proactively assessed before and during operation.

While internal frameworks or protocols (such as generic monitoring or controls) may help manage performance and operations, they do not replace a formal, focused assessment of privacy risk and ethical implications. A PIA provides concrete evidence that the organization has anticipated the effect of the AI system on patient rights, confidentiality, and trust, making it the most suitable action in this context. Therefore, the project manager should develop a detailed privacy impact assessment (PIA).

## **Question: 91**

A government project plans to implement an AI-based fraud detection system and the project team needs to define the success criteria. They identified potential improvements in detection accuracy, reduction in investigation time, and cost savings as key performance indicators (KPIs). However, they are unsure how to effectively quantify these KPIs.

Which two approaches should be used? (Choose 2)

- A. Rely on only qualitative feedback from stakeholders
- B. Implement a continuous performance monitoring system
- C. Use random benchmarks without industry comparison
- D. Establish a baseline using historical data comparisons
- E. Set fixed performance targets based on theoretical models

## Answer: B, D

### Explanation:

For an AI-based fraud detection system, PMI-CPMAI-aligned guidance on benefits realization and performance management stresses that success metrics must be quantified against a clear baseline and monitored continuously over time. To properly define and measure KPIs such as detection accuracy, reduced investigation time, and cost savings, the project team should first establish a baseline using historical data comparisons (D). That means analyzing historical fraud cases, prior detection rates, average investigation duration, and historical financial losses to understand “pre-AI” performance. This provides a reference point against which improvements can be measured in a verifiable way.

In addition, PMI-CPMAI emphasizes continuous performance monitoring (B) as part of AI lifecycle governance. Fraud patterns, transaction volumes, and user behavior evolve, so model performance relative to KPIs must be tracked on an ongoing basis using dashboards and periodic evaluations. This supports early detection of performance degradation, allows recalibration of thresholds, and validates that business benefits (e.g., decreased losses, reduced workload) are being sustained.

Relying only on qualitative feedback, random benchmarks, or purely theoretical targets does not meet PMI-CPMAI expectations for evidence-based measurement and governance. Therefore, the two appropriate approaches are: implementing a continuous performance monitoring system (B) and establishing a baseline using historical data comparisons (D).

## Question: 92

A healthcare provider plans to deploy an AI system to predict patient readmissions. The project manager needs to conduct a risk assessment to ensure patient safety and data integrity.

What is an effective method to help ensure the AI system adheres to ethical standards?

- A. Using an explainability framework
- B. Conducting a stakeholder impact analysis
- C. Performing continuous monitoring and auditing
- D. Implementing a data encryption protocol

## Answer: A

### Explanation:

According to the PMI Certified Professional in Managing AI (PMI-CPMAI) framework, ensuring that an AI system adheres to ethical standards—particularly in high-risk domains such as healthcare— requires establishing mechanisms that promote transparency, accountability, fairness, and human interpretability. PMI-CPMAI highlights that one of the most effective methods to accomplish this is the use of an explainability framework.

PMI’s Responsible AI guidance states that “ethical assurance requires that stakeholders can understand how an AI model

arrives at its decisions, especially when outcomes impact human safety or well-being.” Explainability frameworks provide clear, interpretable insights into model reasoning, feature importance, and decision pathways. This transparency supports multiple ethical principles:

- fairness (by identifying potential biases),
- accountability (by documenting the basis of predictions),
- trustworthiness (by enabling clinicians to validate or override predictions), and
- patient safety (by ensuring decisions are understandable and clinically appropriate).

PMI-CPMAI emphasizes that explainability is especially critical in healthcare because medical decisions must be defensible, reviewable, and aligned with clinical judgment. The guidance states: “Opaque AI systems pose elevated ethical risk in regulated environments; explainable AI reduces this risk by enabling practitioners to interrogate and validate model outputs.”

While the other options support overall risk management, they do not directly ensure ethical adherence:

- B. Stakeholder impact analysis identifies affected parties but does not ensure ethical behavior.
- C. Continuous monitoring supports safety and performance but does not inherently make decisions explainable.
- D. Data encryption protects confidentiality but does not address ethical reasoning or fairness.

Thus, the method most directly aligned with ensuring ethical standards during risk assessment is A. Using an explainability framework.

### Question: 93

In an aerospace manufacturing project, engineers are preparing data to train an AI system for predictive maintenance. They need to transform the data from multiple sensors and ensure it is consistent and accurate before building the model.

What should the project manager do to handle the inconsistencies?

- A. Enhance the current data with additional sources
- B. Use data augmentation techniques to fill the gaps
- C. Implement a validation protocol for sensor data
- D. Identify and reconcile conflicting data points

**Answer: C, D**

**Explanation:**

In the PMI-CPMAI view of the AI data lifecycle, the first responsibility when dealing with inconsistent, multi-source data is to detect, understand, and reconcile conflicting data points before any enrichment, augmentation, or modeling. In

predictive maintenance scenarios, sensor feeds may differ in units, timestamps, calibration, or reporting logic. If these inconsistencies are not resolved, they propagate into the model, creating unreliable predictions and operational risk. PMI-CPMAI-aligned practices emphasise a structured data quality management approach: profiling the data, identifying mismatches and anomalies, and then reconciling or correcting them using agreed business rules and domain expertise. This may include harmonizing units, resolving duplicate or contradictory records, aligning timestamps, and deciding which source is authoritative in case of conflicts. Only after this reconciliation step should teams consider enhancement with additional data sources or more advanced techniques.

Options A and B (enhancement and augmentation) are secondary steps that can only add value once the core dataset is internally consistent. Option C (implementing a validation protocol) is important for ongoing quality control, but the question focuses on what to do now to handle existing inconsistencies. Therefore, the most appropriate immediate action for the project manager is to identify and reconcile conflicting data points so the training data is accurate, consistent, and trustworthy for the AI model.

### Question: 94

A project team is currently evaluating an AI solution. They need to ensure the machine learning model provides the expected business benefits.

Which critical factor should the project manager assess?

- A. Maximization of model interpretability
- B. Alignment with key performance indicators
- C. Minimization of human intervention
- D. Volume of training data

**Answer: B**

### Explanation:

PMI-CPMAI consistently stresses that AI initiatives must be evaluated not just on technical metrics but on business value and outcomes. To ensure the machine learning model provides the expected business benefits, the project manager must verify that model performance is directly aligned with key performance indicators (KPIs) that were defined with stakeholders earlier in the project.

Within the PMI-CPMAI structure, KPIs link the problem statement and objectives (e.g., cost reduction, increased revenue, fewer failures, faster processing) to measurable AI outputs. This means: selecting the right performance metrics, setting thresholds, and confirming that improvements in those metrics correlate with real-world business gains. For example, in a financial, operational, or customer-focused AI system, the model's precision, recall, or uplift must translate into concrete improvements such as reduced churn, fewer false alerts, more accurate predictions, or improved customer

satisfaction.

Maximizing interpretability (A), minimizing human intervention (C), or increasing training data volume (D) may be beneficial in some contexts, but they are means, not ends. PMI-CPMAI guidance is clear that decision-makers care primarily about whether the AI solution advances strategic objectives and measurable KPIs. Therefore, the critical factor the project manager should assess is the alignment of the AI solution's performance with key performance indicators (KPIs).

### Question: 95

An IT services company is integrating an AI solution to automate its customer service functions. The integration team is facing resistance from the customer's employees.

Which action should the project manager perform to manage this risk?

- A. Conduct all-hands meetings on the benefits
- B. Offer the option to join another team
- C. Implement a gradual phased rollout
- D. Mandate immediate transition from management

**Answer: C**

#### Explanation:

PMI-CPMAI emphasizes that AI projects are as much about organizational change and human factors as they are about technology. Resistance from employees—especially when AI is introduced into customer service—is a classic change management risk. The guidance encourages project managers to manage this risk by using incremental, controlled adoption rather than abrupt, forced transitions.

A gradual phased rollout allows employees to adapt over time: starting with pilots or limited use cases, gathering feedback, refining workflows, and proving value in a lower-risk environment. This

approach builds trust, reduces anxiety, and offers opportunities for training and role redefinition. It also enables the project team to monitor impacts on workload, quality, and customer satisfaction, adjusting both the AI system and supporting processes as needed.

Option A (all-hands meetings) is useful for communication but, by itself, does not structurally reduce the risk of resistance. Option B (offering to join another team) may be perceived as punitive or threatening and does not address the root cause. Option D (mandating immediate transition) is directly contrary to PMI-CPMAI's emphasis on stakeholder engagement, buy-in, and iterative adoption. Thus, the most appropriate action to manage this risk is to implement a gradual phased rollout of the AI solution, allowing employees to transition in a supported and controlled way.

### Question: 96

A manufacturing firm is planning to implement a network of intelligent machines to increase efficiency on the assembly line. The machines are equipped with advanced AI capabilities including precision assembly, quality control for predictive maintenance, and real-time data analysis. The intelligent machines should enhance operational efficiency, reduce downtime, and improve product quality. There needs to be seamless communication between the machines and existing systems, compliance with industry regulations, and a managed transition for the workforce.

What is a beneficial outcome of using intelligent machines in this environment?

- A. Scalability and flexibility in production
- B. Over-reliance on technology leading to skill degradation
- C. Higher investment costs without immediate returns
- D. Increased vulnerability to cybersecurity threats

**Answer: A**

#### Explanation:

In PMI-CPMAI's framing of AI-enabled automation and "intelligent machines," one of the central benefits highlighted for manufacturing environments is improved scalability and flexibility in production. When intelligent machines are equipped with AI for precision assembly, real-time quality control, predictive maintenance, and data-driven optimization, they can dynamically adjust to changes in demand, product variants, and operating conditions without requiring extensive reconfiguration.

This leads to several positive outcomes consistent with the scenario: higher throughput, reduced unplanned downtime, adaptive scheduling, and the ability to rapidly retool processes for new product lines or custom configurations. These capabilities directly support strategic goals such as

operational efficiency, responsiveness, and quality improvement—key value drivers in an AI-enabled factory.

Options B, C, and D describe risks or potential downsides of intelligent machines, not beneficial outcomes: over-reliance and skill degradation (B), high upfront investment without returns (C), and increased cybersecurity vulnerability (D) are all concerns that PMI-CPMAI suggests addressing through governance, training, risk management, and security controls.

However, they are not the intended advantages. The beneficial, value-aligned outcome in this context is clearly scalability and flexibility in production, making option A the correct choice.

### Question: 97

During the initial phase of an AI project, the team is assessing project success criteria. The project manager discovers that the project may be violating some compliance rules.

What problem describes the issue the project team is facing?

- A. Lack of clarity on the project's business objective
- B. Inadequate separation of cognitive and noncognitive software

- C. Absence of a clear AI go/no-go assessment
- D. Failure to identify applicable data regulations early on

**Answer: D**

**Explanation:**

In the PMI-CPMAI view of AI project governance, one of the earliest and most critical responsibilities in the lifecycle is the identification of all applicable legal, regulatory, and policy requirements, especially those related to data usage, storage, transfer, and retention. When a project reaches the stage of defining success criteria and only then discovers that it may be violating compliance rules, this is characterized as a failure to identify data and AI-related regulations early in the project.

PMI-CPMAI stresses that regulatory scoping must be done in the initiation and planning phases, before detailed design and implementation, because regulations fundamentally constrain what data can be used, how it can be processed, and which AI techniques are permissible. Missing this step leads to rework, redesign, and in some cases project stoppage. It is not primarily a problem of unclear business objectives, nor of separating cognitive vs noncognitive components, nor simply a missing go/no-go gate. Instead, the core issue is that the team did not perform a sufficiently thorough regulatory and compliance assessment at the outset, so non-compliant practices surfaced only later. Hence, the problem is best described as failure to identify applicable data regulations early on.

### **Question: 98**

A project team is tasked with ensuring all AI-related decisions and actions are documented comprehensively for future auditing purposes. They need to track the reasons for specific AI choices, their impacts, and any issues encountered during the implementation.

What is represented in this situation?

- A. Operational efficiency
- B. Strategic alignment
- C. Compliance management
- D. Transparency

**Answer: D**

**Explanation:**

PMI-CPMAI places special emphasis on transparency and traceability as pillars of responsible AI. Transparency is defined not only as making AI behavior understandable, but also as maintaining clear documentation of decisions, rationales, configurations, changes, and incidents throughout the AI lifecycle. When a project team explicitly works to record why certain AI choices were made, what impacts they had, and which issues arose—specifically for future auditing and accountability—they are implementing transparency practices.

The framework explains that transparent AI management requires establishing audit trails: who approved which model, why a particular dataset was selected, which hyperparameters or thresholds were used, what risks were identified, and

how they were mitigated. This documentation later supports internal and external audits, regulatory inquiries, and stakeholder questions. While such records contribute to compliance management and can indirectly support strategic alignment and operational efficiency, the concept being directly represented in the scenario is transparency—the deliberate effort to make AI decisions and their consequences visible, explainable, and reviewable.

Therefore, the situation described—comprehensive documentation of decisions, impacts, and issues for auditability—is best characterized as transparency rather than general compliance or efficiency.

### Question: 99

A healthcare project manager is evaluating whether to implement an AI-powered diagnostic tool.

The initial cost is US\$500,000 with an expected return on investment (ROI) of 15% within the first year. The project needs to satisfy multiple stakeholders including hospital administrators and medical staff.

Which method will maximize a positive ROI for the AI implementation?

- A. Ensuring all AI and non-AI components are integrated seamlessly
- B. Acquiring alternatives to the AI solution as a contingency plan
- C. Monitoring AI model performance against key performance indicators
- D. Seeking verbal commitments from interested parties at each project phase

**Answer: C**

**Explanation:**

In PMI-CPMAI, realizing a positive ROI from AI is not just about an attractive business case at the start; it depends on continuous monitoring of value delivery against clearly defined performance and outcome metrics. For a healthcare AI diagnostic tool with a specified ROI target (15% in the first year) and multiple stakeholders (administrators and clinicians), the project manager must ensure the tool is actually achieving the predicted improvements in practice.

The framework recommends defining key performance indicators (KPIs) aligned to the value proposition—such as diagnostic accuracy for specific conditions, time-to-diagnosis, reduction in unnecessary tests, throughput, and impact on patient outcomes—and then monitoring the AI model's performance against those KPIs over time. By tracking these metrics, the team can identify drifts, bottlenecks, or workflow issues and take corrective action (retraining, process changes, configuration updates) to protect and maximize ROI.

Seamless integration (option A) is important but is a means, not the main mechanism to ensure ROI is realized.

Contingency solutions and verbal commitments do not directly drive financial outcomes. PMI-CPMAI's value-focus makes ongoing performance monitoring against KPIs the most effective method to maximize and protect the expected ROI.

### Question: 100

A project manager is reviewing the performance of an AI model used for predictive analytics in sales. The model's accuracy is within acceptable limits; however, its precision is low.

What is the cause for the precision issue?

- A. The model is underfitting the validation data
- B. The training data is unbalanced
- C. The model is overfitting the training data
- D. The feature selection process is flawed

### Answer: B

Explanation:

In AI classification problems, PMI-CPMAI highlights the importance of understanding multiple performance metrics—accuracy, precision, recall, F1, and others—rather than relying on accuracy alone. Precision measures, out of all predicted positive cases, how many are actually positive. Low precision means a high proportion of false positives. It is possible for a model to have acceptable overall accuracy while still having low precision, especially when the underlying data is class-imbalanced.

When the training data is unbalanced—typically many more negative than positive cases—the model can achieve high accuracy simply by classifying most instances as the majority class. However, its behavior on the minority (often the more important) class can be poor, leading either to many false positives or false negatives, depending on thresholds and training dynamics. PMI-CPMAI treats data distribution analysis and class balance as core elements of data quality assessment because skewed data often manifests as misaligned metrics: accuracy looks fine, while precision or recall is deficient.

Underfitting or overfitting usually depress both accuracy and other metrics and would more likely show broader performance problems. Flawed feature selection can harm performance generally, but the classic and most direct cause tied to the pattern “accuracy OK, precision low” in exam-style reasoning is unbalanced training data, making option B the best explanation.

### Question: 101

A telecommunications company is adopting an AI-based customer service chatbot. They are concerned about potential quality issues affecting customer satisfaction.

What should the project manager do?

- A. Develop a comprehensive quality assurance plan for the chatbot
- B. Initiate a beta testing phase with a small group of customers
- C. Set up a dedicated team to monitor and address quality issues

D. Conduct regular performance reviews and updates based on customer feedback

**Answer: A**

**Explanation:**

From a PMI-CPMAI perspective, concerns about quality and customer satisfaction must be addressed first at the planning level, not only reactively once the chatbot is live. For AI-enabled services such as a customer service chatbot, the project manager is expected to define a formal quality management approach that covers: what “quality” means for this AI system (e.g., accuracy of responses, relevance, tone, response time), how it will be measured, and which controls and tests will be

applied throughout the lifecycle.

A comprehensive quality assurance (QA) plan typically includes: clearly defined quality criteria and success metrics, test strategies (unit tests, conversation flow tests, usability tests, bias checks), acceptance thresholds, evaluation datasets, user journey scenarios, procedures for handling low- confidence outputs, and mechanisms for ongoing monitoring once in production. PMI-CPMAI guidance on AI lifecycle management stresses that these elements must be designed before wide rollout so that risks to customer experience are proactively controlled rather than discovered ad hoc.

Actions like beta testing, setting up monitoring teams, or doing regular performance reviews are valuable, but they are individual techniques that should exist inside an overarching QA framework. The best initial step that a project manager should take, given generalized concern about potential quality issues, is therefore to develop a comprehensive quality assurance plan for the chatbot.

### **Question: 102**

A government agency is implementing an AI-powered tool to enhance data security through anomaly detection. The project manager is assembling the team. To identify the subject matter experts (SMEs) who can provide the best insights and contributions to this project, the project manager needs to consider their experience and expertise in various technical domains.

Which method will help identify the qualified data SMEs?

- A. Conducting interviews to assess their knowledge in anomaly detection
- B. Examining their expertise in neural network calibration and hyperparameter tuning
- C. Assessing proficiency in developing generative adversarial networks (GANs) and experience in successfully generating synthetic data
- D. Evaluating expertise with existing data architectures and their ability to optimize databases

**Answer: D**

**Explanation:**

PMI-CPMAI distinguishes clearly between different types of expertise needed in an AI project: AI/ML specialists, data specialists (data SMEs), domain SMEs, and security or infrastructure experts. When the question specifically asks about data subject matter experts (SMEs), the focus is on people who deeply understand how the organization's data is structured, stored, accessed, and governed.

For an AI-powered anomaly detection tool in a government data security context, qualified data SMEs are those who know the existing data architectures, logging systems, data flows, schemas, and constraints. They can explain where relevant data resides (e.g., network logs, access records, system events), how it is currently managed and protected, and what limitations or quality issues may affect AI performance. Evaluating candidates on their expertise with existing data architectures and their ability to optimize databases directly targets this competency.

Knowledge of neural networks, hyperparameter tuning, or GANs is more characteristic of AI/ML engineers, not data SMEs. PMI-CPMAI guidance emphasizes that AI success depends on the right mix of roles, and data SMEs are vital for defining data requirements, ensuring data suitability, and aligning with security and governance standards. Therefore, the method that best identifies the appropriate data SMEs for this anomaly detection project is to evaluate their expertise with current data architectures and their ability to optimize and manage those data systems.