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練習問題

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1年間無料アップデート

Exam : PMI-CPMAI

**Title : PMI Certified Professional in
Managing AI**

Version : DEMO

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.

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.

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 e-government 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.

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.

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.