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CIA TRIAD WRITE-UP

The CIA Triad is a foundational concept in cybersecurity, representing Confidentiality, Integrity, and Availability. Confidentiality ensures that sensitive data is only accessible to authorized individuals. For example, personal health records should only be viewed by the patient and medical staff. Integrity guarantees that data is accurate and unaltered, protecting it from unauthorized modifications. If a financial report is tampered with, it can lead to major errors in decision-making. Availability ensures that data and systems are accessible when needed, such as employees being able to access company databases during business hours (Chai, 2022).

Two concepts often confused in cybersecurity are Authentication and Authorization**.** Authentication is the process of verifying a user's identity, usually through a username and password, biometrics, or multi-factor authentication. For example, logging into your email requires proving who you are. Authorization, on the other hand, determines what an authenticated user is allowed to do. Using the same example, even after logging in, a regular employee may not have authorization to access HR payroll files.

Understanding the CIA Triad along with authentication and authorization is crucial because it ensures that systems protect sensitive information while allowing proper access. Organizations that implement these principles effectively reduce the risk of data breaches and maintain trust with users and stakeholders.

References:

Chai, R. (2022). *Cybersecurity Fundamentals*. Chai Article

(Links to an external site.)