

### Gerkeil Owens CYSE200T- CIA Triad Assignment 9/11/2023

Although this was stated in our class reading I found another article by (Fruhlinger) where he stated that “Unlike many foundational concepts in infosec, the CIA triad doesn't seem to have a single creator or proponent; rather, it emerged over time as an article of wisdom among information security pros. Ben Miller, a VP at cybersecurity firm Dragos, traces back early mentions of the three components of the triad in a blog post; he thinks the concept of confidentiality in computer science was formalized in a 1976 U.S. Air Force study, and the idea of integrity was laid out in a 1987 paper that recognized that commercial computing in particular had specific needs around accounting records that required a focus on data correctness.”

After reading the article you provided for us and doing some more of my own research on the CIA triad in the context of the security of information. The term "CIA Triad" refers to the three guiding principles that serve as a foundation for protecting data and systems inside of an organization. Confidentiality, Integrity, and Availability are abbreviated as CIA. These concepts are widely accepted in the world of cybersecurity and are thought to be essential for ensuring the security and dependability of information and information systems. Also, while reading the article that was provided I noticed that according to (Chai) “Although elements of the triad are three of the most fundamental and crucial cybersecurity needs, experts believe the CIA triad needs an upgrade to stay effective.”

Wesley Chai stating this in the article just shows how important it is to stay ahead of the curve and ahead of the rising technological threats. As time goes on you have to be aware of the constant threats that arrive because as technology advances the more you will have to update your technology to keep away new threats and to protect your information whether it be electrical data or your personal information. If not it would not be a lot of

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people's information out there more than it already is, more hacks occurring, and more people being affected by this because of how much we use technology in this day and age. Which is why I will be stating the importance of each triad pillar and how each positively contributes to our everyday lives.

Confidentiality is the process of preventing unauthorized access to or disclosure of sensitive information. It makes sure that only customers, owners, and employees of a business can access this information with the proper permissions, while also accessing certain information or resources. By prohibiting unauthorized parties from getting or exploiting sensitive information, this principle tries to reduce the danger of identity theft, financial fraud, and trade secret compromise, among other concerns that may arise.

Maintaining the dependability, accuracy, and totality of data and resources is at the heart and main purpose of integrity. Throughout its existence, it makes sure that the information is accurate and trustworthy. The integrity principle aims to stop the illegal addition of information or the unlawful deletion of information. In our daily activities, we rely on the reliability of numerous systems and services. For instance, in order to ensure a fair and reliable transaction while on Amazon, we rely on the accuracy of product descriptions, prices, and payment information. It's crucial to keep things honest if you want to avoid fraud, manipulation, and mistakes. Organizations that uphold data integrity may depend on their information's correctness, secureness, and consistency, which is essential for decision-making processes, upholding the business to great standards, and upholding customer trust.

The principle of availability refers to making sure that data and resources are available and usable when required. It guarantees uninterrupted access for authorized users to the necessary data or systems. For example, We expect that our cellphones, internet services, laptops, and online platforms will always be accessible and responsive when we need them to make calls, do work, research, and different activities in our everyday life. For a

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company's continuity and operational effectiveness, availability is essential. Critical systems' downtime or unavailability can lead to financial losses, decreased productivity, and reputational harm for a business.

According to ("What Is the CIA Triad?") The CIA Triad is significant because it offers businesses a thorough framework for evaluating and addressing the security requirements of their data and systems without being a security expert. Organizations may reduce risks, preserve sensitive information, and keep customers' trust by thinking about and putting into place safeguards for confidentiality, integrity, and availability. Additionally, the CIA Triad aids businesses with adhering to a variety of industry and governmental information security standards. Examples of frameworks that require the installation of procedures to protect sensitive data's confidentiality, integrity, and availability of our everyday lives include the Payment Card Industry Data Security Standard (PCI DSS) and the Health Insurance Portability and Accountability Act (HIPAA).

In conclusion, The CIA Triad, which focuses on preserving data's confidentiality, integrity, and availability, is a fundamental idea in information security. The CIA Triad has to be improved in order for it to function more successfully and efficiently. Strong access controls, data encryption, and employee data protection training all help to increase confidentiality. Data validation tests, version control, and routine data backups all improve integrity. Implementing redundancy, disaster recovery strategies, and incident response procedures improves availability.

The CIA Triad's continued efficacy depends on routinely reviewing and improving security measures. Organizations may effectively secure their information assets and maintain a strong security posture by prioritizing data classification, adopting suitable security measures, hiring professionals to keep up with developing threats. In general, modernizing the CIA Triad necessitates a thorough and proactive approach to information security, taking into account the particular requirements and

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threats of each company. Organizations can reduce risks and protect their data from illegal access, manipulation, and loss by regularly evaluating and enhancing security measures.

#### Works Cited

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