

The CIA Triad

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According to Chai (2022) the abbreviation for CIA triad stands for “Confidentiality, integrity and availability, ... , is a model designed to guide policies for information security within an organization.” While these concepts are strong, there are people who believe that this model should be updated due to the growth of technology which is causing more trouble than it did when this framework was created. However, these three components are essential for ensuring the security of information.

Confidentiality refers to the protection of information from individuals who don't have access. This means that the data is entered in encryptions and secure channels to prevent any security breaches or unauthorized individuals from accessing this viable information.

Integrity, this refers to the protection of the state of the information. This maintains consistency, accuracy, and reliability throughout its lifecycle. Meaning that this objective prevents users from modifying or destroying necessary data. Users implement this objective by using tools such as data backups and hash functions which convert digital data not a fixed number of characters.

Availability, this ensures that data will always be accessible to the user whenever needed. Meaning, this function will make sure there are no service disruptions and system failures that would mess with the availability of data needed.

When it comes to authentication and authorization they are both crucial in the cybersecurity world, there are many differences between them. Authentication is the act of verifying an individual's identity. There are many different methods and factors that play into this function. Many trusted websites use a method called multi-factor authentication, such as Old Dominion University. The first-time logging into my Old Dominion account, the website asked

me for much information about myself which turned into security questions that would be used in identifying my real identity. This website also made me download an app that would notify me each time a device is logging into my account. Then there's authorization, this is the act of identifying what an individual is allowed to do. For example, as previously mentioned, my multi-factor authentication app notifies me every time someone is logging on to my account. However, I could accept or decline access using my facial identification for the device to log on to my account. While they may have the credentials to log on, since I hold the authorization to the account, only I can allow access.

In conclusion, the CIA triad offers an amazing framework that guides individuals on how to understand and implement security into a system. Confidentiality is the process of helping data stay private and protected, Integrity is the process of ensuring this data's reliability and accuracy, and availability ensures that this data will always be available to the user. Authentication is the focus of confirming the identity of these users, while authorization deals with determining who's able to access what data. With the help of the framework and these concepts, many companies will succeed in protecting their valuable information.

References:

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