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**CHRIS NJUGUNA KIMANI**

**NETWORK SYSTEM & ADMINISTRATION ASSIGNMENT**

**DIFFERENCES AND SIMILARITIES BETWEEN THE OSI MODEL AND THE TCP/IP MODEL**

The Open Systems Interconnection (OSI) model and the Transmission Control Protocol/Internet Protocol (TCP/IP) model are used to describe how network protocols interact and work together to provide network services and facilitate communication across a network. Both models divide the networking process into layers, each of which performs a specific set of functions

**Similarities**:

* Both models have a layered structure – both models are divided into various layers each performing a specific function.
* Both models use protocols to perform their functions in between layers- both models employ the use of certain protocols to perform their functions.
* Both models utilize data encapsulation- this involves adding headers or trailers to data at each layer. Encapsulation ensures that data is properly formatted for transmission and reception purposes.

**Differences:**

1. Number of Layers:

OSI Model consists of seven distinct layers, providing a subtle view of network functions. These layers are the Physical, Data Link, Network, Transport, Session, Presentation, and Application layers while TCP/IP Model has four layers, which are the Network Interface, Internet, Transport, and Application layers.

1. Origin:

OSI Model was developed by the International Organization for Standardization (ISO) in the 1970s, while the TCP/IP Model was developed by the U.S. Department of Defense in the 1970s, the TCP/IP model was designed for the ARPANET.

1. Flexibility;

The OSI model defines seven strict layers with clear boundaries, each handling a specific aspect of networking. These strict layered compartments make it more rigid and less adaptable to changing real-world needs. While TCP/IP is designed with flexibility with its four layers being more general, abstract and having loose boundaries between them.

1. Scope of cover:

OSI Model was designed to be universal and applicable to all types of network communication, including those beyond the internet while TCP/IP Model was specifically created for the internet and is optimized for its requirements.