



Transaction

#BLOCKCHAIN
#TRANSACTION
#TXN

A transaction (Txn) is simply an agreement, communication, or movement carried out between two or more participants (buyer and seller, or a group of parties) to exchange an asset for some form of compensation. In terms of the blockchain, a transaction is every record stored within a block on the blockchain.

What is a txn?

A transaction is generally an economic exchange of assets of value between two or more parties. Financial transactions involve an exchange of an asset for some form of payment.

Transactions are typically recorded on a company's ledger in order to track the life of an asset, the value of an asset, and currency flows for the firm.

Financial transactions are a very common type of transaction, which is why the blockchain is popular with financial services companies like banks.

Are there txn fees?

Sometimes there are, but it depends on the type of blockchain. When dealing with currency-driven chains such as Ethereum or Bitcoin, there is an extra portion of cryptocurrency included to pay network participants for confirming the transaction (known as miners). Occasionally there is a portion of a txn not picked up by any participants, returned to the issuer, or picked up by miners.

Other times, an issuer may want their txn to take precedence and will 'tip' the miners to process their transaction quicker.

Is there a receipt?

The main 'receipt' a user will receive on a blockchain is the specific hash of their txn. The cryptographic hash, which cannot be altered, records the details of the transaction and includes a timestamp to validate the exchange.

What is a transaction database?

A blockchain is essentially a transaction database shared by all nodes participating in a network based on the blockchain protocol.

A record of transactions

Transactions are sent between participants on a network, usually from a digital wallet (e-wallet) and are digitally signed for security. Everyone on the network knows about a transaction and the entire history of a transaction can be traced back to its point of initiation. In actuality, there's no such thing as Bitcoins (BTC) or other cryptocurrencies, but merely a record of the cryptocurrency transactions. In this way, the blockchain is truly a ledger.

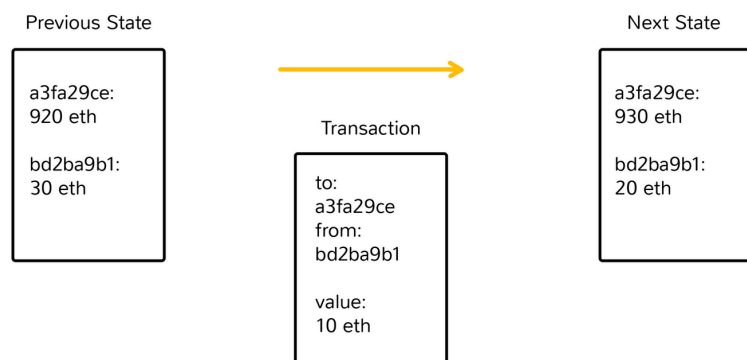
What does a txn look like?

Using Bitcoin as an example, if Alice sends Bob some BTC, the transaction will have three pieces of information:

- **An input:** The signature of the current owner of the asset using the private key of their key pair
- **An amount:** The amount of BTC that Alice is sending to Bob
- **An output:** The address of the recipient of the transacted amount (Bob's Bitcoin address, a mathematical representation of his public key)

Transactions are more like currencies

The Bitcoin blockchain considers transactions as an exchange of cryptocurrency between participants, however, on some blockchains like Ethereum, all activities on-chain are considered transactions. For example, if Alice writes code enabling participants on an Ethereum network to store the votes of the participants, every vote cast and recorded would be considered a transaction within the network. The ledger itself can also be programmed to trigger certain functionality (transactions) automatically via smart contracts.



An example of an exchange of Ether on Ethereum