A relational database is a database that forms relations between tables that store data on specific entities. A relational database uses a strict schema for each table, such as an ID number, Name, Gender, and Race for the columns of one table, and an ID number, Phone number, Address, and Email Address on another table. These tables can then be used in combination because of their relationships to collate the information into the desired format showing any part or all of the information about a specific person in the database. A relational database takes longer to set up initially, but it is easier to maintain down the road. For smaller projects, relational databases are fast when being manipulated but slow considerably as they become larger.

A non-relational database is easier to set up when you have large amounts of data but are more challenging to maintain. A non-relational database depends on the use of keys to access and organize data because they are not necessarily stored in tables but stored in collections. The collections of a non-relational database do not adhere to schemas, so they may be organized in any way that is needed. The major drawback to the schema-less route is that data duplication occurs because it is stored in multiple locations. Non-relational databases are useful for fast queries of large amounts of data.

Whether you need to go with a relational or non-relational database depends on the type of data you are working with, the amount of data you are working with, and the need for scalability. Relational databases can scale vertically easily, but there is a limit dependant upon the hardware; however, it is challenging, if not impossible, for a relational database to scale horizontally. Quite often, you will use both relational and non-relational databases in conjunction.