What are the advantages and disadvantages of relational databases?

**Advantages**

* **Security** – With multiple tables in use, certain tables can be made confidential with a username and password. This way only authorized users will be allowed to work on threat specific table. This is great for transactional databases. Atomic, Consistent, Isolated, Durable (A.C.I.D.) transactions. Secure interaction, not allowing outside sources to read the information without the database.
* **Accessibility** – A lack of aggregate structure allows relational databases to support accessing data in a different way, and they offer a convenient way that allows data to be looked at differently from the way it is stored. This ‘way’ is the “VIEW” feature. Which is a handy form of encapsulation
* **Prevents data redundancy** – Relational database systems use tables of rows and columns with all specific data listed in the columns. This information is referenced every time any specific data is needed. Therefore, no information is repeated, it is simply re-referenced.
* **Simplicity** – A relational database is much simpler than other types of network models, which require complex queries. With relational databases a simple SQL query is sufficient.
* **Multiuser** – A relational database allows multiple users to access the database at the same time. Additionally, even if the data is updated, users can access them easily, which reduces crashes happening from multiple access points.

**Disadvantage**

* **Cost** – The cost involved in setting up a new relational database is exceptionally large. The expenses include the required hardware to build the central system, the software licenses, and the professional technician(s) required to maintain the system.
* **Performance** – The performance of relational database systems depends on the number of tables is holds. More tables present require more time to respond to queries. Also, too much data doesn’t only slow down the machine, it also makes it very complex to find matching information. Therefore, the relational database is considered as the slower choice.
* **Physical Storage** – Relational database needs large amounts of physical storage to store all tables. Every operation requires information from separate physical storage, which require proper optimization to allow targeted applications access to maximum physical memory.
* **Complexity** – Even though the structure of the relational database is made up of simple tables of rows and columns, too much data will create complications due to overloaded physical drives as well as virtual memory.
* **Information Loss** – With large companies using a vast number of databases, the risk of data loss increases greatly.
* **Structure Limitations** – Once a schema has been defined, the set relational database cannot accommodate more information. If extra data is provided, it will result in the loss of that un-structured data.

**Works Cited:**

[6 Advantages and Disadvantages of Relational Database | Limitations & Benefits of Relational Database (hitechwhizz.com)](https://www.hitechwhizz.com/2021/04/6-advantages-and-disadvantages-limitations-benefits-of-relational-database.html)

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