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| **OLTP** | **OLAP** |
| **Characteristics** | Handles a large number of small transactions | Handles large volumes of data with complex queries |
| **Query types** | Simple standardized queries | Complex queries |
| **Operations** | Based on INSERT, UPDATE, DELETE commands | Based on SELECT commands to aggregate data for reporting |
| **Response time** | Milliseconds | Seconds, minutes, or hours depending on the amount of data to process |
| **Design** | Industry-specific, such as retail, manufacturing, or banking | Subject-specific, such as sales, inventory, or marketing |
| **Source** | Transactions | Aggregated data from transactions |
| **Purpose** | Control and run essential business operations in real time | Plan, solve problems, support decisions, discover hidden insights |
| **Data updates** | Short, fast updates initiated by user | Data periodically refreshed with scheduled, long-running batch jobs |
| **Space requirements** | Generally small if historical data is archived | Generally large due to aggregating large datasets |
| **Backup and recovery** | Regular backups required to ensure business continuity and meet legal and governance requirements | Lost data can be reloaded from OLTP database as needed in lieu of regular backups |
| **Productivity** | Increases productivity of end users | Increases productivity of business managers, data analysts, and executives |
| **Data view** | Lists day-to-day business transactions | Multi-dimensional view of enterprise data |
| **User examples** | Customer-facing personnel, clerks, online shoppers | Knowledge workers such as data analysts, business analysts, and executives |
| **Database design** | Normalized databases for efficiency | Denormalized databases for analysis |