BIZ. Intelligence

↳ Normalize tables - 3F
↳ ER diagrams ↔ Relational tables

C. - Create
R - Read
U - Update
D - Delete ops

& write optimized queries using SQL.

online, Real time

↳ A ~~&~~ → Atomicity
C → Consistency
I → ~~Integ~~. Isolation
D → Durable.

(OLTP. OLAP)

Index ⇒ Read data from the table.

Data Redundancy ⇒ OLAP.

BI → Competitive Advantage

→ Retain Customers

↳ Relevant Product Recomm^n

↳ operation Efficiency

BI

use of facts & figures ⇒ Set of Concept & Methodologies to improve decision making

* Correctness → Bank A/c bal.

Consistency → "Single version of Truth".

→ All system → same info.

Completeness → Expected Attributes of data.

Timeliness

Metadata ⇒ Data about data → Defines Warehouse

Timestamp - 1

* OLTP → Entry, storage & Retrieval.

→ Search for Student record based on roll no
→ Search for product desc. & unit price

↳ Biz task, Current data
Not for decision making

* OLAP

↳ Dimensional form rather than relational form
↳ OLAP → Deals with Multidimensional data.
↳ Views data in the form of cube.

OLAP → cube → Data structure → Faster analysis.
↳ frequent Insert & Update.
Reporting Sales revenue

Impact on customers ? If price ↑ by 2%

→ Data Extracted from various sources & transf
→ planning, budgeting, forecasting, Decision making
→ Historical data ⇒ Summarization & Aggregation
→ Periodic Update to Refresh DW.

* Data Warehouse 1970

↳ Stores Data.

ETL ⇒ Extract, Transform & Load.

Data → Aggregated & Summarized.

DW → single versions of Truth → Consistency.

→ stores historical data.

→ one can retrieve.

William Inmon ⇒ → Subject Oriented (Sales), Rev

Regular updation. → Time variant → historical data

→ Non volatile

→ Integrated. (ETL helps to source files

Decision Making → High