

Advantages of relational model

[Life](#), [Relationships](#)



The relational model would provide Acme Global with a better understanding of the data needs of their organization. A Relational model offers data independence and efficient access. “ The conceptual and external schemas provide independence from physical storage decisions and logical design decisions respectively. ” (Ramakrishnan, 2007) “ The benefits of using the relational model would result in an easy to use, flexible, high performance database at a low cost. ” (Anita, 2010) Therefore, allowing them to participate in the entire design process of the logical construction.

The relational model provides an easy and flexible way of manipulating data with a system that offers:

- o Data independence: Guarantees that the data cannot be redefined or reorganized.
- o Reduced application development time: It will not interrupt the user from accessing the data.
- o Data integrity and security: The view process and the authorization facilities provide access control mechanisms.
- o Data administration: Allowing permissions to be set for each user so that restricted information can be hidden so unauthorized users cannot make changes.

Reduced data storage and redundancy The relational model would provide end users with improved access, by allowing quick answers to ad hoc queries, which reduces the probability of inconsistent data. Acme Global would acquire a firm understanding of the everyday functions of their organization.

Purpose of ER model The purpose of the E-R diagram is to provide an organization with a simple drawing that can be used to describe the organization's data. The E-R model consists of three primary components

- o Entities – Can be a person, place, object, event, or a concept.
- Attribute – Is a property or characteristic of an entity type that is of interest to an

organization.

- o Relationships – Business relationships between entities that are represented by lines and is represented by a diamond connected to the related entities. The ER model would provide Acme Global with a personalized database design that will make it easier to preserve applications, change the way things work, and to add new features.

Essential components of the E-R model

The basic components of the E-R model contain:

- Entity: An entity is a name given to real world concept or item which has physical existence.
- Attributes
- o Relationship: The term defines how two or more entities are related to each other.

The different types of relationships that exist in the ER model are:

- One-to-one relationship: Only one instance of an entity is related to one instance of another entity.
- One-to-many relationship: one instance of first entity is related to many instances of the second entity.
- Many-to-one relationship: Many instances of first entity are related to only one instance of second relationship.
- Many- to-many relationships: many instances of first relationship are related to many instances of another entity.
- o Keys: Are the number of constraints used on data for maintaining integrity and preserving data. The keys supported by the ER model are:
 - Primary key: A primary key reflects an attribute, which will have unique, not null values. The attribute, which acts as the primary key, is underlined in the ER model.
 - Foreign Key: A Primary key of one table relates one to another for functional dependency. The E-R model will demonstrate how all the business requirements are accurately met.

Enhanced ER model “ The Enhanced Entity Relationship Model is a high-level data model”, (Database systems: Design, 2012) which would provide Acme Global with more extensions to the original entities and will result in a more detailed design. It reflects specific properties and constraints that are found in databases that are more detailed. Since Acme Global is a software company, they would benefit by using the enhanced ER model. All details in the E-ER model will help to lay out all the details of data requests such as the type of an attribute, which shows what kind of data will be stored.

Generalization and specialization will also help in describing shared attributes between different entities. The advantage of using the relational model Using the relational model is very simple: Because the data is organized in a two-dimensional table. The tables are easy for a user to change and understand. “ The relational model offers independence of physical data storage and logical database structure, easy access to data, flexibility in design and reduces data storage and redundancy. ”