Discuss the importance of data modeling in NoSQL. When should you embed documents and when should you create links. What considerations do you need to make when creating your NoSQL data model and how will they impact your design.

<https://www.mongodb.com/resources/basics/databases/nosql-explained/data-modeling>

<https://redis.io/blog/nosql-data-modeling/>

Data modeling in NoSQL databases can influence schema flexibility, scalability, and query performance. Choosing to embed documents or to create links to reference other documents may impact these characteristics. Embedding documents is when rather than creating a new document to store some data, that data is nested within the document. For example, a document containing the personal information of a customer might contain an embedded document with address information (street number, apt number, street, city, etc.). This allows all the information related to the customer to be stored in a single document. Alternatively, the customer document could be linked to a different document with the address information instead of storing that data within itself. To determine which design is better, the needs of the database users must be considered.

Embedding documents keeps relevant information all in one place. Using links spreads relevant information across multiple documents in the database. Embedding may speed up query performance since fewer documents will need to be read. Links, however, are better when complex relationships need to be modelled. Embedding too many documents with too much data in a single document can make the database schema messy and redundant, thus creating links is beneficial when the schema includes many-to-many relationships and when the database possesses large datasets. If users are looking for consistency and fast reads on a database with less complicated relationships, then embedding documents will likely better fit their needs. If users are looking for greater flexibility in a schema that can accommodate complex relationships and large datasets, then creating links among documents will likely be a better decision.