

Prior to Edgar Codd creating the relational model in 1970, companies used the Hierarchical Model and the Network Model. These two systems would be used for quite some time before they found the problems that needed to be updated in both of them.

First I will talk about the Hierarchical Model. Its structure resembles a pyramid where there is one data type at the top, which eventually sprouts out too many data types as you get closer to the bottom. It was created by IBM when the company used their Information Management System (IMS). Advantages to this style include the use of one to many relationships. For example, if there is a corporation trying to organize the rankings of its employees, this would be a great system for that corporation to use. The system ranks employees on their positions within the company¹.

The problem with the Hierarchical Model began when companies started requiring more complex relationships. When information is needed at the bottom of the pyramid, this model is very slow. It has to go from top to bottom in order to retrieve the information. Many to many relationships are not sustained by this model and because of this the Hierarchical Model falls short of the Relational Model².

Next is the Network Model. This model is very similar to the Hierarchical Model. The biggest difference between the two models is that the Network Model has the ability to maintain many to many relationships. At the time, this was a huge advantage. Also, accessing data is much easier with this model as it has a sense of data independence. A disadvantage is the abnormalities when trying to insert or delete data to the Network Model. Still, when changes are made, all of the information needs to be updated. Although it is easier than the Hierarchical Model, it still did not compare to the Relational Model³.

In terms of how I feel about using XML as a database, I believe it will be just fine if you are dealing with small quantities of data. When the data starts to get larger you might run into problems regarding the level of performance. When this happens, I would consider switching to the RDMS.

¹ "Hierarchical Data Model." *Database Management*. N.p., n.d. Web. 23 Jan. 2017.

² "Hierarchical Data Model." *Database Management*. N.p., n.d. Web. 23 Jan. 2017.

³ Thakur, Dinesh. "Network Model." *Network Model*. N.p., n.d. Web. 23 Jan. 2017.