1. You should identify dimensions, map dimensions to data sources, and specify dimension hierarchies. For each dimension, you should identify its data sources and attributes in each data source. For hierarchical dimensions, you should indicate the levels from broad to narrow.

Answer:

Customer (member), calendar and product/service are the dimensions. Member and product/service come from the ERD and the special events worksheet. The calendar dimension is a standard data warehouse dimension. Calendar is a hierarchical dimension. Phone and email can be parsed to be hierarchical as part of the member dimension.

- Member
    - MmbrId: (ERD)
    - Corporate Customer Id (special event worksheet)
    - MmbrName: (ERD) / Corporate Customer Name (special event work sheet)
    - MmbrZip: (ERD) only; hierarchical (1st digit (state) $\rightarrow$ 2nd+3rd digit (sectional center facility) $\rightarrow$ 4th+5th digit (area of city or village/town))
    - MembrEmail: (ERD) only; hierarchical (top level domain $\rightarrow$ second level domain $\rightarrow$ local part)
- Calendar
    - Date columns in: ERD (MmbrDate, SaleDate, ServPurchDate), special event worksheet (Event Date)
- Product/Service
    - ProdNo: ERD only

- o MerchName (ERD) / ServCatName (ERD) / EventName (special evebt worksheet)

- o EventTypeCode (special event worksheet)

- o ServCatId (ERD)

- Franchise

  - o FranchId: ERD only

  - o FranchRegion: ERD only

  - o FranchPostalCode: hierarchical (1st digit (state) $\rightarrow$ $2^{nd}+3^{rd}$ digit (sectional center facility) $\rightarrow$ $4^{th}+5^{th}$ digit (area of city or village/town))

  - o FranchModelType: ERD only

- MemberType

  - o MemTypeId

  - o MemTypeName