# OLAP Example

Garcia-Molina, Ullman & Widom, *Database System Implementation*, Prentice Hall, 2000

Automobile Sales Company: analyze sales of cars

```
Sales(serialNo, date, dealer, price)

Autos(serialNo, model, color)
Dealers(name, city, state)

Days(day, week, month, year)
    (  5,   27,     7, 2000)
```

Fact Table

Dimension Tables

Time Dimension Table, probably not stored

# Assume a particular car model, say ‘Gobi’, is not selling as well as anticipated.

## How to analyze?

Maybe it’s the color. ***Slice*** for ‘Gobi. ***Dice*** for color.

```
select color, sum(price)
from   Sales natural join Autos
where  model = ‘Gobi’
group by color;
```

Doesn’t show anything interesting.

# Gobi analysis, continuing

What about time?

***Drill down*** for month.

```
select color, month, sum(price)
from   Sales natural join Autos
         join Days on date = day
where  model = 'Gobi'
group by color, month;
```

Suppose we discover red Gobis have not sold well recently.

# Gobi analysis, continuing

Are red Gobis selling poorly for all dealers or just some?

***Drill down*** for dealer.

```
select dealer, month, sum(price)
from   Sales natural join Autos
         join Days on date = day
where  model = 'Gobi' and color = 'red'
group by dealer, month;
```

Discover there are too few sales to show anything interesting.

# Gobi analysis, continuing

***Rollup*** time from month to year and
***slice*** for last two years.

```
select dealer, year, sum(price)
from   Sales natural join Autos
         join Days on date = day
where  model = 'Gobi' and color = 'red'
 and   (year = '1999' or year = '2000')
group by dealer, year;
```

Does show variation. Now understand the problem better.