

CRM - Müşteri İlişkileri Yönetimi

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BIS364

- Rekabet Avantajı İçin Müşteri İlişkileri Yönetimi – Abdullah BOZGEYİK
- CRM - Integration Marketing Strategy and Information Technology by William G. Zikmund

CRM - Müşteri İlişkileri Yönetimi

Şirket için maliyetler;

Yazılım

Donanım

Danışmanlık

Eğitim

Şirket bünyesinde Ekstradan IT Personel ilavesi

CRM Sistemi uygulamasının esas elamanı veri ambarının oluşturulması ve oluşturacak olan veri ambarının hızlı, az maliyetli depolanması gereklidir ve 3 aşamadan oluşur.

1-veri girişi

2-veri depolaması

3-Girilen verinin analiz ve bilginin gerekli yerlere ulaştırılması

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Veri Kaynakları;

A-İç (Firma Bünyesinde)

B-Dış (müşteriler, tedarikçiler, devlet ve rakipler)

Veri girişleri;

Şirket bünyesindeki verileri formatlara müdahale edinebildiği için kolay olmakla beraber dış kaynaklardan alınan verilerin istenilen formatlara dönüştürülmesi gerekmektedir ayrıca **operatör**(veri girişi) yapan personelin de önemi fazladır.

Veritabanı; Belirlenen biçimde verilerin daha sonra kullanılmak üzere depolandığı kaynak.

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Primary – Secondary KEY

EDI?

Periodic Report – Aylık Satış Raporu

Special Report

Verilerin ilgili kaynaklardan çekilip veri ambarına aktarılması ETL (Extract Transform Load) olarak bilinir.

Çıkarım (extraction)

Dönüşüm (transformation)

Yükleme (loading)

Data granularity?

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Data granularity?

The *granularity* of data refers to the fineness with which data fields are sub-divided. For example, a postal address can be recorded, with *low granularity*, as a single field:

address = 200 2nd Ave. South #358, St. Petersburg, FL 33701-4313 USA

or with *high granularity*, as multiple fields:

street address = 200 2nd Ave. South #358

city = St. Petersburg

postal code = FL 33701-4313

country = USA

or even higher granularity:

street number = 200

street = 2nd Ave. South #358

city = St. Petersburg

postal code state = FL

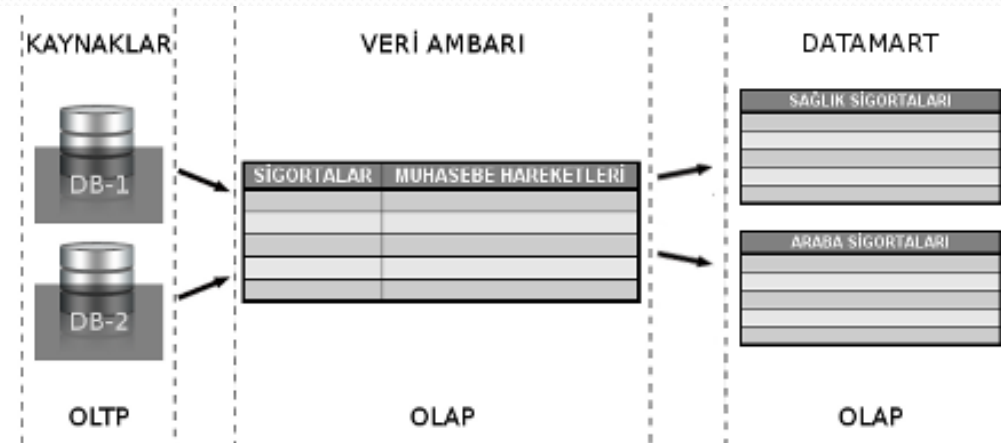
postal-code-first-part = 33701

postal-code-second-part = 4313

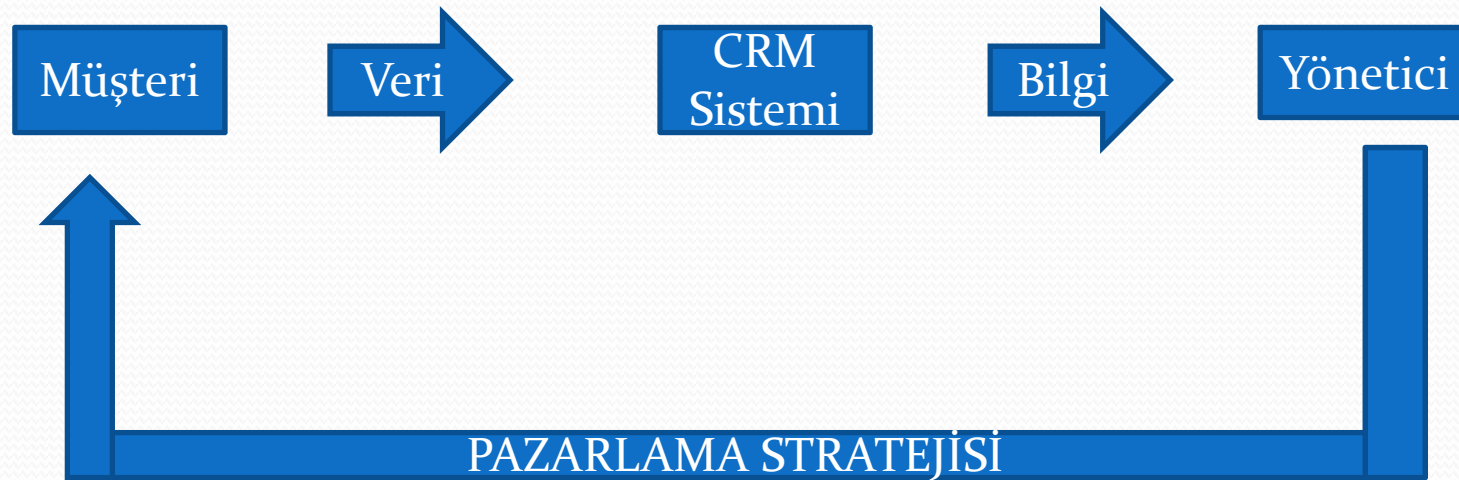
country = USA

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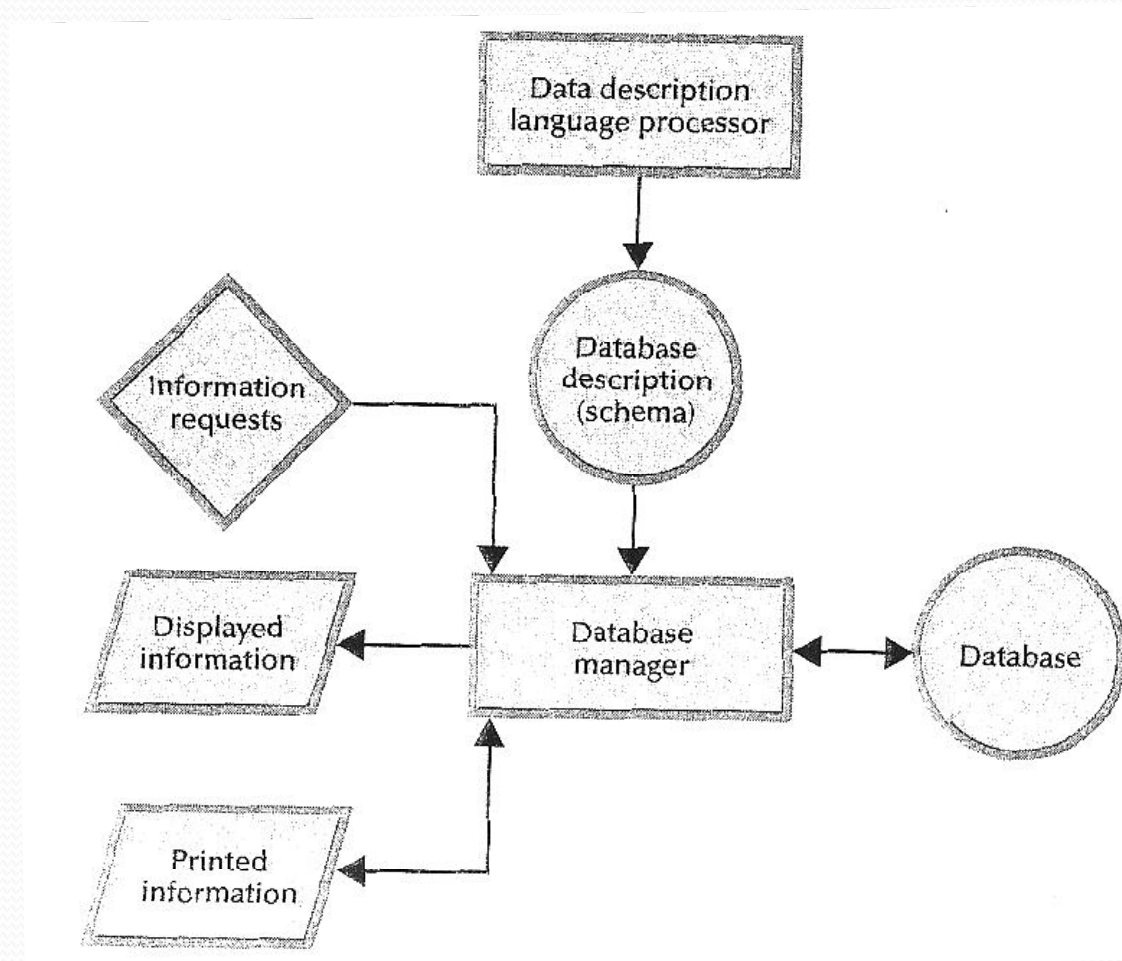
Temel olarak veri ambarının boyut olarak küçüğü **veri marketi** (**data mart**) ismini alır. Ancak veri marketleri tek bir kaynaktan beslenebilir. Ayrıca **veri ambarını** (data warehouse) belli bir amaç için özelleştirirsek buna **veri marketi** olarak isimlendirebiliriz.



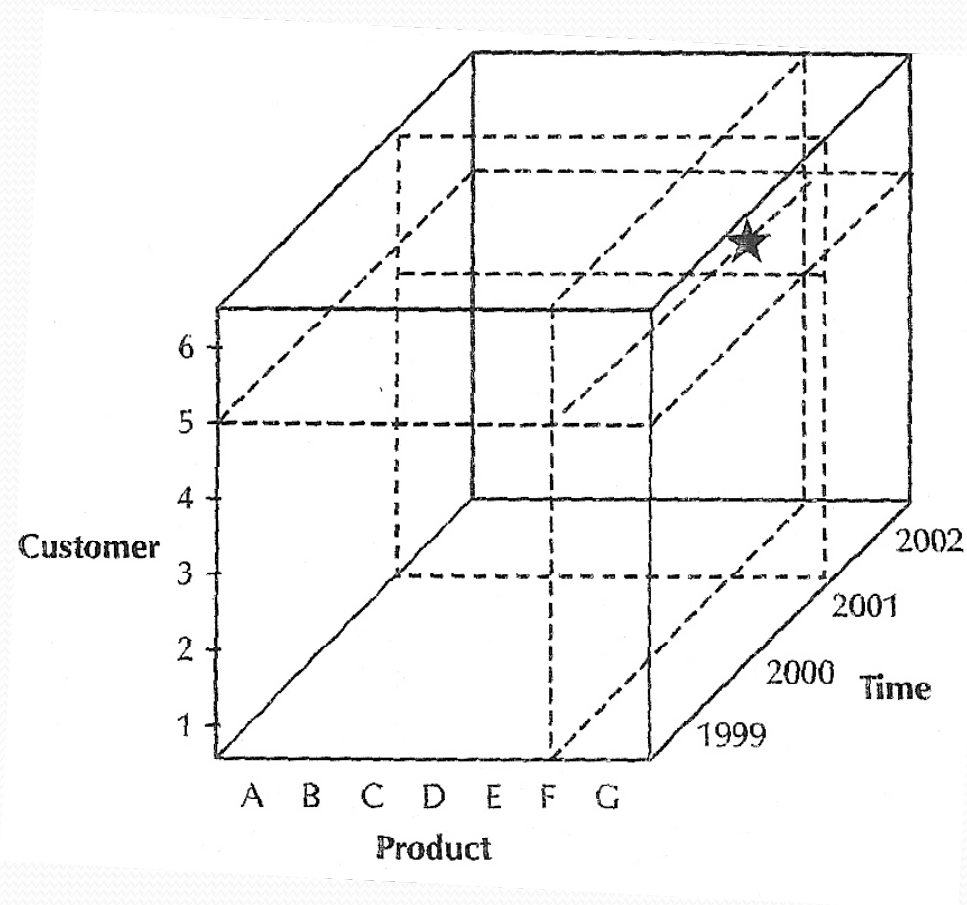
CRM TEMELLİ STRATEJİ



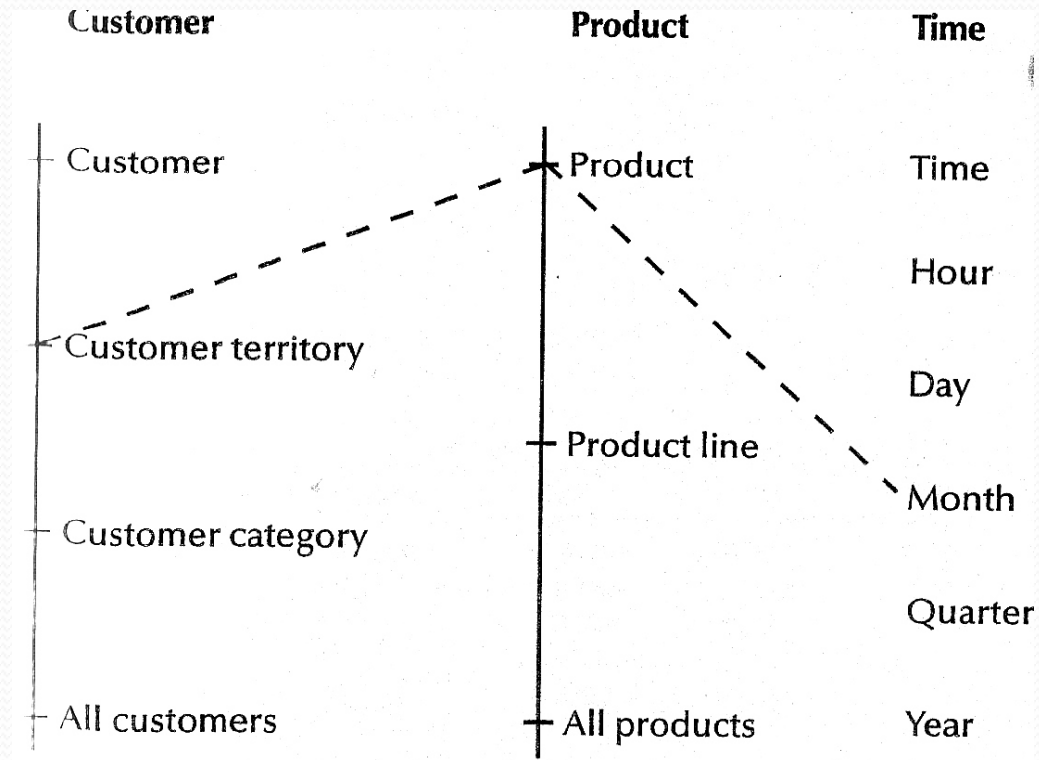
- DBMS YAZILIMDIR (VERİLERİ KULLANILABİLİR BİÇİME DÖNÜŞTÜRMEK İÇİN GEREKLİDİR) DB2-sybase-oracle
- EK VERİ



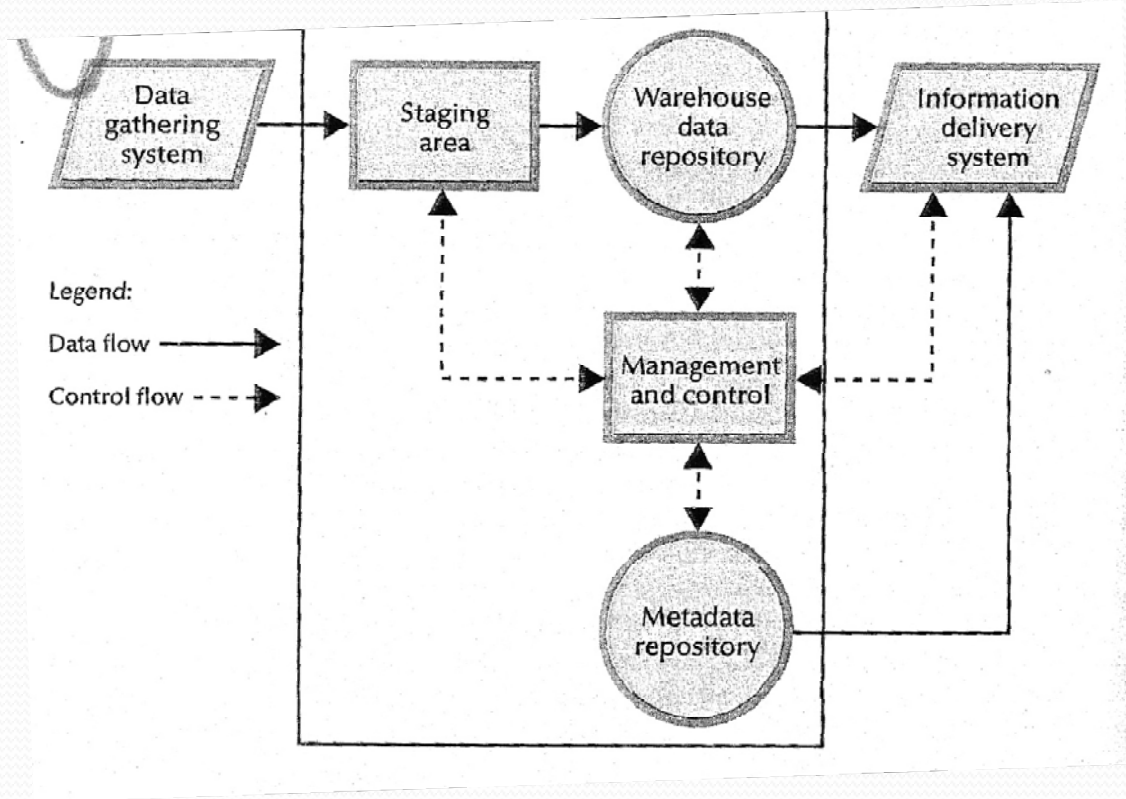
• OLAP KÜPLERİ VE BOYUTLARI



• OLAP KÜPLERİ VE BOYUTLARI



- DATA WAREHOUSE
- META DATA NEDİR?
- Basit olarak, diğer Data'ları (verileri) tanımlamak amacıyla kullanılan yapılandırılmış verilerdir. Bu ne manaya gelir? Web sayfalarımızın arama motorları tarafından indekslenmelerine ve sıralandırılmalarına yardımcı olmak. **Data about data**



FACT TABLOSU

EXHIBIT 4.4 **A SAMPLE
DIMENSION TABLE**

Customer

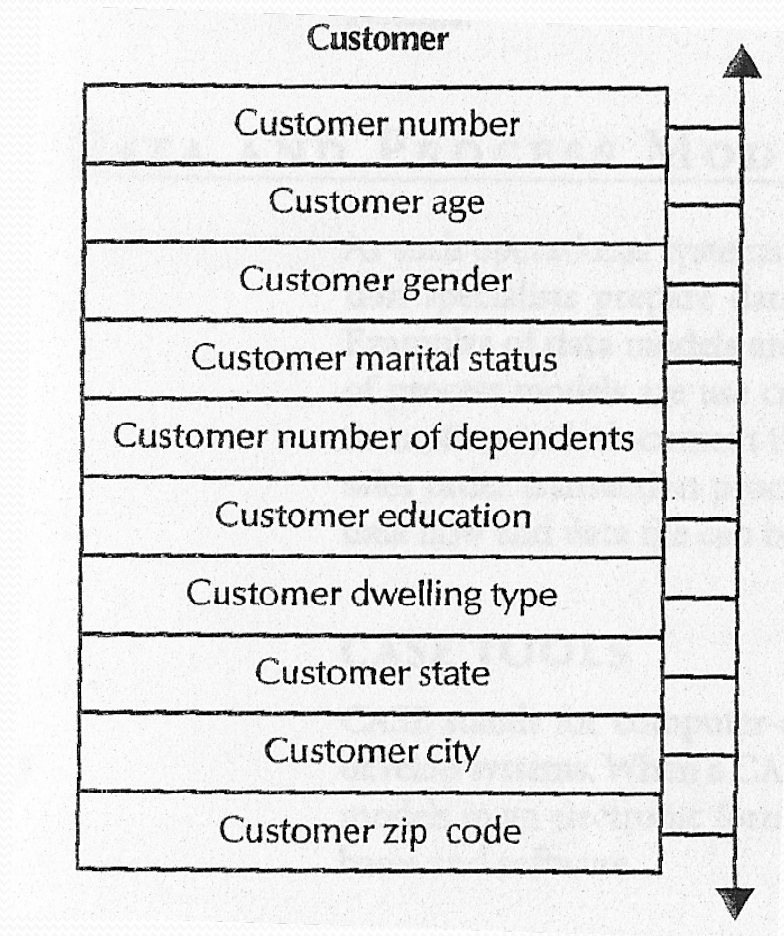
Customer number
Customer name
Customer phone number
Customer e-mail address
Customer territory
Customer credit code
Customer standard industry code
Customer city
Customer state
Customer zip code

EXHIBIT 4.5 **A SAMPLE
FACT TABLE**

Commercial Sales Facts

Actual sales units
Budgeted sales units
Actual sales amount
Budgeted sales amount
Sales discount amount
Net sales amount
Sales commission amount
Sales bonus amount
Sales tax amount

• HİYERARŞİ



• NAVİGASYON

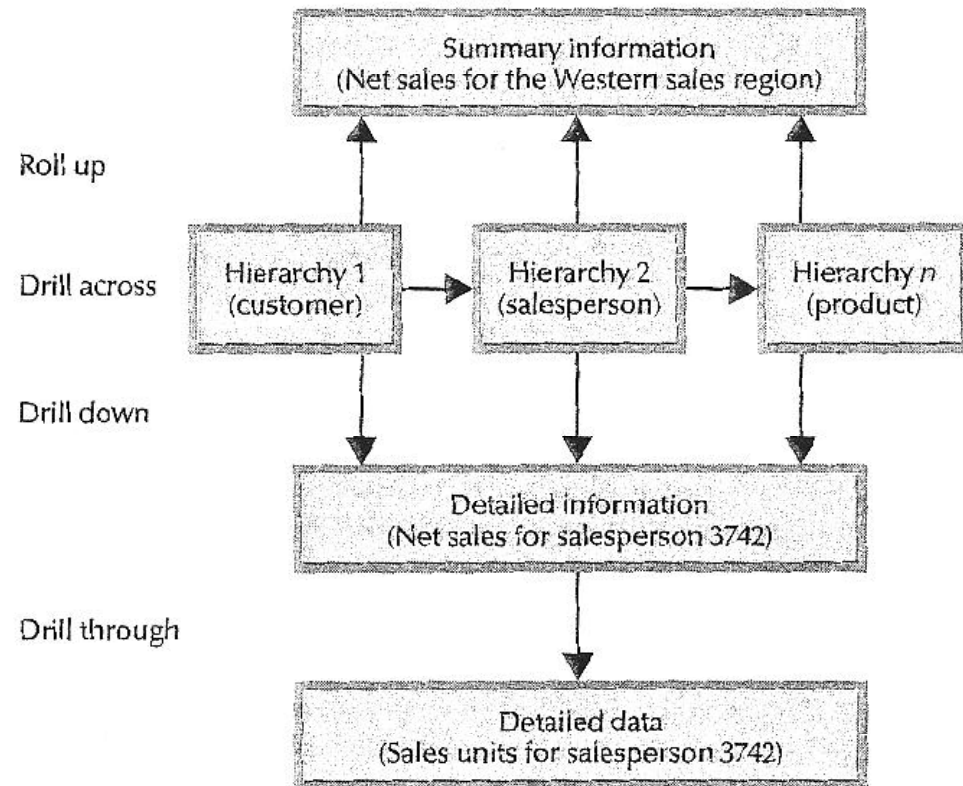
Dice(Çevir): Satış verisinin bölge-zaman yüzünü incelerken, ürün-zaman yüzüne geçebiliriz.

Slice(Dilimle): Bütün aralığı değil de belirli bir aralığı seçebiliriz. Mesela son 1 yıla ait dilim..

Drill Down: Ayrıntı seviyesinde alta in. Mesela yıl bazından ay bazına geç.

Drill Up: Ayrıntı seviyesinde yukarı çık. Mesela şehir bazından bölge bazına çık.

4.1.0 NAVIGATION PATHS



• ŞEMA YAPILARI

EXHIBIT 4.6 INFORMATION PACKAGE FORMAT

Subject: Name of business activity being measured

Dimension Name	Dimension Name	Dimension Name	Dimension Name
Dimension key	Dimension key	Dimension key	Dimension key
Dimension 1	Dimension 1	Dimension 1	Dimension 1
Dimension 2	Dimension 2	Dimension 2	Dimension 2
Dimension 3	Dimension 3	Dimension 3	Dimension 3
Dimension 4	Dimension 4	Dimension 4	Dimension 4
Dimension n	Dimension n	Dimension n	Dimension n

Facts: Numeric measures of the business activity

that describe that dimension. A key is a number that identifies a particular occurrence of the dimension. The customer dimension, for example, is identified by customer number. Customer number is the key. The facts that measure the business activity in a quantitative way are identified in the lower portion.

For an example of an information package, refer to Exhibit 4.7. This package is for commercial sales, and it identifies (1) the dimensions that can be used in analyzing commercial sales, and (2) the various quantitative measures of commercial sales. With data in the data warehouse repository organized in terms of this information package, a user can analyze any of the facts in terms of any of the dimensions. A user can, for example, analyze sales commission amounts by time, salesperson, customer, product, or any combination of these categories.

Star Schemas

An information package usually identifies multiple dimension tables for a single fact table. The arrangement, called a **star schema**, has the appearance of a star, with the fact table in the center and the dimension tables forming the points. The format is illustrated in Exhibit 4.8.

EXHIBIT 4.7 A SAMPLE INFORMATION PACKAGE

Subject: Commercial sales

Time	Salesperson	Customer	Product
Time key	Salesperson key	Customer key	Product key
Hour	Salesperson name	Customer name	Product name
Day	Sales branch	Customer territory	Product model
Month	Sales region	Customer credit code	Product brand
Quarter	Subsidiary		Product line
Year			

Facts: Actual sales units, budgeted sales units, actual sales amount, budgeted sales amount, sales discount amount, net sales amount, sales commission amount, sales bonus amount, sales tax amount

The fact table is linked to the dimension tables by means of the keys identified at the top of the fact table. These keys are called **foreign keys** because they do not serve to identify the fact table but to identify keys of other, "foreign" tables.

This linkage is illustrated in Exhibit 4.9 for an activity called product sales facts. The keys of the product, customer, salesperson, and time dimensions are identified at the top of the fact table. These keys make it possible to analyze the different measures of sales facts by any of the dimensions in the dimension tables.

EXHIBIT 4.8 STAR SCHEMA FORMAT

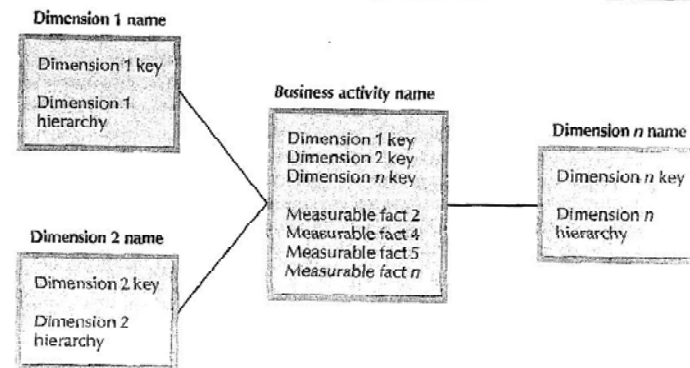
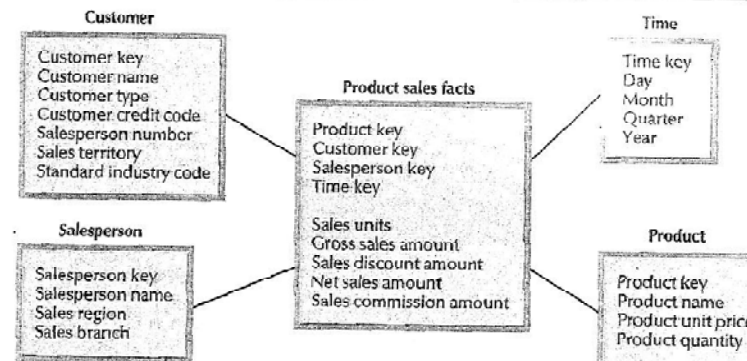


EXHIBIT 4.9 A SAMPLE STAR SCHEMA



● TABLOLAR

Product Sales in Dollars May 2003

Product Line	Quota	Actual	Variance %
CD/tape/radio	200,000	182,305	-8.8
TV	750,000	831,200	+10.8
Computer	375,000	402,117	+7.2
Total	1,325,000	1,415,622	+6.8

A. Product sales by product line

CD/Tape/Radio Sales in Dollars May 2003

Product	Quota	Actual	Variance %
Patriot	150,000	104,900	-30.1
Series 30	30,000	31,200	+4.0
Series 50	20,000	46,205	+231.0
Total	200,000	182,305	-8.8

B. CD/Tape/Radio sales

Patriot Model CD/Tape/Radio Sales
by Retail Store May 2003

Retail Store	Quota	Actual	Variance %
Phoenix	45,000	20,010	-55.5
Santa Fe	50,000	25,877	-48.2
Rapid City	32,500	33,338	+2.6
Boise	22,500	25,675	+14.1
Total	150,000	104,900	-30.1

C. Patriot model CD/Tape/Radio sales by retail store

Sale Date	Customer	Product
02-12-03	Ed Flynn	TV
02-15-03	Adele Rice	Computer
02-18-03	Ric Knowles	TV
03-01-03	Ed Flynn	Computer
03-19-03	Angela Forest	TV
03-30-03	Robin Lin	Computer
04-05-03	Robin Lin	CD/Tape/Radio
04-11-03	Ed Flynn	CD/Tape/Radio
04-21-03	Adele Rice	TV
05-16-03	Richard Rodriguez	TV
05-17-03	Robin Lin	TV
05-26-03	Joe Wardlaw	Computer
05-29-03	Angela Forest	CD/Tape/Radio
05-29-03	Richard Rodriguez	CD/Tape/Radio
05-30-03	Cynthia Garfield	Computer

A. Query 1 for transaction data for the Rapid City store February through May

Product Sales Sequence	Customers
TV, Computer, CD/Tape/Radio	Ed Flynn
Computer, CD/Tape/Radio, TV	Robin Lin
Computer, TV	Adele Rice
TV, CD/Tape/Radio	Angela Forest
TV, CD/Tape/Radio	Richard Rodriguez
Computer	Joe Wardlaw, Cynthia Garfield
TV	Ric Knowles

B. Query 2 for product sales sequences

Product Sales Sequence	Customers
TV, Computer	Flynn
TV, CD/Tape/Radio	Flynn, Forest, Rodriguez
Computer, CD/Tape/Radio	Flynn, Lin
Computer, TV	Lin, Rice,
TV, Computer, CD/Tape/Radio	Flynn
Computer, CD/Tape/Radio, TV	Lin

C. Query 3 for support factors for product sales sequences

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- META DATA
 - HİYERARŞİ
 - DATA WAREHOUSE
 - OLAP
 - EDI
 - FACT TABLOSU
 - NAVIGASYON
 - STAR SCHEMA
 - *DATA GRANULARITY*
 - DBMS
 - ETL