

# Armazéns de Dados

---

Departamento de Engenharia Informática (DEI/ISEP)

Paulo Oliveira

[pjo@isep.ipp.pt](mailto:pjo@isep.ipp.pt)

# Kimball Methodology

---

- Business Area

- Travel expenses

- Granularity level

- Travel expenses by date and time, by potential customer, by travel, by seller, by expense type and by currency

- Dimensions

- Date; Time; Seller; Expense Type; Currency; Potential Customer; Travel

- Facts/Measures

- Expense in the original currency (in which the expense has occurred),
  - Expense in the standardization currency (selected to perform global data analysis – e.g., Euro)

# Date Dimension

---

DimDate
<u>DateKey</u>
FullDate
Year
Month
Day
Semester
Trimester
DayNumberOfMonth
DayNumberOfYear
DayNumberOfWeek
Weekday
Weekend
MonthName
...

# ***Time*** Dimension

---

<b>DimTime</b>
<u><b>TimeKey</b></u>
FullTime
Hour
Minute
Second
Period
LunchTime
DinnerTime
...

# ***Seller* Dimension**

---

<b>DimSeller</b>
<u><b>SellerKey</b></u>
Number
Name
Address
Postal Code
City
MobileNumber
HireDateKey
SoldValueLastYear
EffectiveDate
ExpiredDate
IsCurrent

# Section Dimension

---

<b>DimSection</b>
<u>SectionKey</u>
Code
Description
CreationDateKey
ExtincionDateKey
NumberOfSellers
EffectiveDate
ExpiredDate
IsCurrent

# ***PotentialCustomer* Dimension**

---

## **DimPotentialCustomer**

### **PotentialCustomerKey**

ID

Name

Address

Postal Code

City

Country

EffectiveDate

ExpiredDate

IsCurrent

# Travel Dimension

---

DimTravel
<u>TravelKey</u>
ID
DateKey
NrOfDays
InitialBudgetValue

**Note:** This dimension and the *DimPotentialCustomer* dimension could be just one, by merging the attributes of both dimensions. In the proposed solution (2 separated dimensions), if there are several travels to a potential customer, the data about the customer are stored only once in the *DimPotentialCustomer* dimension, while the data about the travels are stored in the *DimTravel* dimension (a record by travel).



# ***ExpenseType* Dimension**

---

<b>DimExpenseType</b>
<u>ExpenseTypeKey</u> Code Description

# ***Currency* Dimension**

---

<b>DimCurrency</b>
<u>CurrencyKey</u> Code Name Symbol

# Expenses Fact Table

---

FactExpenses
<u>DateKey</u>
<u>TimeKey</u>
<u>SellerKey</u>
SectionKey
PotentialCustomerKey
TravelKey
<u>ExpenseTypeKey</u>
CurrencyKey
ExpenseOriginalCurrency
ExpenseStandardCurrency

# ***Currency Rate Fact Table***

---

<b>FactCurrencyRate</b>
<u>DateKey</u>
<u>SourceCurrencyKey</u>
<u>DestinationCurrencyKey</u>
SourceDestinationExchangeRate
DestinationSourceExchangeRate

# Dimensional Model

