# Logical Model – Credit & Collections Project

## Description

The focus is to simulate a company’s desire to track its account receivable, risk management and provision for doubtful debts. In this scenario, the organization has an insurer that grants an amount of limit for each client. Additionally, the firm has collateral associated with some clients.

## Tables

**Fact Tables:**

* **Fact\_Invoices**
* **Fact\_Payments**

**Dimensions:**

* **Dim\_Customer**
* **Dim\_CreditLimit**
* **Dim\_Date**

## Table Descriptions

**Dim\_Customer**

| **Field** | **Type** | **Description** |
| --- | --- | --- |
| id\_cliente | INT (PK) | |  | | --- | | Unique customer identifier |  |  | | --- | |  | |
| customer\_name | VARCHAR(255) | Company name |
| tax\_id | VARCHAR(14) | Company tax id |
| state | VARCHAR(2) | State of the company |
| industry | VARCHAR(100) | segment of the company |
| registration\_date | DATE | Customer registration date |

**Dim\_CreditLimit**

| **Field** | **Type** | **Description** |
| --- | --- | --- |
| id\_credit\_limit | INT (PK) | Credit limit ID |
| id\_customer | INT (FK) | Linked to Dim\_Customer |
| insured\_credit\_limit | DECIMAL(14,2) | Credit limit granted by insurer |
| internal\_credit\_limit | DECIMAL(14,2) | Company's internal credit limit |
| collateral\_value | DECIMAL(14,2) | Value of collateral linked to the customer |

**Dim\_Date**

| **Field** | **Type** | **Description** |
| --- | --- | --- |
| full\_date | DATE (PK) | Unique date |
| year | INT | Year |
| month | INT | Month (1 to 12) |
| day | INT | Day of the month |

**Fact\_Payments**

| **Field** | **Type** | **Description** |
| --- | --- | --- |
| id\_payment | INT (PK) | Payment identifier |
| id\_invoice | INT (FK) | Linked to Fact\_Invoices |
| id\_customer | INT (FK) | (redundant to simplify analysis and avoid joins) |
| payment\_date | DATE | Linked to Dim\_Date |
| payment\_amount | DECIMAL(14,2) | Amount paid |

**Fact\_Invoices**

| **Field** | **Type** | **Description** |
| --- | --- | --- |
| id\_invoice | INT (PK) | Unique invoice identifier |
| id\_customer | INT (FK) | Linked to Dim\_Customer |
| issue\_date | DATE | Linked to Dim\_Date |
| due\_date | DATE | Linked to Dim\_Date |
| payment\_method | VARCHAR(50) | Description of payment method |
| invoice\_amount | DECIMAL(14,2) | Total amount of the invoice |
| amount\_paid | DECIMAL(14,2) | Total amount paid |
| open\_balance | DECIMAL(14,2) | invoice\_amount - amount\_paid |

## Relationships

* Dim\_Customer ↔ Dim\_CreditLimit: 1:1
* Dim\_Customer ↔ Fact\_Invoices: 1:N
* Fact\_Invoices ↔ Fact\_Payments: 1:N
* Dim\_Date ↔ Fact\_Invoices: 1:N via issue\_date and due\_date
* Dim\_Date ↔ Fact\_Payments: 1:N via payment\_date