Coffee Chain ERP Manual

Managing Outlets, Sales, CRM, and Menu Items with Odoo

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Preface

The Coffee Chain ERP is designed to streamline operations across multiple outlets while ensuring efficiency, transparency, and growth. This manual documents the structure, functionality, and guiding principles of the ERP system built on the Odoo platform. It is intended for developers, managers, and users responsible for operating and expanding the coffee chain.

The ERP integrates outlets, sales, CRM, and menu management into a single system. It provides performance metrics via sales reports, ensures role-based accountability, and allows modular expansion for future needs.

Contents

1. Philosophy and Guiding Principles of the Coffee Chain ERP

The Coffee Chain ERP is designed with the central philosophy of streamlining operations across multiple outlets while ensuring consistency in sales, customer relationship management, and menu integration. Built on top of the Odoo framework, the system adheres to the following guiding principles:

Unified Operations

Outlets, menu items, sales, and customer data are managed under a single integrated system, reducing fragmentation and duplicate efforts.

Transparency and Accountability

Each outlet record clearly captures its name, location, assigned manager, and regional manager. This ensures clear responsibility for performance while providing visibility across the chain.

Data-Driven Decisions

Performance insights are derived directly from the Sales module, where reporting tools generate metrics on sales volume, revenue, and growth trends. Managers use this data to compare outlet performance objectively.

Scalability

The ERP is built with modularity in mind. As the coffee chain expands, additional outlets, products, or CRM extensions can be integrated seamlessly.

User-Centric Design

The system is designed to be accessible for managers, sales representatives, and regional leads. Clear roles and permissions support operational efficiency and reduce errors.

Alignment with Business Growth

The ERP serves as the digital backbone of the coffee chain, ensuring operational discipline, strengthening customer engagement, and enabling sustained business expansion.

2. Foundational Framework and Reference Model

The foundation of the Coffee Chain ERP lies in its structured design, which defines how outlets, sales, CRM, and menu items interact. This base serves as the frame of reference for users, developers, and managers.

Core Components

- **Outlets:** Defined by outlet name, location, manager, and regional manager. Outlets serve as the primary business units for tracking performance.
- **Menu:** Menu items are created in the Coffee Menu module and automatically integrated into the Sales product list. This ensures a centralized definition of products.
- **Sales:** Handles quotations, orders, and invoicing. Reporting provides key performance metrics for outlet evaluation.
- **CRM:** Extended to track customer leads associated with specific outlets, improving targeted sales efforts.

Reference Framework

The ERP aligns with established business management practices, including:

- **PDCA Cycle (Plan–Do–Check–Act):** Outlets plan and execute sales, monitor outcomes through reporting, and implement improvements.
- **QMS Principles:** Clear responsibilities (manager and regional manager) and standardized workflows ensure consistent quality across outlets.
- **SIPOC Model:**
  - **Suppliers:** Coffee menu, suppliers, and managers
  - **Inputs:** Menu items, outlet data, customer leads
  - **Process:** Sales and CRM operations
  - **Outputs:** Confirmed orders, invoices, and performance reports
  - **Customers:** Walk-in customers, online buyers, and regional managers

Frame of Reference

This framework acts as the foundation for extending ERP features, such as future POS integration, advanced analytics, or supplier management. It ensures that the current structure supports both day-to-day operations and long-term scalability.

3. Departmental Context

The Coffee Chain ERP system is designed to align organizational departments with structured digital workflows. By mapping operational units into a central platform, the ERP ensures clarity in roles, accountability, and information flow.

Departments Covered

- **Outlet Management:** Maintains details of each coffee outlet such as name, location, and management assignments. This ensures visibility of operational capacity across the chain.
- **Sales:** Records daily transactions, revenue, and order details in real time to support both operational monitoring and long-term planning.
- **Customer Relationship Management (CRM):** Tracks leads, customer details, and engagement history, enhancing marketing and customer retention.
- **Menu Management:** Provides a master list of products, categories, and pricing, synchronized with the sales process for consistent ordering.

Integration with QMS and PDCA

The ERP modules operate under a quality-driven approach, embedding the PDCA (Plan-Do-Check-Act) cycle:

- **Plan:** Departments define objectives such as increasing sales, improving customer engagement, or optimizing outlet operations.
- **Do:** Daily activities are executed through ERP modules, standardizing operations across outlets.
- **Check:** Performance indicators are tracked in reports and dashboards to measure actual outcomes against plans.
- **Act:** Managers adjust strategies, update menu items, or refine CRM tactics based on data-driven insights.

Interaction Diagram

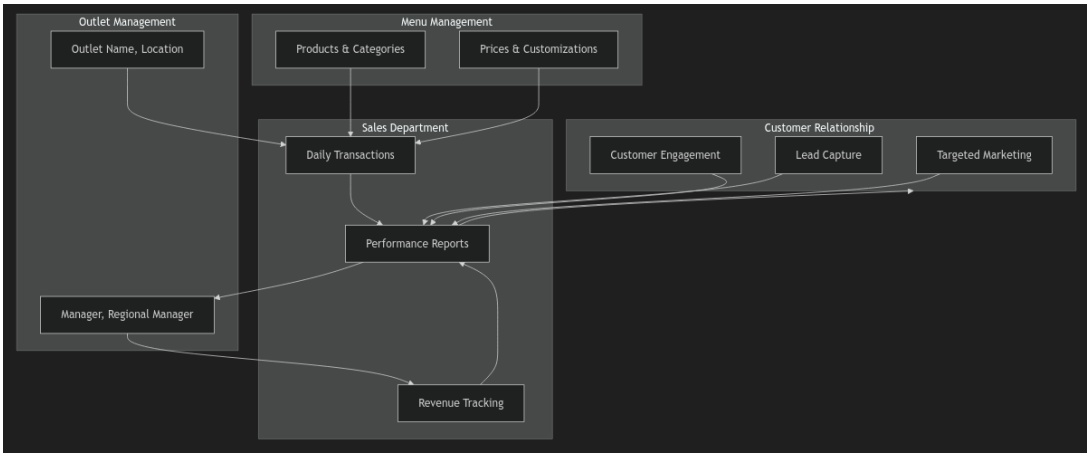

Figure 3.1: Department Interaction Diagram of Coffee Chain ERP

Insights

- Departments are digitally connected, reducing fragmentation of data.
- Centralization improves accuracy and ensures a single version of truth.
- PDCA integration provides a cycle of continuous improvement.

4. SIPOC Analysis

The SIPOC diagram provides a high-level overview of the Coffee Chain ERP process, highlighting how Suppliers, Inputs, Processes, Outputs, and Customers interact. It is a useful tool for understanding the flow of operations, identifying bottlenecks, and ensuring that all stakeholders' needs are addressed.

Purpose of SIPOC

The SIPOC framework helps us visualize the end-to-end process of the Coffee Chain ERP system. It allows management to:

- Identify key suppliers and inputs required for smooth operations.
- Understand the critical processes that transform inputs into outputs.
- Ensure outputs meet the expectations of customers.
- Detect potential gaps or inefficiencies in the workflow.

Suppliers, Inputs, Processes, Outputs, Customers

Suppliers

- **Coffee Outlets:** Provide sales data, menu updates, and operational feedback. They are the primary source of information for the ERP system.
- **Suppliers:** Supply raw ingredients, coffee beans, and other consumables. Timely delivery ensures smooth operations across outlets.
- **CRM:** Provides customer leads and engagement data, which is essential for marketing and sales tracking.

Inputs

- Product details, pricing, and menu configurations.
- Raw materials and stock updates from suppliers.
- Customer leads and engagement information from the CRM.

Processes

- Tracking daily sales and updating the ERP system.
- Managing product and menu updates in real-time.
- Receiving and logging stock from suppliers.
- Capturing customer interactions and monitoring CRM data.

Outputs

- Updated sales reports for each outlet and consolidated regional reports.
- Inventory reports and notifications for low-stock items.
- Real-time product updates for sales and POS systems.
- CRM insights for marketing and customer engagement.

Customers

- Management: Receives comprehensive reports for decision-making.
- Outlet Managers: Use outputs to manage day-to-day operations.
- Marketing/Sales Teams: Leverage CRM insights to plan campaigns.
- Customers: Benefit indirectly through accurate pricing, better product availability, and consistent service.

SIPOC Table

Suppliers	**Inputs**	**Process**	**Outputs**	**Customers**
Coffee outlets	Product	Track sales, update ERP, manage orders	Sales reports, product updates	Management, Customers
Suppliers	Ingredients, stock	Receive and log stock in ERP	Updated inventory	Outlet managers, Kitchen staff
CRM	Customer leads	Capture and manage leads	Lead reports, CRM data	Marketing, Sales team

Table 4.1: SIPOC for Coffee Chain ERP

Visual SIPOC Diagram

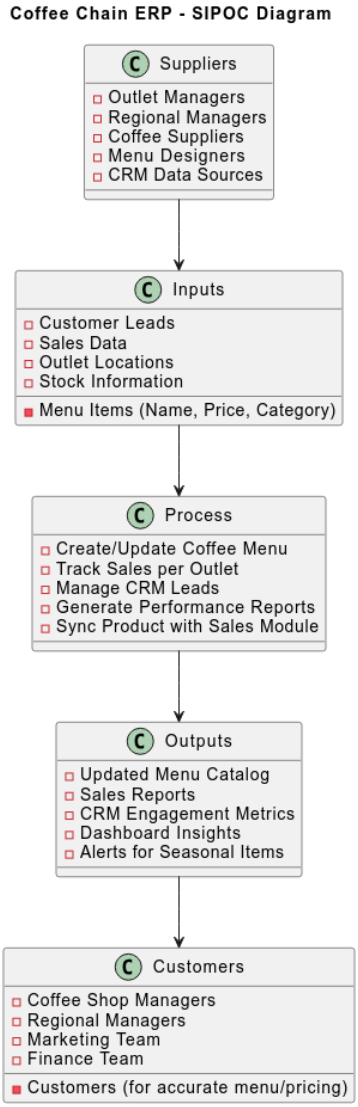

Figure 4.1: Visual SIPOC Diagram of Coffee Chain ERP

Insights

The SIPOC analysis highlights:

- Critical dependency on real-time data from outlets and suppliers.
- Integration points between menu, sales, and CRM that require automated updates.
- The need for dashboards to provide management with actionable insights.
- Potential bottlenecks such as delayed supplier updates or manual sales entry.

5. Module Role and Scope

The Coffee Chain ERP system plays a vital role in consolidating operations while maintaining clear boundaries for functionality. This chapter defines both the role and scope of the system.

Role of the ERP Module

The primary role of the Coffee Chain ERP is to act as an integrative backbone for coffee chain operations:

- **Unification:** Combines outlet, menu, sales, and CRM functions into one system.
- **Consistency:** Ensures standardized processes across all outlets.
- **Insight:** Provides managers with real-time and historical data for decision-making.
- **Scalability:** Prepares the system for future growth, such as adding loyalty features or advanced analytics.

Scope of the Coffee Chain ERP

The scope defines current inclusions and exclusions:

- Covers active coffee outlets and their daily operations.
- Includes menu item management, pricing, and categorization.
- Captures all sales orders and integrates them with reporting dashboards.
- Synchronizes CRM data with sales transactions for lead tracking.
- Excludes loyalty and reward systems, outlet capacity tracking, and HR functions.

Stakeholders and KPIs

Different stakeholders rely on the system for performance insights:

- **Outlet Managers:** Track efficiency and revenue. *KPIs: daily revenue, sales per product.*
- **Regional Managers:** Compare multiple outlets. *KPIs: average outlet growth, variance analysis.*

- **Employees:** Maintain data quality. *KPIs: error rate in transactions, product data accuracy.*
- **Top Management:** Align operations with strategy. *KPIs: conversion rates, long-term revenue growth.*

Context Diagram (C1)

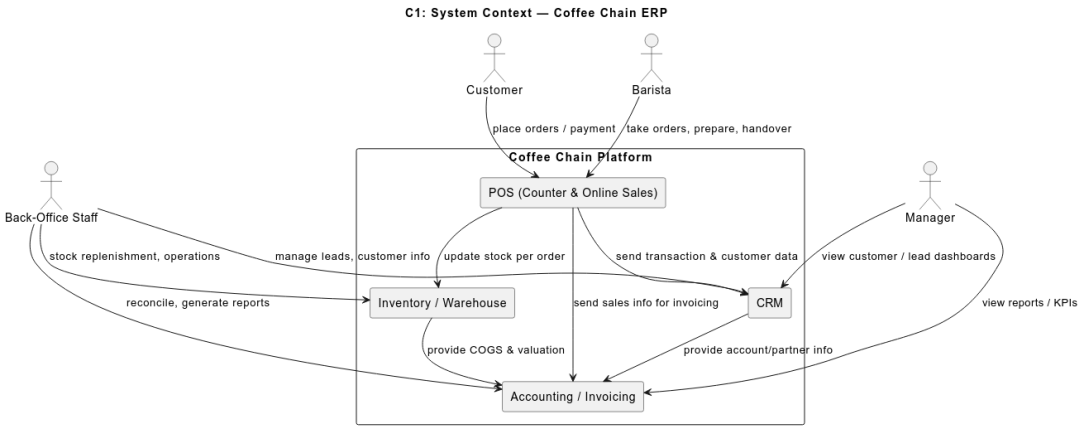

Figure 5.1: C1-Level Context Diagram of Coffee Chain ERP

Insights

- The module consolidates roles and responsibilities into one backbone.
- Defined boundaries prevent scope creep while leaving room for growth.
- KPIs provide measurable indicators of performance at each level.

6. Pain-Gain Canvas

The Pain-Gain Canvas provides a structured overview of the challenges (Pains) faced by stakeholders in the Coffee Chain ERP system and the value additions (Gains) that the system delivers. It helps visualize how the ERP addresses critical operational pain points while creating tangible benefits for management, outlet staff, and customers.

Purpose of Pain-Gain Analysis

The Pain-Gain Canvas helps stakeholders:

- Identify key operational problems in the current workflow.
- Highlight the added value that the ERP system provides.
- Guide future enhancements and improvements for the ERP module.
- Align ERP functionality with organizational goals and user expectations.

Pains: Operational Challenges

- **Manual sales tracking across outlets:** Tracking sales individually in multiple locations is error-prone and time-consuming.
- **Menu updates not automatically reflected in sales:** Any changes in the coffee menu need to be manually synchronized with the sales module, leading to discrepancies.
- **Limited visibility into customer leads and engagement:** Without centralized CRM integration, marketing and sales teams lack actionable insights.
- **Difficulty generating consolidated reports:** Management cannot easily access regional or outlet-level performance data.
- **Data entry and pricing errors:** Manual processes increase the likelihood of mistakes affecting revenue.
- **Fragmented CRM data across outlets:** Leads and customer interactions are scattered, reducing the effectiveness of customer engagement strategies.

Gains: Value Additions

- **Centralized ERP platform:** Integrates outlets, sales, menu, and CRM into a single system for efficiency.
- **Real-time menu updates:** Ensures all sales channels reflect the latest product offerings immediately.
- **Automated reporting dashboards:** Provides management with comprehensive, actionable performance metrics for each outlet and region.
- **Enhanced decision-making:** Managers can make data-driven decisions with accurate and consolidated information.
- **Improved customer engagement:** Centralized CRM allows better tracking of leads and interactions across outlets.
- **Reduced errors via automation:** Minimizes mistakes in pricing, stock management, and sales tracking.

Visual Pain-Gain Canvas

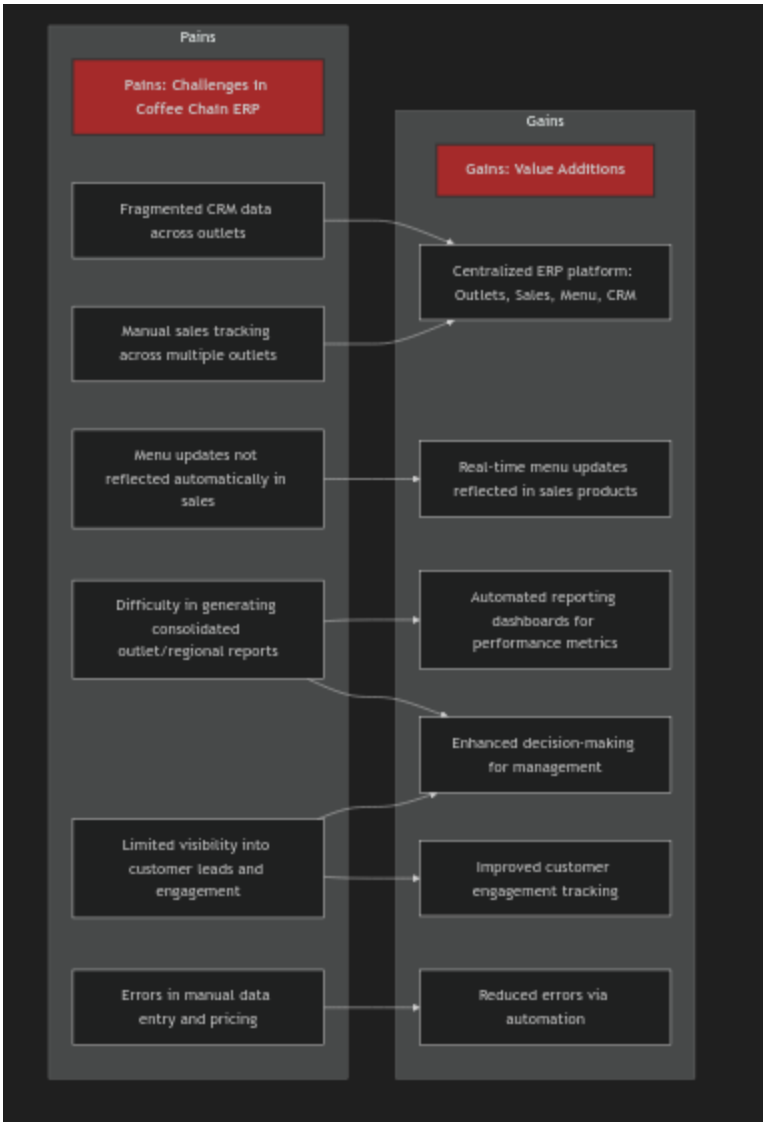

Figure 6.1: Pain-Gain Canvas of Coffee Chain ERP

Insights

- The ERP system directly addresses the most critical operational challenges by centralizing processes.
- Automated menu updates and reporting dashboards are key features that convert operational pains into tangible gains.
- Customer engagement and sales tracking improvements ensure long-term value creation.
- The Pain-Gain Canvas serves as a guide for future ERP enhancements, highlighting areas for potential automation and integration.

- By addressing operational pains and leveraging system gains, the Coffee Chain ERP ensures:
  - Smooth daily operations across all outlets.
  - Real-time visibility into sales, menu, and CRM data.
  - Improved decision-making at both outlet and regional levels.
  - Enhanced customer satisfaction and business efficiency.

Strategic Insight

The Pain-Gain analysis also aligns directly with the Quality Management System (QMS) and the PDCA (Plan-Do-Check-Act) cycle described in Chapter 1. By addressing pains through ERP automation and integration, the system supports continuous improvement:

- **Plan:** Identify operational inefficiencies such as manual sales tracking and fragmented CRM data.
- **Do:** Implement ERP features that centralize menu, sales, and CRM into a single platform.
- **Check:** Use automated reporting dashboards to monitor outlet performance, sales trends, and customer engagement.
- **Act:** Refine processes and update system configurations to enhance efficiency and customer satisfaction.

This demonstrates that the ERP not only resolves current pains but also creates a framework for sustainable, long-term improvements across the coffee chain.

7. Components & Containers

This chapter provides a detailed breakdown of the Coffee Chain ERP system in terms of its **containers** (modules) and the internal **components** of each module. Understanding the containers and components is essential for grasping the system architecture and how different parts interact to achieve operational efficiency.

Definition of a Container

In the context of Coffee Chain ERP, a **container** represents a deployable or executable part of the system, such as a web application, microservice, or database, that encapsulates a set of functionality. Containers can be thought of as the high-level building blocks of the system. For example, the Sales Module is a container because it is a standalone web application managing sales transactions, linked to menu and CRM modules.

Containers of Coffee Chain ERP (C2 Diagram)

The following containers constitute the Coffee Chain ERP system:

- **Outlet Management:** Web application managing outlet details, managers, and regional assignments.
- **Sales Module:** Web application capturing daily sales, linking products to orders, and generating performance reports.
- **CRM Module:** Web application tracking customer leads, interactions, and supporting targeted marketing.
- **Menu Module:** Web application managing products, categories, and prices, synchronized with Sales.
- **Reporting & Analytics:** Web application providing dashboards and consolidated performance insights.

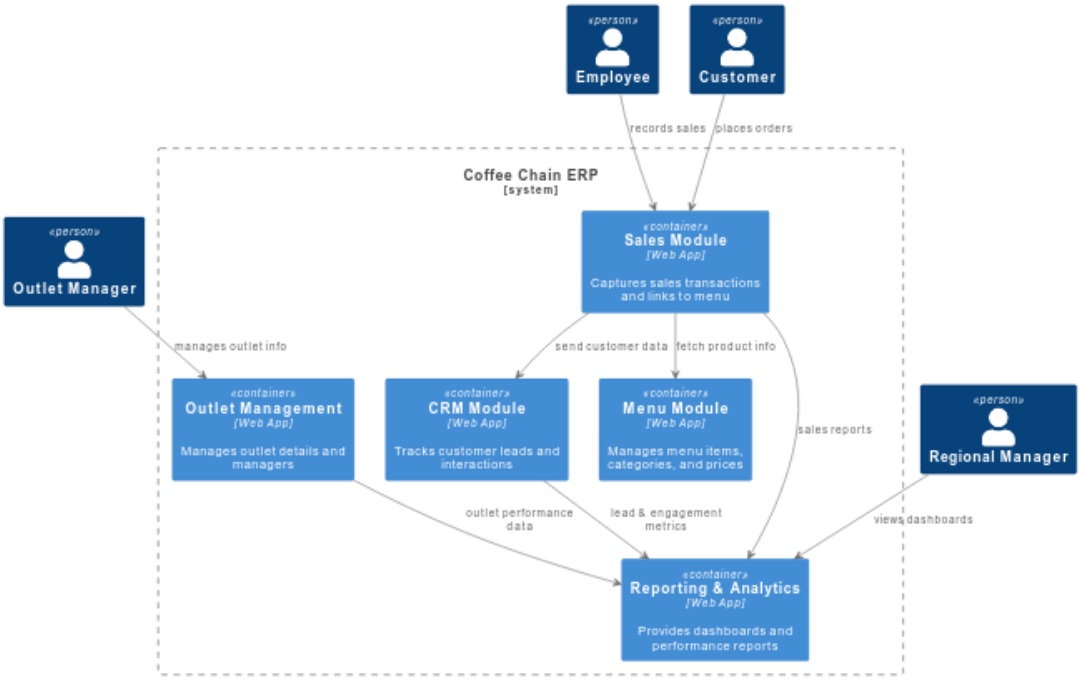

Figure 7.1: C2-Level Container Diagram of Coffee Chain ERP

Insights

The C2 diagram illustrates how each module (container) interacts with other modules and external actors (employees, managers, customers). This high-level view helps stakeholders understand dependencies, system boundaries, and data flow without needing to inspect individual module internals.

Components of Each Container (C3 Diagrams)

Each container is composed of internal components that define its functionality and interactions. These components are depicted in C3-level component diagrams.

Outlet Management Module Components

- Outlet Information Management
- Manager Assignment Component
- Regional Performance Component
- Reporting Component

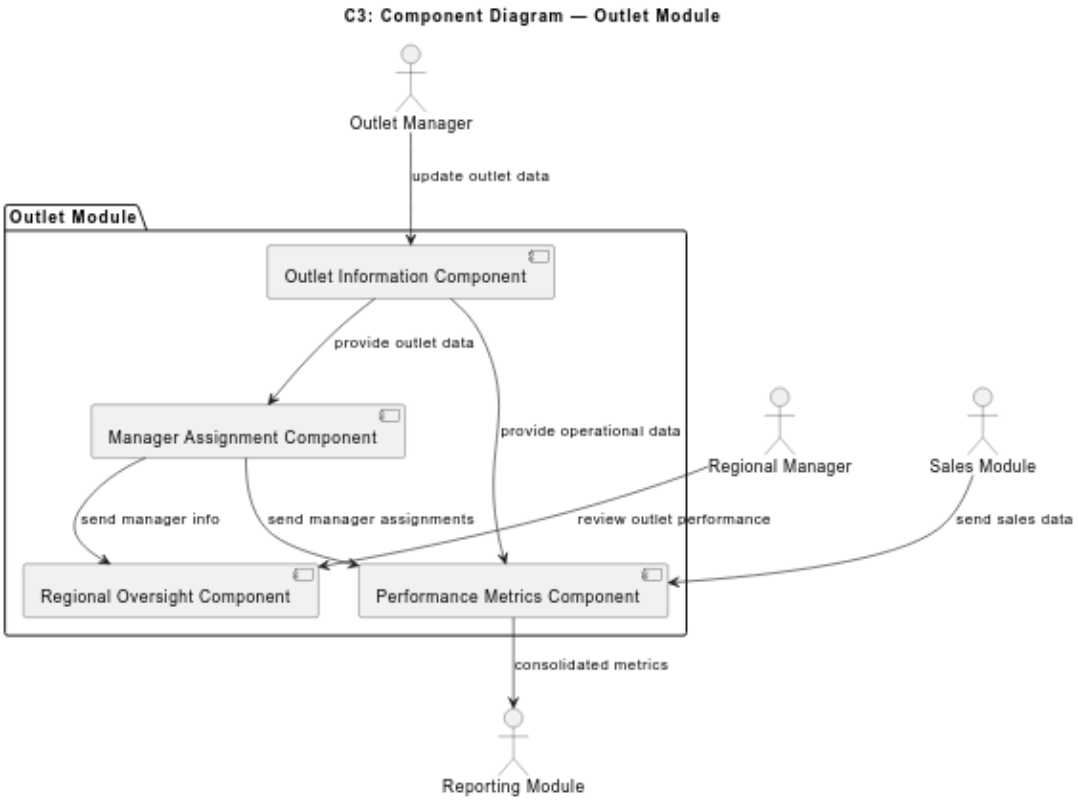

Figure 7.2: C3-Level Component Diagram — Outlet Management

Sales Module Components

- Transaction Processing Component
- Reporting Component
- Product Link Component
- Payment Processing Component

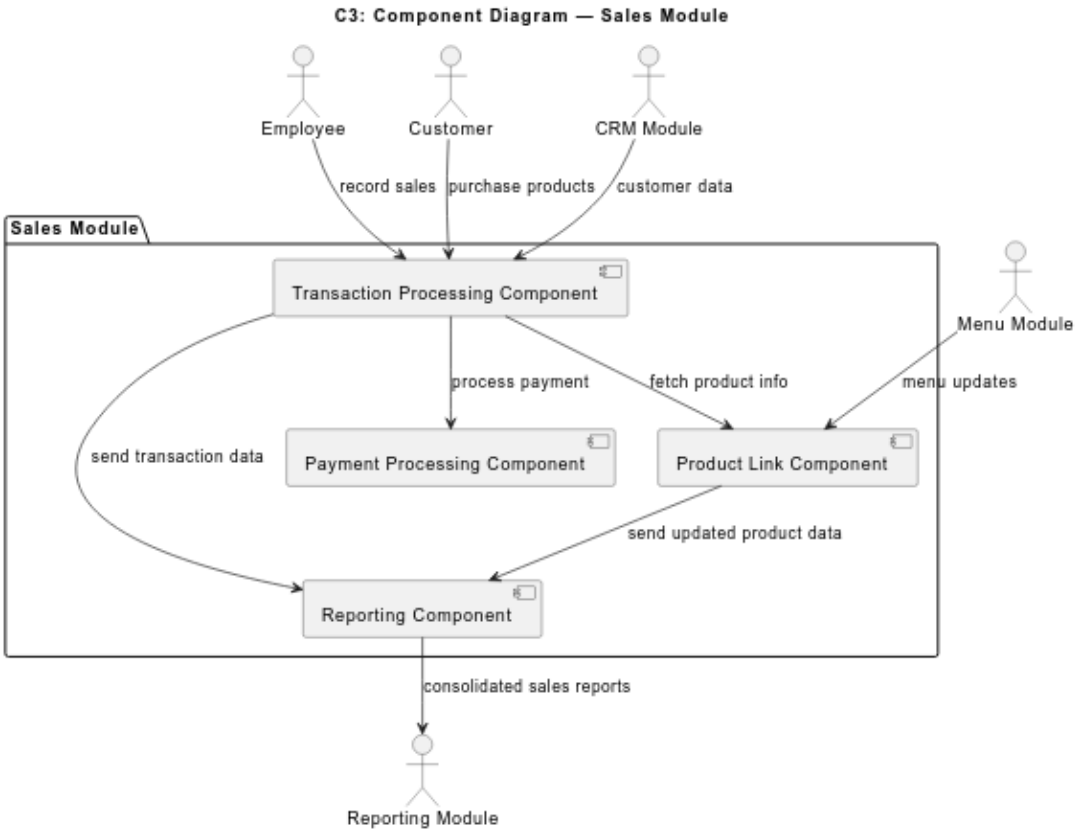

Figure 7.3: C3-Level Component Diagram — Sales Module

CRM Module Components

- Lead Management Component
- Customer Interaction Component
- Customer Segmentation Component
- CRM Reporting Component

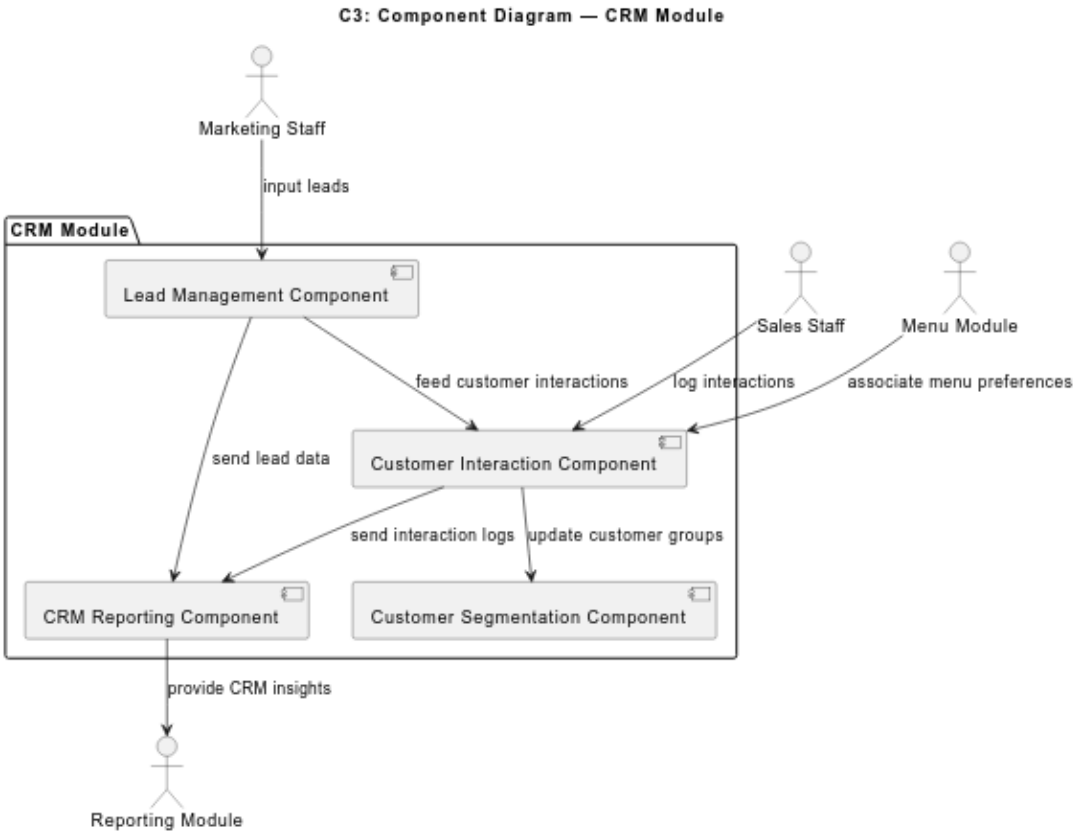

Figure 7.4: C3-Level Component Diagram — CRM Module

Menu Module Components

- Menu Item Management Component
- Category Management Component
- Pricing Component
- Menu-Sales Synchronization Component

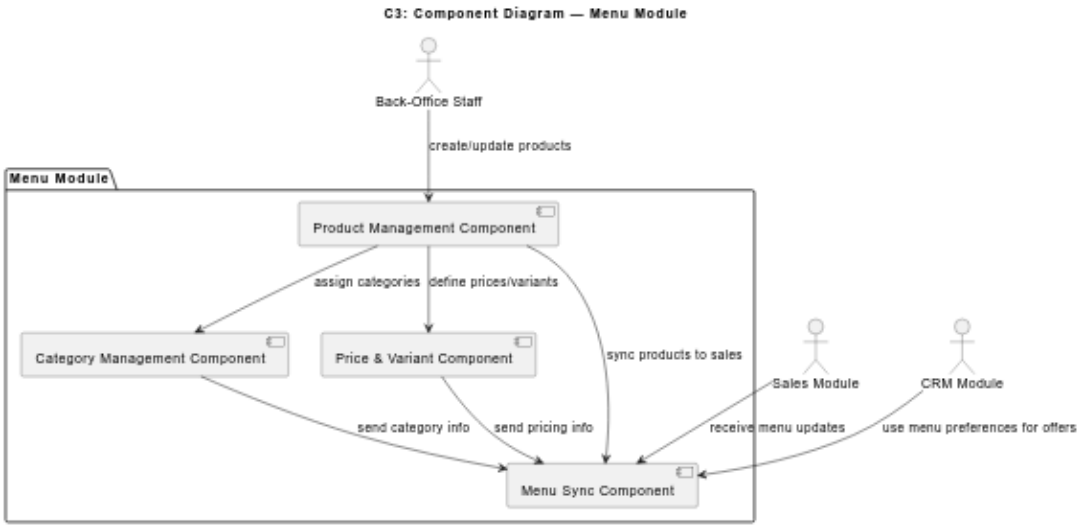

Figure 7.5: C3-Level Component Diagram — Menu Module

Insights

Analyzing the C3 diagrams reveals the following:

- Each module has a clear separation of responsibilities via components.
- Internal components communicate with external actors (employees, customers, managers) and other modules to provide seamless operations.
- The ERP system's modular architecture enables future extension, such as adding Loyalty & Rewards or Inventory Management, without disrupting existing modules.
- Real-time synchronization between Menu, Sales, and CRM is critical for accurate reporting and decision-making.

8. Components & Integration

9. Concepts & Documentation

What is ERP?

Enterprise Resource Planning (ERP) is a system that integrates business functions into a unified platform. In the Coffee Chain ERP, ERP connects menu management, sales, customer tracking, and outlet operations to reduce redundancy and increase efficiency.

ERP Integration in the Coffee Chain

Data flows seamlessly across modules:

- A sale connects menu items, customers, and outlet records automatically.
- Menu updates reflect immediately in sales transactions.
- Customers are linked with sales orders for record-keeping and CRM purposes.

Key Concepts

Coffee Menu Items

- Name, price, category, description, and status (draft, active, seasonal, retired).
- Customization options: milk type, size, syrup flavor, extra shot.
- Linked to Odoo products to integrate with sales.

Outlets

- Stores outlet details, including name, manager, and location.
- Linked to sales orders to track which outlet processed each sale.
- Managers oversee staff and validate transactions.

Customers and Sales Orders

- Customers are tracked in the CRM and linked to sales orders.
- Sales orders record menu items sold, outlet, customer, payment, and timestamp.
- Acts as the central point connecting menu items, outlets, and customers.

Important Documents in the Workflow

- **Menu Master List:** Stores all coffee items with categories, prices, and customization options. Serves as the single reference for all outlets.
- **Sales Records:** Include transaction ID, menu items sold, outlet, customer, and payment details.
- **Customer Records:** Store contact details and link to sales orders.
- **Outlet Data Sheets:** Maintain outlet name, location, and manager information.

Module-Document Integration

- Sales orders link menu items to the outlet and customer.
- Menu master list ensures all outlets use consistent item data.
- Customer records are connected to sales orders for traceability.

Listing 9.1: Example: Linking Outlet and Customer in Sales Order

```
class SaleOrder(models.Model):
    _inherit = 'sale.order'

    outlet_id = fields.Many2one('coffee.outlet', string='Outlet')
    customer_id = fields.Many2one('res.partner', string='Customer')
```

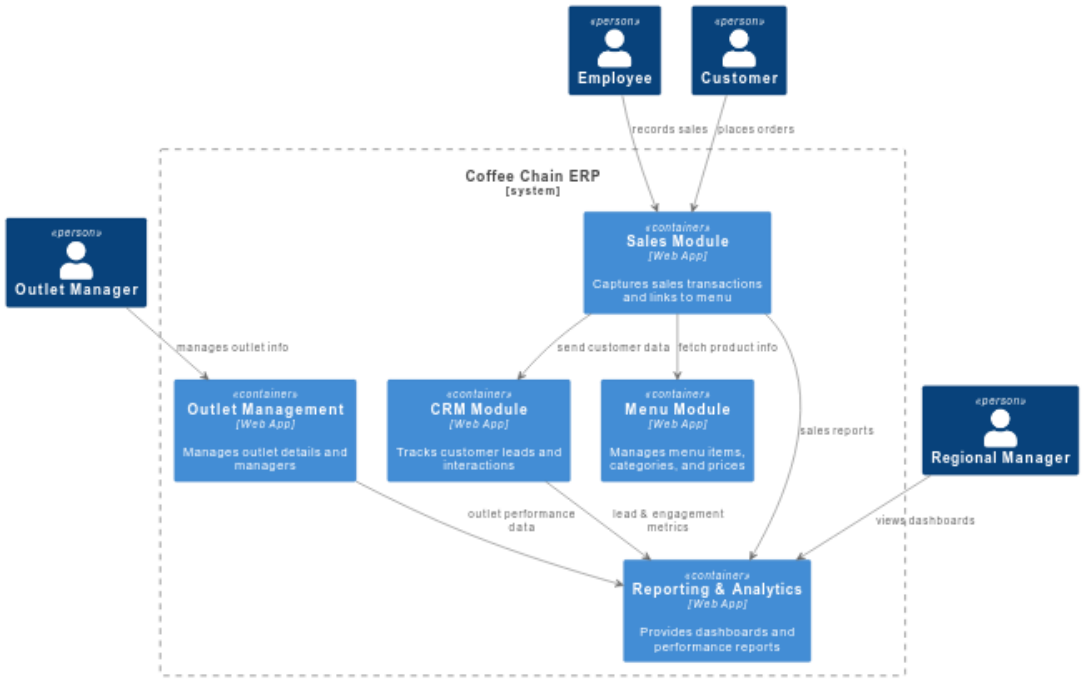

Figure 9.1: Reference Container Diagram for Module and Document Flow

Insights

- The ERP system connects menu, outlets, customers, and sales orders for seamless operations.
- Centralized documentation ensures consistency across outlets.
- Accurate records of menu items, outlets, and sales orders are essential for reliable operations.
- Maintaining a single source of truth for menu items, outlets, and customers simplifies management and improves traceability.

10. Workflow and Customer Journey for Coffee Chain ERP System

This chapter details how administrators configure the system and how customers experience transactions at outlets. The workflows highlight the sequence of operations, responsibilities, and ERP automation.

System Entities

- `coffee.outlet` – Coffee Outlet details.
- `res.partner` – Outlet Owner or Sale Customer.
- `coffee.menu.item` – Menu Items with categories.
- `sale.order` – Customer Orders linked to outlets.
- `crm.lead` – Optional CRM Leads for marketing.

Administrator Workflow

Administrators configure the backbone of the ERP:

1. Create outlet profiles, assign managers, and set operational details.
2. Populate the Menu Master with drinks, snacks, and pricing.
3. Register Sale Customers in the system for traceable transactions.
4. Optionally link CRM leads for customer engagement tracking.

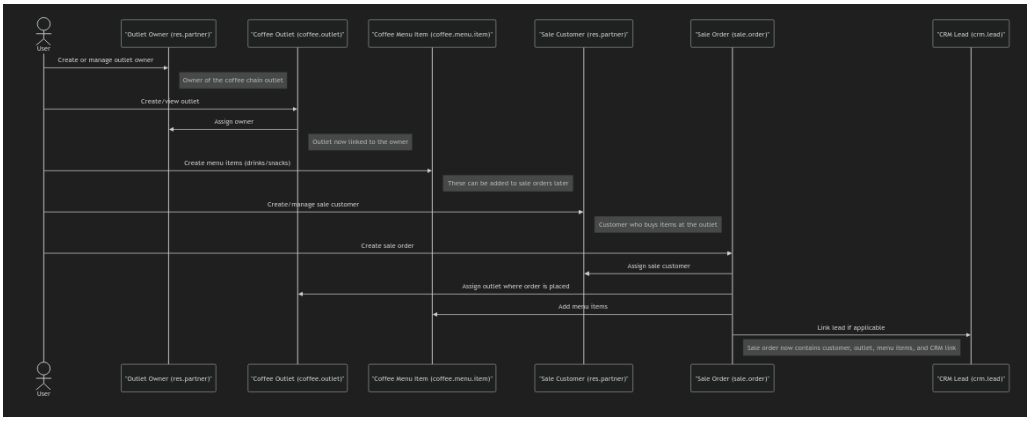

Figure 10.1: Administrator Workflow Sequence Diagram

Why it matters: Proper configuration ensures outlets are standardized, sales are captured accurately, and data flows without disruption.

Customer Journey at the Outlet

The ERP supports staff during customer interactions:

1. A customer places an order at the outlet counter.
2. Staff select the outlet profile and add the ordered menu items.
3. The system links the order to outlet and customer records.
4. The customer completes payment, and the system issues a receipt.
5. The transaction is saved in the database, updating reports and CRM.

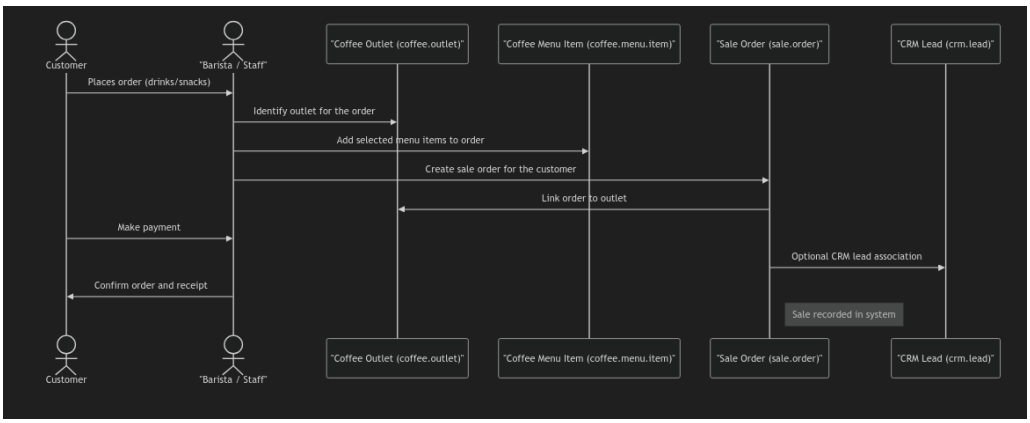

Figure 10.2: Customer Journey Sequence Diagram

Why it matters: The customer journey demonstrates how ERP integrates operations — ensuring real-time accuracy from the moment of order to final reporting.

Insights

- Administrators create the foundation; customers generate daily data.
- ERP workflows ensure traceability of every transaction.
- The system links customer experiences directly with business reporting.

11. Code, Class, and Master Data Schema for Coffee Chain ERP System

Introduction

This chapter explains the master data structure and schema used in the Coffee Chain ERP system. It first introduces key terminologies for understanding ERP data models, then describes the master data entities, relationships, and schema as implemented in the system. This provides a foundation for understanding the system's code and database structure.

Basic Terminologies

Entity: A distinct object or concept in the system that stores data. Examples include Customer, Product, or Outlet.

Attribute: A property or field of an entity. For example, a Customer entity may have attributes such as Name, Email, and Phone Number.

Primary Key: A unique identifier for an entity instance. In Odoo, this is often the `id` field.

Relationship: The association between two entities, such as One-to-Many or Many-to-One. Example: Each Outlet is owned by one Outlet Owner, while an owner can have multiple outlets.

Master Data: Core data that is essential for the operation of a system, such as Customers, Products, and Outlets.

Business Logic Layer: Code that defines the rules and behavior of the system, often implemented via Python classes in Odoo modules.

Model/Class: In Odoo, a model is a Python class that defines the structure of an entity, including fields, relationships, and methods.

Master Data in Coffee Chain ERP System

The Coffee Chain ERP system's master data schema includes the following key entities:

Outlet Owner (`res.partner`)

Field	Type	Description
id	int	Primary Key
name	string	Owner Name
email	string	Contact Email
phone	string	Contact Number

Relationship: One owner can manage multiple Coffee Outlets (One-to-Many).

Coffee Outlet (`coffee.outlet`)

Field	Type	Description	Relationship
id	int	Primary Key	—
name	string	Outlet Name	—
location	string	Outlet Address	—
owner_id	int	Foreign Key	res.partner.id (Outlet Owner)

Relationships: Many-to-One with Outlet Owner, One-to-Many with Sale Orders.

Coffee Menu Item (`coffee.menu.item`)

Field	Type	Description
id	int	Primary Key
name	string	Item Name
price	float	Item Price
category	selection	Drinks / Snacks
image	binary	Item Image

Relationship: Many-to-Many with Sale Orders.

Sale Customer (`res.partner`)

Field	Type	Description
id	int	Primary Key
name	string	Customer Name
email	string	Contact Email
phone	string	Contact Number

Relationship: One-to-Many with Sale Orders; optional link to CRM Leads.

Sale Order (`sale.order`)

Field	Type	Description	Relationship
id	int	Primary Key	—
order_number	string	Unique Order Number	—
customer_id	int	Foreign Key	res.partner.id (Sale Customer)
outlet_id	int	Foreign Key	coffee.outlet.id
order_date	date	Order Timestamp	—

Relationship: Many-to-One with Sale Customer and Outlet; Many-to-Many with Menu Items; optional FK to CRM Lead.

CRM Lead (`crm.lead`)

Field	Type	Description	Relationship
id	int	Primary Key	—
lead_name	string	Lead Title	—
stage	string	Lead Status	—
related_order_id	int	Optional FK	sale.order.id

Relationship: Optional linkage to Sale Orders and Sale Customers.

Master Data Schema Diagram

The following diagram visually represents the **tables, fields, primary keys, and relationships** in the Coffee Chain ERP system:

Python Classes Mapping to Master Data

The ERP system implements the master data entities as Python classes in Odoo modules:

- `coffee.outlet` → Python class `CoffeeOutlet(models.Model)`
- `coffee.menu.item` → Python class `CoffeeMenuItem(models.Model)`
- `res.partner` → Used for both Outlet Owner and Sale Customer
- `sale.order` → Python class `SaleOrder(models.Model)`
- `crm.lead` → Python class `CrmLead(models.Model)`

Field Definitions Example

For example, the `CoffeeMenuItem` class defines the following fields:

Listing 11.1: Coffee Menu Item Python Class

```
from odoo import models, fields

class CoffeeMenuItem(models.Model):
    _name = 'coffee.menu.item'
    _description = 'Coffee Menu Item'

    name = fields.Char(required=True)
    price = fields.Monetary(currency_field='currency_id', required=True)
    category = fields.Selection([
        ('drinks', 'Drinks'),
        ('snacks', 'Snacks'),
    ], required=True)
    image = fields.Image(max_width=128, max_height=128)
```

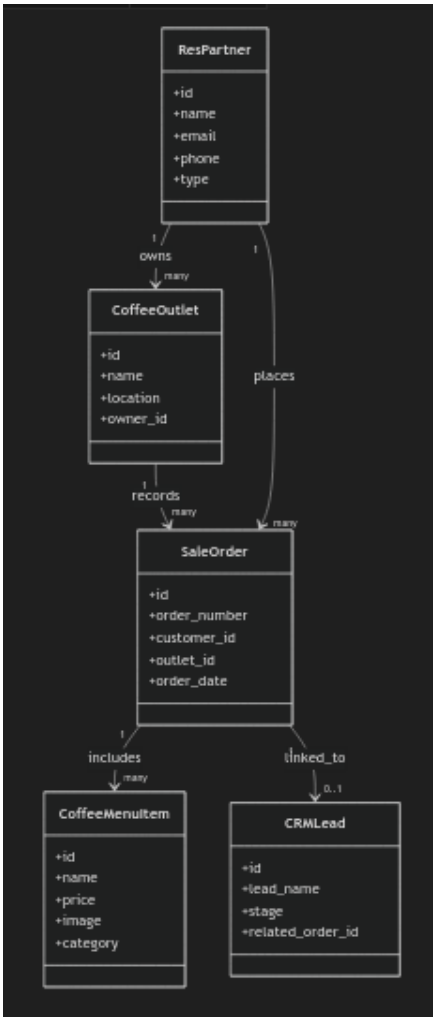

Figure 11.1: Class diagram showing Python classes and field names for quick reference.

Summary

The master data schema of the Coffee Chain ERP system ensures:

- Clear separation of entities: outlets, menu items, customers, orders, and leads.
- Proper relationships to maintain data integrity: e.g., orders linked to customers and outlets.
- Python classes in Odoo accurately define the structure, fields, and relationships.
- The schema supports the business logic and workflow described in previous chapters.

12. Access Rights and User Roles in Coffee Chain ERP System

Introduction

Access control is a fundamental aspect of any ERP system. It ensures that users can only access data and perform actions according to their responsibilities. This chapter explains the concept of access rights, user roles, and how they are implemented in Odoo. Finally, it details the specific access rights configured for the Coffee Chain ERP system based on its code.

General Concepts: Access Rights and User Roles

Access Rights: Define what operations a user can perform on data. These typically include:

- **Read:** View records.
- **Write:** Edit existing records.
- **Create:** Add new records.
- **Delete / Unlink:** Remove records.

User Roles: Groupings of users with similar responsibilities. A role determines which models and actions a user can access.

Role-Based Access Control (RBAC): Common model where access is granted based on the user's role rather than individual permissions.

Access Control in Odoo

In Odoo, access rights are managed using:

- **Groups:** Collections of users sharing the same role.
- **Models:** Entities like `res.partner`, `sale.order`, or `coffee.menu.item`.
- **Permissions:** Defined in `ir.model.access.csv`, specifying read, write, create, and delete rights for a group on a model.

Each record operation in Odoo checks:

1. Whether the user belongs to a group with the necessary permission.
2. Whether the record is accessible under record rules (not covered in this chapter but relevant for finer control).

User Roles in Coffee Chain ERP System

The Coffee Chain ERP system defines the following primary user roles:

- **Outlet User:** Staff who manage outlet operations, including sales orders, POS transactions, accounting entries, and menu items.
- **CRM User:** Staff who manage CRM leads and related customer interactions.
- **Help User:** Users who only need read access to help documents and guides.

These roles are implemented in Odoo using groups such as `base.group.user` and custom groups defined in the modules.

Access Rights for Coffee Chain ERP System

The following table presents a matrix of access rights for the models in the system, derived from the `ir.model.access.csv` files in the modules:

ID	Name	Model
access_coffee_outlet_user	access.coffee.outlet.user	coffee.outlet
access_crm_lead_inherit_user	access.crm.lead.inherit.user	crm.lead
access_res_partner_inherit_user	access.res.partner.inherit.user	res.partner
access_coffee_help_user	access.coffee.help.user	coffee.help
access_coffee_crm_help_user	access.coffee.crm.help.user	coffee.crm.help
access_coffee_sales_help_user	access.coffee.sales.help.user	coffee.sales.help
access_sale_order_outlet_user	access.sale.order.outlet.user	sale.order
access_sale_order_line_coffee_user	access.sale.order.line.coffee.user	sale.order.line
access_account_move_outlet_user	access.account.move.outlet.user	account.move
access_account_payment_outlet_user	access.account.payment.outlet.user	account.payment
access_pos_config_outlet	access.pos.config.outlet	pos.config
access_pos_order_outlet_user	access.pos.order.outlet.user	pos.order
access_pos_order_line_outlet_user	access.pos.order.line.outlet.user	pos.order.line
access_coffee_menu_item_user	access.coffee.menu.item	coffee.menu.item
access_coffee_menu_tag_user	access.coffee.menu.tag	coffee.menu.tag

Model	Group	Read	Write	Create	Delete
coffee.outlet	base.group.user	1	1	1	1
crm.lead	base.group.user	1	1	1	1
res.partner	base.group.user	1	1	1	1
coffee.help	—	1	0	0	0
coffee.crm.help	—	1	0	0	0
coffee.sales.help	—	1	0	0	0
sale.order	—	1	1	1	1
sale.order.line	—	1	1	1	1
account.move	—	1	1	1	1
account.payment	—	1	1	1	1
pos.config	base.group.user	1	1	0	0
pos.order	base.group.user	1	1	1	1
pos.order.line	base.group.user	1	1	1	1
coffee.menu.item	—	1	1	1	1
coffee.menu.tag	—	1	1	1	1

Table 12.1: User Access Rights Matrix for Coffee Chain ERP System

Explanation of Key Permissions

- Outlet-related models (`coffee.outlet`, `sale.order`, `pos.order`, etc.) have full CRUD access for staff responsible for operations.
- CRM models (`crm.lead`) allow full management for CRM users.
- Help-related models (`coffee.help`, `coffee.crm.help`, `coffee.sales.help`) are read-only to prevent modification by general users.
- POS configuration (`pos.config`) is restricted from creation to avoid accidental setups.
- Coffee menu items and tags can be fully managed by outlet staff to ensure menu updates.

Practical Examples of Access Control

To better illustrate how access rights operate in practice:

- A **regional manager** can view performance reports for multiple outlets but cannot directly edit outlet menus or prices. This ensures visibility without risking accidental changes to operational data.
- An **employee** (e.g., barista) can create sales orders and process transactions in the POS system but cannot modify outlet profiles or assign outlet managers. This limits their permissions to day-to-day operational tasks only.
- A **CRM user** can manage leads and customer interactions but cannot delete accounting entries or modify sales orders, keeping financial data protected.

These examples show how the system enforces the principle of least privilege, ensuring that each role has exactly the access needed to perform its duties, no more and no less.

This chapter explains general concepts of access rights and user roles, how they are implemented in Odoo, and the specific permissions configured for the Coffee Chain ERP system. The matrix provides a clear reference for developers, system administrators, and auditors to understand role-based access control within the system.