# VIETNAM GENERAL CONFEDERATION OF LABOUR TON DUC THANG UNIVERSITY FACULTY OF INFORMATION TECHNOLOGY



#### ENTERPRISE RESOURCE PLANNING

# FINAL PROJECT REPORT

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Class: 20H50204

Course: 24

**HO CHI MINH CITY, 2023** 

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# **THANK YOU**

Thank you, Ms. Ho Thi Thanh Tuyen, for being very enthusiastic in guiding and instructing me in forming knowledge for this essay. She always tries to make everything simpler and easier for me to absorb. Once again, thank you very much madam.

#### PROJECT COMPLETED AT TON DUC THANG UNIVERSITY

I hereby declare that this is my/our own project and is guided by Dr. Ho Thi Thanh Tuyen. The research contents and results in this topic are honest and have not been published in any form before. The data in the tables for analysis, comments and evaluation are collected by the author himself from different sources, clearly stated in the reference section.

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Ho Chi Minh City, Month 11 Date 23 Year 2023

Author

(Sign and write your full name)

Vũ Lê Tấn Phát Nguyễn Minh Mẫn Nguyễn Phạm Thanh Uyên

# TEACHER'S CONFIRMATION AND ASSESSMENT SECTION

The confirmation part of the instructor		
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	Ho Chi Minh City, Month 11 Date 23 Year 2023 (Sign and write your full name)	
Γhe evaluation part of the te	acher marks the test	

Ho Chi Minh City, Month 11 date 23 year 2023 (Sign and write your full name)

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#### **INTRODUCTION**

This report provides insights into the implementation of an Enterprise Resource Planning (ERP) system for "Odoo Milktea," a fictional bubble tea store. As part of the Introduction to ERP course for the academic semester 2023-2024, we explore the practical aspects of ERP integration within this business context.

Our objective is to showcase the successful execution of ERP processes using the Odoo platform. We will delve into organizational structure, HR processes, product management, CRM, SCM, data analysis with Power BI, and Odoo software architecture.

This report underscores the importance of ERP systems in enhancing operational efficiency and competitiveness in the dynamic bubble tea market.

# TASK 1: Introduction of your fiction company including departments, organization chart, business processes

#### 1.1 Company overview:

Company name: Bubble Tea Company

Headquarters: 250 Executive Park Blvd, Suite 3400 • San Francisco CA 94134 •

**United States** 

Website: https://odoo-milktea1.odoo.com/

Email: bubbletea@bubbletea.com.vn

Brand logo:



#### **Bubble Tea's Vision, Mission, and Core values:**

- Vision: "Through creating unique drinks to contribute to the prosperity and development of Vietnamese society"
- Mission: "We are committed to bringing customers the best cups of milk tea, combining traditional flavours and creativity, creating a special meeting and sharing space."

• Core values: "To become the leading bubble tea brand in Vietnam."

Innovation

Responsibility

Quality

Customer-centric

# 1.2 The organizational structure of Bubble Tea company includes the following main departments:

#### 1.2.1 Human Resources Department

- Responsible for recruiting, training, and developing employees, managing salaries and benefits, and resolving human resources related issues. Ensure legal regulations and company policies on human resources.
- The Human Resources department includes the Recruitment Department, the Compensation and Benefit Department, the Administrative Department, and the Training and Development Department.
- The Human Resources Department is in charge of human resources-related tasks such as recruitment, information management, work performance and developing compensation policies, ...

## 1.2.2 Finance Department

- Responsible for managing all activities related to accounting and company finance such as preparing financial reports, payroll, invoices, and customer payments.
- The Finance Department includes the Accounting Department, Finance Department, Budget Management Department, and Tax Department.
- The Finance Department is in charge of operating and managing all financial and accounting work of the company such as preparing financial reports, accounting, revenue and expenditure management, import-export inventory of raw materials and products, consumed goods, ...

#### 1.2.3 Sales Department

- Responsible for promoting and distributing the company's products and services to customers.
- The Sales Department includes the Marketing Department, Sales and Distribution Department, Sales Management Department, and Customer Service Department.
- The sales department is in charge of tasks such as business strategy development, sales management, marketing and advertising strategy management, pricing and promotions, foreign affairs and public relations, ...

#### 1.2.4 Production Department

- Responsible for managing the company's product manufacturing activities.
- The Production Department includes the Production Department, the Machinery and Equipment Operation Department, the Warehouse Department, and the Transportation Department.
- The production department is in charge of managing and operating the production process from planning, managing raw materials, necessary resources and monitoring the production process. In addition, it controls product quality, ensures compliance with standardized production processes, and ensures quality.

## 1.2.5 Research and Development Department

- Responsible for activities related to research and development of the company's products.
- The Research and Development Department includes the Product Research and Development Department, the Market Research Department, and the Product Testing and Evaluation Department.
- The Research and Development Department is in charge of researching and developing new products and improving the company's existing products, researching the market and capturing trends, ...

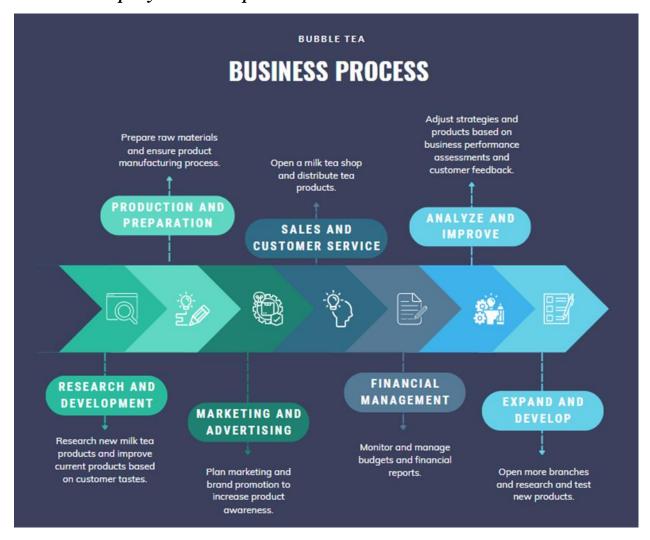
#### 1.2.6 Quality Management Department

- Has the function of advising the company's board of directors on product quality management as well as issues related to product quality inspection, control, and improvement.
- The Quality Management Department includes the Quality Control Department, Product Evaluation Department, Food Safety and Hygiene Department, and Product Feedback and Improvement Management Department.
- The Quality Management Department is in charge of managing the standardization of quality management regulations and processes, organizing testing and product quality inspection, ...

#### 1.2.7 Bubble Tea company organizational chart:



# 1.3 Bubble Tea company's business process:



# TASK 2: Describe functions, tasks and processes of the human resources department (recruitment, timekeeping, payroll, reward, benefits, training,) of this fictional company and demo with Odoo 2.1 Functions of human resources department:

#### 2.1.1 Recruitment:

The human resources department takes on the role of developing and implementing recruitment policies to attract qualified candidates. By creating and posting job ads on platforms, they can find potential candidates.

#### 2.1.2 Timekeeping

The human resources department implements and manages the company's timekeeping system to track employee time and work performance. Ensure accuracy in recording specific working hours and resolve questions related to working hours.

#### 2.1.3 Payroll

The human resources department is responsible for managing the payroll process, including calculating salaries, withholding taxes, and processing salary payments.

## 2.1.4 Rewards and Benefits

The human resources department is in charge of managing and rewarding employees, including reward and incentive policies if employees have excellent performance.

## 2.1.5 Benefit management

The human resources department manages employee benefit programs including health insurance, vacation days, retirement or other perks. In addition, the department also communicates information about benefits to employees and resolves issues and questions related to benefits.

#### 2.1.6 Training and Development

The human resources department is responsible for developing training programs for employees on specific skills or knowledge. Additionally, monitor training progress and evaluate the effectiveness of programs.

#### 2.2 Duties and Processes of the Human Resources department:

#### 2.2.1 Recruitment process

Search for potential candidates

• Through interview rounds, screening is conducted to find suitable people.

#### 2.2.2 Timekeeping process

- Deploy fingerprint or automatic timekeeping system.
- Manage employee time records.
- Resolve employee time-related issues.

#### 2.2.3 Salary calculation process

- Determine employee working time including holidays through timesheets.
- Calculate salary, deductions and taxes.
- Processing payroll and salary distribution.
- Prepare salary reports and maintain records.

## 2.2.4 Reward process

- Develop employee evaluation criteria.
- Review and evaluate employee performance and efficiency.
- Distribute rewards to employees.

# 2.2.5 Benefits management process

- Enroll employees in benefit programs.
- Support employees with welfare-related issues.

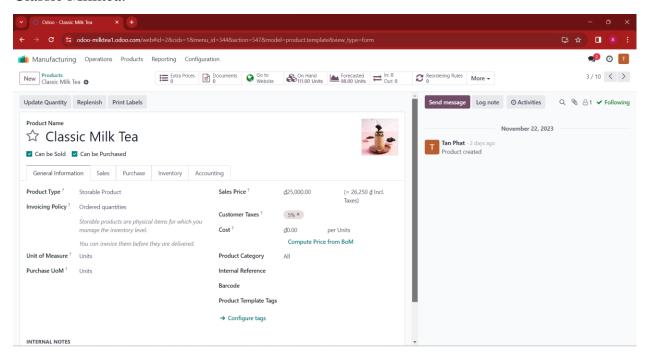
# 2.2.6 Training and development process

- Assess training needs through performance appraisals and skills assessments.
- Develop and implement specific knowledge or skills training programs.
- Monitor employee participation and evaluate training effectiveness.

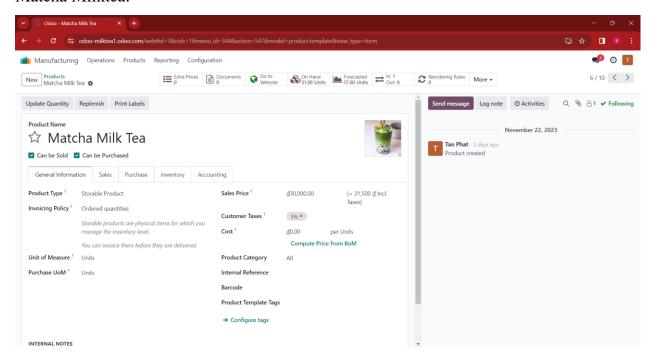
# **TASK 3: Make-To-Stock process**

#### 3.1 Create 2 products

#### Classic Milktea:

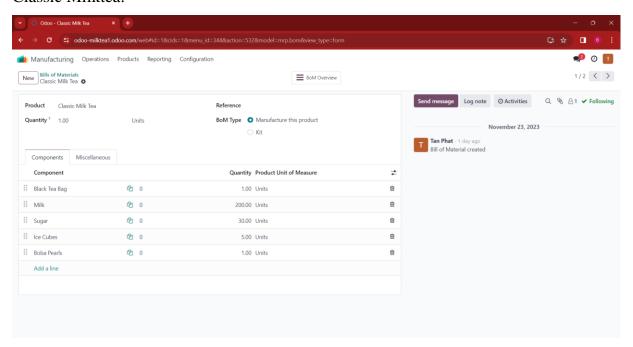


#### Matcha Milktea:

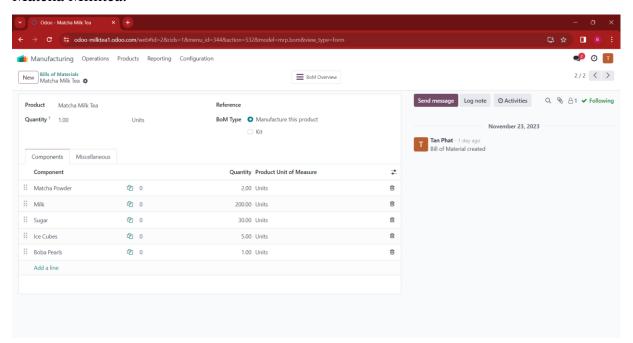


#### 3.2 Create BOM

#### Classic Milktea:

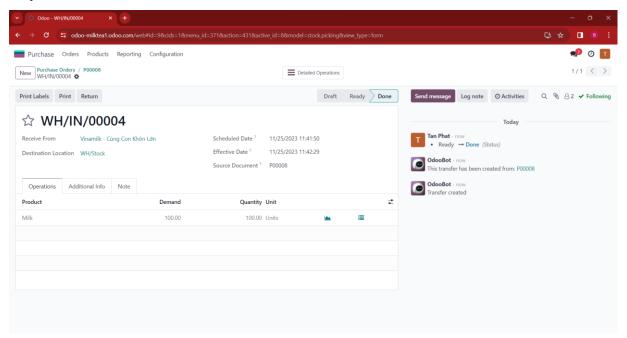


#### Matcha Milktea:

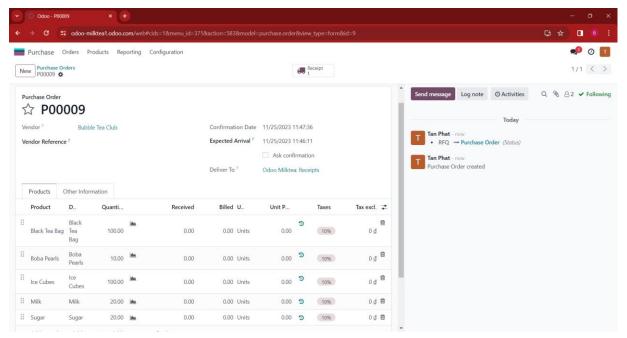


#### 3.3 Purchase Raw Materials

Buy milk from Vinamilk:

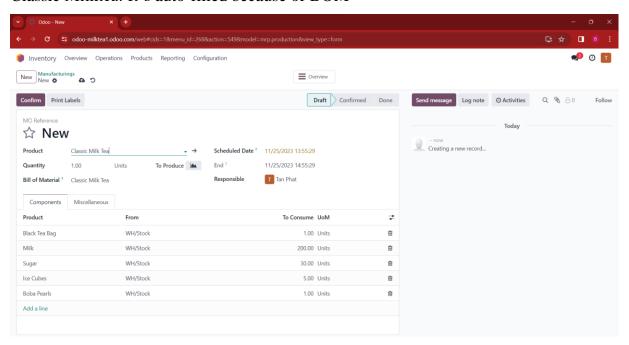


Buy the remaining milktea ingredients in Bubble Tea Club:

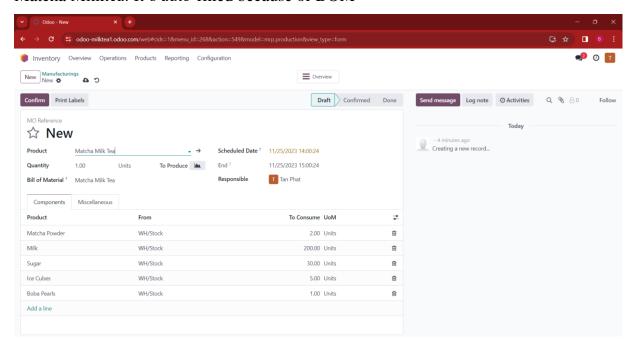


#### 3.4 Perform Production

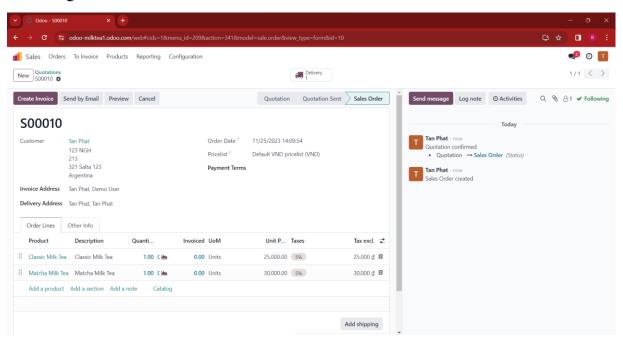
Classic Milktea: It's auto-filled because of BOM



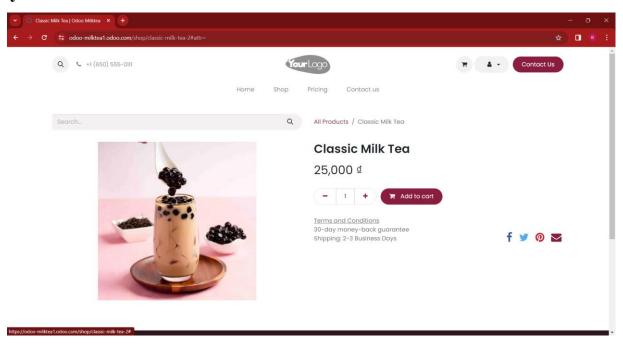
#### Matcha Milktea: It's auto-filled because of BOM

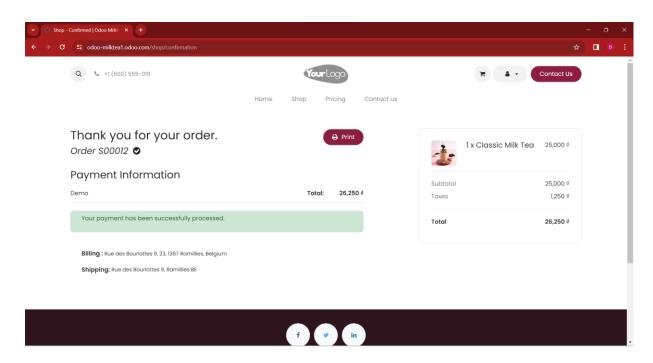


# 3.5 Perform Quotations

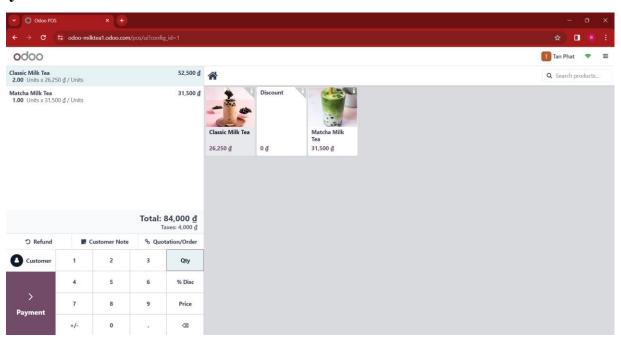


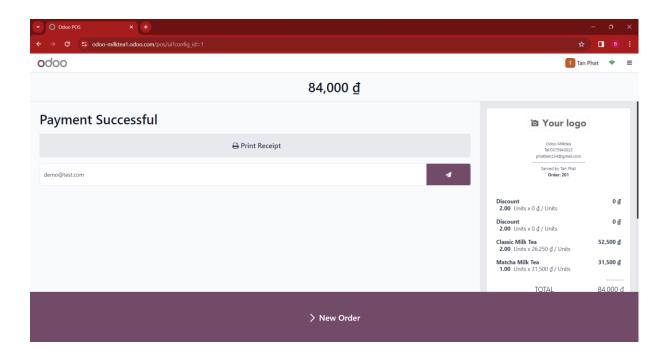
# 3.6 Buy via Web





# 3.7 Buy via POS

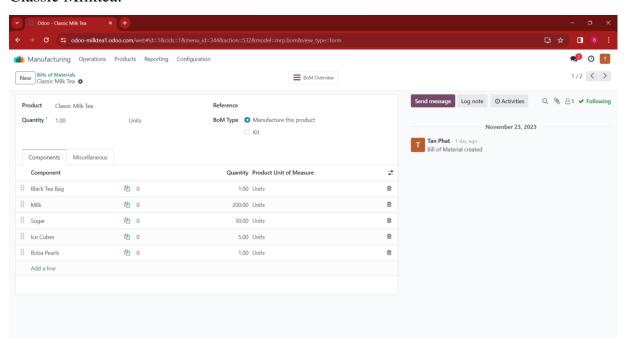




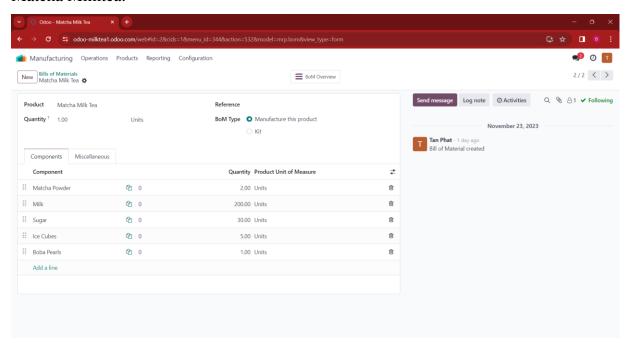
# **TASK 4: Make-To-Order process**

#### 4.1 Create BOM

#### Classic Milktea:

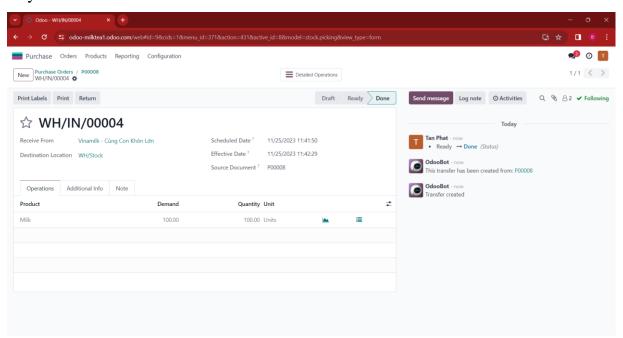


#### Matcha Milktea:

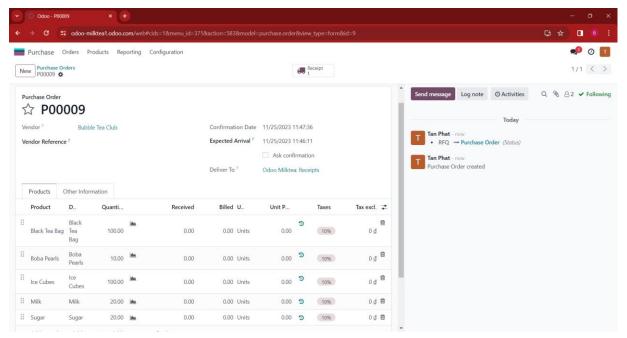


#### **4.2 Purchase Raw Materials**

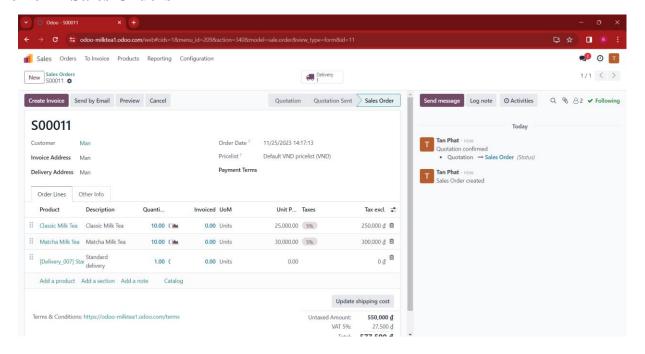
Buy milk from Vinamilk:



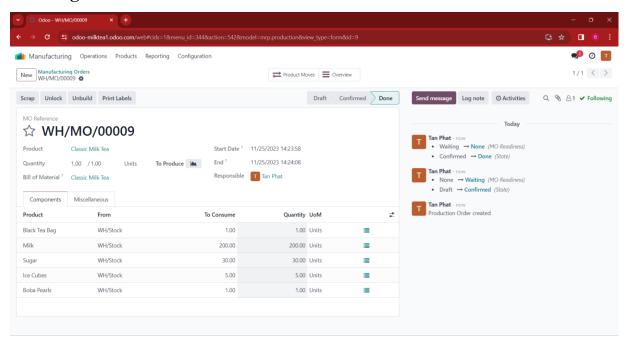
Buy the remaining milktea ingredients in Bubble Tea Club:



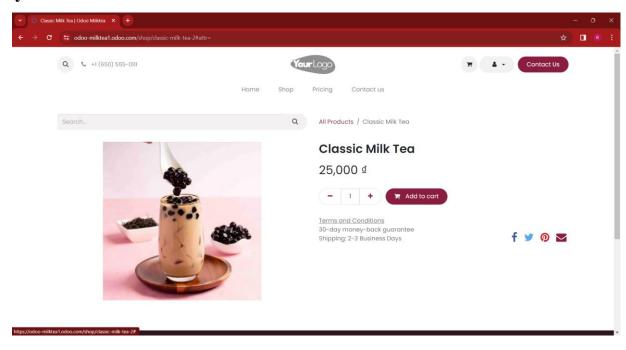
#### 4.3 Perform Sales Orders

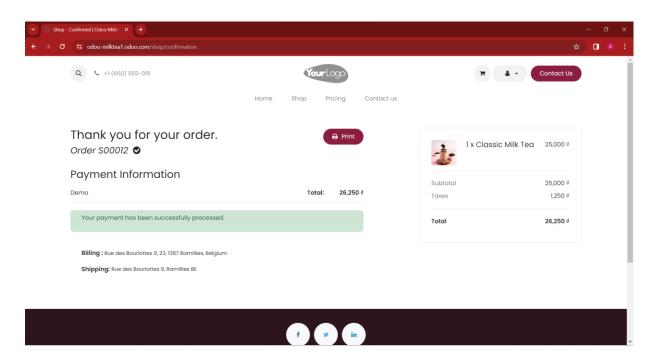


# 4.4 Proceeding with Production

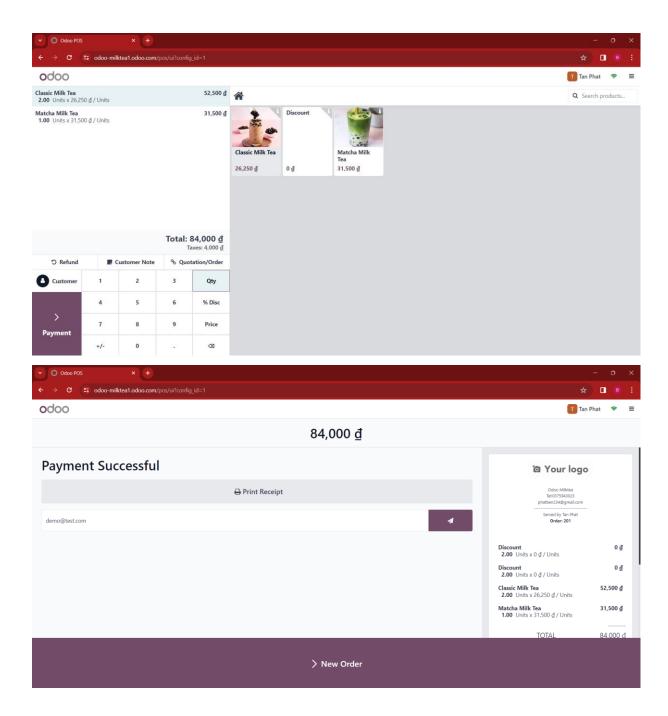


# 4.5 Buy via Web





# 4.6 Buy via POS



# **TASK 5: Describe CRM or SCM process**

#### **5.1 CRM Process for a Milk Tea Store:**

**Customer Data Collection:** Information is gathered through loyalty programs, order forms, and feedback surveys. Details such as purchase history, preferences, and contact information are stored in a CRM database.

**Customer Segmentation**: Customers are categorized based on factors like frequency of visits, average spend, and preference for certain flavors or products.

**Personalized Marketing**: Using the data, personalized marketing campaigns are created to target different segments with promotions, new flavor launches, and exclusive offers.

**Sales Tracking and Analysis**: Sales data is analyzed to understand purchasing patterns and the effectiveness of marketing campaigns. This can lead to adjustments in product offerings or promotional strategies.

**Customer Service and Feedback**: Customer service channels are maintained to handle inquiries and complaints. Feedback is solicited and used to improve products and services.

**Customer Retention**: Loyalty programs and regular communication are used to encourage repeat business.

#### **5.2 SCM Process for a Milk Tea Store:**

**Supplier Selection:** Identifying and choosing suppliers for ingredients like tea, milk, tapioca pearls, and flavorings.

**Inventory Management:** Keeping track of stock levels and ordering supplies to avoid shortages or excess.

**Order Fulfillment:** Ensuring ingredients and supplies are delivered to the store in a timely manner. Quality checks to ensure ingredients meet standards.

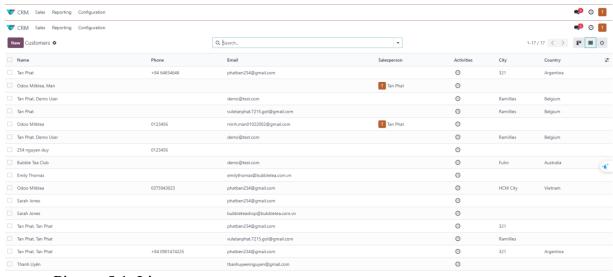
**Production Planning:** Coordinating the preparation of milk tea to align with customer demand while minimizing waste.

**Distribution**: If the store operates multiple locations or offers delivery, ensuring the finished product is delivered fresh and quickly.

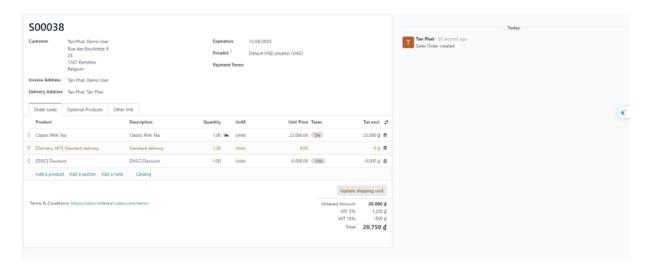
**Returns and Feedback:** Handling any issues with supplies, correcting them with suppliers, and using feedback to improve the supply chain.

Demo with Odoo:

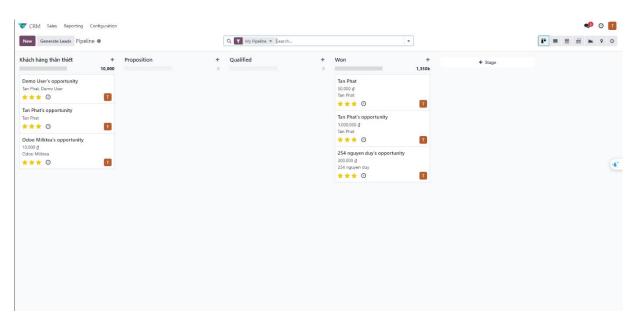
CRM Process for a Milk Tea Store:



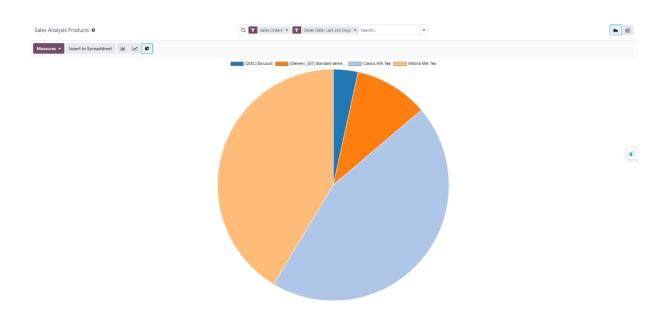
Picture 5.1. List customer



Picture 5.2. Customer Segmentation

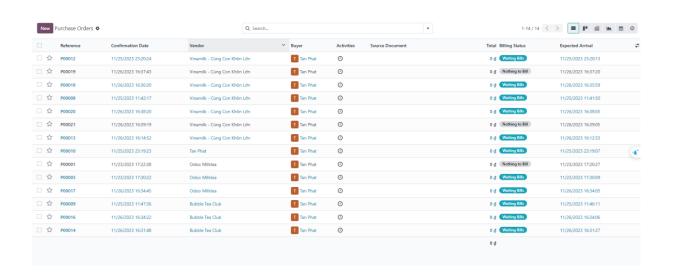


Picture 5.3. Customer Segmentation

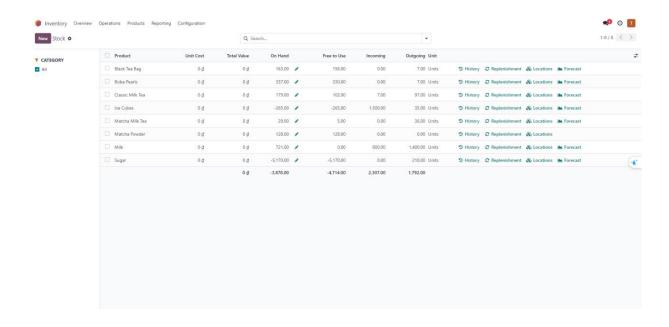


Picture 5.4. Sales Tracking and Analysis

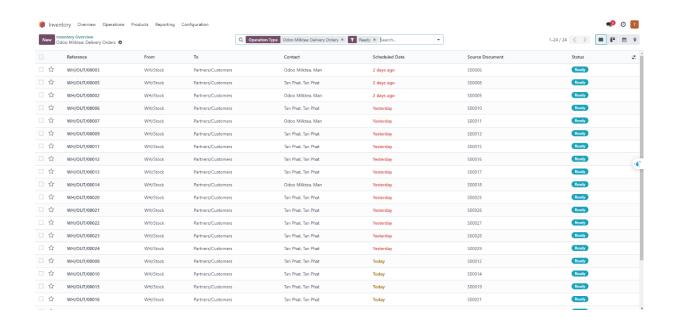
# **SCM Process for a Milk Tea Store:**



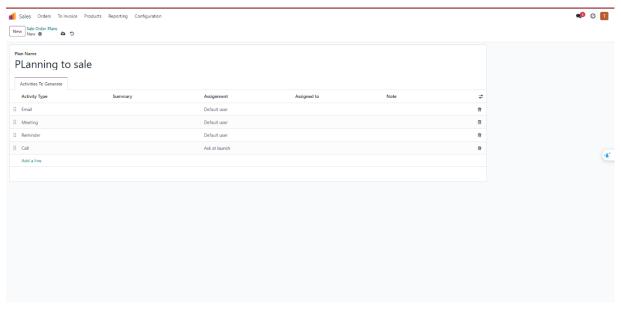
Picture 5.5. Supplier Selection



Picture 5.6. Inventory Management

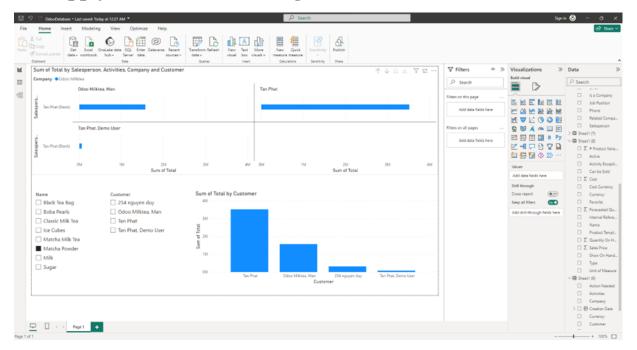


Picture 5.7. Order Fulfillment



Picture 5.8. Production Planning

# TASK 6: Apply Power BI connecting to Odoo



# TASK 7: Odoo Software Development Architecture

Odoo is an open-source ERP (Enterprise Resource Planning) software suite that provides a comprehensive range of business applications and modules to manage various aspects of a company's operations

#### **Client-Server Architecture:**

Odoo follows a client-server architecture, where clients (users and applications) interact with the server to access and manipulate data.

Clients can be web browsers, mobile devices, or other applications that communicate with the Odoo server via HTTP/HTTPS.

#### **Server Layer:**

The server layer is the core of the Odoo system, responsible for processing requests and managing data.

It consists of various modules that handle different functionalities, such as sales, inventory, HR management, and more.

The server layer is written primarily in Python, a versatile and widely-used programming language.

#### **Database Management:**

Odoo relies on a relational database management system (RDBMS) to store and manage data.

PostgreSQL is the preferred RDBMS for Odoo due to its scalability and performance.

#### **Modules:**

Odoo is built around the concept of modules, which are individual units of functionality.

Each module focuses on a specific business process or task, such as accounting, CRM, or inventory management.

Modules can be installed, uninstalled, and customized to adapt to the company's requirements.

#### **Views and Forms:**

Odoo uses XML-based views to define how data is presented to users.

Views are used to create user interfaces for various modules.

Forms, lists, and tree views are common types of views used to display and interact with data.

#### **Business Logic:**

The business logic of Odoo is defined within its modules using Python code.

Python scripts define how data is processed, rules are applied, and workflows are managed.

#### **Web Interface:**

Odoo provides a web-based user interface, allowing users to access the system from anywhere with an internet connection.

The web interface is responsive and can be accessed from various devices, including desktops, tablets, and smartphones.

#### **RESTful API:**

Odoo offers a RESTful API that allows external applications to integrate with the system.

This API enables data exchange and interaction with other software and services.

#### **Security:**

Odoo incorporates robust security measures, including user authentication, access control, and encryption, to protect sensitive data.

#### **Customization and Extensions:**

Companies can extend and customize Odoo's functionality to meet their specific needs.

This can be achieved through the creation of custom modules or by modifying existing ones.

#### **Community and Enterprise Editions:**

Odoo is available in both a community edition (open-source) and an enterprise edition (commercial).

The enterprise edition includes additional features and support services.

#### **CONCLUSION**

In summary, our implementation of the ERP system in "Odoo Milktea" has showcased the versatility of technology in enhancing business operations. From HR management to inventory control and sales processes, Odoo has proven to be adaptable and efficient.

The integration of data analysis using Power BI has provided valuable insights for strategic decision-making. Our exploration of Odoo's software development and source code customization demonstrates its potential for tailored solutions.

This project underscores the significance of ERP adoption for operational efficiency, customer satisfaction, and business success. It offers valuable lessons for businesses seeking growth and competitiveness through technology.

# **REFERENCES**

1. Odoo Documentation. (n.d.). Retrieved from https://www.odoo.com/documentation/

2. Power BI Documentation. (n.d.). Retrieved from https://docs.microsoft.com/en-us/power-bi/