

Fresh Bites Meal Delivery Project



INF20029 - Digital Business Analysis and Design

Assignment 1 – Individual Project

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Business Analyst: **ABIR HASAN SHUVO**

Student Number: **105086966**

Project Overview:

Fresh Bites Meal Delivery is transitioning from manual processes to a comprehensive, technology-driven system. This project will analyze current challenges, propose high-level system features, identify stakeholders, and suggest both functional and non-functional requirements to enhance business efficiency and customer satisfaction.

Key Deliverables:

- Stakeholder Identification
- Organizational Context and Problem Definition
- High-Level Features (Business Processes)
- Non-functional Requirements
- Epic and User Stories
- Activity Diagrams with improvements
- Entity-Relationship Diagram (ERD)

Submission Due Date: 11 Apr 23:59

Task 1

Project Vision

Answer to question number -1

Identifying potential stakeholders:

- **Customers Benefits (Existing & Prospective):** They need easy seamless ordering experience with payment & delivery options.
- **Delivery Personnel:** Lean on accurate and real-time scheduling, route optimization, and instant customer communication to make all deliveries.
- **Kitchen & Customer Support Staff:** Rely on combined functionalities to ensure faster meal preparation, track orders seamlessly, and manage customer queries or complaints smartly.
- **Ingredient Suppliers:** Count on accurate, timely inventory management notifications to keep supply-chain flowing smoothly and avoid disruption.
- **Payment gateways & financial institutes:** Required for payment processing, transaction management, and compliance with financial regulations.
- **Technology Provider & Developers:** Responsible for the technical infrastructure, development, maintenance, and enhancements of the system.
- **Regulatory Bodies (Health & Safety Compliance):** At access to comprehensive documentation and reporting for compliance verification against the health, safety and quality standards.

Answer to question number – 2

Organizational Context and Key Operational Challenges of Fresh Bites Meal Delivery:

Organizational Context: Fresh Bites Meal Delivery is a small home-grown business originated by Emma Reynolds during COVID-19. It works out of a rented kitchen and warehouse space and is backed by a handful of staff.

Business Situation: Fresh Bites has scaled its offerings to serve an increasing number of customers with both one-time and subscription-based meal deliveries. Typical businesses operate on clunky and fractured framework orders are placed through email, phone calls and social media, and payments and deliveries are executed through telephone calls.

Key Problems Faced:

- Multiple communication channels are making it harder to manage orders.
- Traditional processes relying on physical paperwork leading to bottlenecks in inventory, delivery and payment tracking.
- Lack of centralized digitization system causing communication gaps and order losses.
- Limited ability to scale operations further because of a lack of automation.

Answer to question number – 3

High-Level Features and Business Processes of Fresh Bites Meal Delivery:

1. **Order Management:** Orders are taken over the Instagram, phone, or email.
2. **Meal Cooked:** Emma works with her assistant to continue cooking meals as available inventory allows.

3. **Inventory Management:** Ingredients are checked manually; restocking is done reactively.
4. **Delivery Management:** Drivers interact with the customers, manually noting down logs.
5. **Payment Handling:** Payment is via bank transfers, digital wallets, or cards. Payments are tracked manually for some of them.
6. **Contacts:** Customer feedback or inquiries, complaints are managed over phone/email.
7. **Subscription Management** – Users who are subscribed will be invoiced at the end of their cycle.
8. **Manual Quality Control:** Emma inspects meals for quality.

Answer to question number – 4

Non-functional Requirements:

- **Usability:** Ideally, the interface should be intuitive and user-friendly for both staff and customers alike, limiting the required amount of training.
- **Reliability:** The system must be operational and deliver consistently, particularly during higher demand ordering and delivery periods. It ought to have low failure rates and have mechanisms for backup and recover.
- **Performance:** The transaction processing speed, customer, and order data retrieval should be done without delays, and number of concurrent users are taken care of.

- **Security:** Should encrypt personal and payment information, and require authentication of users

(Additional Constraints):

1. **Supportability (Maintainability):** The system must be easy to maintain, upgrade with adequate documentation for troubleshooting and improvements.
2. **Scalability:** So, you can grow with the business — support more order volume, more staff usage.
3. **Legal & Compliance:** Comply with food safety rules + privacy law like the Australian Privacy Principles (APPs).

Answer to question no – 5

Expected Value of Business and Success Definition:

- **Improved Efficiency:** Automated processes for order placing, payment, and delivery, reducing the manual workload and operational errors substantially.
- **Enhanced Customer Experience:** A User-friendly digital platform saves time for users to select, order, pay, and give feedback on their meals leading to higher customer satisfaction and retention.
- **Scalability & Growth:** Enhanced ability to scale operations smoothly to accommodate growth and expansion into new customer segments or geographic regions.
- **Financial Performance:** Lower overhead costs and higher profitability driven by more effective resource handling and waste management

- **Lead the market:** Enhanced brand reputation and competitive edge via consistent service delivery and cutting-edge technology integration.

Fresh Bites Meal Delivery - The Success of the business will be measured with improved operational efficiency, satisfied customers with a positive experience, a growing customer base, steady sales growth, and a respected leader in the meal delivery industry.

[Answer to question number- 6](#)

Barriers to IT-based Solutions Adoption by SMEs:

Large enterprises have many advantages over the small and medium enterprises (SMEs) when it comes to adopting IT-based solutions and IT solutions in general. It hampers their ability to innovate, compete, and efficiently grow within a technology-driven context. Here are the main challenges faced by SMEs:

- **Limited resources:** SMEs typically work with tighter budgets, making it challenging to divert adequate resources toward IT investments. While large enterprises can often deal with high-level investments in infrastructure, software and maintenance costs (Nguyen et al., 2015), SMEs are unlikely to sustain these investments in most cases.
- **Lack of Technical Skills:** The majority of small to medium business do not have an in-house IT department, which contributes to the unsuccessful development and upkeep of online solutions. They do not have in-house expertise, so they are dependent on third party vendors which makes them incur more costs and have less flexibility in customizing the system or troubleshooting (Thong, 1999)

- **Challenge #1:** Resistance to Change Employees and management in SMEs may be reluctant to embrace new technologies, due to unfamiliarity, lack of training, or fear of job displacement. However, this resistance may also significantly lag or actually inhibit the successful embedding of the IT-based solution and hence limit the effectiveness of the complete business (Tarutė & Gatautis, 2014)
- **(Scalability and Integration Issues)** The biggest hurdle for many IT solutions is that they are designed to cater to large enterprises, making them too complex and cost-prohibitive for SMEs. Indeed, it is a major challenge about identifying scalable approaches that match with SME growth trajectories and are also cost effective (Levy & Powell, 2005).
- **Dependence on Vendors and Bargaining Power:** SMEs mostly do not hold power to cut favourable conditions with IT service vendors. Whereas a large enterprise can request customized solution and negotiate price, SMEs are usually offered the same products with less flexibility at higher prices (Premkumar, 2003).

To tackle these challenges, SMEs need to work towards strategic IT planning, look for cost-effective and scalable solutions, invest in employee training, and keep an eye out for government or industry grants that can aid in facilitating the digital transformation journey. Gradual IT adoption strategies, which the organization can implement to minimize risks, enable organizations to improve their operational efficiencies and competitiveness.

Task 2

Requirement Modelling

Answer to question number- 7

Based on the high-level business processes identified in Part A, the following epic stories represent the current state of the business system:

- **Customer Order Management** – Take, confirm, and organize meal orders from customers, whether through social media, phone, or email. This involves confirming customer details, preferences, and delivery instructions.
- **Food Preparation & Packaging** – Meals are prepared manually with the help of kitchen aide. This includes arranging ingredients, preparing food, packaging and labelling with customer specifics, and then storing.
- **Manage Deliveries** — Collaborate and schedule deliveries with the driver according to the customer's requirements and a delivery schedule. It also includes communication with clients and marking deliveries as completed or reporting issues.
- **Track Inventory** – Keeping track of stock levels of ingredients, recognizing shortages & updating Emma for restocking. It also includes preliminary planning for meal prep based on volume of orders.

- **Manage Customer Payments and Invoicing** — Receiving Payment for Non-Recurring Orders and Invoicing Subscription customers. You will log payments, follow up on outstanding balances, and maintain financial records.
- **Customer Support and Feedback Handling** — Answering customer questions, addressing customer complaints, or making requests for changes (over phone or email). This involves communicating feedback to Emma to improve service standards, as well as updating order or delivery information when necessary.

And each epic is defined to solve a particular manual process that is core to how Fresh Bites presently operates and creates the basis for automating or building out a system in the future

Answer to question number- 8

Activity Diagrams:

Epic Stories: **Customer Order Management**

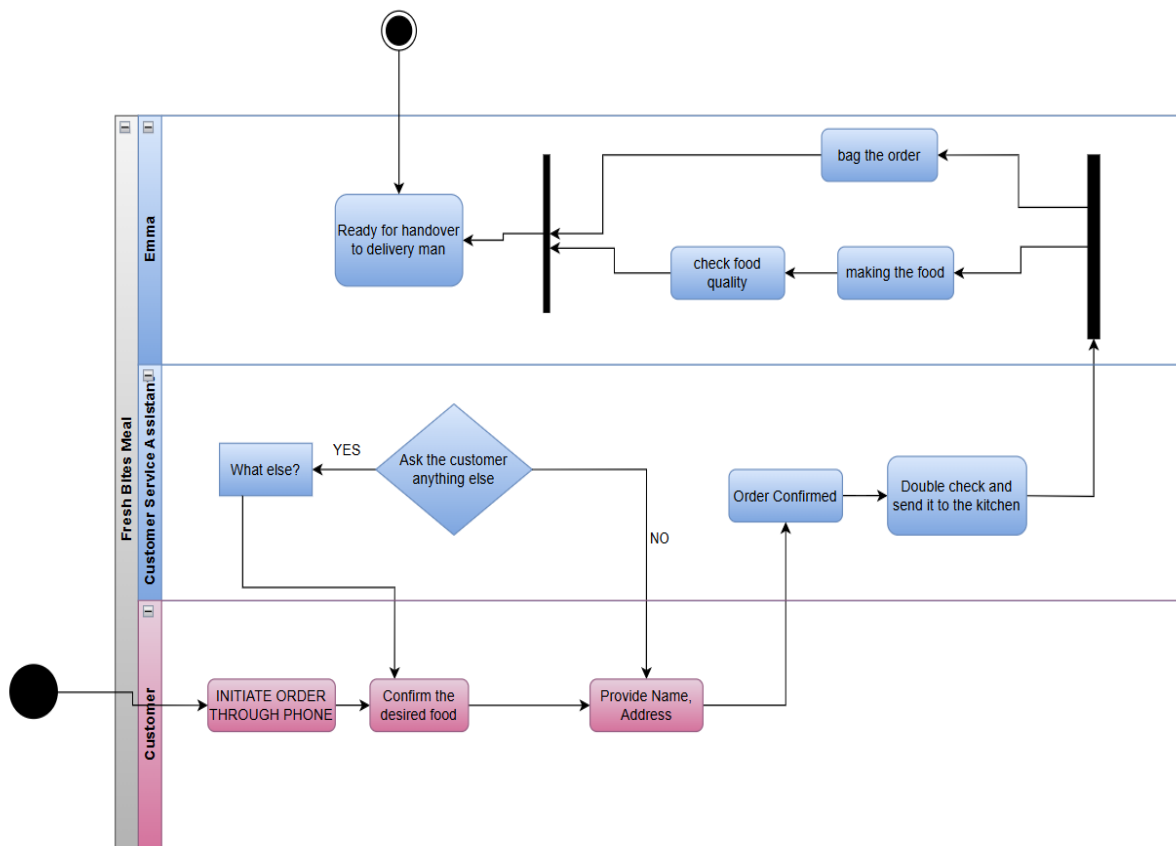


Figure 1

Activity Diagram of **customer order management** representing the current manual process (created using Draw.io).

Epic Stories: Customer Support and Feedback Handling

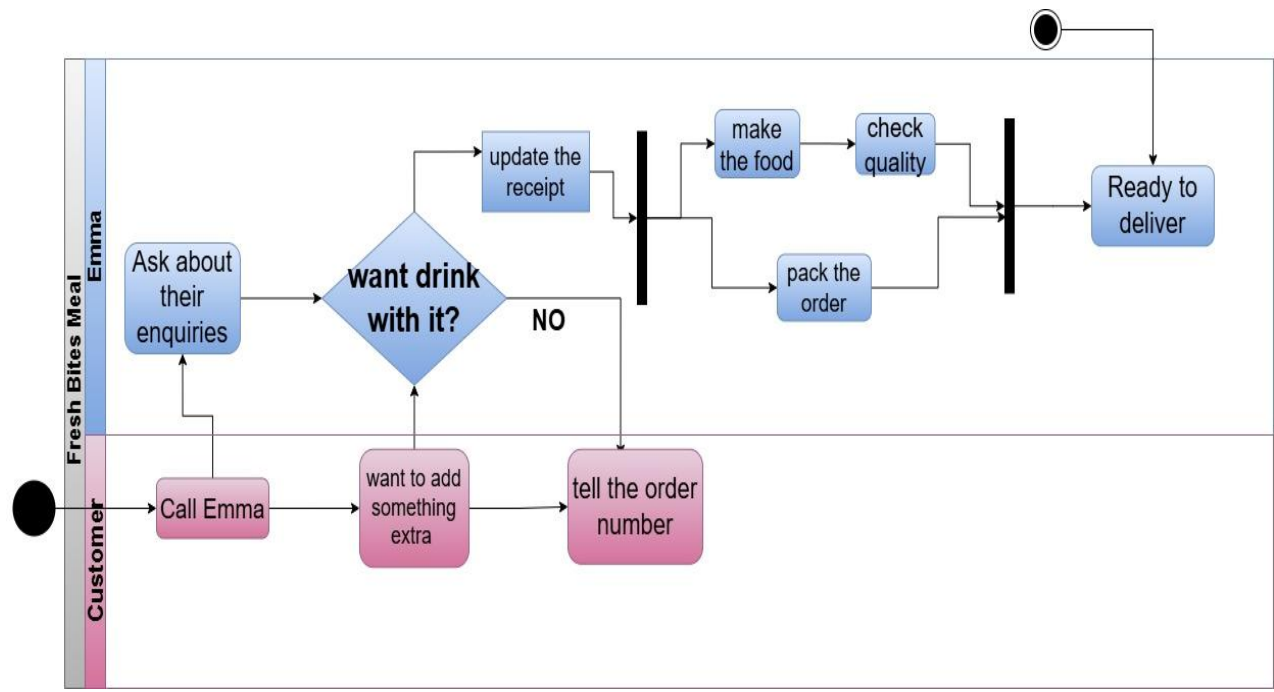


Figure 2

Activity Diagram of representing **Customer Support and Feedback Handling** the current manual process (created using Draw.io).

Answer to question number- 9

The existing manual activity diagrams for “Manage Customer Orders” and “Handle Customer Support and Feedback” highlighted opportunities to automate various parts of the systems to enhance efficiency, accuracy, and end-user experience

Improvement Area	Opportunity Description
Order Intake Automation	Develop website/mobile app so customer can order, change or remove orders directly
Order Confirmation Workflow	Sending confirmation emails with each order along with automatic chain updates in the kitchen prep log after each order submission.
Customer Details Validation	As such, having digital forms with validation helps to ensure all order and customer information is filled out as needed
Centralized Support Ticketing	Provide a customer-specific online support portal through which complaints and queries can be logged and structured follow-up carried out.
Feedback Routing	Customer feedback is automatically being routed to Emma for quality checks and enhancements
CSA Dashboard	Create a live dashboard for staff to see the status of orders and communications.
Reporting & Analytics	Incorporate reporting tools to monitor trends in orders and complaints, as well as peak activity hours for any potential systems changes

These improvements can make operational processes more efficient by identifying and eliminating inefficient data structures, better sharing information, where applicable, between parties, and tracking manually those processes that need to be tracked manually. Analyze trends in the orders, complaints, and peak activities to help streamline the processes.

Answer to question number- 10

Epic story 1: Customer Order Management

User Stories 1: *"As a customer, I want to order through a website so that I do not need to message/call".*

Acceptance Criteria:

1. Customers can choose meals through online and place their order.
2. Customer gets an order confirmation email.

User Stories 2: *"As a customer service assistant, I want to see all new orders on one dashboard so I can process them quickly."*

Acceptance Criteria:

1. Every order that is submitted gets logged automatically.
3. Handles pending orders based on time and customer name.

Epic story 2: Food Preparation & Packaging

: "As a kitchen assistant, I need to know each day what meals I must cook so that I can prepare ingredients and stay on schedule."

Acceptance Criteria:

1. The checklist consists of names of meals, portion sizes and diet notes.
2. The checklist updates automatically through confirmed orders.

User Stories 2: *"As Emma, I want to see quality of meal before packaging, and I want to approve it so that I can maintain the same standards."*

Acceptance Criteria:

1. Emma bypasses quality checks using system prompt.
- 2.No meal can be marked packed without review.

Epic story 3: Manage Deliveries

User Stories 1: *"As a delivery driver, I want to be provided with a copy of my daily delivery route, allowing me to know the best route to follow to deliver meals on time."*

Acceptance Criteria:

1. Every morning the route plan is generated and announced.
2. Delivered it Route contains customer addresses and delivery windows

User Stories 2: *"As a customer, I want to be notified when my order is out,so I can be ready for it"*

Acceptance Criteria:

1. Automatically when the driver leaves, customers get an SMS or email notification.
2. ETA and tracking link – notification.

Epic story 4: Track Inventory

User Stories 1: *"As Emma, I want to be notified of low-stock status so I can restock ingredients in time."*

Acceptance Criteria:

1. Threshold-based alerts for low inventory
2. Ingredient name and current quantity are displayed as alerts.

User Stories 2: *"As a kitchen assistant, I wish to update ingredient usage post meal prep to keep track of item inventory accurately."*

Acceptance Criteria:

1. Every meal prep session takes used ingredients out of stock.
2. Archive is updated in real time by the system.

Epic story 5: Manage Customer Payments and Invoicing

User Stories 1: *“As a customer, I want an invoice to be automatically generated that at the end of my subscription period for how much I need to pay.”*

Acceptance Criteria:

1. Invoice is created and emailed out.
2. The bill itemizes meals and their total.

User Stories 2: *As a customer service assistant, I want to see the list of unpaid invoices, so that I can reach out to the customers*

Acceptance Criteria:

1. System has incomplete or overdue invoices.
2. Assistant can view unpaid invoice report dated and by customer.

Epic story 6: Customer Support and Feedback Handling

User Stories 1: *“As a customer, I want to provide feedback on a meal online so I can easily share my experience with it.”*

Acceptance Criteria:

1. It can be done on the customer portal by filling out the Feedback form.
2. Customer receives confirmation after submission.

User Stories 2: *“Post submission, customer receives confirmation to monitor recurring issues as Emma, I want the ability to see all customer complaints in one place.”*

Acceptance Criteria:

1. Log of complaints sorted by type or date.
2. The dashboard shows a summary of complaint trends.

Answer to question number- 11

The case study was analyzed using the noun technique, which suggested to talk out key nouns that are crucial to the Fresh Bites data elements; this led to the identifying of Order, Customer, Meal, Ingredient, Payment, Delivery, Subscription, Staff, Feedback as going nouns associated with the Fresh Bites system

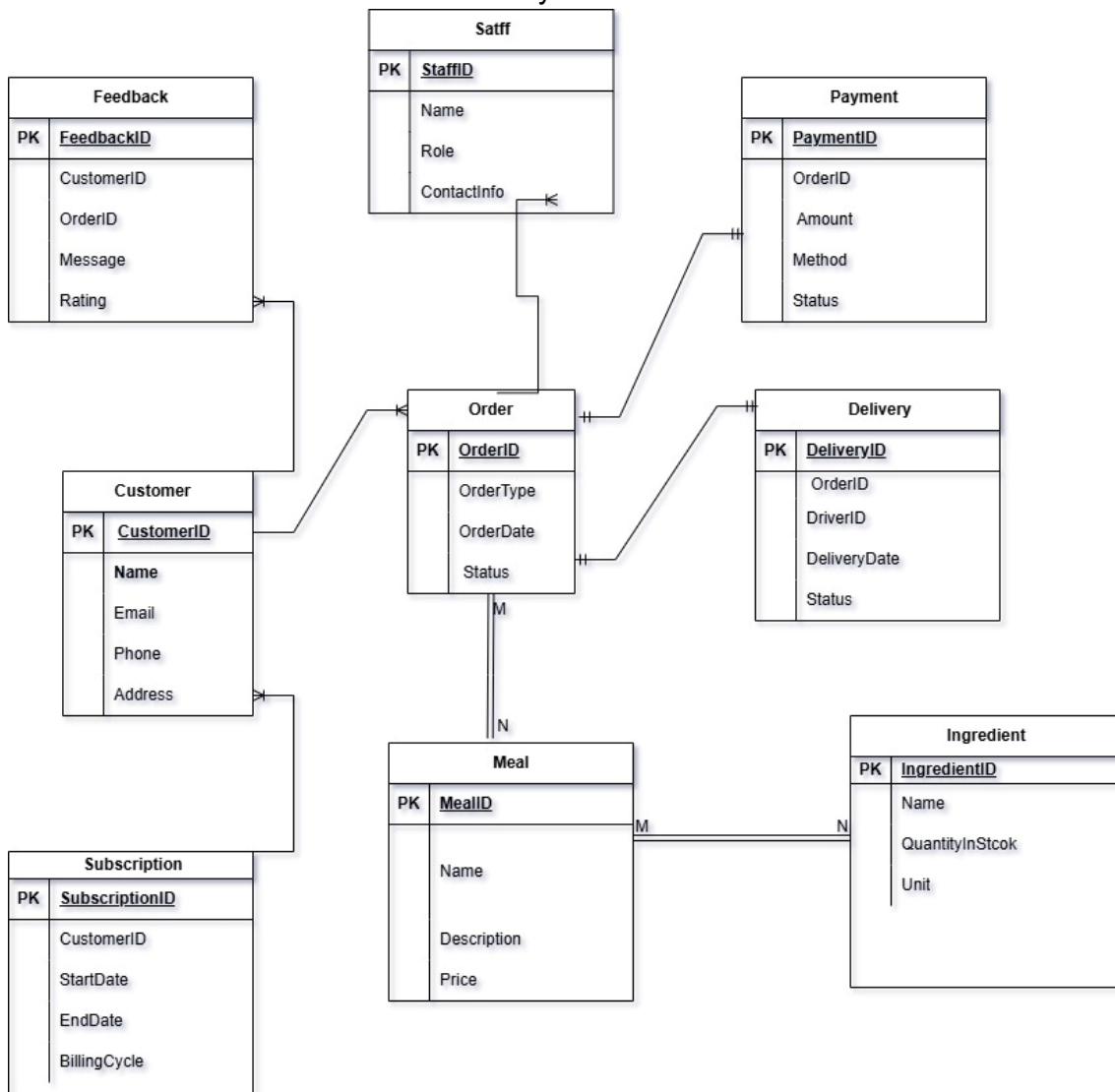


Figure 3

Entity Relation Diagram of the current manual process (created using Draw.io).

Reference List (APA STYLE)

Levy, M., & Powell, P. (2005). *Strategies for Growth in SMEs: The Role of Information and Information Systems*. Butterworth-Heinemann.

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