**Waterfall Model Documents**

**Document 1: Business Case document Template**

**Question 1:** Why is this project initiated?

**Solution:** The project is initiated to bridge the existing gaps in customer service and order management at the using Customer Order Information.

* **Improving Customer Experience:** Customers currently face delays in receiving order updates and resolving concerns, leading to dissatisfaction.
* **Reducing Manual Efforts:** Customer service representatives manually track and update orders, which is time-consuming and prone to errors.
* **Enhancing Real-Time Order Tracking:** Lack of real-time updates leads to confusion and unnecessary escalations.
* **Optimizing Business Operation:** Automating processes will increase efficiency and reduce operations costs.

**Question 2:** What are the current problems?

**Solution:** The model has several inefficiencies like follows:

* **Delayed Response to Customer Inquiries:** Customers frequently contact support to inquire about their orders, but the system lack instant access to real-time order data.
* **Lack of integration between teams:** Support teams struggle to get up to date order status due to disconnected systems.
* **High Volume of Complaints:** Many complaints stem from order delays, inaccurate tracking, or miscommunication.
* **Inefficiency in Manual Handling:** Without an automated system, agents rely on multiple sources for order details, leading to inefficiencies.
* **Poor Data Insights:** The absence of analytics makes it difficult to identify recurring issues and improve service quality.

**Question 3:** With this project how many problems could be solved?

**Solution:** By implementing the Customer Order Information (COI) tool, the following problems will be solved:

* **Real-Time Order Tracking:** Customers and Support agents will have instant access to live updates.
* **Faster Resolution of Customer Queries:** Agent can quickly retrieve order information, reducing wait time.
* **Better Communication Between Teams:** Centralized order data allows seamless coordination between support, delivery and operations teams.
* **Reduced Number of Customer Complaints:** Accurate tracking and faster response time will improve overall satisfaction.

**Question 4:** What are the resources required?

**Solution:** To implement Customer Order Information (COI) successfully, the following resources are needed:

**People or Human Resources:**

* **Business Analyst:** To gather requirements from the stakeholder, prepare documents like Business Requirements Document (BRD), Functional Requirements Document (FRD), Test Case Document etc.
* **Project Manager:** To look after the development and implementation, to assign the responsibilities to the team and ownership of the budget.
* **Operations Teams:** To use and provide feedback on the system.
* **Quality or Testing Team:** To test and ensure the project or the model before deployment by conducting multiple testing to ensure no errors in the model.
* **Developers:** To develop the desired project using the programming language or coding as per the stakeholders’ requirements.
* **Trainers:** To educate employees on using the new system and tools to ensure the seamless support to the customers, restaurants and delivery partners.

**Technology:**

* **Cloud Infrastructure:** hosting the system on reliable cloud platform, to use the data as backup and restore.
* **Database Systems:** To store customer orders and interaction history to help customer, restaurants easily without any hustle.
* **APIs:** APIs to integrate with the maps and payment gateways for customer seamless experience.
* **User Interface:** A web and mobile friendly dashboard for agents to handle customers and customer issues.

**Budget:**

* **Development Costs:** Software design, coding and testing.
* **Training & Implementation:** Training employees on tools
* **Maintenance & Support:** Ongoing updates and improvements
* The estimated cost ranges between ₹1,20,00,000 and 1,50,00,000 considering all operational and technical requirements.
* **Training and Services** – 40,00,000
* **Software** - ₹50,00,000
* **Hardware** - ₹30,00,000
* **Others** - ₹10,00,000 - ₹20,00,000

**Time:**

* **Requirement Gathering, Analysis & Design:** 1-2 months.
* **Development & Testing:**  3-4 months.
* **Implementation & Training:** 1-2 months.
* This will be developed by the developers using the traditional development method which is waterfall model and the estimated duration would be 6-8 months.

**Question 5:** How much organizational change is required to adopt this technology?

**Solution:** Implementing the Customer Order Information (COI) tool will require certain adjustments in the existing / available tools in the industry.

* **Process Changes:** Customer service teams will adopt a new workflow where order inquiries are handled through the Customer Order Information (COI) tool instead of manual lookups.
* **Training Requirements:** All customer service representative or mostly operations team will be trained to use the COI tool and handle the customers efficiently.
* **Policy Adjustments:** New policy guidelines will be established to ensure consistent usage and compliance with data privacy regulations.
* **Strategy Adoption:** A phased rollout strategy will be implemented to ensure a smooth transition.

**Question 6:** Time frame to recover ROI?

**Solution:** The investment in the COI tools is expected to be recovered within 6-12 months. This can be estimated based on the following factors:

* **Reduction in Customer Service Costs:** Faster issue resolution will lower the need for excessive support staff.
* **Higher Customer Retention:** Improved service leads to repeat customers and increase trust and loyalty.
* **Operational Efficiency:** Automating processes will free up employee time for other value-added activities.
* **Decrease in Issues and complaints:** Perfect order & customer handling to minimize the errors at each phase.
* **Decrease in Refunds and Compensation costs:** Accurate order tracking reduces disputes and unnecessary refunds.

**Question 7:** How to identify Stakeholders?

**Solution:** Most widely used techniques to identify the stakeholders is RACI technique. RACI stands for Responsible, Accountable, Consulted and Informed.

* **Responsible:** Individual or team is responsible for particular task or program.
* **Accountable:** A person or an individual who is the ownership of the outcome.
* **Consulted:** Those who provide insights, inputs for the project and expertise.
* **Informed:** Those who needs updates or progress of the project but does not provide direct input.

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Task** | **Project Manager** | **Software Developers** | **Customer Service Teams** | **IT & Development Teams** | **Operations Team** | **Management & Executives** | **Customers** | **Delivery Partners** | **Suppliers & Restaurant Partners** |
| Requirement Gathering | A | R | C | C | I | I | I | I | I |
| System Development | I | R | C | A | I | I | I | I | I |
| Testing & QA | A | R | C | C | I | I | I | I | I |
| Training & Onboarding | A | C | R | C | C | I | I | I | I |
| Deployment & Integration | A | R | I | C | I | I | I | I | I |
| Support & Maintenance | A | R | R | C | C | I | I | I | I |
| Performance Monitoring | A | R | R | C | C | I | I | I | I |
| Customer Feedback & Iteration | C | R | A | C | C | I | R | I | I |

* For the current Customer Order Information project (COI) we can determine the stakeholders by using following RACI technique:

 **R: Responsible A: Accountable C: Consulted I:Informed**

**Document 2: BA Strategy**

Below is the Business Analyst Strategy that has to be followed to complete a project:

1. **Project Initiation & Requirements Gathering**

**Understanding the Project Objectives**

* Conduct initial discussion with the project sponsor and key stakeholders to understand the business problem and objectives.
* Define high-level project goals, scope and constraints.
* Identify the key performance indicators (KPI) to measure project success.
* Establish timeline and budget constraints.
1. **Stakeholder Analysis (RACI / ILS)**
* **Identify Stakeholders:** List all internal and external stakeholders involved in the project.
* **List or Categorize:** Using ILS (Identify, List & Summary) method to determine their impact on the project.
* **Define Responsibilities:** Using RACI(Responsible, Accountable, Consulted and Informed) framework to assign stakeholder roles and responsibilities.
* **Strategy Plan:** Establishing a strategy to communicate and engage stakeholders effectively throughout the project.

**RACI Table**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Activity** | **Business Analyst** | **Project Manager** | **Development Team** | **QA /Testing Team** | **Client / stakeholders** |
| **Requirement Gathering** | R | A | C | I | I |
| **Requirement Analysis** | R | A | I | C | I |
| **Development - Coding** | I | C | R | A | I |
| **Testing** | I | C | A | R | I |
| **UAT & Approval** | C | A | I | C | R |

1. **Elicitation Techniques:**
* **Document Analysis:** Document Analysis is done through reading a document and understanding the product, process and project.
* **Reverse Engineering:** Reverser Engineering also know as back engineering, is the process of extracting knowledge or design information from anything man-made and re-producing it based on the extracted information. This technique is majorly used in the migration projects.
* **Focus Groups:** A Focus group is means to elicit ideas and attitudes about a specific product, service or opportunity in an interactive group environment.
* **Observations:** Observation also known as shadowing users doing a part of their job, can provide information of existing process, inputs and outputs.
* **Workshops:** A requirement workshop is a structured approach to capture requirements. A workshop may be used to scope, discover, define, prioritize and reach closure on requirements for the target system.
* **JAD (Joint Application Development):** Application developed through JAD has higher customer satisfaction and less number of errors as user is directly involved in the development process.
* **Interview:** Interview of a user and stakeholders are important in creating software. An interview is a systematic approach where interviewee is going to ask relevant questions related to software and documenting the responses.
* **Prototyping:** Prototyping is an attractive idea for complicated and large systems which there is no manual process or existing system to help determining the requirements.
* **Questionnaire:** Questionnaire can be useful to obtaining limited system requirements details form the users / stakeholders, who have minor input or are geographically remote.
* **Brainstorming:** Brainstorming can be done either individually or in groups. The ideas collected during the brainstorming sessions are reviewed or analyzed.
1. **Documentation
Documents to be Prepared**
* **Business Requirements Document (BRD):** Capturing high-level business needs and objectives.
* **Functional Requirement Specification (FRS):** Detail system functionalities and expected behaviour.
* **System Requirement Specification (SRS):** Define technical and non-technical requirements.
* **Use cases & User stories:** Provides step-by-step user interactions with the system.
* **Test Cases & Scenarios:** Helps in validating system functionality.
* **Requirement Traceability Matrix:** Links requirements to their corresponding test cases.
1. **Approvals & Sign-Off Process**
* Conduct requirement walkthrough meetings with stakeholders.
* Iterate documentation based on feedback received.
* Obtain formal approvals via email or document management systems.
* Store signed-off document in a centralized repository for easy access.
1. **Establishing Communication Channels**
* **Email:** For formal communication, approvals and escalations.
* **MS Teams:** For real-time discussions and quick updates.
* **Share Point:** For documents sharing and version control.
* **JIRA / AZURE DevOps:** For tracking requirements, tasks and defects.
* **Project Dashboard:** Displays project progress, key milestones and risk factors.
* **Weekly/Bi-Weekly Meetings:** To update stakeholders on progress and address concerns.
1. **Handling Change Request (CR)**
* Maintain a Change Request Log to document all requests.
* Assess the impact, feasibility and risk of each change.
* Discuss with stakeholders and obtain necessary approvals.
* Update related documentation and communicate changes to development and testing teams.
* Prioritize changes based on business impact and urgency.
* Implement and approval workflow for change requests, ensuring alignment with project scope and budget.
1. **Updating Progress with Stakeholders**
* **Weekly Status Reports:** Provide an overview of progress, risks, and next steps.
* **Committee Meetings:** Monthly discussions with senior management on strategic decisions.
* **Project Dashboard:** Displays real-time updates on project milestones and blockers.
1. **User Acceptance Test (UAT) Process**
* Define the UAT scope, success criteria, and test scenarios
* Coordinate with business users and stakeholders to execute UAT.
* Capture feedback and address any reported defects.
* Ensure all acceptance criteria are met before project go live.
1. **Client Sign-Offs**
* Prepare a client project acceptance form detailing final deliverables and compliance.
* Conduct a final review meeting to obtain client approval.
* Obrain official sign-off and transition the project to support and maintenance teams.
1. **Client Project Acceptance Form**

Project Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Client Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Project Manager: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Business Analyst: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Deliverables:**

1. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
3. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Acceptance Criteria Met:

UAT Completed:

**Sign-Offs:**

|  |  |  |  |
| --- | --- | --- | --- |
| **Role** | **Name** | **Signature** | **Date** |
| **Client**  |  |  |  |
| **Project Manager** |  |  |  |
| **Business Analyst** |  |  |  |

**Document 3- Functional Specifications**

Below are the functional specification mentioned:

|  |  |  |  |
| --- | --- | --- | --- |
| **Requirement ID** | **Requirement Name** | **Requirement Description** | **Priority** |
| FR001 | User Registration | New users should be able to register by providing name, email, phone number and password. | 10 |
| FR002 | Email & Phone verification | Users should be able to verity the registered email & Phone using One Time Password (OTP) | 10 |
| FR003 | Login | Users should be able to login in using registered email / phone and password10 | 10 |
| FR004 | Forgot Password | Users should be able to reset their password in case they forgot using email or phone OTP | 9 |
| FR005 | Search Filter | Users should be able to search using filters like Restaurant Name, item name, location etc, | 10 |
| FR006 | Real -Time Order Tracking | Users should be able to view live delivery partner location to track order | 9 |
| FR007 | Customer Details Access | Users should be able to view customer details linked to order | 9 |
| FR008 | Order Modification | Users should be able to modify the order before order preparation stage | 10 |
| FR009 | Refund & Cancellation | Users should be able to get refunds for cancelled orders | 9 |
| FR010 | Payment Status | Users should be able to track payment status for the cancelled orders | 10 |
| FR011 | Order History | Users should be able to view past orders and interactions. | 8 |
| FR012 | Customer Feedback Capture | The system should record customer feedback for service improvement. | 7 |

**Document 4- Requirement Traceability Matrix**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Req ID** | **Req Name** | **Req Description** | **Design** | **D1** | **T1** | **D2** | **T2** | **UAT** |
| FR0001 | User Registration | New users must be able to register with email/phone. | Yes | Yes | Pending | No | Yes | Yes |
| FR0002 | Email/Phone Verification | Users must verify their email/phone via OTP. | Yes | Yes | No | Yes | Yes | YES |
| FR0003 | Login | Users must be able to log in to access the application. | Yes | Yes | Pending | No | Yes | YES |
| FR0004 | Forgot Password | Users must be able to reset their password via OTP. | Yes | Yes | No | Yes | Yes | YES |
| FR0005 | Order Search | Users must be able to search for orders using filters. | Yes | Yes | Yes | No | Yes | YES |
| FR0006 | Real-time Order Tracking | Users must be able to view real-time order status. | Yes | Yes | Yes | Yes | Yes | YES |
| FR0007 | Customer Details Access | Users must be able to view customer details. | Yes | Yes | No | Yes | Yes | YES |
| FR0008 | Order Modification | Users must be able to modify order details before dispatch. | Yes | Yes | Yes | No | Yes | YES |
| FR0009 | Refund & Cancellation | Users must be able to process refunds or cancel orders. | Yes | Yes | Pending | Yes | No | YES |
| FR0010 | Payment Status  | Users must be able to check payment details. | Yes | Yes | No | Yes | Yes | YES |
| FR0011 | Order History | Users must be able to view past orders and interactions. | Yes | Yes | Pending | No | Yes | Yes |
| FR0012 | Customer Feedback Capture | The system must record customer feedback. | Yes | Yes | No | Yes | Yes | Yes |

**Document 5- BRD Template**

**Project Name:** Customer Order Information (COI)
**Project ID:** COI-07032025
**Version ID:** 1.0
**Author:** Akshay Kumar

**Contents:**

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2. Approvals
3. RACI Chart for This Document
	* Codes Used in RACI Chart
	* RACI Chart
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	* 4.3. Business Rules
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	* 4.6. Project Scope
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* 10.1. List of Acronyms
* 10.2. Glossary of Terms
* 10.3. Related Documents
1. **Document Revisions**

|  |  |  |
| --- | --- | --- |
| **Date** | **Version** | **Document Changes** |
| 07/03/2025 | 1.0 | Initial Draft |

1. **Approvals**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Role** | **Name** | **Title** | **Signature** | **Date** |
| Project Sponsor |  |  |  |  |
| Business Owner |  |  |  |  |
| Project Manager |  |  |  |  |
| System Architect |  |  |  |  |
| Development Lead |  |  |  |  |
| Quality Lead |  |  |  |  |

1. **RACI Chart for this Document**
* **Codes Used in RACI Chart**

|  |  |
| --- | --- |
| **Code** | **Description** |
| R | Responsible- for creating this document |
| A | Accountable- for accuracy of this document (EX: PM) |
| C | Consulted- to provide inputs for this document (EX: Interviewee) |
| I | Informed- will be informed for any changes |

* **RACI Chart**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Name** | **Position** | **R** | **A** | **C** | **I** |
|  |  |  |  |  |  |
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1. **Introduction**
	1. **Business Goals**The goal of Customer Order Information (COI) is to improve customer support efficiency and streamline order management.
	2. **Business Objective**
* Provide an IT solution for real0time order tracking and management.
* Establish a strong and consistent customer support operations system.
* Ensure smooth handling or customer issues like refunds, cancellations and escalations.
	1. **Business Rules**
* Customer support resolves issues with the orders or order id’s customer provided.
* Refunds can only be processed upon checking customer activity for fraud and often refunds request based on customer account history.

**4.4 Background** Customer Order Information aims to create a smooth and strong customer experience with a dedicated tool for order handling.

**4.5 Project Objective** Developing a system to improve order tracking, resolving customer queries, and operational efficiency.

**4.6 Project Scope**

**4.6.1 In Scope Functionality**

* User Registration
* Login
* Order Search
* Live Order Tracking
* Cancellation
* Refunds Handling
* 24/7 Customer Support Features

**4.6.2 Out of Scope Functionality**

* Customer Cannot cancel an order after food preparation stage
* Customer cannot be able to modify once order started preparation
1. **Assumptions**
* Stable internet connection
* User roles will be predefined and assigned
* All Operations team will undergo training before using the COI
* The system will use integrated API
1. **Constraints**
* Compliance with data privacy laws
* Limited to internal customer service teams.
* System development must align with the food ordering IT infrastructure
* The tool must support concurrent users without performance degradation,
1. **Risks
Technological Risks**
* Potential integration challenges with existing order system
* **Avoid:** Use standardized APIs for seamless integration
* **Mitigate:** Develop a phased rollout with backup support.

**Skills Risks**

* Training requirements for customer service agents.
* **Avoid:** Provide comprehensive onboarding and training materials
* **Mitigate:** Offer continuous learning and refresher courses.

**Business Risks**

* System downtime affecting customer support efficiency.
* **Avoid:** Implement robust server infrastructure and redundancy.
* **Mitigate:** Ensure 24/7 IT support and monitoring.

**Requirements Risks**

* Misaligning between system capabilities and business needs.
* **Avoid:** Conduct thorough requirement gathering and validation
* **Mitigate:** Maintain an iterative development approach.

**Other Risks**

* Unexpected scaling issues due to high usage.
* **Avoid:** Plan for scalability during initial development
* **Mitigation:** Optimize performance through load balancing and caching strategies.
1. **Business Process Overview**

The Customer Order Information (COI) Tool is designed to enhance the efficiency of customer support operations by providing real-time access to order details, issue resolution workflows, and seamless integration with the existing order management system.

* 1. **Legacy System (AS-IS)**
* Manual order tracking and customer complaint handling
* Delayed Resolutions to customer concerns due to lack of order information.
* No Automated Alerts for customer to receive proactive notifications regarding order updates or refund updates etc.
* High errors due to miscommunication between the restaurant , customers and delivery partners in order delivery delays or order issues.
	1. **Proposed Recommendations (To-BE)**
* Automated order management system with real-tome updates and 24/7 customer support.
* Real-Time tracking for customers to track the live location of the delivery partner or order.
* Order information on a single platform regarding all order data, which eventually reduces time and effort of the customers, restaurants and delivery partners.
* Seamless interaction between customer service, delivery partners and restaurants in a single channel or tool.

**Flow Diagram for TO-BE:**

****

1. **Business Requirements**

|  |  |  |  |
| --- | --- | --- | --- |
| **Req ID** | **Requirement Name** | **Description** | **Priority** |
| BR0001 | User Registration | Secure registration with OTP verification. | High |
| BR0002 | Login & Authentication | Role-based login for authorized access. | High |
| BR0003 | Order Search | Search orders via ID, customer name, or phone. | High |
| BR0004 | Order Tracking | Real-time status updates. | High |
| BR0005 | Refund & Cancellation | Process refunds and cancellations as per policy. | High |

1. **Appendices**
	1. **List of Acronyms**
* COI: Customer Order Information
* API: Application Programming Interface
* OTP: One Time Password
* UAT: User Acceptance Testing
* SLA: Service Level Agreement
* KRA: Key Result Area
	1. **Glossary of Terms**

|  |  |
| --- | --- |
| **Term** | **Definition** |
| Customer Order Information (COI) | A platform used by the customer service agents to help customers track, manage and resolve order issues and concerns. |
| Order Tracking | The ability to view the real time status and history of customer order |
| Refund & Cancellation | The process reimbursing customers or voiding orders as per business policies. |
| Integration | Connecting the COI tool with other systems such as order management, maps and payment gateways. |

* 1. **Related Documents**
* **Customer Order Information IT infrastructure Overview**Details on systems and architecture.
* **Customer Service Training Manual**Guidelines for handling customer queries and concerns
* **Data Privacy and Compliance Document**Policies for handling customer data securely
* **Software Requirements Specification (SRS) for COI Tool**Technical details and functionalities of the system.