**Live Project – Waterfall Deliverables -Part 1/2**

# Document 1: Business Case Document Template

**Project Initiation:**

The Retail Store Management System (RSMS) is initiated to streamline the operations of a retail store by managing inventory, sales, and billing efficiently. It automates key processes such as stock management, product arrangement, billing, and customer payments, reducing manual effort and minimizing errors.

**Current Problems:**

**Manual stock tracking:** Retailers have to manually check stock levels, leading to inefficiencies and delays in restocking.

**Unorganized product arrangement:** Without a system, retailers may find it difficult to categorize and locate products efficiently.

**Billing errors:** Manual billing is prone to calculation mistakes, leading to financial losses.

**Limited payment options:** The lack of digital payment processing can reduce customer convenience.

**Supplier coordination issues:** Orders are placed manually, which can lead to miscommunication and delayed supplies.

**Problem Solution:**

Implementing Retail Store Management System (RSMS), a secure, user-friendly system, will address the current inefficiencies. The System will

* Automates stock tracking, reducing inventory management errors.
* Provides a structured way to arrange products either by price or category.
* Ensures accurate billing with automated invoice generation.
* Supports credit card and cash payments, enhancing flexibility.
* Reduces supplier miscommunication by tracking and recording all transactions.

**Required Resources:**

The successful implementation of the project will require resources including:

**1. Human Resources**

* **Project Manager**: Oversees the project.
* **Business Analyst**: Gathers and analyzes requirements.
* **Developers**: Build the portal.
* **UI/UX Designers**: Design user interfaces.
* **Testers**: Ensure functionality and reliability.
* **IT Support**: Handle deployment and support.
* **Trainers**: Provide user training.

1. **Technical Resources**
   * **Development Tools**
   * **Design Tools**
   * **Testing Tools**
   * **Hosting Infrastructure**: Servers, database systems.
   * **Security Tools**: Data protection software.
2. **Financial Resources**
   * **Budget**: For salaries, software licenses, hardware, and training materials.
3. **Physical Resources**
   * **Workspace**: Offices or remote setups.
   * **Hardware**: Computers, servers, networking equipment.
4. **Documentation and Training Materials**
   * **User Manuals**: Guides for portal use.
   * **Training Programs**: Structured training sessions.

**Organizational Change:**

1. **Process Changes**

With the introduction of the RSMS, several manual processes will be automated or modified:

Inventory Management: Stock checking and ordering will shift from manual logs to automated stock level tracking.

Product Arrangement: Instead of manual sorting, goods will be categorized digitally, allowing easier tracking.

Billing and Payments: Instead of handwritten bills, the system will generate digital invoices, reducing errors.

Sales Transactions: The sales process will become smoother as all transactions will be recorded digitally in real time.

1. **Training and Support**

To ensure smooth adoption of the system, training and ongoing support will be required for all store employees:

**Training for Store Staff**: How to use the RSMS for stock tracking, product arrangement, and billing. Handling customer transactions using digital payments. Basic troubleshooting and error handling.

**3. Ongoing Support**: A dedicated IT support team will be needed to address software issues, troubleshoot hardware malfunctions, and provide updates.

**4. Roles and Responsibilities**

With automation, some roles will evolve, and new responsibilities will be introduced:

|  |  |
| --- | --- |
| Role | New Responsibilities |
| Retailer/Store Owner | Monitor inventory digitally, approve restocking, oversee sales data reports. |
| Store Staff | Use the RSMS for stock management, billing, and customer support. |
| Cashiers | Process transactions digitally, ensure smooth payment processing. |
| Suppliers | Receive digital stock requests, ensure timely deliveries. |
| IT Support Team | Maintain system updates, troubleshoot errors, and provide user support. |

**5. Communication and Collaboration**

The RSMS will improve communication between different stakeholders:

* **Retailer & Staff**: Employees can quickly check stock availability instead of manually asking the retailer.
* **Retailer & Suppliers**: Automatic notifications will be sent when stock levels are low, improving coordination.
* **Retailer & Customers**: Faster billing, multiple payment options, and accurate pricing will enhance customer experience.

**6. Technology Integration**

The RSMS will integrate with various technologies to improve store operations:

* **Barcode Scanners** – Automate stock updates and sales tracking.
* **POS (Point-of-Sale) System** – Ensure seamless customer transactions.
* **Digital Payment Gateways** – Accept credit card and digital payments.

**ROI Timeframe:**

Short-term (6–12 months): Reduction in stock mismanagement and billing errors will lead to cost savings.

Mid-term (1–2 years): Increased sales efficiency and improved customer experience will drive higher revenue.

Long-term (2+ years): The system will optimize supply chain management, reducing costs and improving profit margins.

**Stakeholder Identification:**

**A) Business Stakeholders:**

## Primary Stakeholders:

* **Retail Store Owner:** Decision-maker who invests in and implements the system.
* **Store Manager:** The Store Manager plays a critical role in the development of the Retail Store Management System (RSMS) by providing practical insights, business requirements, and operational expertise.
* **Store Employees (Sales Staff, Cashiers, Stock Handlers):** Use the system to track product availability and manage sales transactions.
* **Customers:** End-users who experience the impact of the system through smoother transactions and better service.

## Secondary Stakeholders:

* **Suppliers/Vendors:** Indirect beneficiaries who will experience more timely and accurate grade reporting.
* **Investors (If any):** Have a financial interest in the store's profitability and efficiency, which is impacted by the management system.
* **IT Support Team**: Maintains and troubleshoots the system to ensure it runs smoothly.

## B) Project Stakeholders:

* **Project Manager**: Leads the project, ensuring it stays on schedule and within budget.
* **Business Analyst**: Gathers requirements and ensures they meet stakeholders' needs.
* **Developers:** Design and build the Retail Store Management System.
* **UI/UX Designers**: Create an intuitive and user-friendly interface.
* **Testers**: Ensure the portal is functional and free of defects.
* **Trainers**: Develop and deliver training programs for end-users.

# Document 2: Business Analyst Approach Strategy

## Project Initiation:

* + Understand the project objectives, scope, and constraints.
  + Identify key stakeholders and establish communication channels.
  + Conduct a preliminary assessment of business needs and requirements.

## Elicitation Techniques:

**Interviews**

* Conduct discussions with retailers, cashiers, suppliers, and IT teams to understand their needs.

## Surveys and Questionnaires

* Distribute surveys to a larger group of stakeholders, including store manager, employees, customers to collect quantitative data on needs and expectations.

## Focus Groups

* Organize focus group sessions with store manager and supplier to discuss challenges and potential solutions collaboratively.

## Workshops

* Facilitate workshops with key stakeholders to brainstorm ideas, define requirements, and prioritize features. Gather input from customers and employees on system usability.

## Observation

* Monitor the existing manual processes in the store to identify pain points.

## Document Analysis

* Review existing documentation to understand the current state and identify gaps. Review existing sales reports, inventory logs, and billing procedures

## Prototyping

* Develop and present prototypes of the Retail store management system (RSMS) to stakeholders for feedback and refinement of requirements.

## Brainstorming

* Conduct brainstorming sessions with the project team and stakeholders to generate ideas and identify innovative solutions.

## Stakeholder Analysis using RACI/ILS:

* Identify stakeholders and their roles using RACI (Responsible, Accountable, Consulted, Informed) or ILS (Identify, List, Summary) matrices.
* Determine each stakeholder's level of involvement and expectations regarding the project.
* Need to use this analysis to allocate responsibilities, manage expectations, and ensure effective communication.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Stakeholder** | **Responsible (R)** | **Accountable (A)** | **Consulted (C)** | **Informed (I)** |
| **Store Owner** |  | A | C | I |
| **Project Manager** | R | A |  |  |
| **Business Analyst** | R |  |  |  |
| **UI/UX Designers** | R |  |  |  |
| **Developer** | R |  |  |  |
| **Testers** | R |  |  |  |
| **Trainers** | R |  |  |  |
| **Store Manager** |  |  | C |  |
| **Store Staff** |  |  | C |  |

## Documents to Write:

* Business Requirements Document (BRD)
* Functional Requirements Specification (FRS)
* Use Case
* Test Plan
* User Acceptance Testing (UAT) Plan
* Training Materials
* Project Management Plan

## Document Sign-off Process:

* + Share draft documents with stakeholders for review and feedback.
  + Incorporate feedback and revisions as necessary.
  + Obtain formal sign-off from stakeholders indicating their acceptance of the documents.
  + Maintain version control to track changes and updates.

## Client Approvals:

* + Present finalized documents to the client for approval.
  + Provide explanations and clarifications as needed to ensure understanding.
  + Obtain formal approval from the client through signed agreements or email confirmation.

## Communication Channels:

* + Establish regular meetings with stakeholders to discuss project progress, issues, and updates.
  + Utilize email, project management software, and collaboration tools for asynchronous communication.
  + Maintain an open-door policy for stakeholders to raise concerns or provide feedback.

## Change Request Handling:

* + Establish a formal change management process to capture, assess, and prioritize change requests.
  + Evaluate the impact of proposed changes on scope, timeline, and budget.
  + Obtain approval from the Change Control Board before implementing changes.

## Progress Reporting to Stakeholders:

* + Provide regular updates on project milestones, deliverables, and risks.
  + Use status reports, dashboards, and presentations to communicate progress effectively.
  + Highlight achievements, challenges, and upcoming tasks to keep stakeholders informed.

## UAT - Client Project Acceptance:

* + Coordinate User Acceptance Testing (UAT) with the client to validate that the software meets requirements.
  + Provide clear instructions and test cases for the client to execute during UAT.
  + Obtain sign-off on the UAT - Client Project Acceptance Form once the client confirms satisfaction with the software functionality.

# Document 3- Functional Specifications

|  |  |
| --- | --- |
| Project Name | Retail Store Management System |
| Customer Name | Super Retail Store |
| Project Version | 1.0 |
| Project Sponsor | Super Retail Store |
| Project Manager | Vedant Mulay |
| Project Initiation Date | 05/01/2025 |

**Functional Specifications:**

|  |  |  |  |
| --- | --- | --- | --- |
| **Req ID** | **Req Name** | **Req Description** | **Priority** |
| FR0001 | User registration | The users should be able to register themselves on the application. | 10 |
| FR0002 | Login | User should be able to log in to the application to perform inventory operations. | 10 |
| FR0002 | User Role Management | System should support different roles (admin, cashier, manager, supplier). | 9 |
| FR0003 | Product Management | Retailer should be able to add, update, and delete products in the inventory. | 9 |
| FR0004 | Stock Check | Retailer should be able to check product availability in real-time. | 8 |

|  |  |  |  |
| --- | --- | --- | --- |
| FR0005 | Order Placement | Retailer should be able to place an order for low-stock products. | 9 |
| FR0006 | Billing & Payment | System should generate invoices and accept payments via cash and credit cards. | 10 |
| FR0007 | Sales Tracking | System should maintain a record of all sales transactions. | 8 |
| FR0008 | Supplier Management | System should track supplier details and manage incoming stock. | 7 |
| FR0009 | Reports & Analytics | System should generate sales, inventory, and financial reports. | 6 |
| FR0010 | Barcode Scanning | System should support barcode scanning for faster checkout and inventory updates. | 9 |
| FR0011 | Customer Management | Retailer should be able to store customer details and purchase history. | 7 |
| FR0012 | Discount & Promotion | System should allow applying discounts and promotional offers. | 8 |
| FR0013 | Return & Refund | System should handle return and refund transactions efficiently. | 7 |
| FR0014 | Notifications & Alerts | System should notify about low stock, new orders, and important updates. | 8 |
| FR0015 | Multi-Store Support | System should allow managing multiple retail locations from a central database. | 6 |
| FR0016 | Security & Authentication | System should have two-factor authentication and encrypted data storage. | 10 |

|  |  |  |  |
| --- | --- | --- | --- |
| FR0017 | Audit Logs | System should maintain logs of all major transactions and activities. | 8 |
| FR0018 | Vendor Integration | System should integrate with third-party vendors for automated stock replenishment. | 6 |
| FR0019 | Loyalty Program | System should track customer loyalty points and enable redemption. | 7 |
| FR0020 | Mobile App Access | System should provide a mobile version for remote access and management. | 9 |
| FR0022 | Compliance Reporting | The system shall generate compliance reports for regulatory bodies. | 9 |
| FR0023 | Help Section | The system shall include a help section with user guides and FAQs. | 8 |
| FR0024 | User Feedback | The system shall allow users to provide feedback on the portal's functionality. | 7 |
| FR0025 | Training Material Access | The system shall provide access to  training materials for users. | 7 |

# Document 4- Requirement Traceability Matrix

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| FR0001 | User registration | The users should be able to register themselves on the application. | Completed | Pending | Pending | Completed | Completed | Completed |
| FR0002 | Login | User should be able to log in to the application to perform inventory operations. | Completed | Completed | Pending | Completed | Completed | Completed |
| FR0003 | User Role Management | System should support different roles (admin, cashier, manager, supplier). | Completed | Completed | Completed | Completed | Completed | Completed |
| FR0004 | Product Management | Retailer should be able to add, update, and delete products in the inventory. | Completed | Completed | Completed | Completed | Completed | Completed |
| FR0005 | Stock Check | Retailer should be able to check product availability in real-time. | Completed | Completed | Pending | Completed | Completed | Completed |
| FR0006 | Order Placement | Retailer should be able to place an order for low-stock products. | Completed | Completed | Completed | Completed | Completed | Completed |
| FR0007 | Billing & Payment | System should generate invoices and accept payments via cash and credit cards. | Completed | Completed | Pending | Completed | Completed | Completed |
| FR008 | Sales Tracking | System should maintain a record of all sales transactions. | Completed | Pending | Completed | Completed | Completed | Completed |
| FR009 | Supplier Management | System should track supplier details and manage incoming stock. | Completed | Completed | Completed | Completed | Completed | Completed |
| FR0010 | Reports & Analytics | System should generate sales, inventory, and financial reports. | Completed | Completed | Pending | Completed | Completed | Completed |
| FR0011 | Barcode Scanning | System should support barcode scanning for faster checkout and inventory updates. | Completed | Completed | Completed | Completed | Completed | Completed |
| FR0012 | Customer Management | Retailer should be able to store customer details and purchase history. | Completed | Completed | Pending | Completed | Completed | Completed |
| FR0013 | Discount & Promotion | System should allow applying discounts and promotional offers. | Completed | Pending | Pending | Completed | Completed | Completed |
| FR0014 | Return & Refund | System should handle return and refund transactions efficiently. | Completed | Completed | Completed | Completed | Completed | Completed |
| FR0015 | Notifications & Alerts | System should notify about low stock, new orders, and important updates. | Completed | Completed | Completed | Completed | Completed | Completed |
| FR0016 | Multi-Store Support | System should allow managing multiple retail locations from a central database. | Completed | Completed | Pending | Completed | Completed | Completed |
| FR0017 | Security & Authentication | System should have two-factor authentication and encrypted data storage. | Completed | Completed | Pending | Completed | Completed | Completed |
| FR0018 | Audit Logs | System should maintain logs of all major transactions and activities. | Completed | Completed | Completed | Completed | Completed | Completed |
| FR0019 | Vendor Integration | System should integrate with third-party vendors for automated stock replenishment. | Completed | Completed | Completed | Completed | Completed | Completed |
| FR0020 | Loyalty Program | System should track customer loyalty points and enable redemption. | Completed | Completed | Pending | Completed | Completed | Completed |
| FR0021 | Mobile App Access | System should provide a mobile version for remote access and management. | Completed | Completed | Completed | Completed | Completed | Completed |
| FR0022 | Compliance Reporting | The system shall generate compliance reports for regulatory bodies. | Completed | Completed | Pending | Completed | Completed | Completed |
| FR0023 | Help Section | The system shall include a help section with user guides and FAQs. | Completed | Completed | Pending | Completed | Completed | Completed |
| FR0024 | User Feedback | The system shall allow users to provide feedback on the portal's functionality. | Completed | Completed | Pending | Completed | Completed | Completed |
| FR0025 | Training Material Access | The system shall provide access to  training materials for users. | Completed | Completed | Completed | Completed | Completed | Completed |

## Document 5- BRD Template

**Retail Store Management System**

**RSMS-2025-01**

**Version 1.0**

**Vedant Mulay**

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## 1. Document Revisions

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Revision Number** | **Date** | **Author** | **Description of Changes** | **Reviewer** | **Approval Date** |
| 0.1 | 14/01/25 | Vedant Mulay | Initial draft of the project documentation | XYZ | 15/01/25 |
| 0.2 | 20/01/25 | Vedant Mulay | Added project objectives and success criteria | XYZ | 21/01/25 |
| 0.3 | 25/01/25 | Vedant Mulay | Included stakeholder analysis and elicitation techniques | XYZ | 26/01/25 |
| 0.4 | 30/01/25 | Vedant Mulay | Completed functional requirements and requirement traceability  matrix | XYZ | 01/02/25 |
| 0.5 | 05/02/25 | Vedant Mulay | Updated priority and status in requirement traceability  matrix | XYZ | 06/02/25 |
| 0.6 | 15/02/25 | Vedant Mulay | Added Detailed Business Requirements | XYZ | 16/02/25 |
| 0.7 | 20/02/25 | Vedant Mulay | Incorporated Appendices and finalized document | XYZ | 21/02/25 |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| 0.8 | 25/02/25 | Vedant Mulay | Final review and formatting adjustments | XYZ | 26/02/25 |

## 2. Approvals

|  |  |  |  |
| --- | --- | --- | --- |
| **Role** | **Name** | **Signature** | **Date** |
| Project Sponsor | Mr. Patil | [Signature] | 15/01/25 |
| Business Owner | Sagar K | [Signature] | 15/01/25 |
| Project Manager | Harshal | [Signature] | 15/01/25 |
| Business Analyst | Vedant Mulay | [Signature] | 16/01/25 |
| Technical Lead | Bhushan M | [Signature] | 16/01/25 |
| Quality Assurance Lead | Sneha P | [Signature] | 17/01/25 |
| Stakeholder Representative | Anvita | [Signature] | 18/01/25 |
| IT Department Head | Pratik P | [Signature] | 18/01/25 |

## 3. RASCI Chart for This Document

3.1. Codes Used in RASCI Chart:

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

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Stakeholder** | **Responsibl e (R)** | **Accountable (A)** | **Consulted (C)** | **Informed (I)** |
| **Store Owner** |  |  | C | I |
| **Project Manager** | R | A |  |  |
| **Business Analyst** | R |  |  |  |
| **UI/UX Designers** | R |  |  |  |
| **Developer** | R |  |  |  |
| **Testers** | R |  |  |  |
| **Trainers** | R |  |  |  |
| **Store Manager** |  |  | C | I |
| **Store Staff** |  |  | C |  |

**4. Introduction**

## 4.1. Business Goals

The primary goal of the Retail Store Management System (RSMS) is to streamline retail operations, enhance customer experience, and improve business efficiency. The system aims to provide a centralized platform for managing inventory, sales, billing, customer relationships, and reporting. RSMS aims to improve user accessibility across devices and integrate seamlessly.

The retail business needs a robust, scalable, and automated solution to overcome the challenges of manual record-keeping, inaccurate inventory management, and inefficient billing processes. By implementing the RSMS, the organization can:

* Reduce operational inefficiencies.
* Improve inventory accuracy.
* Enhance customer satisfaction.
* Increase revenue through optimized sales management.
* Ensure compliance with financial and tax regulations.

## 4.2. Business Objectives

**The key business objectives of the Retail Store Management System include:**

1. **Efficient Inventory Management:**
   * Track stock levels in real-time.
   * Automate reordering when stock reaches a threshold.
   * Reduce losses due to overstocking or understocking.
2. **Optimized Sales & Billing Process:**
   * Provide a fast and accurate billing system.
   * Integrate multiple payment options (cash, card, UPI, etc.).
   * Generate automated invoices for each transaction.
3. **Enhanced Customer Experience:**
   * Implement loyalty programs and discounts.
   * Maintain customer profiles for personalized marketing.
   * Enable fast checkout processes with barcode scanning.
4. **Improved Supplier & Vendor Management:**
   * Maintain supplier records.
   * Automate purchase order generation.
   * Track payments and delivery schedules.
5. **Data-Driven Decision Making:**
   * Generate sales and inventory reports.
   * Provide insights into customer buying patterns.
   * Support forecasting and business expansion strategies.
6. **Secure & Scalable System:**
   * Implement role-based access control.
   * Ensure data security and regular backups.
   * Support multi-store management.
7. **Regulatory Compliance & Audit Readiness:**
   * Maintain accurate transaction logs.
   * Ensure tax compliance (GST, etc.).

## 4.3. Business Rules

The Retail Store Management System (RSMS) follows a set of business rules to ensure smooth operations, compliance, and efficiency in retail management.

Organization Policies, Procedures, and Rules & Regulations

1. **Inventory Management Policies:**
   * All products must be registered with a unique SKU (Stock Keeping Unit).
   * Inventory should be updated in real-time with every purchase or stock addition.
   * Low-stock alerts should be triggered when inventory falls below a defined threshold.
   * Expiry dates must be tracked for perishable products.
2. **Sales & Billing Procedures:**
   * Every sale must be recorded in the system before generating an invoice.
   * Discounts and promotions should be authorized by the store manager before applying.
   * Refunds/exchanges are only allowed within the return period (e.g., 7 or 14 days) and require proof of purchase.
3. **Customer Management Rules:**
   * Customers should have the option to register for loyalty programs and earn rewards.
   * Personal customer data must be stored securely and comply with data protection regulations (e.g., GDPR, IT Act 2000).
   * Customer complaints or queries must be addressed within 48 hours.
4. **Employee Access & Security Policies:**
   * Employees should have role-based access control (RBAC) to system features.
   * Only authorized personnel can modify pricing, apply discounts, or generate financial reports.
   * System logins should require strong passwords and multi-factor authentication (MFA).
5. **Payment & Financial Policies:**
   * The system should support multiple payment methods (cash, credit/debit cards, UPI, net banking).
   * Transactions should be automatically logged for audit purposes.
   * Tax calculations (e.g., GST, VAT) must be applied automatically based on product type and location.
6. **Regulatory Compliance:**
   * All financial transactions should comply with local tax laws and accounting standards.
   * Data must be backed up daily to prevent loss of business information.
   * The system must generate reports for audits and regulatory filings.

## 4.4. Background

The Retail Store Management System (RSMS) was proposed due to inefficiencies in the manual processes used by retail businesses. Traditionally, store owners and managers relied on paper-based records or outdated software, leading to problems such as:

* Inaccurate inventory tracking, causing stock shortages or overstocking.
* Slow checkout processes, leading to customer dissatisfaction.
* Errors in financial reporting, making tax compliance difficult.
* Lack of customer engagement tools, reducing sales opportunities.

Expected Benefits of Implementation

The Retail Store Management System aims to solve these issues by providing:

* Automated inventory management to reduce losses.
* Faster billing and checkout, enhancing customer satisfaction.
* Accurate financial reporting for tax compliance and auditing.
* Integration of customer loyalty programs to increase retention.
* Real-time sales and performance insights for better decision-making.

By implementing this system, retail businesses can streamline operations, reduce errors, and improve profitability, making it an essential tool for modern retail management.

## 4.5. Project Objective

The Retail Store Management System (RSMS) is being developed to automate, optimize, and enhance retail operations by providing an integrated platform for inventory management, sales processing, billing, and customer engagement.

* To replace manual and outdated processes with a digital, automated system that improves efficiency, reduces errors, and enhances customer satisfaction.
* To provide real-time inventory tracking, ensuring that products are always available while minimizing overstocking and losses.
* To enable fast and accurate billing, reducing checkout time and improving customer experience.
* To generate automated sales reports and analytics, helping store owners make data-driven decisions.
* To ensure secure payment processing, supporting both cash and digital transactions**.**

|  |  |
| --- | --- |
| Business Objective | Project Contribution |
| Efficient Inventory Management | The system automates stock tracking, generates low-stock alerts, and prevents stock shortages. |
| Faster & Accurate Billing | The system provides barcode scanning, automated tax calculations, and invoice generation. |
| Improved Customer Experience | Customers get quick service, multiple payment options, and personalized offers through the system. |
| Data-Driven Decision Making | Generates real-time sales, inventory, and financial reports for better business planning. |
| Security & Compliance | Implements user role management, data encryption, and tax compliance features. |

## 4.6. Project Scope

The project scope outlines the boundaries and deliverables of the Retail store management system (RSMS) project. It defines what features and functionalities will be included in the final product and what aspects are considered out of scope. The project scope encompasses both the in-scope functionality that will be developed as part of the project and the out-of-scope functionality that will not be addressed.

**4.6.1 In-Scope Functionality**

The following functionalities will be developed as part of this project:

**User Management:**

* Secure login and authentication system.
* Role-based access control (Admin, Cashier, Manager, Supplier).

**Inventory Management:**

* Add, update, and delete product information.
* Track stock availability in real-time.
* Generate low-stock alerts and restock notifications.

**Sales & Billing:**

* Fast checkout process with barcode scanning.
* Automated invoice generation with tax calculations.
* Support for cash and credit card payments.

**Customer Management:**

* Maintain customer purchase history and contact details.
* Implement discounts and loyalty programs.

**Supplier Management:**

* Maintain supplier contact and transaction records.
* Generate purchase orders for low-stock products.

**Reports & Analytics:**

* Daily, weekly, and monthly sales reports.
* Inventory reports and stock movement analysis.
* Customer purchase behaviour insights.

**Security & Compliance:**

* Role-based access control for employees.
* Secure data storage and backup management.
* Tax calculation compliance (GST, VAT, etc.).

**4.6.2 Out of Scope Functionality**

The following functionalities will NOT be included in the current phase of the project:

**Third-Party E-commerce Integration**

* No direct integration with online stores (Amazon, Shopify, etc.) in this phase.

**Automated AI-Based Stock Forecasting**

* The system will provide reports, but it will not predict future demand using AI.

**Multi-Branch/Multi-Store Management**

* The initial version will support one store, not multiple retail branches.

**Payroll Management**

* Employee payroll processing is not part of this project.

**Mobile App Development**

* The system will be desktop/web-based only (mobile app support is out of scope).

**Integration with External Accounting Systems**

* No automatic syncing with QuickBooks, Tally, or SAP in this phase.

By defining in-scope and out-of-scope functionalities clearly, this ensures that the project stays focused, achievable, and aligned with business priorities

## 5. Assumptions

The **Retail Store Management System (RSMS)** is designed based on the following key assumptions:

* **Users will have basic computer literacy** to operate the system.
* The **store will have a stable internet connection** for cloud-based data syncing (if applicable).
* The system will be deployed **on Windows-based POS machines or web-based interfaces**.
* **Barcode scanners and printers** will be compatible with the system.
* **Payment gateway providers** will ensure secure and compliant transactions.
* Store staff will **regularly update inventory records** to maintain accuracy.
* The **scope of the project will remain unchanged** throughout the development phase.
* The system will support **single-store operations** (multi-store functionality is out of scope).

## 6. Constraints

The **Retail Store Management System (RSMS)** is subject to the following constraints:

1. **Budget Constraints:** The project must stay within the allocated financial resources.
2. **Time Constraints:** The system must be completed and deployed within the agreed-upon timeframe.
3. Hardware Limitations: The system should run on existing POS hardware without requiring major upgrades.
4. Regulatory Compliance: The system must comply with taxation laws (GST/VAT) and financial regulations.
5. Data Security Constraints: User data must be encrypted and stored securely to prevent data breaches.

**7. Risks**

#### **7.1 Technological Risks**

* **Compatibility Issues:** The system may not work with certain barcode scanners and printers.
  + *Mitigation*: Conduct extensive hardware compatibility testing before deployment.
* **Payment Gateway Failures:** The payment processing system may face downtime or security breaches.
  + *Mitigation*: Integrate multiple payment options to reduce reliance on a single provider.
* **Data Security Breaches:** Customer and inventory data may be vulnerable to cyber threats.
  + *Mitigation*: Implement encryption, access control, and periodic security audits.
* **System Downtime:** Unexpected server failures could disrupt store operations.
  + *Mitigation*: Set up redundant backup servers and regular maintenance schedules.

**7.2 Skills Risks**

* **Lack of Technical Knowledge Among Store Staff:** Employees may struggle to operate the new system efficiently.
  + *Mitigation*: Conduct training sessions and provide user manuals.
* **Shortage of Skilled Developers:** Hiring or retaining skilled technical personnel may be difficult.
  + *Mitigation*: Allocate resources for hiring and training technical staff.

**7.3 Political Risks**

* **Government Regulations:** Changes in retail compliance laws may impact the system’s functionality.
  + *Mitigation*: Ensure the system adheres to current taxation and financial regulations.
* **Data Privacy Laws:** Stricter data privacy regulations could require system updates.
  + *Mitigation*: Implement adaptable security policies to comply with evolving laws.

**7.4 Business Risks**

* **Budget Overruns:** The project may exceed financial estimates.
  + *Mitigation*: Regularly review project budgets and adjust resource allocation as needed.
* **Shift in Business Model:** The retail business may evolve, requiring system modifications.
  + *Mitigation*: Ensure the system is scalable and adaptable to new business needs.
* **Employee Resistance:** Staff may resist using the new system due to unfamiliarity.
  + *Mitigation*: Conduct training, provide incentives, and offer technical support.

**7.5 Requirements Risks**

* **Misinterpretation of Business Needs:** The system might not align with actual business requirements.
  + *Mitigation*: Maintain regular stakeholder involvement and conduct requirement reviews.
* **Missing Key Functionalities:** Critical features might be overlooked during development.
  + *Mitigation*: Implement rigorous requirement validation and extensive User Acceptance Testing (UAT).

**7.6 Other Risks**

* **Loss of Critical Data:** System failure or human error could result in data loss.
  + *Mitigation*: Implement automated data backup and recovery mechanisms.
* **Vendor Dependency:** Relying on third-party vendors for system maintenance could cause delays.
  + *Mitigation*: Build in-house IT support capabilities and consider multiple vendor options.

## 8. Business Process Overview

## The Retail Store Management System aims to streamline operations by digitizing inventory management, billing, and customer tracking. Below is an overview of the current process (AS-IS) and the proposed improvements (TO-BE).

**8.1 Legacy System (AS-IS)**

The current system is manual and paper-based, leading to inefficiencies such as:

* **Inventory Management Issues:** Stock levels are tracked manually, often leading to overstocking or stockouts.
* **Billing Delays:** Cashiers manually calculate totals, causing long queues.
* **Customer Data Management:** Customer purchase history is stored on paper, making it hard to track loyalty programs.
* **Supplier Communication:** Orders are placed via phone calls or emails, increasing miscommunication risks.
* **Reporting Limitations:** Sales and revenue reports are created manually, making trend analysis slow and error-prone.

**Legacy System Process Flow:**

1. Customer selects products.
2. Cashier manually calculates the bill.
3. Payment is processed via cash/card, and a handwritten receipt is issued.
4. Store manager manually updates inventory records.
5. Sales reports are created at the end of the day/week.

**8.2 Proposed Recommendations (TO-BE)**

The new Retail Store Management System will automate key processes, reducing human errors and increasing efficiency.

**Key Improvements:**

* **Automated Inventory Management:** The system tracks stock levels in real time and alerts managers when items run low.
* **POS System for Fast Billing:** Barcodes scan products instantly, and digital invoices are generated.
* **Customer Database & Loyalty Programs:** Customer data is stored in the system for tracking purchases and rewards.
* **Supplier Portal:** Automated order placements to avoid delays and miscommunications.
* **Advanced Reporting & Analytics:** AI-powered insights into sales trends, customer preferences, and inventory needs.

**Proposed System Process Flow:**

1. Customer scans products at the POS system.
2. System auto-generates the total bill and applies discounts.
3. Digital payment is processed via multiple options (UPI, card, cash).
4. System auto-updates inventory after purchase.
5. Store managers generate real-time reports for business insight

**1. Definition**

The Retail Store Management System (RSMS) is a system designed to automate the processes of ordering, arranging, selling goods, and managing transactions efficiently.

**2. AS-IS**

The current retail store operations rely on a manual process

**3. TO-BE**

The proposed system automates store operations using the Retail Store Management System (RSMS) to enhance efficiency and accuracy. The system will provide real-time stock tracking, automated billing, and digital sales reporting

**4. Assumptions**

* Retailers and staff will be trained to use the system effectively.
* Internet connectivity will be available for working of system and real-time updates.
* All stock and sales data will be integrated into a central database.
* Customers will accept digital payment options.

**5. Impact**

* Reduced operational workload on staff.
* Faster checkout process improves customer satisfaction.
* Minimized stock shortages through real-time tracking.
* Enhanced security with digital records.

**6. MoC (Method of Change)**

**Business Flow:**

1. **Retail Store Owner Logs In**: The owner opens the Retail Store Management System and logs in using their credentials.
2. **Dashboard Overview**: The system displays the dashboard with real-time stock levels, sales data, and pending tasks.
3. **Stock Check & Updates**: The owner checks the stock availability and updates product details if needed.
4. **Automatic Low Stock Alerts**: If stock is low, the system generates an alert and suggests reordering.
5. **Order Placement**: The owner reviews the suggested order and confirms it with the supplier through the system.
6. **Receiving Inventory**: When stock arrives, the system updates inventory automatically after verification.
7. **Product Arrangement**: The system suggests optimal product arrangement based on price and category.
8. **Sales Processing**: When a customer selects products, the cashier scans the items into the system.
9. **Billing Generation**: The system automatically calculates the total bill and applies any discounts or taxes.
10. **Payment Processing**: The customer pays via cash, credit card, or UPI, and the system records the transaction.
11. **Stock Deduction**: Once the sale is completed, the system updates the stock levels in real-time.
12. **Sales Report Generation**: The system automatically generates sales reports at daily, weekly, and monthly intervals.
13. **Customer Feedback & Loyalty Management**: If applicable, the system captures customer feedback and updates loyalty points.
14. **End of Day Reconciliation**: The system generates an end-of-day report summarizing total sales, payments, and inventory changes.
15. **Security & Logout**: The store owner logs out securely after reviewing all updates.

**Technical Flow:**

* **Front-end**: Web-based and POS application interface for store staff.
* **Back-end**: Cloud-based inventory and transaction database.
* **Integration**: Payment gateway, supplier API for auto-ordering.
* **Security**: Role-based access control, data encryption

Retail Store Owner Logs In

Dashboard Overview

Stock Check & Updates

Automatic Low Stock Alerts

Order Placement

Product Arrangement

Sales Processing

Billing Generation

. Payment Processing

Stock Deduction

Sales Report Generation

Customer Feedback & Loyalty Management

End of Day Reconciliation

Security & Logout

## 9. Business Requirements:

|  |  |  |  |
| --- | --- | --- | --- |
| Req ID | Requirement Name | Requirement Description | Priority |
| BR001 | User Authentication | The system should allow login for different user roles (admin, cashier, manager). | High |
| BR002 | Role-Based Access Control | Different user roles should have different access permissions. | High |
| BR003 | Barcode Scanning | The system should support barcode scanning for faster checkout. | High |
| BR004 | Inventory Management | The system should update inventory automatically after each sale. | High |
| BR005 | Low Stock Alert | The system should send alerts when an item’s stock falls below the threshold. | High |
| BR006 | Supplier Management | The system should allow automated supplier order placements. | Medium |
| BR007 | Product Catalog Management | Admin should be able to add, update, or remove products. | High |
| BR008 | Price & Discount Management | The system should allow discounts, offers, and dynamic pricing. | High |
| BR009 | Multiple Payment Methods | The system should support cash, credit/debit card, UPI, and digital wallets. | High |
| BR010 | Digital Invoice Generation | The system should generate and email digital invoices. | Medium |
| BR011 | Customer Database | The system should store customer details and purchase history. | Medium |
| BR012 | Loyalty Program Integration | The system should track and apply loyalty rewards and discounts. | Medium |
| BR013 | Return & Refund Processing | The system should allow refunds and manage return policies. | Medium |
| BR014 | Sales Reports & Analytics | The system should generate daily, weekly, and monthly sales reports. | High |
| BR015 | Dashboard with Insights | Managers should have a dashboard to monitor sales trends and inventory status. | Medium |
| BR016 | Data Backup & Recovery | The system should have an automatic backup and recovery mechanism. | High |
| BR017 | System Performance | The system should process transactions in less than 3 seconds. | High |
| BR018 | Security & Data Encryption | User data and transactions should be encrypted for security. | High |
| BR019 | Store Branch Integration | If multiple store branches exist, they should sync real-time data. | Medium |
| BR020 | Mobile Compatibility | The system should be accessible via a mobile interface or app. | Low |
| BR021 | Offline Mode Functionality | The system should allow sales processing even when the internet is down. | Medium |
| BR022 | User Activity Logging | The system should log all user activities for security and audits. | Medium |
| BR023 | Compliance & Tax Handling | The system should calculate and apply GST/VAT automatically. | High |
| BR024 | Customer Feedback Module | Customers should be able to provide feedback on their experience. | Low |
| BR025 | Notification System | The system should send SMS/Email notifications for order updates, low stock, and promotions. | Medium |

**10. Appendices**

## List of Acronyms

UAT-User Acceptance Testing

BRD- Business Requirement Document BR- Business Requirement

RBAC- role-based access control

MFA- multi-factor authentication

GST- Goods and Services Tax

UI- User interference

UX- User experience

POS – Point of Sale

SKU – Stock Keeping Unit

CRM – Customer Relationship Management

ERP – Enterprise Resource Planning

API – Application Programming Interface

## Glossary of Terms

## Inventory Management: The process of ordering, storing, and tracking products within the retail store.

## Sales Report: A detailed report showing the sales activity of a retail store over a specific period.

## Customer Profile: Data and information about the store's customers, including buying behavior, preferences, and purchase history.

## Stock Replenishment: The process of restocking sold items to maintain inventory levels.

## Purchase Order: A formal document sent to suppliers to request goods or services.

## Barcode Scanning: The process of scanning product barcodes to quickly identify and process items in the system.

## Order Fulfillment: The process of receiving, processing, and delivering customer orders.

**API (Application Programming Interface)**

* **Retail Store Management System:** A software application for Retail Store to manage daily operations.
* **Data Validation:** Procedures implemented to ensure the accuracy, consistency, and quality of data entered into the system.
* **User Role:** A set of permissions that define what actions a user can perform within the system.

## Related Documents

* + - Functional Specifications
    - Technical Design Document
    - This Business Requirements Document (BRD) provides a comprehensive overview of the objectives, scope, requirements, and other relevant aspects of the Retail Store Management System (RSMS) project.