项目文档

# Functional Requirement

ID Function Requirement  
INV-MGMT-001 Inventory Management The system shall synchronize inventory data in real time between Shopify and Amazon platforms.  
INV-MGMT-002 Inventory Management The system shall update high-selling items in real time across all platforms without manual intervention.  
INV-MGMT-003 Inventory Management The system shall allow manual synchronization of less urgent inventory items via a centralized dashboard.  
INV-MGMT-004 Inventory Management The system shall pull and update stock levels from Shopify and Amazon platforms as needed.  
CUST-SUP-001 Customer Support The system shall provide an AI-powered chatbot to handle common customer inquiries (e.g., order status, return policies, shipping times).  
CUST-SUP-002 Customer Support The AI chatbot shall use pre-written response templates to reduce customer support response time.  
CUST-SUP-003 Customer Support The system shall track and categorize customer issues for reporting and analysis.  
CUST-SUP-004 Customer Support The AI chatbot shall escalate unresolved or complex customer issues to human agents.  
CUST-SUP-005 Customer Support The system shall allow customization of the AI chatbot’s responses to reflect the brand’s tone and policies.  
PROD-LST-001 Product Listing The system shall allow centralized updating of product descriptions, pricing, and images.  
PROD-LST-002 Product Listing The system shall notify designated team members via email, in-app alerts, or team chat tools (e.g., Slack/Teams) when urgent product updates are made.  
PROD-LST-003 Product Listing The system shall suggest response templates to the support team when a product is updated or out of stock.  
SALES-DASH-001 Sales Dashboard The system shall display top-selling products, revenue trends (weekly/monthly), and customer behavior metrics (e.g., browsing patterns, peak activity times).  
SALES-DASH-002 Sales Dashboard The system shall provide actionable insights for inventory adjustments and promotional planning.  
SALES-DASH-003 Sales Dashboard The system shall present dashboards with a focus on key metrics to support quick decision-making.

# External Description

## 5.1 Regulatory/Legal Constraints  
  
- \*\*C-REG-001\*\*: The system shall comply with GDPR and other relevant data protection laws.  
 - \*\*Priority\*\*: Must Have  
 - \*\*Rationale\*\*: Compliance is essential to protect customer data and avoid legal penalties.  
 - \*\*Source\*\*: NFR-3  
 - \*\*Acceptance Criteria\*\*: System passes GDPR compliance audit and documentation is available for review.  
  
- \*\*C-REG-002\*\*: The system shall not store or access sensitive customer information (e.g., addresses, payment details) unless masked or anonymized.  
 - \*\*Priority\*\*: Must Have  
 - \*\*Rationale\*\*: To protect customer privacy and comply with data protection regulations.  
 - \*\*Source\*\*: NFR-4  
 - \*\*Acceptance Criteria\*\*: All sensitive customer data is masked or anonymized in the system, as verified by a data privacy review.  
  
- \*\*C-REG-003\*\*: The system shall maintain audit logs for all interactions involving sensitive data to ensure compliance and traceability.  
 - \*\*Priority\*\*: Should Have  
 - \*\*Rationale\*\*: Audit logs are necessary for demonstrating compliance and tracking data access.  
 - \*\*Source\*\*: NFR-5  
 - \*\*Acceptance Criteria\*\*: Audit logs are generated and stored for all sensitive data interactions, and can be reviewed by administrators.  
  
## 5.2 Hardware Constraints  
  
- \*\*C-HW-001\*\*: The system shall be hosted on a cloud infrastructure (e.g., AWS or Azure) with scalable compute and storage resources.  
 - \*\*Priority\*\*: Must Have  
 - \*\*Rationale\*\*: Cloud hosting ensures scalability, reliability, and cost-effectiveness for the system's operations.  
 - \*\*Source\*\*: 5.1  
 - \*\*Acceptance Criteria\*\*: The system is successfully deployed and running on a cloud infrastructure with the ability to scale compute and storage resources.  
  
## 5.3 Interface Constraints  
  
- \*\*C-INT-001\*\*: The system shall integrate with Shopify and Amazon APIs for inventory synchronization.  
 - \*\*Priority\*\*: Must Have  
 - \*\*Rationale\*\*: Integration with these platforms is required to maintain real-time inventory data.  
 - \*\*Source\*\*: 5.2  
 - \*\*Acceptance Criteria\*\*: The system is successfully connected to Shopify and Amazon APIs and can synchronize inventory data in real time.  
  
- \*\*C-INT-002\*\*: The system shall integrate with team communication tools such as Slack or Microsoft Teams for notifications.  
 - \*\*Priority\*\*: Should Have  
 - \*\*Rationale\*\*: Integration with team chat tools enhances communication and responsiveness for urgent updates.  
 - \*\*Source\*\*: 5.4  
 - \*\*Acceptance Criteria\*\*: The system is successfully integrated with Slack or Microsoft Teams and can send notifications through these platforms.  
  
- \*\*C-INT-003\*\*: The system shall support email notification services for urgent alerts.  
 - \*\*Priority\*\*: Should Have  
 - \*\*Rationale\*\*: Email notifications are a reliable method for alerting users to urgent product updates.  
 - \*\*Source\*\*: 5.4  
 - \*\*Acceptance Criteria\*\*: The system can send email notifications for urgent alerts, as verified by a test scenario.  
  
## 5.4 Design & Implementation Constraints  
  
- \*\*C-DI-001\*\*: The AI chatbot shall be built using a natural language processing (NLP) framework and trained with user-defined policies.  
 - \*\*Priority\*\*: Must Have  
 - \*\*Rationale\*\*: This ensures the chatbot is customizable and can reflect the brand's tone and policies.  
 - \*\*Source\*\*: 5.2  
 - \*\*Acceptance Criteria\*\*: The AI chatbot is implemented using an NLP framework and is trained with user-defined policies.  
  
- \*\*C-DI-002\*\*: The system shall implement role-based access control (RBAC) to ensure that users can only access data relevant to their responsibilities.  
 - \*\*Priority\*\*: Must Have  
 - \*\*Rationale\*\*: RBAC is necessary to enforce data access policies and protect sensitive information.  
 - \*\*Source\*\*: 5.5  
 - \*\*Acceptance Criteria\*\*: Role-based access is implemented and verified through user access tests.  
  
## 5.5 Other Constraints  
  
- \*\*C-OTH-001\*\*: The system shall require a stable internet connection for real-time data synchronization and communication with external platforms.  
 - \*\*Priority\*\*: Must Have  
 - \*\*Rationale\*\*: A stable internet connection is required for real-time synchronization and communication.  
 - \*\*Source\*\*: 5.3  
 - \*\*Acceptance Criteria\*\*: The system is unable to perform real-time synchronization or communicate with external platforms when the internet connection is unstable.  
  
- \*\*C-OTH-002\*\*: All data transmissions shall be encrypted using HTTPS.  
 - \*\*Priority\*\*: Must Have  
 - \*\*Rationale\*\*: HTTPS ensures secure communication between the system and users, as well as with external platforms.  
 - \*\*Source\*\*: 5.3  
 - \*\*Acceptance Criteria\*\*: All data transmissions are encrypted using HTTPS, as verified by network traffic analysis.  
  
- \*\*C-OTH-003\*\*: The system shall provide audit trails for all inventory and customer support actions.  
 - \*\*Priority\*\*: Should Have  
 - \*\*Rationale\*\*: Audit trails are necessary for tracking and accountability in inventory and support operations.  
 - \*\*Source\*\*: 5.5  
 - \*\*Acceptance Criteria\*\*: Audit trails are generated and stored for all inventory and support actions, and can be reviewed by administrators.