

# E-Commerce Digital Marketplace Platform – Master System Blueprint

## 1. Introduction

This document defines the **complete system blueprint** for the development of a **full-scale digital marketplace platform** operating entirely online, without any physical outlets.

The platform is designed for **India-wide usage**, supporting multiple sellers, customers, and centralized administration.

## 2. Business Vision & Objectives

The platform will function as a **central digital marketplace**, similar in concept to leading global e-commerce platforms.

### Objectives

- Enable customers to discover, purchase, and receive products digitally
- Allow sellers to list products and fulfill orders efficiently
- Provide admins with full control and visibility
- Ensure scalability, trust, and long-term growth

### Revenue Streams

- Commission on sales
- Customer subscription plans (Premium / Elite)
- Seller-based subscriptions (future phase)

## 3. User Roles

### 3.1 Customer (Buyer)

End users who browse and purchase products.

### Capabilities

- Account registration and login
- Product browsing and search
- Cart and checkout
- Multiple wishlists
- Order tracking and history
- Product and seller reviews
- Customer support access
- Optional subscription management



### 3.2 Seller (Vendor)

Individuals or businesses selling products.

#### Capabilities

- Seller registration (admin approval required)
- Product and price management
- Location-based stock management
- Order processing and fulfillment
- Responding to customer queries
- Viewing ratings, reviews, and sales reports

### 3.3 Admin (Platform Owner)

Represents the marketplace owner.

#### Responsibilities

- Approving and managing sellers
- Managing categories, policies, and commissions
- Monitoring orders, revenue, and inventory
- Managing subscriptions
- Moderating reviews
- Overseeing customer support and escalations

## 4. End-to-End System Workflow

### 4.1 Customer Workflow

1. Customer registers and logs in
2. Browses products by category or search
3. System checks availability based on delivery PIN code
4. Customer adds products to cart or saves to wishlists
5. Customer proceeds to checkout
6. Delivery address and payment are confirmed
7. Order is placed successfully
8. Customer tracks order until delivery
9. Customer provides product and seller reviews



## 4.2 Seller Workflow

1. Seller registers on the platform
2. Admin reviews and approves seller account
3. Seller adds products with pricing and stock per location
4. Seller receives order notifications
5. Seller ships products and updates order status
6. Seller responds to support tickets if assigned
7. Seller views performance reports and ratings

## 4.3 Admin Workflow

1. Admin logs into the admin dashboard
2. Approves sellers and manages categories
3. Monitors orders, inventory, and delivery performance
4. Oversees reviews and customer feedback
5. Manages support escalations and refunds
6. Tracks revenue, commissions, and subscriptions

## 5. Product & Category Management

- Products are organized into categories and subcategories
- Each product includes:
  - Name and description
  - Images
  - Price and discounts
  - Seller information
  - Location-wise stock
- Sellers manage only their own products
- Admin controls category creation and visibility

## 6. Location-Based Stock Management (India-Only)

### 6.1 Inventory Model

Stock is managed **location-wise**, not globally.

Each product maintains separate stock per:

- City
- Warehouse
- Seller location

### Example

Product	Location	Stock
Laptop	Chennai	40
Laptop	Bangalore	25
Laptop	Delhi	15

## 6.2 Stock Allocation Logic

1. Customer enters delivery PIN code
2. System identifies nearest available stock location
3. Order is mapped to that location
4. Stock is deducted only from that location
5. Other locations remain unaffected

This prevents overselling and improves delivery accuracy.

## 6.3 Seller & Admin Control

- Sellers manage stock only for assigned locations
- Locations can be enabled or disabled
- Admin has full visibility across sellers and locations
- Low-stock alerts supported

## 7. Shopping Cart & Checkout

- Customers can add multiple products to cart
- System calculates:
  - Item totals
  - Delivery charges
  - Final payable amount
- Checkout includes address selection and payment confirmation
- Orders are placed only after successful payment

## 8. Multiple Wishlist Management

- Each customer has a default wishlist
- Customers can create **multiple custom wishlists**
- Products can be moved from wishlist to cart
- Wishlists are private and user-specific

## 9. Orders, Delivery & Returns

- Order lifecycle:
  - Placed → Confirmed → Shipped → Delivered
- Customers can track order status
- Cancellation and return workflows supported
- Refunds processed according to platform policy

## 10. Customer Subscription Model (Platform-Level)

Optional paid memberships to improve loyalty and repeat purchases.

### 10.1 Subscription Tiers

#### Basic (Free)

- Default for all users
- Standard pricing and delivery charges

#### Premium

- Free delivery on eligible orders
- Additional platform discounts
- Priority customer support

#### Elite

- All Premium benefits
- Reward points on every purchase
- Higher discount limits
- Priority delivery where applicable
- Exclusive Elite offers

### 10.2 Reward Points (Elite)

- Earned on purchases
- Redeemable during checkout
- Digitally tracked and secured

### 10.3 Subscription Management

- Upgrade or downgrade plans
- Monthly / quarterly / annual options
- Subscription validity and renewal tracking
- Optional auto-renewal

## 11. Seller-Based Product Subscription (Future Model)

Customers can subscribe to **specific products from specific sellers**.

### How It Works

1. Customer selects a subscription-enabled product
2. Chooses seller, quantity, and delivery frequency
3. Subscription is activated
4. Orders are auto-generated as per schedule
5. Payments handled per delivery or recurring

### Use Cases

- Groceries
- Household essentials
- Personal care
- Office supplies

Admin controls subscription eligibility and commissions.

## 12. Product & Seller Reviews System

### 12.1 Product Reviews

- Only verified buyers can review products
- Includes star rating and written feedback
- Reviews displayed on product pages
- Average ratings calculated automatically

### 12.2 Seller Reviews

- Customers can rate sellers separately from products
- Seller ratings based on:
  - Delivery performance
  - Product consistency
  - Issue resolution
- Seller profiles display overall ratings

### 12.3 Review Moderation

- Admin can moderate or remove inappropriate reviews
- Prevents misuse or fake feedback
- Poor ratings trigger admin monitoring

## 13. Customer Support System

### 13.1 Support Channels

#### Phase 1

- In-app support ticket system
- Email support

#### Phase 2

- Live chat
- Knowledge base / FAQs

### 13.2 Support Workflow

1. Customer raises a support request
2. Issue categorized (order, payment, delivery, product, seller)
3. Ticket assigned to:
  - Seller (product-related) or
  - Platform support team
4. Customer receives updates
5. Issue resolved and ticket closed

### 13.3 Admin Escalation

Admin can:

- Monitor all tickets
- Escalate unresolved cases
- Penalize or suspend sellers
- Approve refunds or compensations

## 14. Security, Performance & Reliability

- Secure authentication and authorization
- Encrypted credentials
- Role-based access control
- Cloud-based deployment
- High availability and scalability



## 15. Phased Development Plan

### Phase 1 – Core Marketplace (MVP)

- Buyer, Seller, Admin modules
- Product listing and orders
- Location-based stock
- Multiple wishlists
- Platform subscriptions
- Reviews and basic support

### Phase 2 – Growth

- Reward points
- Seller analytics
- Notifications and insights
- Enhanced support channels

### Phase 3 – Scale

- Seller-based subscriptions
- Auto-order generation
- Recurring payments
- Advanced reporting and optimization