Multi-Vendor Ecommerce Application Requirements

Project Overview

Build a comprehensive multi-vendor ecommerce platform similar to Shopee, where multiple shop owners can sell their products through individual storefronts on a unified marketplace.

Core User Roles

1. Customers

- Browse and purchase items from multiple shops
- Manage shopping cart and orders
- Account management and order history

2. Shop Owners

- Manage their own virtual storefront
- Control inventory, pricing, and product listings
- View sales analytics and order management
- Handle shop-specific settings and branding

3. Platform Admin (Optional)

- Oversee the entire marketplace
- Manage shop approvals and policies
- Platform-wide analytics and management

Detailed Feature Requirements

Customer Features

Product Discovery & Shopping

- **Browse Products**: View all items across different shops with filtering and search
- **Shop Pages**: Visit individual shop storefronts with shop-specific branding
- **Product Details**: Comprehensive product pages with images, descriptions, specifications
- **Search & Filter**: Advanced search with filters (price, category, shop, rating, location)
- **Product Comparison**: Compare products across different shops

Shopping Cart & Checkout

- **Multi-Shop Cart**: Add items from different shops in a single cart
- **Cart Management**: Update quantities, remove items, save for later
- **Checkout Process**: Handle orders from multiple shops in one transaction
- **Payment Integration**: Multiple payment methods (credit card, digital wallets, bank transfer)
- **Shipping Options**: Different shipping methods per shop with cost calculation

Order Management

- **Order Tracking**: Real-time order status updates per shop
- **Order History**: Complete purchase history with order details
- **Order Cancellation**: Cancel orders within allowed timeframes
- **Returns & Refunds**: Process returns and refund requests
- **Reviews & Ratings**: Rate products and shops after purchase

Shop Owner Features

Shop Management

- **Shop Setup**: Create and customize shop profile, branding, and policies
- **Shop Dashboard**: Overview of key metrics and quick actions
- **Shop Analytics**: Sales performance, customer insights, traffic analytics
- **Shop Settings**: Business hours, shipping policies, return policies

Product Management

- **Product Catalog**: Add, edit, and organize product listings
- **Inventory Management**: Track stock levels, set low-stock alerts
- **Image Management**: Upload and manage multiple product images
- **Product Variations**: Handle different sizes, colors, and variants
- **Bulk Operations**: Import/export products, bulk price updates
- **Product Status**: Enable/disable products, set availability

Order & Sales Management

- **Order Dashboard**: View and manage incoming orders
- **Order Processing**: Update order status, print shipping labels

- **Sales Analytics**: Revenue tracking, best-selling products, customer analytics

- **Financial Reports**: Income statements, transaction history, payout tracking

- **Customer Communication**: Message customers about orders

Inventory & Pricing

- **Stock Management**: Real-time inventory tracking across all products

- **Pricing Tools**: Set regular prices, sale prices, bulk discounts

- **Promotion Management**: Create shop-specific coupons and promotions

- **Supplier Management**: Track suppliers and purchase orders

Platform Features

Multi-Shop Infrastructure

- **Shop Isolation**: Separate data and settings for each shop

- **Shop Discovery**: Shop directory and featured shops

- **Shop Verification**: Verification badges and trust indicators

- **Shop Policies**: Individual terms, shipping, and return policies per shop

Payment & Financial

- **Split Payments**: Automatically distribute payments to respective shops

- **Commission System**: Platform fee calculation and deduction

- **Payout Management**: Scheduled payouts to shop owners

- **Financial Reporting**: Transaction fees, commissions, and reconciliation

Communication System

- **Customer-Shop Messaging**: Direct communication between customers and shop owners

- **Notification System**: Email and in-app notifications for orders, promotions

- **Review System**: Product and shop reviews with moderation

Technical Specifications

Frontend Requirements

- **Responsive Design**: Mobile-first approach for all user interfaces

- **Progressive Web App**: Offline capabilities and app-like experience

- **Fast Loading**: Optimized images and lazy loading
- **Accessibility**: WCAG 2.1 AA compliance

Backend Requirements

- **Scalable Architecture**: Handle multiple shops and high traffic
- **Database Design**: Efficient schema for multi-tenant shop data
- **API Design**: RESTful APIs for all operations
- **Security**: Authentication, authorization, and data protection
- **Performance**: Caching, CDN integration, and optimization

Integration Requirements

- **Payment Gateways**: Stripe, PayPal, local payment methods
- **Shipping APIs**: Integration with major shipping providers
- **Email Service**: Transactional and marketing email capabilities
- **Analytics**: Google Analytics, custom analytics dashboard
- **File Storage**: Cloud storage for product images and documents

User Experience Flow

Customer Journey

1. **Discovery**: Browse homepage → Search/filter products → View product details
2. **Shopping**: Add to cart → Continue shopping or checkout
3. **Checkout**: Review cart → Enter shipping info → Select payment → Confirm order
4. **Post-Purchase**: Track order → Receive products → Leave reviews

Shop Owner Journey

1. **Onboarding**: Register shop → Complete profile → Add first products
2. **Daily Operations**: Check orders → Update inventory → Process shipments
3. **Growth**: Analyze performance → Optimize listings → Run promotions

Success Metrics

- **Customer Metrics**: User retention, average order value, conversion rate
- **Shop Owner Metrics**: Shop growth, seller satisfaction, time to first sale
- **Platform Metrics**: Total GMV, number of active shops, transaction volume

Phase 1 MVP Features (Priority)

1. Basic shop creation and product listing

2. Customer browsing and product search

3. Shopping cart and basic checkout

4. Order management for both customers and shop owners

5. Basic payment processing

6. Simple inventory management

Future Enhancements (Phase 2+)

- Advanced analytics and reporting

- Mobile app development

- Social commerce features

- Subscription and recurring orders

- International shipping and multi-currency

- AI-powered recommendations

- Live chat and video shopping

Questions for Refinement

1. What's your target market size and geographic focus?

2. Which payment methods are most important for your region?

3. Do you need specific integrations with local shipping providers?

4. What's your preferred technology stack?

5. Do you need multi-language support?

6. What's your timeline and budget considerations?

This document serves as a living requirements specification that can be updated as we refine the project scope and technical details together.