

E-commerce Portal Development Milestones

Milestone Summary Overview

Project Duration: 36 weeks (January 6, 2025 - September 8, 2025)

Total Milestones: 36 key deliverables

Critical Path: Foundation → Integrations → Sales Module → Dashboards → AI Analytics

Detailed Milestone Breakdown

Week	Date	Phase	Milestone	Description	Priority	Dependencies
1	Jan 6	Foundation	M1	Database Setup & Schema	Critical	None
2	Jan 13	Foundation	M2	Authentication System	Critical	M1
3	Jan 20	Foundation	M3	Core API Structure	Critical	M1, M2
4	Jan 27	Foundation	M4	Railway Deployment Pipeline	High	M3
5	Feb 3	Integrations	M5	Amazon API Integration	Critical	M4
6	Feb 10	Integrations	M6	Shopify API Integration	Critical	M4
7	Feb 17	Integrations	M7	Best Buy API Integration	Critical	M4
8	Feb 24	Integrations	M8	Data Sync Services	High	M5, M6, M7
9	Mar 3	Sales Module	M9	Sales Processing Engine	Critical	M8
10	Mar 10	Sales Module	M10	Order Management System	Critical	M9
11	Mar 17	Sales Module	M11	Sales Reporting APIs	High	M10
12	Mar 24	Sales Module	M12	Data Validation System	High	M11
13	Mar 31	Dashboards	M13	Dashboard UI Framework	High	M12
14	Apr 7	Dashboards	M14	Real-time Sales Dashboard	Critical	M13
15	Apr 14	Dashboards	M15	Interactive Charts & KPIs	High	M14
16	Apr 21	Dashboards	M16	Mobile Responsive Design	Medium	M15
17	Apr 28	Inventory	M17	Multi-channel Tracking	Critical	M16
18	May 5	Inventory	M18	Automated Alerts System	High	M17
19	May 12	Inventory	M19	Inventory Forecasting	High	M18
20	May 19	Inventory	M20	Reorder Management	Medium	M19
21	May 26	Analytics	M21	Product Performance Metrics	High	M20
22	Jun 2	Analytics	M22	Profitability Analysis	High	M21
23	Jun 9	Analytics	M23	Sales Velocity Tracking	High	M22
24	Jun 16	Analytics	M24	Channel Comparison Tools	Medium	M23
25	Jun 23	AI Engine	M25	ML Models Implementation	Critical	M24
26	Jun 30	AI Engine	M26	Predictive Analytics	Critical	M25
27	Jul 7	AI Engine	M27	Recommendation Engine	High	M26
28	Jul 14	AI Engine	M28	AI Insights Generator	High	M27
29	Jul 21	Optimization	M29	Performance Optimization	High	M28
30	Jul 28	Optimization	M30	Advanced Reporting Suite	Medium	M29
31	Aug 4	Optimization	M31	Caching & Rate Limiting	High	M30
32	Aug 11	Optimization	M32	Security Enhancements	Critical	M31
33	Aug 18	Launch	M33	System Testing Complete	Critical	M32

Week	Date	Phase	Milestone	Description	Priority	Dependencies
34	Aug 25	Launch	M34	Production Deployment	Critical	M33
35	Sep 1	Launch	M35	User Training & Documentation	High	M34
36	Sep 8	Launch	M36	Go-Live & Support Setup	Critical	M35

Critical Success Factors

High-Risk Milestones (Require Extra Attention)

- **M1 (Database Setup):** Foundation for entire system
- **M5-M7 (API Integrations):** External dependencies on third-party APIs
- **M9 (Sales Processing Engine):** Core business logic implementation
- **M25-M26 (AI Implementation):** Complex machine learning integration
- **M34 (Production Deployment):** Final go-live milestone

Phase Gate Reviews

- **End of Phase 1 (Week 4):** Infrastructure readiness assessment
- **End of Phase 2 (Week 8):** Channel integration validation
- **End of Phase 4 (Week 16):** MVP dashboard demonstration
- **End of Phase 7 (Week 28):** AI features validation
- **End of Phase 9 (Week 36):** Production readiness review

Resource Allocation by Phase

Phase	Duration	Team Focus	Key Resources
Foundation	4 weeks	Backend + DevOps	Database architect, DevOps engineer
Integrations	4 weeks	Backend + API	Integration specialists, API developers
Sales Module	4 weeks	Backend	Business logic developers, data engineers
Dashboards	4 weeks	Frontend	UI/UX designers, frontend developers
Inventory	3 weeks	Full-stack	Inventory specialists, algorithm developers
Analytics	4 weeks	Data + Frontend	Data scientists, analytics developers
AI Engine	4 weeks	AI/ML	ML engineers, data scientists
Optimization	4 weeks	Performance	Performance engineers, security experts
Launch	3 weeks	QA + Operations	QA engineers, deployment specialists

Risk Mitigation Timeline

Early Risks (Weeks 1-12)

- **Week 2:** Backup database solution if Neon issues arise
- **Week 6:** Alternative API strategies for channel integrations
- **Week 10:** Fallback UI framework if performance issues

Mid-Project Risks (Weeks 13-24)

- **Week 16:** Dashboard performance optimization checkpoint
- **Week 20:** Inventory algorithm validation milestone

Late-Stage Risks (Weeks 25-36)

- **Week 28:** AI model performance evaluation
- **Week 32:** Security audit completion
- **Week 35:** Production environment validation

Success Metrics by Milestone

Technical Metrics

- **Database Performance:** <100ms query response time
- **API Integration:** 99.5% uptime for all channels
- **Dashboard Load Time:** <2 seconds initial load

- **AI Accuracy:** >90% prediction accuracy

Business Metrics

- **Data Sync Delay:** <5 minutes across all channels
- **Report Generation:** <30 seconds for complex reports
- **User Adoption:** 95% feature utilization by week 40
- **System Reliability:** 99.9% uptime post-launch