**Sales Quotation & Invoicing System — Product Requirements Document (PRD)**

**Version:** 1.0  
**Date:** 17 Aug 2025  
**Company:** Bina Group (internal use)  
**Prepared by:** Product/Project Team

**0. Executive Summary**

**Goal:** Build a centralized, role‑based, Laravel web app (responsive) for managing **Leads → Quotations → Invoices → Payments**, with a **Pricing Book**, **Service Quotation Template Manager**, and robust **reporting**. The system enforces **company→management→team→rep** visibility (“containers”), global numbering, and webhook integrations.

**Primary Outcomes:**

* 100% of quotations/invoices centralized.
* Consistent templates (Product & Service) with PDF export.
* Real-time visibility for management; Finance can set invoice status.
* CRM-lite pipeline and team performance dashboards.

**Out of Scope (v1):** Native mobile apps, external accounting integrations (Xero/SQL/QuickBooks), online payments, electronic signatures.

**1. Vision, Scope & Success Metrics**

**1.1 Vision**

A single source of truth for sales operations to create and manage quotations/invoices for **products and services**, track lead conversion, standardize pricing, and provide business visibility.

**1.2 Users & Containers**

* **Company (Big Container):** all data is scoped to a company.
* **Management / Non-Sales:** GM/CEO/Specifier/Ops (read-only + export, can update invoice status).
* **Sales Org:** Sales Managers, Sales Coordinators, Sales Execs (reps) organized into teams. Reps may belong to multiple teams; managers may own multiple teams.

**1.3 In Scope (v1)**

* CRM-lite (lead capture, assignment, status, lost reasons).
* Quotation module (Product & Service templates).
* Service Quotation Template Manager (manager-owned library).
* Invoicing (from quotation; status tracking).
* Pricing Book (products & services).
* Reporting & dashboards (company, manager/team, rep).
* Webhooks (outbound).
* Settings (company/team/user, numbering, bank/terms/signatures).

**1.4 Success Metrics**

* ≥95% quotations generated from system by Month 3.
* Lead→Quote cycle time reduced by ≥30%.
* Invoice outstanding aging visible (0–30/31–60/61–90/90+) with weekly reports.
* Manager & Finance adoption ≥90% monthly active.

**1.5 Risks & Mitigations**

* **PDF fidelity risk:** use Chromium HTML→PDF (Browsershot) + snapshot tests.
* **Permission leaks:** enforce company/team/owner scoping at query level + tests.
* **Performance:** indexes on hot fields, server-side pagination, caching.

**Implementation To‑Dos (Section 1)**

* Confirm company defaults (prefixes, terms, bank accounts, logo).
* Create adoption metrics dashboard in admin.
* Define monitoring thresholds (query p95 <200ms for lists; PDF <3s).

**2. Roles, Containers & Access Control**

**2.1 Roles**

* **Superadmin:** Full control, settings, users, numbering, all data.
* **Company Manager (GM/Non‑Sales):** Read all, export, **can update invoice status**.
* **Finance Manager:** Manage Pricing Book, read all quotes/invoices, **can update invoice status**.
* **Sales Manager:** Read/edit all under assigned team(s), manage Service Templates, export.
* **Sales Coordinator:** Create/edit leads, assign to team/rep, record lost reasons, read all, export (no pricing edits).
* **Sales Exec (Rep):** Create quotations/invoices; read **own only**.

**2.2 Container Hierarchy & Visibility**

* **Company → Management/Non‑Sales → Sales (Managers → Teams → Reps)**.
* Reps can belong to multiple teams; managers can own multiple teams.
* Visibility: Rep (own), Manager (team), Coordinator/Finance/Company Manager/Superadmin (company).

**2.3 Permission Matrix (key actions)**

| **Module / Action** | **Superadmin** | **Company Manager** | **Finance Manager** | **Sales Manager** | **Coordinator** | **Sales Exec** |
| --- | --- | --- | --- | --- | --- | --- |
| Leads – Create/Update | ✅ | ➖ | ➖ | ➖ | ✅ | ➖ |
| Leads – Read | ✅ | ✅ (all) | ✅ (all) | ✅ (team) | ✅ (all) | ✅ (own) |
| Leads – Assign | ✅ | ➖ | ➖ | ✅ (team) | ✅ | ➖ |
| Quotation – Create/Update | ✅ | ➖ | ➖ | ✅ (team) | ➖ | ✅ (own) |
| Quotation – Read | ✅ | ✅ (all) | ✅ (all) | ✅ (team) | ✅ (all) | ✅ (own) |
| Invoice – Create/Update | ✅ | ➖ | ➖ | ✅ (team) | ➖ | ✅ (own) |
| Invoice – Update Status | ✅ | ✅ | ✅ | ➖ | ➖ | ➖ |
| Pricing Book – Manage | ✅ | ➖ (read) | ✅ | ➖ (read) | ➖ (read) | ➖ (read) |
| Service Templates – Manage | ✅ | ➖ (read) | ➖ | ✅ | ➖ (read) | ➖ (use) |
| Reports/Export | ✅ | ✅ | ✅ | ✅ (team) | ✅ (all) | ✅ (own) |
| Settings | ✅ | ➖ (read) | ➖ (read) | ➖ (templates) | ➖ | ➖ |

**Notes:**

* Invoice item edits lock when status = **PAID** (only payment notes/reference editable).
* Deletes require reason + audit log (soft delete + restore).

**Implementation To‑Dos (Section 2)**

* Implement RBAC via spatie/laravel-permission with seeders for roles.
* Middleware: company scope, team scope, owner scope.
* Query builder scopes (->forCompany(), ->forTeams(), ->forOwner()).
* Permission tests for all critical endpoints.

**3. Core Modules (Functional Specs)**

**3.1 Lead Management (CRM‑Lite)**

**Goal:** Centralize leads, ensure assignment, and track conversion states.

**Entities:** Lead, LeadActivity, LostReason, Lead↔Team.

**Fields & Validation**

* name (req, 2–100), phone (req, MSISDN 60…), email (opt), company (opt), project\_inquiry (opt), budget (opt, numeric), status (NEW/CONTACTED/QUOTED/WON/LOST), lost\_reason\_id (opt), assigned\_team\_ids (array), assigned\_rep\_id (opt), source (opt), created\_by, owned\_by.
* Phone **unique per company** (soft duplicate warning + merge option).
* Status transition: NEW→CONTACTED→QUOTED→WON/LOST (can jump to QUOTED when issuing quotation); WON requires quotation + invoice link; LOST requires reason.

**Flows**

* Coordinator creates lead → assigns team/rep → rep updates status, logs activities → convert to quotation in ≤2 clicks.

**UI/UX**

* Quick create (Name, Phone).
* Kanban by status; lead detail timeline (activities/follow-ups).
* Bulk assign/export; search by name/phone/company.

**Webhooks**

* lead.created, lead.assigned, lead.status.changed.

**Acceptance Criteria**

* Create, assign, update, convert; Kanban shows real-time counts; webhook fires.

**Implementation To‑Dos**

* Migrations: leads, lead\_activities, lead\_team, lost\_reasons.
* Controllers/Policies for CRUD & assignment.
* Kanban view + filters + quick actions.
* Duplicate detection & merge flow.
* Webhook dispatchers + delivery log records.

**3.2 Quotation (Product & Service)**

**Goal:** Fast, standardized creation with brand‑accurate PDFs; two styles.

**Common Header**

* Customer block (name, phone, address, company).
* lead\_id (opt), date (default today), sales\_rep\_id, notes, terms source (Company/Team/Doc), totals, signature.

**Numbering & Status**

* Global per company: QTN-YYYY-###### (configurable prefix, annual reset).
* Status: DRAFT → SENT (no approvals in v1).
* Currency: RM.

**3.2.1 Product Quotation (Table style)**

**Table Columns:** Sl, Description, Qty, Unit Price, Amount (Amount = Qty×Unit Price).  
**Sources:** Pricing Book (typeahead) or custom lines.  
**PDF:** Company header (left text + right logo), Title (ESTIMATE/QUOTATION), document info (no/date), customer blocks, table with fixed column widths, subtotal→total; footer (Payment Instructions, Bank Info, Terms); signature block (image + name/title).

**UI/UX:** Inline row edits; drag reorder; totals auto‑recalc; DRAFT watermark until SENT.

**3.2.2 Service Quotation (Sectioned style)**

**Sections:** Title (e.g., "Preliminaries", "Waterproofing Works"), optional scope notes (bullets), items table per section (Unit, Qty, Unit Price, Amount), **per‑section subtotal** and **grand total**.  
**Footer:** Start Work, Quotation Validity, Payment Terms, Work Duration (overridable per document).  
**Signatures:** Sales Exec + optional Management.

**Template Use:** Create from Blank or **Use Template** (from Template Manager) → prefill sections/items; rep may edit.

**PDF Rules:** A4 Portrait; margins; header/footer repeat; DRAFT watermark; section headers repeated on page breaks; "continued…" labels; totals on last page; currency format RM 1,234.56.

**Webhooks:** quotation.created, quotation.sent.

**Acceptance Criteria:** Numbering immutable; PDFs match supplied designs; totals correct; template prefill works.

**Implementation To‑Dos**

* Migrations: quotations, quotation\_sections, quotation\_items.
* QuotationService (create/update/status/send/pdf).
* Product table editor (typeahead from Pricing Book).
* Service section builder (add section with title + notes; items grid).
* PDF templates (Browsershot + snapshot tests).
* Watermark + header/footer repeat logic.
* Webhook emitters.
* Role policies for read scopes.

**3.3 Invoice**

**Goal:** Generate from quotation; track payment status & aging.

**Numbering & Status**

* INV-YYYY-###### (configurable prefix, annual reset).
* Status: DRAFT → SENT → UNPAID/PAID/OVERDUE (auto overdue when today > due\_date & status≠PAID).
* Due Date default +30 days (configurable).

**Creation**

* Primary path: **Create Invoice** from quotation (copy items/customer/terms).
* Standalone invoice (without quotation): **OFF** by default (toggle in Settings).

**Editing Rules**

* Editable until PAID; on PAID: line items lock; payment notes/reference editable by Finance/Company Manager/Superadmin only.

**PDF**

* Same layout philosophy as quotation (Product vs Service style).
* Status banner (e.g., OVERDUE) and aging indicators.

**Webhooks**

* invoice.created, invoice.sent, invoice.status.updated.

**Acceptance Criteria**

* Correct copy from quotation; status changes audited; overdue logic correct; PDFs match style.

**Implementation To‑Dos**

* Migrations: invoices, invoice\_items.
* Create‑from‑quotation flow.
* Status machine (due date, overdue).
* Payment note/reference fields & permissions.
* PDF layouts (product/service).
* Webhooks + audit.

**3.4 Pricing Book**

**Goal:** Central catalog for products/services with unit & default pricing.

**Fields:** Code (unique per company), Name, Type (PRODUCT/SERVICE), Description, Unit (Nos/M²/Litre/Lumpsum/Custom), Default Unit Price, Category, Tags, Active.

**Rules:** Changing pricing doesn’t retro‑apply to existing quotations/invoices; deactivated items remain readable in old docs, but cannot be added anew.

**Acceptance Criteria:** Typeahead integration with quotation; audit trail of price changes; category/tag filters.

**Implementation To‑Dos**

* Migrations: pricing\_categories, pricing\_items.
* Catalog screens (list/filter/search).
* Typeahead API; attach item to quote row.
* CSV export; optional CSV import for Finance (v1.1).

**3.5 Service Quotation Template Manager**

**Goal:** Manager‑maintained library of service quotation templates to standardize & accelerate sales work.

**Manager Capabilities:** Create templates (name + category/tag), add ordered sections (title + notes), add items per section (description, unit, default qty/price), duplicate/version, assign to team(s), activate/deactivate.

**Rep Usage:** Choose template on new service quotation; prefill all sections/items; rep may edit quantities, prices, descriptions; can add/remove sections/items.

**Acceptance Criteria:** Team‑based access; template application fills 100% structure; versioning works.

**Implementation To‑Dos**

* Migrations: service\_templates, template\_sections, template\_items, template\_team.
* Template Builder UI (drag/reorder, rich text bullets).
* Apply Template flow in quotation create.
* Team assignment controls.
* Read‑only library views for management/finance/coordinator.

**3.6 Reporting & Dashboards**

**Goal:** Real-time visibility at company, manager/team, and rep levels.

**Company Dashboard:** Quotation trends; invoices issued & outstanding by aging bucket; lead→quote→won conversion; top teams & reps; lost reasons breakdown.

**Manager Dashboard (team scope):** Pipeline by stage; leaderboard; quote aging (draft >X days, sent >X days); lost reasons.

**Rep Dashboard:** Personal pipeline; pending follow-ups; quotes not yet sent; unpaid invoices (read-only status).

**Reports:** Leads by status/source/owner; quotations by type/status/owner/team/date; invoices by status/aging; pricing catalog; activity & export logs. All exportable (CSV/XLSX) respecting scope.

**Acceptance Criteria:** Load <2s (10k rows, server-side pagination); correct scoping; exports reflect filters and permissions.

**Implementation To‑Dos**

* Dashboard queries + cached cards.
* Aging calculation & buckets.
* Export service (CSV/XLSX).
* Role-scoped datasets.

**3.7 Settings & Profiles**

**Company Settings:** Profile (logo/address/contacts), **Numbering** (prefixes for QTN/INV, reset yearly, next number preview), default terms/notes (product vs service; team overrides), bank accounts (multi-account), webhooks (endpoint, secret, retry, test ping).

**Team Settings:** Default terms/notes (optional), default coordinator/manager, territory tags.

**User Profile:** Signature image upload (PNG, ≤300KB), contact block (name, phone, email, title). Signature auto‑renders in PDFs.

**Acceptance Criteria:** Numbering immutable once generated; signed PDF URLs; terms precedence (team > company > document custom).

**Implementation To‑Dos**

* Settings pages & validation.
* Signature storage + compression.
* Bank accounts management.
* Numbering service + seeders for sequences.

**4. Integration (Webhooks)**

**Concept:** Outbound only; JSON; HMAC SHA‑256 signature; idempotent with delivery IDs; retries with exponential backoff; dead‑letter logging; replay.

**Config:** enable/disable; endpoint URL; secret; retry policy; test ping.

**Headers:** X-Webhook-Event, X-Webhook-Delivery, X-Webhook-Timestamp, X-Webhook-Signature.

**Events:** lead.created, lead.assigned, lead.status.changed, quotation.created, quotation.sent, invoice.created, invoice.sent, invoice.status.updated.

**Security:** Reject timestamp skew >5 min; verify signature; de‑dup by delivery ID.

**Admin:** Delivery logs with filters; replay button.

**Implementation To‑Dos (Section 4)**

* WebhookEndpoint model + settings UI.
* Signer util + verifier test suite.
* Delivery queue + retry + dead‑letter table.
* Replay flow.

**5. Technical Architecture**

**Stack:** PHP 8.3, Laravel 11, MySQL 8 (utf8mb4), Redis, Horizon, Browsershot (Chromium), spatie/permission.

**Multi‑Tenancy:** Single DB with company\_id on all tenant tables.  
**Services:** LeadService, QuotationService, InvoiceService, PricingService, TemplateService, WebhookService.  
**Security:** CSRF, XSS protection, input sanitation, signed URLs, rate limits on export/PDF.  
**Observability:** Monolog daily logs; Horizon; optional Sentry/Rollbar.

**Performance:** Indexed columns; eager loading; server‑side pagination; caching dashboard cards.

**Testing:** Pest unit/feature; permission tests; PDF snapshot tests; webhook signature tests.

**Deploy:** Dev/Staging/Prod; zero‑downtime deploy; DB backups (7/30/90 days); .env secured; health checks.

**Implementation To‑Dos (Section 5)**

* Base project scaffolding (Breeze, policies, seeders).
* Global company scoping middleware.
* PDF infra with Browsershot Docker binary.
* Horizon queues + supervisord config.
* CI pipeline (tests + static analysis).

**6. Data Model (ERD Summary)**

**Key Tables:** companies, users, roles/role‑maps, teams, team\_user, user\_signatures, leads, lead\_activities, lead\_team, lost\_reasons, pricing\_categories, pricing\_items, quotations, quotation\_sections, quotation\_items, invoices, invoice\_items, service\_templates, template\_sections, template\_items, template\_team, bank\_accounts, number\_sequences, webhook\_endpoints, webhook\_deliveries, audit\_logs.

**Number Sequences:** per company & type (QTN/INV), with prefix and year; increment current\_number on create (immutable numbers).

**Audit:** append‑only audit\_logs for create/update/delete/status changes; export logs separately.

**Implementation To‑Dos (Section 6)**

* Write all migrations with FK constraints and indexes.
* Seeder for roles, lost reasons base, sample pricing, number sequences.
* Factories for leads/quotes/invoices for test data.

**7. Template Specifications (PDF)**

**7.1 Global**

* A4 Portrait; margins 15mm; fonts Inter/Roboto 10pt; headings 12–16pt.
* Currency RM 1,234.56; DRAFT watermark when status=DRAFT.
* Header/footer repeat; table header repeat; section carry‑over labels.

**7.2 Product Style (Estimate/Quotation/Invoice)**

* **Header:** Left (company name/address/contact), Right (logo).
* **Doc Block:** Title (ESTIMATE/QUOTATION/INVOICE), No., Date (dd MMM yyyy).
* **Customer:** Bill To (+ optional Ship To, Ref).
* **Table:** Sl (8%), Description (52%), Qty (10%), Unit Price (15%), Amount (15%). Multi‑line desc; right‑aligned amounts.
* **Summary:** Subtotal → Total.
* **Footer:** Payment Instructions; Bank Info (multi‑account); Terms.
* **Signature:** Image + name/title aligned bottom right.

**7.3 Service Style (Quotation/Invoice)**

* **Header:** Left (logo + company details), Right (doc meta, page x of y).
* **Customer:** TO, Address, Contact, Phone.
* **Sections:** Title (12pt), optional scope notes (bullets), items with Unit/Qty/Unit Price/Amount; per‑section subtotal; grand total at end.
* **Footer:** Start Work, Quotation Validity, Payment Terms, Work Duration (editable per doc).
* **Signatures:** Sales Exec + Management (optional).
* **Multipage:** Repeat section headers; show “(continued…)”; totals only on final page.

**Implementation To‑Dos (Section 7)**

* Build two Blade template families (product, service).
* Shared components (header/footer, currency, totals, signature).
* Snapshot test baseline PDFs.
* Width/spacing constants; pixel‑perfect pass.

**8. Example Service Templates (Library)**

**8.1 Roof Waterproofing – Basic**

* **Sections**  
  **Preliminaries:** mobilization, PPE/safety, scaffolding (if needed).  
  **Waterproofing Works:** surface cleaning; primer (bitumen); torch‑on membrane 3mm; PU sealant joints/upturns.
* **Defaults:** Unit=m²; Qty=100; Unit Price=RM30/m²; Warranty=2 years.

**8.2 Roof Waterproofing – Premium**

* **Sections**  
  **Preliminaries:** + sky lift rental (if needed).  
  **Waterproofing Works:** primer (premium); torch‑on membrane 4mm; PU topcoat; reinforced fabric at joints.  
  **Testing:** 48‑hour ponding test.
* **Defaults:** Unit=m²; Qty=100; Unit Price=RM45/m²; Warranty=5 years.

**8.3 Toilet Waterproofing – Standard**

* **Sections**  
  **Preliminaries:** hacking/removal; cleaning/prep.  
  **Waterproofing Works:** cementitious slurry (2 coats); PU corners/joints; screed/tiling optional.  
  **Testing:** 72‑hour water test.
* **Defaults:** Unit=per room; Qty=1; Unit Price=RM2,500; Warranty=2 years.

**Implementation To‑Dos (Section 8)**

* Seed example templates into library (disabled by default).
* Provide import/export JSON for templates.

**9. Search, Security, Performance**

* **Search:** global search by customer name/phone, quotation/invoice no., company; filters (status/type/owner/team/date).
* **Security:** RBAC on all queries; signed expiring PDF URLs; CSRF/XSS, input sanitation; rate limits for export/PDF.
* **Performance:** indexes, eager load, pagination; cache dashboards; p95 targets.

**Implementation To‑Dos (Section 9)**

* Global search endpoint + index strategy.
* Signed URL helper for PDFs (15‑min TTL).
* Rate limiter + abuse logging.
* Performance dashboards (Horizon + custom metrics).

**10. Audit, Logs & Compliance**

* **Audit Logs:** create/update/delete/status change (who/when/what).
* **Export Logs:** who exported which report/when.
* **Webhook Deliveries:** attempts, statuses, errors, replay.
* **Retention:** logs ≥180 days (configurable).
* **Soft Delete:** restore window for quotes/invoices/leads.

**Implementation To‑Dos (Section 10)**

* AuditLog model + middleware helpers.
* Export log writer.
* Admin views & filters for logs.
* Soft delete + restore flows.

**11. Testing, QA & UAT**

**Automated Testing:** unit & feature; permission matrix; PDF snapshot; webhook signature & retries; overdue logic.

**Manual QA:** cross‑browser (Chromium/Firefox/Safari), responsive checks; CSV export validation; PDF pixel checks.

**UAT Checklist:** (Full list appended)

* Leads: create→assign→status; Kanban; webhooks.
* Quotation: product/service; numbering; templates; PDF; SENT status.
* Invoice: from quotation; due/overdue; status control; PDF; webhooks.
* Pricing Book: CRUD; typeahead; deactivate behavior.
* Templates: build/assign/use; team scoping; versioning.
* Reporting: dashboards; exports; scoping.
* Settings: numbering; terms; bank; webhooks; signatures.
* Security: permission boundaries; signed URLs.
* Audit/Logs: history; export logs; webhook logs.

**Implementation To‑Dos (Section 11)**

* Write Pest suites + CI gates.
* UAT scripts per role.
* Populate staging with anonymized seed data.

**12. Deployment & Rollout Plan**

* **Environments:** dev → staging → production.
* **Data Migration:** import existing leads/quotes (CSV format specs).
* **Zero‑Downtime Deploy:** queue workers + migrations handshakes.
* **Backups:** daily DB; file storage snapshots.
* **Rollout:** pilot (Sales Team A) → train → general availability.

**Implementation To‑Dos (Section 12)**

* CSV importers for leads & pricing (with mapping preview).
* Ops runbook (deploy, backup, restore, queues).
* Training materials (videos/quickstart PDFs).

**13. Future Enhancements (Post‑v1)**

* Native mobile (Flutter/React Native).
* Accounting integration (Xero/SQL/QuickBooks).
* E‑signature + online payment link.
* SLA timers, reminders, WhatsApp/Email send from app.
* Role granularities (branch prefixes if needed).

**Appendix A — Full UAT Checklist (Tick‑box)**

(Identical to the previously agreed UAT list; included here for completeness and sign‑off.)

**1. Lead Management**

* Create lead; phone validation; assign; status transitions; lost reasons.
* Kanban; timeline; search; webhooks fire.

**2. Quotation**

* Numbering; permissions; product template; service sections/subtotals; apply service template; pricing pull; totals; constants; signature; draft watermark; PDF regenerate; webhooks.

**3. Invoice**

* Numbering; create from quotation; lock on PAID; statuses; overdue logic; role limits; payment notes; PDF; webhooks.

**4. Pricing Book**

* CRUD; search; deactivate behavior; exports; no retro‑apply.

**5. Template Manager**

* Create/duplicate/edit/delete; assign to teams; rep can use; versioning; read‑only for mgmt/finance/coordinator.

**6. Reporting**

* Dashboards (company/manager/rep); filters; exports; aging buckets; lost reasons.

**7. Settings & Profiles**

* Numbering configs; terms (company/team/doc); bank accounts; webhooks test; user signature upload & render.

**8. Webhooks**

* Payload shape; signatures; retries; dead‑letter; replay; logs.

**9. Security & Permissions**

* Scope enforcement (company/team/owner); forbidden access returns 403; signed PDF URLs.

**10. Audit & Logs**

* Audit before/after; export logs; webhook delivery logs; delete→soft delete→restore.

**Sign‑off:**  
Product Owner: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date: \_\_\_\_\_\_\_\_\_\_  
Tech Lead: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date: \_\_\_\_\_\_\_\_\_\_  
QA Lead: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date: \_\_\_\_\_\_\_\_\_\_