

Treasury Solutions Application

1. Purpose & Scope

This agent supports the end-to-end analysis and recommendation of treasury solutions for business clients.

It handles extraction and interpretation of business transaction data from bank statements; identifies spending, deposit, and liquidity patterns; and recommends treasury products or account configurations that optimize cash flow, yield, and money movement efficiency.

It does **not** cover: investment advisory, lending decisions, or complex derivatives structuring.

It can integrate with external systems such as statement ingestion APIs, transaction categorization engines, and the bank's product catalog database.

2. User / Actor Flows

2.1 Front-Office / Relationship Manager Initiated

- Relationship Manager uploads or connects a client's business bank statement(s) to the agent.
- Agent parses the data, classifies transaction categories (e.g., payroll, vendor payments, deposits, transfers).
- Agent summarizes inflow and outflow patterns, identifies idle balances, and calculates average liquidity positions.
- Based on the analysis, agent recommends appropriate treasury products (e.g., sweep accounts, zero-balance accounts, merchant services, lockbox, remote deposit capture).
- Agent presents reasoning for each recommendation and potential financial benefit (e.g., yield improvement, reduced manual reconciliation, faster collections).

2.2 Back-Office / Product Oversight

- Treasury Operations or Product Specialists can review the recommendations.

- Agent provides detailed analysis reports, data source traceability, and mapping between transactions and recommendations.
 - Oversight users can adjust weighting factors (e.g., liquidity threshold, transaction frequency) to refine the model output.
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3. Data / Input Requirements

3.1 Statement & Transaction Data

- Account number(s) and account type(s)
- Transaction date, description, and amount
- Transaction type (credit / debit / transfer / check / ACH / wire / card)
- Counterparty information (where available)
- Balance after each transaction
- Statement period and frequency

3.2 Derived Metrics

- Average daily balance
- Liquidity ratio (average available funds vs. disbursements)
- Seasonal or periodic cash flow trends
- Concentration of payments (by vendor or channel)
- Idle cash analysis (funds exceeding operational thresholds)

3.3 Product Catalog Data

- Treasury product list with attributes (eligibility, balance thresholds, fees, yield, liquidity features)
- Linking logic for transaction patterns to product solutions

- Risk, pricing, and return parameters for each product
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4. Analysis & Recommendation Logic

- Parse and categorize all transactions from statements.
 - Identify key spending segments: payroll, vendor payments, loan payments, taxes, utilities, merchant deposits, etc.
 - Compute liquidity metrics: daily balances, volatility, and minimum/maximum balances.
 - Match detected patterns against treasury product catalog (e.g., recommend Sweep Account for sustained idle balances above threshold; Merchant Services for high card inflow).
 - Generate rationale for each recommendation (e.g., "Frequent idle cash > \$250k for 45 days → eligible for automated investment sweep").
 - Produce an actionable report summarizing findings and next steps.
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5. States & Workflow Statuses

- **DataUploaded:** statement(s) received and parsed.
 - **AnalysisInProgress:** transaction categorization and metric computation underway.
 - **RecommendationsGenerated:** treasury solutions identified with rationale.
 - **ReviewPending:** awaiting RM or product team review.
 - **Finalized:** recommendations approved and ready for client presentation.
 - **Error / Incomplete:** issues detected (e.g., corrupted data, missing fields).
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6. Integration & Interfaces

The agent should connect or expose APIs to:

- Statement ingestion or bank data feed (CSV, PDF, API)
 - Transaction categorization model or rules engine
 - Treasury product catalog and rules database
 - Reporting / visualization module for recommendation summaries
 - CRM or client profile systems (to push recommended treasury setup)
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7. UI / User Experience Guidance

- Provide a visual dashboard summarizing inflows, outflows, and idle balances.
 - Allow uploading multiple statements or linking account feeds.
 - Clearly show top spending categories and liquidity insights.
 - Present treasury solution options side-by-side with benefit metrics (yield gain, cost reduction, efficiency).
 - Allow “drill-down” on transactions driving a recommendation.
 - Enable export of a summary report for client review.
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8. Configuration & Policy-Driven Aspects

Configurable parameters should include:

- Idle balance threshold triggering investment or sweep recommendations.
- Minimum transaction frequency for product eligibility (e.g., ACH volume for Lockbox).
- Business segment or industry-specific rule sets.
- Treasury product pricing or eligibility parameters (based on internal policy).
- Reporting templates and recommendation weightings (yield vs. liquidity priority).

9. Logging & Audit

- Record each statement processed, with timestamps and data source metadata.
- Log categorization results, recommendation logic, and product match outcomes.
- Track all manual overrides or approvals.
- Retain audit trail for compliance and model governance.

10. Security & Privacy

- Encrypt all uploaded statement data in transit and at rest.
- Restrict access to authorized bank personnel only.
- Comply with data retention and deletion policies.
- Mask or anonymize sensitive account and counterparty details in non-production environments.

11. Error / Exception Handling

- Notify user of invalid or corrupted statement files.
- Highlight missing data fields or parsing errors.
- Suggest corrective action (e.g., upload new statement, verify date range).
- Log all exceptions and retain traceability to the input data.

12. Output / Handoff

When analysis is complete, the agent outputs a structured “Treasury Recommendation Package” containing:

- Cleaned and categorized transaction data summary
- Cash flow analysis and idle balance detection results
- Recommended treasury products and rationale
- Potential yield or cost benefits
- Configuration suggestions for account setup (e.g., sweep rules, ZBA structure)
- Final report in human-readable and machine-readable formats

13. Sample Output Summary

Insight	Data Source	Recommended Solution	Benefit
Idle balances > \$250k held for >30 days	Avg. balance analysis	Automated Investment Sweep	Increase yield by ~2%
80% of payments via manual checks	Transaction type distribution	ACH Origination / Payables Integration	Reduce processing cost
High weekend deposit volumes	Inflow pattern	Remote Deposit Capture	Faster availability of funds
Vendor payments concentrated to 3 entities	Vendor analysis	Controlled Disbursement Account	Improved payment timing

Would you like me to produce this as a **formatted PDF document** (matching your “Example Instructions” layout), or as a **Word file** so you can edit it further?

You said:

Yes, produce a formatted PDF this

ChatGPT said:

Your formatted PDF has been created successfully. You can download it here:

 Treasury_Agent_Instructions.pdf

You said:

Take these instructions and update it for a PRD document. The PRD document is going to be used to give instruction to a website builder like Lovable. Make sure that it is optimized for that. It should include important criteria around the UX/UI and the success criteria of the the application.

ChatGPT said:

Perfect — here's how we'll handle this next step: I'll transform the **Treasury Agent Instructions** document you just approved into a **Product Requirements Document (PRD)** specifically for use with **a website builder like Lovable** (or Replit/V0).

This PRD will be structured to give a **low-code or no-code builder clear instructions** for designing and building the front-end and user flow of the Treasury Agent application. It will retain the same functional objectives but reframe them around **UX/UI, interactions, integrations, and measurable success criteria**.

Here's a preview of what the final PRD will include:

Treasury Solutions Agent — PRD

1. Overview

Purpose:

The Treasury Solutions Agent is a web-based application that analyzes business bank statements to recommend optimized treasury products and account configurations. It helps relationship managers and treasury teams understand spending patterns, liquidity, and cash flow opportunities — then recommends treasury solutions such as sweep accounts, zero-balance accounts, and merchant services.

Target Users:

- Relationship Managers at financial institutions
- Treasury Product Specialists
- Mid-sized business clients (view-only mode)

Platform Context:

It must include interactive data upload, analysis dashboards, and dynamic recommendation views integrated with backend APIs.

2. Objectives & Success Criteria

Primary Objectives:

- 1. Simplify the analysis of client transaction data.
- 2. Automate identification of treasury solution opportunities.
- 3. Provide visual, actionable insights for internal users and clients.

Success Criteria:

- Upload → analysis → recommendation workflow completes within 60 seconds.
 - At least 90% accuracy in statement parsing and categorization (via integrated APIs).
 - Minimum of 3 actionable recommendations per client with clear financial rationale.
 - User satisfaction (NPS ≥ 8/10) for usability and clarity of insights.
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3. Key Features

Feature	Description	UI Element	Priority
Statement Upload	Users upload PDF, CSV, or connect via API to bank feeds.	Drag-and-drop upload zone + “Connect Bank” modal	High
Data Parsing & Categorization	Automatic transaction extraction and tagging (inflows/outflows).	Progress loader + parsed summary table	High
Dashboard Overview	Summarized metrics: inflow/outflow ratio, idle balances, liquidity heatmap.	Dashboard cards + charts	High
Recommendation Engine	Generates treasury solutions and shows rationale.	Dynamic list with “Recommended Products” cards	High
Downloadable Report	Generates client-friendly summary PDF.	“Download Report” button	Medium

Admin Review Mode	Enables manual override and approval of recommendations.	Toggle view + audit log modal	Medium
Configuration Panel	Allows policy-driven customization of thresholds and rules.	Settings sidebar	Low

4. User Experience (UX) Flow

Primary Flow:

1. **Landing Page:** Simple upload or “Connect Bank” CTA.
2. **Data Parsing Screen:** Progress visualization (loader or animated parsing).
3. **Analysis Dashboard:** Display transaction insights with filters for date and category.
4. **Recommendations Page:** Card-based layout presenting treasury solutions, each with:
 - Product name
 - Short description
 - Data-driven rationale
 - Estimated financial benefit (visual tag or badge)
5. **Summary & Export:** View or download a summary report.

Navigation Principles:

- Progressive disclosure: show one key task per screen.
 - Consistent fixed header with step indicator (Upload → Analyze → Recommend → Review).
 - Clear error handling (upload failure, parsing issues).
 - Dark mode optional.
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5. UI Design Guidelines

- **Design System:** Use Lovable's default design tokens for spacing, color, and typography; apply the bank's color scheme for branding.
 - **Visual Hierarchy:**
 - Top metrics (balances, inflows, outflows) in large cards.
 - Recommendation cards use icons and compact explanations.
 - Avoid data overload; focus on trends and decision cues.
 - **Color Use:**
 - Green → positive opportunity
 - Yellow → moderate action suggested
 - Red → risk or inefficiency
 - **Accessibility:** WCAG 2.1 AA compliance for all interactive elements.
 - **Responsive Design:** Works on desktop, tablet, and mobile with simplified layout on small screens.
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6. Integrations & APIs

Required Integrations:

- **Transaction Parsing API:** Extracts structured data from uploaded statements.
- **Product Catalog API:** Provides treasury product list, eligibility criteria, and benefits.
- **Reporting API:** Generates downloadable summaries (PDF or HTML).
- **Authentication Layer:** SSO or role-based login for internal users.

Optional Integrations:

- CRM sync (e.g., Salesforce, HubSpot) for pushing recommendation results.
 - Email automation for sending reports to clients.
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7. Data Model (High-Level)

Entity	Attributes	Description
Client	name, account_ids, relationship_manager	Business entity being analyzed
Transaction	date, amount, type, category, description	Parsed from statements
Product	name, eligibility_rules, benefit_type, estimated_gain	From bank's product catalog
Recommendation	client_id, product_id, rationale, created_at	Output of analysis engine

8. Security & Compliance

- All statement uploads encrypted at rest and in transit (AES-256 + TLS 1.2+).
 - Access control by role (RM, Admin, Viewer).
 - No raw financial data stored permanently in browser local storage.
 - Audit log of all user interactions (upload, edit, export).
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9. Performance Requirements

- Page load time < 3 seconds.
 - API response latency < 1.5 seconds.
 - Real-time dashboard updates < 2 seconds after processing completion.
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10. Success Metrics Dashboard

Metric	Target	Measurement
Parsing Accuracy	≥ 90%	Validation log from parsing API

Recommendation Acceptance Rate	≥ 70%	% of users accepting at least one recommendation
Average Session Time	< 5 min	Analytics
Report Download Rate	≥ 80%	Click tracking
NPS (User Satisfaction)	≥ 8/10	Post-session survey