BUSINESS TRANSFORMATION

&

PRODUCT DOCUMENTATION

AQLign FinaSys Pro AI - Log

Release Version: 2026.1 | **Edition:** Business Pro | **Date:** July 26, 2026

AQLign SYSTEMS is a team of Business Experts including Professional & Experienced Developers and Passionate & Skilled Sales and Marketing Personals. Our designed applications help business owners manage stress and have precise analysis to focus more on commercial growth and minimize redundant expenditure.

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Section 1: Business Transformation Case Study | Real-World Financial System Implementation

This case study documents the business transformation of **Happy Event Management (HEM)**, a boutique event coordination agency operating in major metropolitan areas. It details the operational vulnerabilities faced by the organization prior to 2026 and how the deployment of AQLign FinaSys Pro AI - Log resolved these pain points, providing strategic financial control.

1.1 Corporate Profile & Role Assignments

The system deployment maps roles directly to HEM's organizational structure to ensure segregation of duties and data validation:

- **Tariq Mehmood (Founder & CEO):** Uses the system to monitor corporate liquidity, review P&L performance across event projects, and query the database via the Gemini chatbot. He is mapped to the main Administrator profile to review all reports.
- **Bilal Siddiqui (CFO):** Configures the system parameters, locks fiscal periods (via `FiscalYearStart` and `FiscalYearEnd` settings), registers budgets, and manages database backups.
- **Ayesha Khan (Lead Event Coordinator):** Mapped to the `coordinator` user profile. She registers cost codes, enters payment vouchers for decorators and catering services, and clearing matured cheques. Her profile is restricted from system configuration updates.

1.2 Legacy Workflow Vulnerability Analysis

Prior to implementation, HEM relied on a fragmented system of local Excel sheets, which created severe operational challenges:

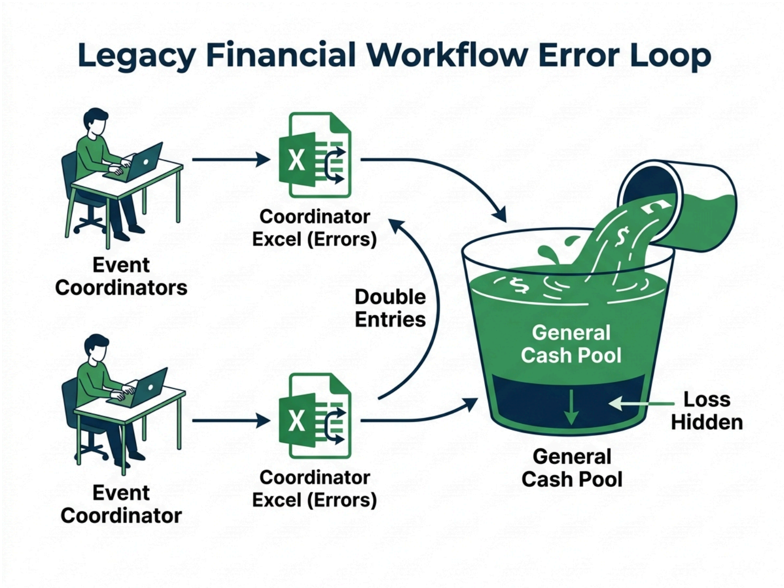

Figure 1.1: Error loop analysis in legacy spreadsheet accounting workflows

Without isolated project code categorization, cash and expenses were pooled into a single bank account ledger. If Ayesha Khan overspent on decor for one gala, the overrun was obscured by ticket deposits from other summits, hiding project-level losses.

1.3 System Implementation & Database Config

Under the supervision of Bilal Siddiqui, the AQLign double-entry engine was configured in the isolated `Tenant_hem.db` instance. Key configuration settings include:

- **Chart of Accounts (COA) Design:** Standard child accounts were mapped, including `4040` (Event Ticket Revenue), `4050` (Sponsorship Revenue), `5050` (Venue & Decor Expense), `5060` (Sound & Lighting Expense), and `5070` (Catering Expense).
- **Cost Center Mapping:** Projects were defined as cost centers: `CC-101` (Corporate Gala 2026), `CC-102` (Annual Music Fest), and `CC-103` (Tech Summit 2026).
- **Budget Constraints:** Monthly caps were assigned: `CC-101` for Venue Decor (5050) was capped at **30,000** in February; Catering (5070) was capped at **20,000** in May.
- **Default Accounts:** The default liquid accounts were locked to `1010` (Cash in Hand) and `1020` (Cash at Bank) to simplify data entry for the coordinators.

1.4 Mock Transaction Pipeline Walkthrough

To validate the system configuration, mock data representing transactions from January 1st to June 30th, 2026, was seeded into the system:

Voucher No	Date	Cost Center	Debit Account (Amount)	Credit Account (Amount)
RV-260115	Jan 15, 2026	CC-101	1010 Cash in Hand (75,000)	4040 Ticket Revenue (75,000)
PV-260210	Feb 10, 2026	CC-101	5050 Venue & Decor (20,000)	1020 Cash at Bank (20,000)
RV-260305	Mar 05, 2026	CC-102	1020 Cash at Bank (120,000)	4050 Sponsorship (120,000)
PV-260412	Apr 12, 2026	CC-102	5060 Sound & Light (35,000)	1020 Cash at Bank (35,000)
PV-260520	May 20, 2026	CC-101	5070 Catering Exp (15,000)	1010 Cash in Hand (15,000)
JV-260601	Jun 01, 2026	General	5030 Rent Expense (10,000)	2010 Accounts Payable (10,000)
PV-260625	Jun 25, 2026	Mixed	5010 Salaries [CC-103] (25,000) 5010 Salaries [CC-101] (20,000)	1020 Cash at Bank (45,000)

This transaction sequence demonstrates double-entry integrity. Ledger entries balance, and cost centers are recorded properly, ensuring that all subsequent reports can isolate event-specific balances.

1.5 Security Audit Trail and Verification Logs

To enforce accountability, Bilal Siddiqui simulated voucher changes to test the background audit engine:

- **Modification Audit:** On February 12, 2026, the user `coordinator` modified Voucher `PV-260210`, changing the venue decor payment from **12,000** to **20,000** to reflect an updated vendor deposit. The audit engine logged the change, capturing the timestamp, username, IP address, and the before-and-after transaction data.
- **Deletion Audit:** On May 31, 2026, the `admin` user deleted a duplicate adjustment voucher (JV-260530, amounting to 5,000). The log captured the deleted voucher details, allowing recovery if needed.

The details of user audits are recorded in the security database when the Audit Logging add-on module is active, preventing untracked modifications to the ledger history.

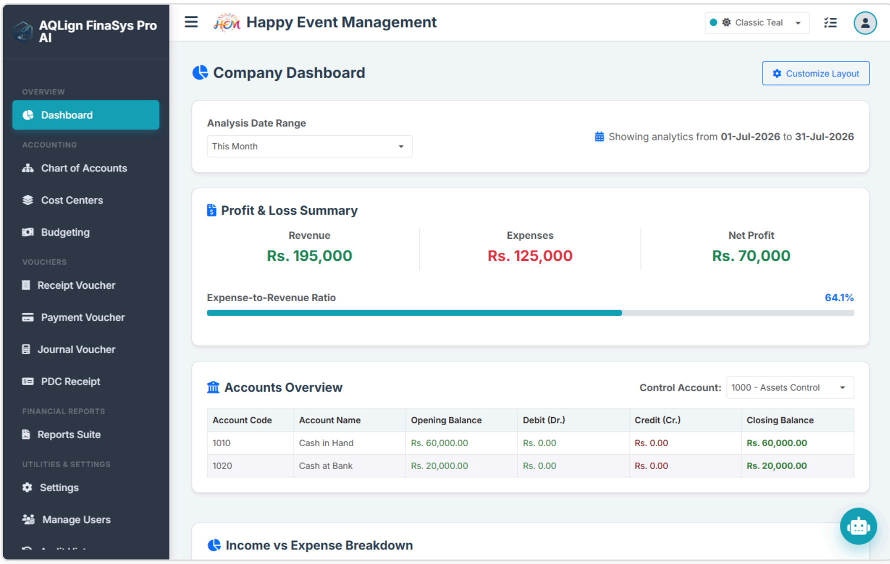

Figure 1.2: Audit Trail activity log dashboard showing user updates and deletions

In addition to transaction logs, the system maintains a task log (e.g., floor plans, menu selections) assigned to staff members. This provides a clear record of operational tasks alongside financial entries.

Section 2: Technical Reference Manual & Enterprise Accounting Specifications

2.1 Enterprise Accounting Product Overview & Software Frameworks

> **Module Gating & Environment Context**
>
> This product documentation covers the two primary frameworks: **AQLign FinaSys AI** (Base Accounting) and **AQLign FinaSys Pro AI** (Advanced Accounting), along with the optional **Audit Logging Module** add-on configured in the system.

The system is built on two primary architectural frameworks: the core **AQLign FinaSys AI** framework and the flagship **AQLign FinaSys Pro AI** framework. In addition, an optional **Audit Logging Module** is available as a cross-cutting add-on that can be enabled on top of either framework based on operational and security requirements.

2.1.1 Core Accounting Framework (AQLign FinaSys AI)

The **AQLign FinaSys AI** package is a focused, efficient bookkeeping and ledger management application tailored for small-sized service businesses, trading outlets, retail shops, and startup ventures. Engineered to deliver streamlined double-entry accounting, it allows owners and accountants to record cash receipts, bank payments, and general journal entries. The application maintains balanced financial statements and generates core reports including cashbooks, bankbooks, customer ledgers, supplier balances, and trial balances. With its fast performance and straightforward design, it is the perfect fit for boutique consulting firms, freelance agencies, independent clinics, and small retail merchants that need professional, standard ledger tracking.

A core strength of the application is its secure **User Management System**. Administrators can set up distinct accounts for accountants, cashiers, and managers, restricting access so that only authorized personnel can post entries, view reports, or edit settings. The system features a **Task and Reminder System** that helps users track billing due dates, payment cycles, and administrative tasks. To ensure business continuity, a built-in **Database Backup and Restore** tool allows users to download secure copies of their database, while the **Master Import/Export** utility enables fast data setup by importing charts of accounts, customers, and supplier lists directly from external spreadsheets.

System settings allow for high customization to support local operations. The **Fiscal Year Definition** tool prevents post-closing entry errors by locking transactions outside active financial dates. Users can toggle the **Multi-Language Option** to translate the UI dynamically between English, Urdu, and Arabic. An interactive **Chatbot Helper** is available, offering both command-based shortcut execution and advanced Gemini-supported natural language processing to assist users with accounting operations.

The financial interface can be customized with your local currency symbol, major/minor currency names (e.g., Dollars/Cents or Rupees/Paisa), and custom debit/credit coloring to highlight financial trends. It also features customizable negative number formats (e.g., parentheses or negative signs) and paper size selections. Finally, print layout customizations are built directly into the base application, allowing businesses to adjust the headers, footers, margins, and fields for cash receipt, payment receipt, and journal voucher printouts to match company stationery.

2.1.2 Advanced Operations & Intelligence Extensions (AQLign FinaSys Pro AI)

The **AQLign FinaSys Pro AI** framework represents the flagship enterprise edition that extends the core accounting framework with advanced operational modules. It is designed for larger service operations (such as Happy Event Management) that manage complex, multi-layered projects and require deep financial analysis. The Pro framework introduces:

- **Dimensional Tracking (Cost Center Accounting):** Allows segregating and isolating all cash inflows, bank dispatches, and operational expenses to specific project codes (e.g., CC-101, CC-102), generating project-specific Profit & Loss statements.
- **Active Budget & Overrun Limits:** Establishes monthly budget caps per ledger account under cost centers to prevent over-spending by cashiers and coordinators.
- **Post-Dated Cheque (PDC) Clearing Workflows:** Tracks mature dates of customer checks, manages clearing states, and automatically posts Receipt Vouchers when cleared.
- **Tamper-Proof Audit Logging (AI - Log):** Maintains delta logs of every single transaction modification, override, or deletion with user identity, timestamp, and IP tracking.

2.2 Target Service Industries & Core Business Mappings

AQLign FinaSys AI and Pro are designed specifically to serve the diverse operational and billing workflows of service-oriented businesses. Below is a structured directory of some of the primary, most heavily benefiting target categories, highlighting their common business labels and the search keywords used by managers when evaluating accounting software (the system remains highly configurable and can adapt to serve many other service business models beyond this list).

Service Industry Category	Common Local Business Labels	Search Tags & Keywords
Event Planning & Venues	Event Marquees, Caterers, Decorators, Banquet Services	"banquet hall booking system software", "wedding marquee billing app", "catering ledger management", "decorators advance payments".
Property & Societies	Gated Communities, Building Management, Mall Associations	"monthly maintenance billing software", "housing society dues manager", "commercial mall charges ledger", "condominium billing app".
Lifestyle & Wellness	Fitness Gyms, Social Clubs, Co-Working Spaces	"gym membership accounting software", "recreational club billing system", "co-working desk rent ledger", "subscription fitness club app".
Education & Academies	Coaching Centers, Tuition Academies, K-12 Private Schools	"coaching center fee collection system", "tuition academy student ledger", "private school outstanding fee tracker", "academy accounts book".

Service Industry Category	Common Local Business Labels	Search Tags & Keywords
Broadband & Media	High-Speed Fiber Internet, Cable Television, Streaming Networks	"broadband internet billing software", "cable tv operator management ledger", "monthly internet subscription software", "isp billing system".
Logistics & Cargo	Goods Transport Agencies, Fleet Cargo Operators, Goods Booking Addas	"goods transport invoice software", "trucking commission accounting ledger", "cargo booking transport app", "daily fuel expense ledger".
IT & Software Houses	Software Houses, IT Agencies, SaaS Developers	"software house project profit calculator", "it agency cost center accounting", "client project billing ledger", "saas subscription billing app".

2.3 Side Navigation Sequence Overview & Menu Hierarchy

The application interface uses a sidebar navigation system to guide users through workflows. The standard menu hierarchy is presented vertically below:

- 📁 **Dashboard** (Visual widgets, financial charts, and KPIs)
- 📁 **Accounting** (Core financial ledgers and transaction inputs)
  - 📄 Chart of Accounts (COA Setup tree)
  - 📄 Cost Centers (Project dimensional mapping)
  - 📄 Budgeting Setup (Monthly expense limit allocations)
  - 📄 Voucher Entry (RV, PV, JV, SV inputs)
  - 📄 PDC Receipts (Post-Dated Cheques Register)
- 📁 **Reporting Suite** (Financial statements and ledger exports)
  - 📄 Chart of Accounts (COA) Report
  - 📄 Voucher Register
  - 📄 General Ledger Report
  - 📄 Cash Book & Bank Book
  - 📄 Receipts & Payments Statement
  - 📄 Cash Flow Report
  - 📄 Trial Balance (2-Column & 6-Column)
  - 📄 Voucher Audit Report
  - 📄 Profit & Loss Statement (Cost Center P&L)
  - 📄 Income Statement
  - 📄 Balance Sheet
  - 📄 Budget Variance Report
  - 📄 PDC Register Report
- 📁 **Utilities & Settings** (Environment profiles and dispatches)
  - 📄 User Access Management (UAM permissions)
  - 📄 Backup & Restore database utilities
  - 📄 Master Import/Export (Excel interfaces)
  - 📄 Settings Panel (35 configuration fields)

2.4 Real-Time Corporate Dashboard & Financial KPIs

The primary control panel interface. It presents key figures, balance metrics, and task progress indicators.

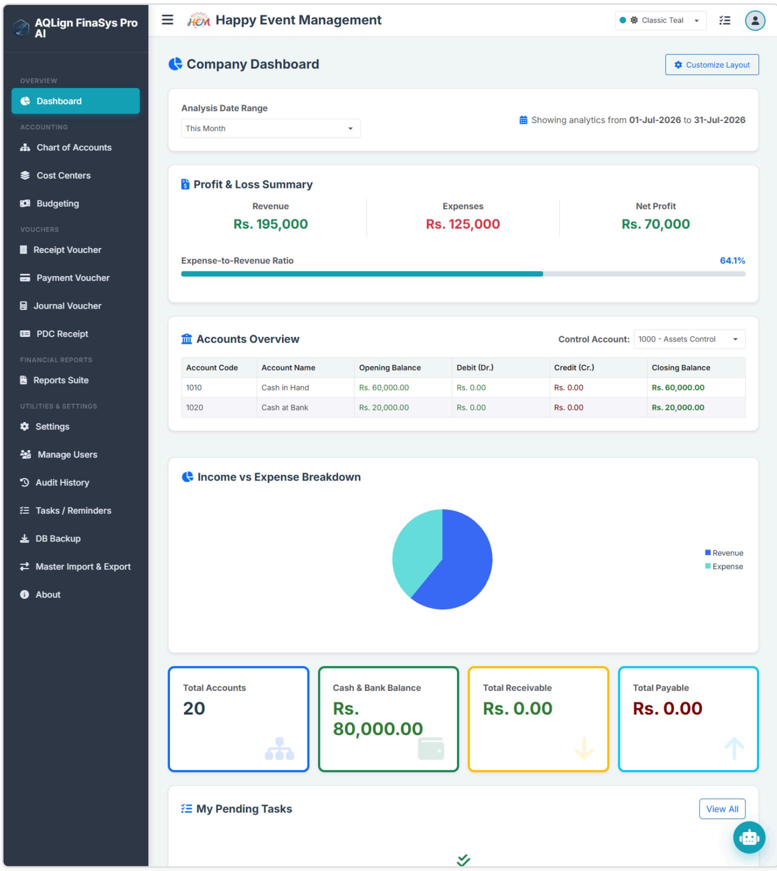

Figure 2.1: Full scrolled layout of AQLign FinaSys Pro Corporate Dashboard (hem subdomain)

- **Widget Rendering:** Displays real-time cash, bank, and ledger totals. Users can customize widget visibility using the dashboard settings.
- **Access Control:** Widget data is filtered based on user permissions. A user without P&L permissions will not see profitability graphs on their dashboard.
- **Data Update:** The dashboard values are recalculated in real-time as vouchers are posted, eliminating manual batch updates.

2.5 Multi-Level Chart of Accounts (COA) General Ledger Architecture

The database configuration screen for the double-entry account ledger tree structure.

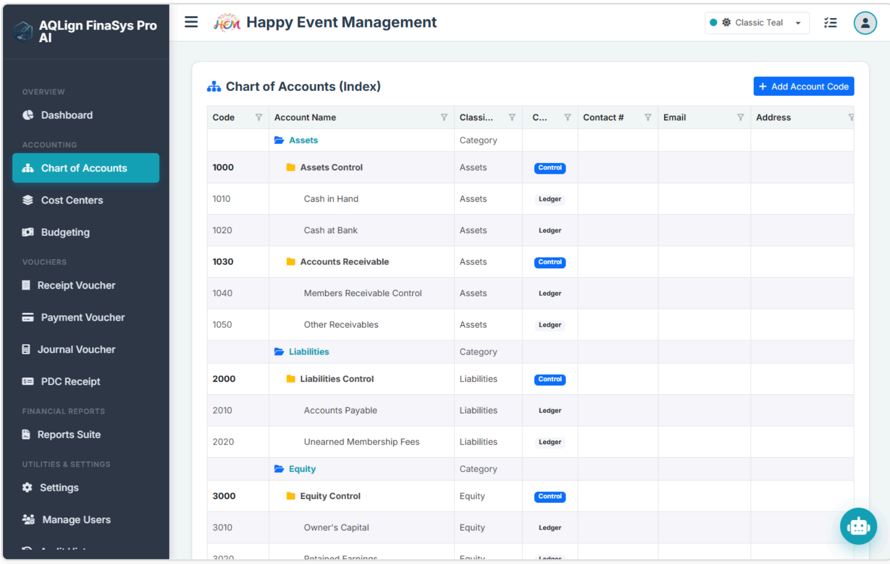

Figure 2.2: User interface for the Chart of Accounts (COA) hierarchical setup

- **Account Types:** Assets, Liabilities, Equities, Revenues, Expenses.
- **Parent-Child Structure:** Level-1 control groups (e.g., Cash, Receivables) categorize lower-level transaction accounts (e.g., Chase Bank, Petty Cash).
- **Fields:** Account Code, Account Title, Category, Parent Group Selector, Active Toggle.

2.6 Cost Center Mapping & Project Dimensional Bookkeeping

Cost Centers track expenses and revenues for specific projects or departments, keeping them separate from general administration.

- **Fields:** Center Code, Center Name, Manager, Status Toggle.
- **Validation Rules:** Transaction inputs can be configured to require a cost center for specific expense accounts, preventing incomplete entries.

> **General Service Business Example:**
>
> For a consulting firm, event agency, or IT services company, each client project is mapped to a Cost Center (e.g. `CC-101` for Corporate Gala 2026). When entering vendor bills for decorators or catering, the coordinator maps the expense transaction lines to this Cost Center. This isolates all operational cash flows on a project-level, preventing separate project overruns from obscuring overall profitability.

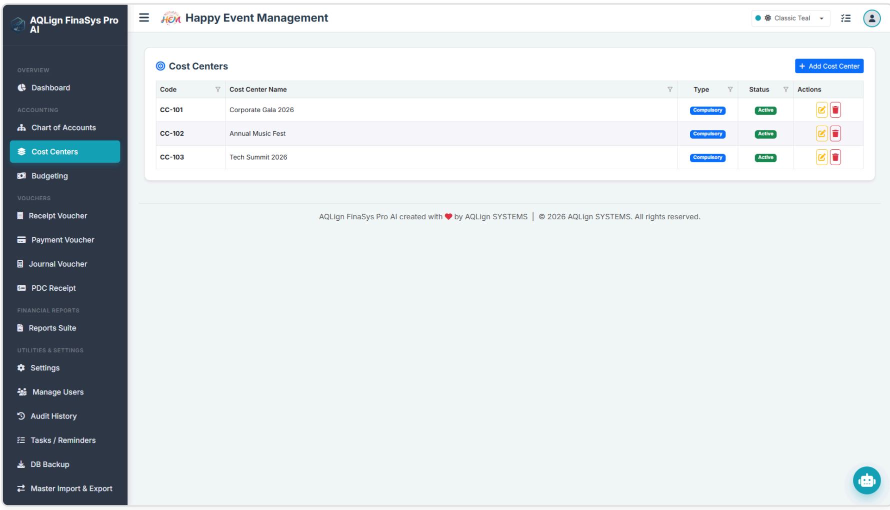

Figure 2.3: User interface for the Cost Center dimensional mappings and project setup

2.7 Budget Control & Cost Overrun Prevention Parameters

Allows setting monthly spending limits on specific accounts for cost centers. The system checks actual costs against budget limits during voucher entry, helping to prevent overruns.

> **General Service Business Example:**
>
> A project manager sets a monthly budget of **30,000** for Venue Decor (ledger account 5050) under Cost Center `CC-101` for the month of February. If a coordinator attempts to enter a payment voucher (PV) of 35,000 against this account and cost center in February, the system blocks the posting or flags a budget variance, preventing uncontrolled cost overruns.

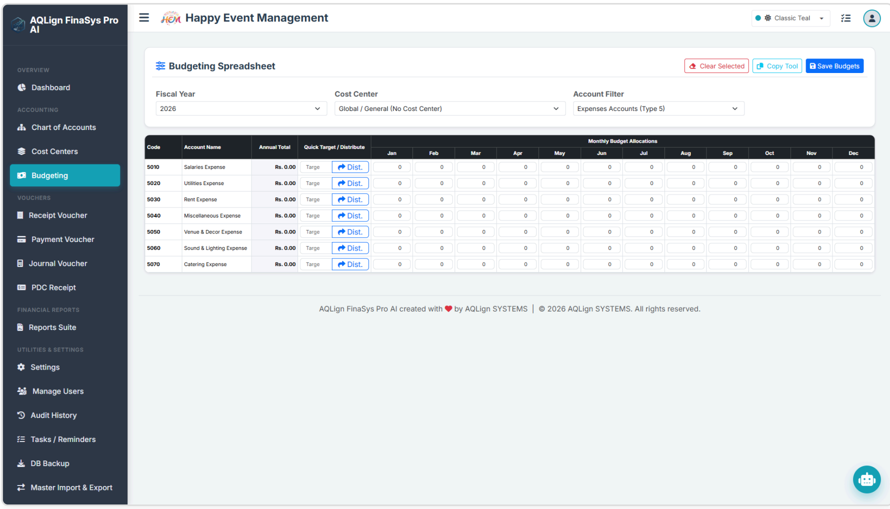

Figure 2.4: Defining monthly budget ceilings for individual expense accounts

2.8 Double-Entry Voucher Types & Transaction Templates (RV, PV, JV, SV)

Transactions are recorded using four standardized voucher templates to ensure consistent data entry:

- **Receipt Voucher (RV):** Records cash and bank deposits. The credit line must be mapped to a revenue or asset account, while the debit line is automatically allocated to the cash or bank account.
- **Payment Voucher (PV):** Records vendor payments and expenditures. The debit line is mapped to an expense or liability, while the credit line defaults to cash or bank.
- **Journal Voucher (JV):** Used for adjustments, depreciation, and allocations. Both debits and credits are manually entered.
- **Service Voucher (SV):** Used to record vendor bills and credit purchases.

System Validations: Vouchers require balanced entries (Total Debits = Total Credits). The system checks this in real-time, blocking unbalanced vouchers from being posted.

> **General Service Business Example:**
>
> For an event coordination firm or IT consultancy, incoming client booking fees are recorded via a **Receipt Voucher (RV)** debiting Cash/Bank and crediting Service Revenue. When paying cash to a venue decorator, the cashier records a **Payment Voucher (PV)** debiting Venue Expense and crediting Cash. For month-end adjustments like accrued salaries, a **Journal Voucher (JV)** is posted. Finally, when receiving a credit invoice from a catering partner, a **Service Voucher (SV)** is entered to debit Catering Expense and credit Accounts Payable.

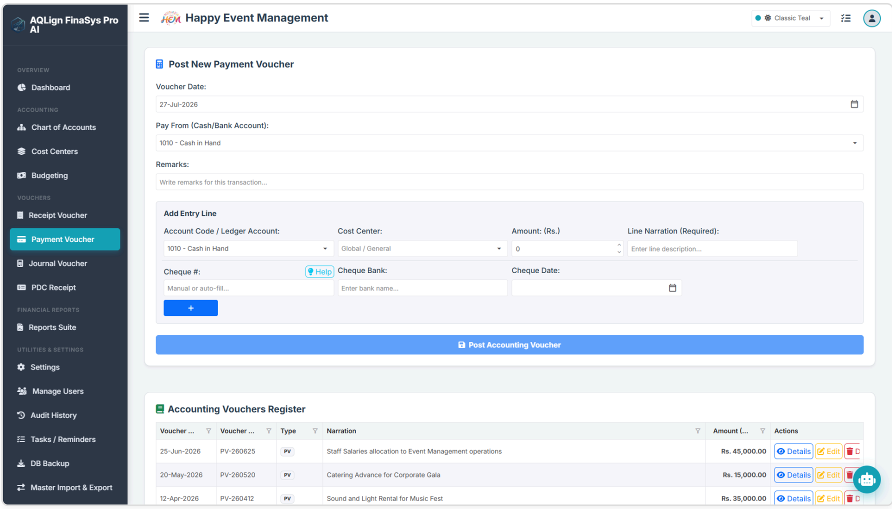

Figure 2.5: Transaction input interface for a Payment Voucher (PV) template

2.9 Post-Dated Cheque (PDC) Management & Cash Flow Maturity Logic

Tracks incoming client cheques with future dates, keeping them in a pending state until they mature.

- **Cheque Registration:** Stores details including cheque number, bank name, mature date, and amount.
- **Maturity Alerts:** Cleared checks automatically generate corresponding RV entries.
- **Cash Flow Integration:** Details are mapped to cash flow reports to improve liquidity forecasting.

> **General Service Business Example:**
>
> A client pays a booking fee of **120,000** for an event with a cheque dated March 5th, 2026. The coordinator enters this cheque in the PDC Register with a maturity date of March 5th. Until March 5th, the cheque remains marked as "Pending" and does not affect the active liquid balance. On March 5th, the system alerts the coordinator that the cheque has matured, and clearing it automatically posts a Receipt Voucher (RV) debiting the Bank ledger and crediting Accounts Receivable.

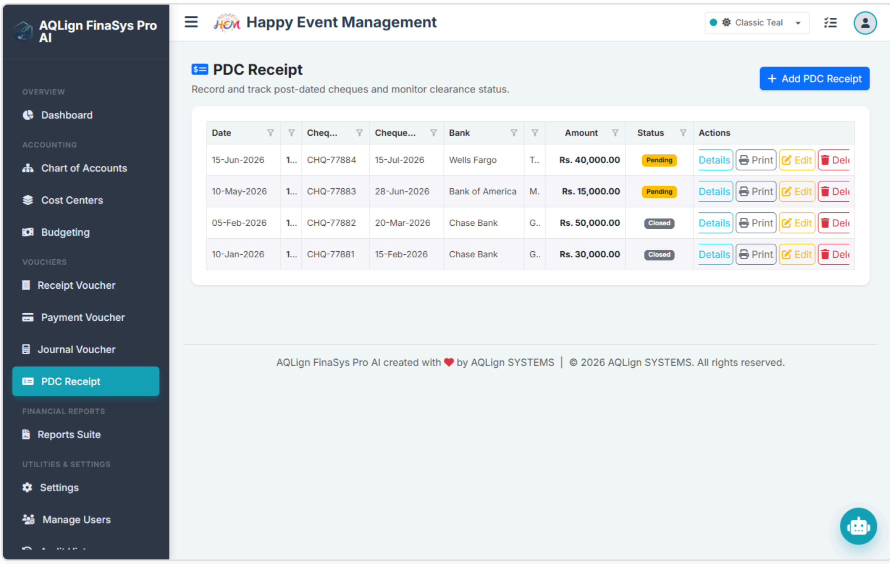

Figure 2.6: Cheque registration and maturity clearing screen

2.10 Reporting Suite, Standard Statements & Ledger Audits

The reporting engine compiles transaction data into formatted reports. Below are the details for the reports:

2.10.1 Chart of Accounts (COA) Report

Generates a list of all active ledger accounts, showing the account hierarchy. Used by auditors to verify the structure of the general ledger.

2.10.2 Voucher Register & Voucher Audit Report

The **Voucher Register** is a search index of all transaction entries (RV, PV, JV, SV) within a date range, with filters by cost center, user, and ledger code. The **Voucher Audit Report** tracks changes made to vouchers, showing user details, edit logs, and data history snapshots.

2.10.3 General Ledger Report

Displays detailed transaction histories, debit/credit entries, and running balances for individual accounts.

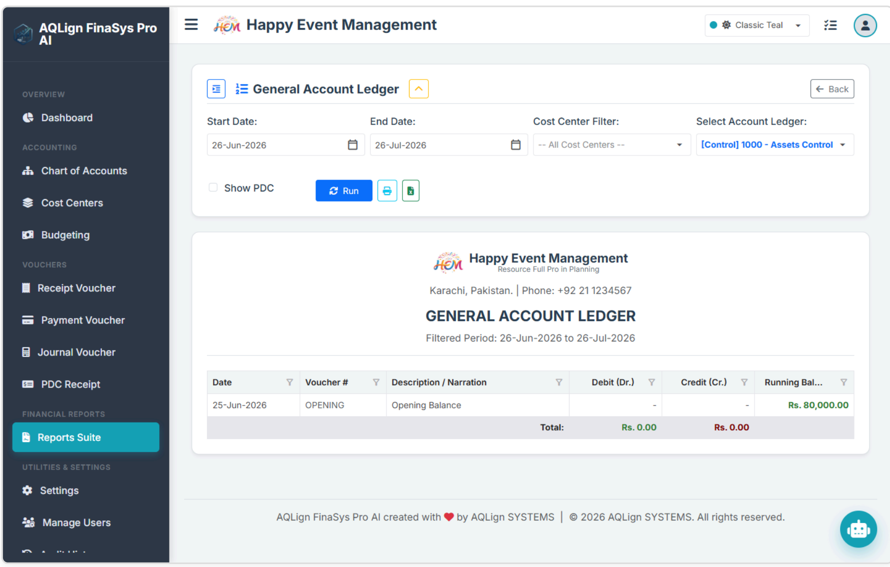

Figure 2.7: General Ledger report showing transactions for Happy Event Management

Filters: Account Selection, Date Range, Cost Center. This report allows managers to review all entries posted to specific accounts (e.g. venue decor, salaries) for a selected event.

2.10.4 Cash Book & Bank Book

Tracks daily opening balances, deposits, withdrawals, and closing balances for cash and bank accounts. This is essential for verifying that physical cash matches system ledger figures.

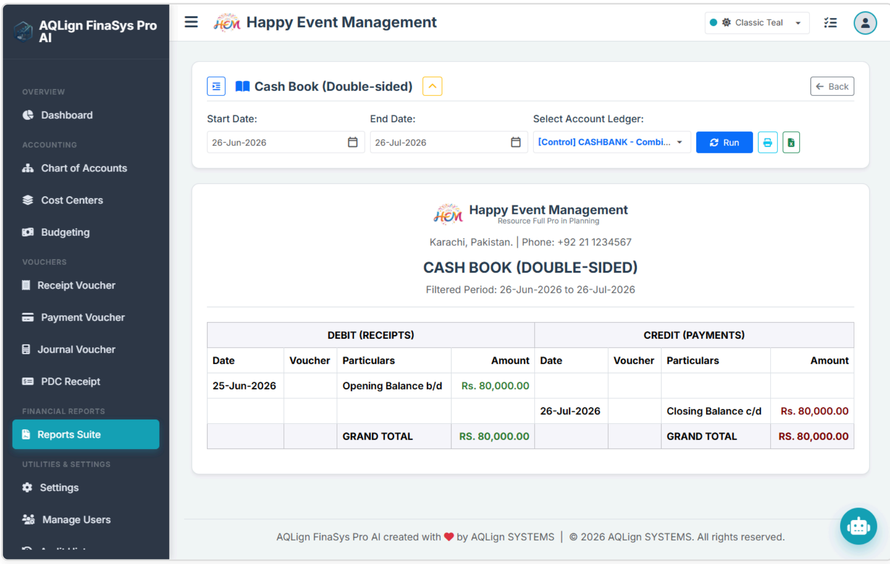

Figure 2.8: Cash Book register showing daily cash balances

2.10.5 Receipts & Payments Statement

Summarizes cash flow over a date range, grouping receipts and payments by account type to help managers evaluate liquidity.

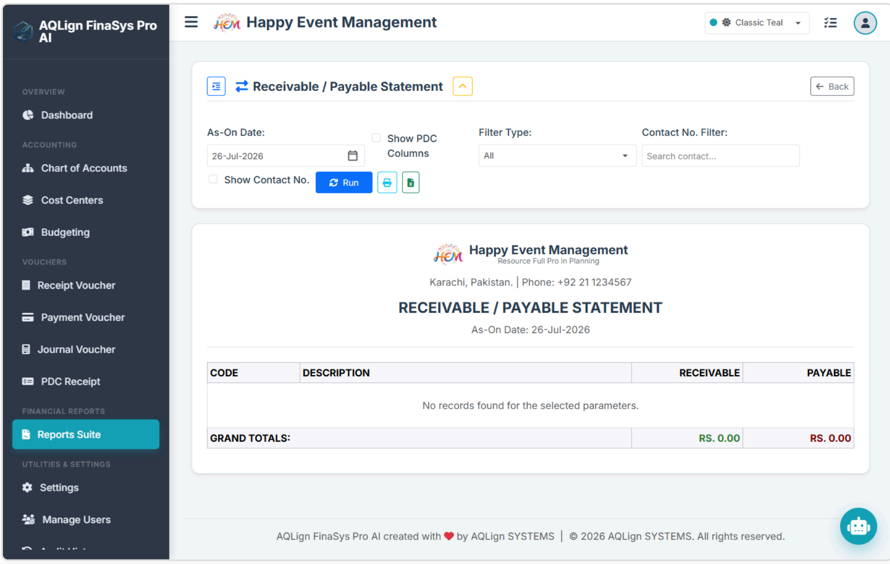

Figure 2.9: Receipts and Payments cash-flow summary statement

2.10.6 Cash Flow Report

Standard cash flow statement summarizing operating, investing, and financing cash flows, used to evaluate corporate cash generation capability.

2.10.7 Trial Balance (2-Column & 6-Column)

Summarizes active accounts. - **2-Column:** Displays net debit/credit balances. - **6-Column:** Displays opening balances, transactional activity (debits/credits), and final closing balances. This provides a quick verification that the double-entry accounting ledger is balanced.

2.10.8 Profit & Loss Statement (Cost Center P&L)

Isolates revenue and expense postings to a specific cost center, displaying the net profit margin of the project.

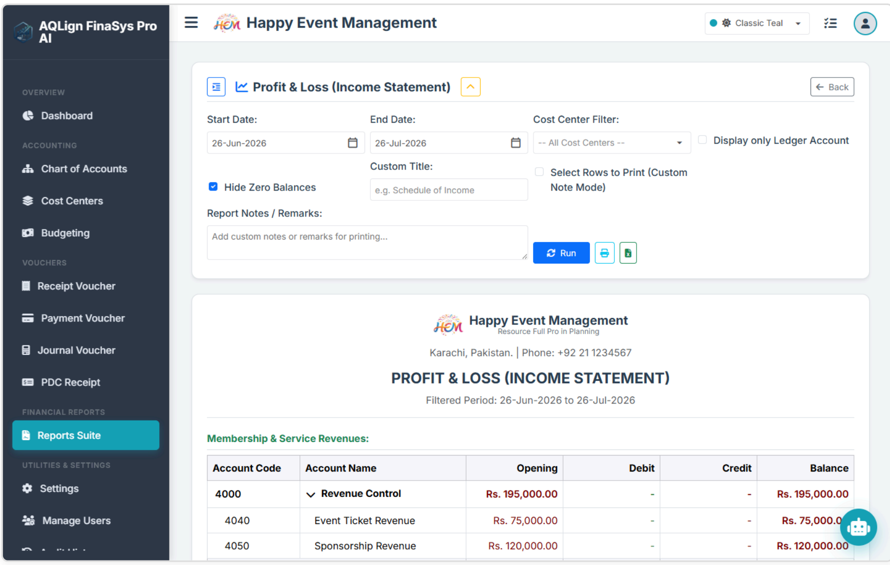

Figure 2.10: Cost Center Profit & Loss report for project CC-101

2.10.9 Income Statement

The standard corporate Profit & Loss report, summarizing total company revenues and expenditures over a period, separate from cost center segments.

2.10.10 Balance Sheet

Summarizes the firm's assets, liabilities, and equity at a specific point in time, indicating the overall net worth of the company.

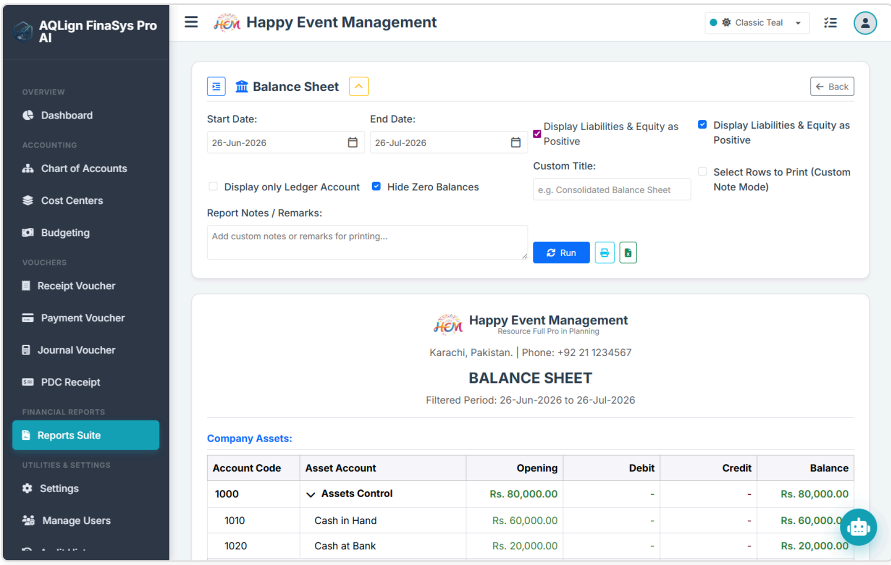

Figure 2.9: Corporate Balance Sheet statement displaying asset and liability valuations

2.10.11 Budget Variance Report

Compares actual monthly expenditures against budget limits for specific cost centers. It instantly highlights areas of overspending, helping Bilal Siddiqui take corrective action before a project loses money.

2.10.12 PDC Register Report

Lists all registered post-dated cheques, categorized by pending, cleared, and bounced states. This improves cash forecasting by detailing exactly when pending client cheques will mature.

2.10.13 Voucher Audit Report

A targeted audit report displaying a chronological list of modifications, price overrides, and deletions made to vouchers. This is used by auditors to monitor operational standards and detect unauthorized changes.

2.11 Global System Settings Panel & Database Parameter Mappings

The Settings panel manages general defaults, print templates, regional configurations, and chatbot settings. Below is the list of parameters mapped to the database schema:

Setting Parameter	DB Column Name	Purpose and Business Value
Company Profile	`CompanyName`, `Slogan`, `Address`, `ContactNumber`	Configures general company details displayed on invoices and dispatch headers.
Company Logo	`LogoBase64`	Stores the binary image of the company logo.
Default Cash Account	`DefaultCashAccount`	Auto-populates the default cash ledger code (e.g. `1010`) in RV/PV screens.
Default Bank Account	`DefaultBankAccount`	Auto-populates the default bank ledger code (e.g. `1020`) in transactions.
Control Account	`CashBankControlAccount`	Sets the parent asset group to restrict transaction postings.
Fiscal Controls	`FiscalYearStart`, `FiscalYearEnd`	Defines lock dates. Posting vouchers outside this range is blocked.
Currency Symbol	`CurrencySymbol`	Defines currency characters (e.g. `Rs.`, `$`, `AED`).
Currency Words	`MajorCurrency`, `MinorCurrency`	Text labels for printouts (e.g., Dollar/Cents, Rupees/Paisa).
Debit/Credit Highlights	`DebitColor`, `CreditColor`	Custom CSS colors to highlight debit and credit figures in reports.

Setting Parameter	DB Column Name	Purpose and Business Value
Negative Format	`NegativeFormat`	Selects formatting for negative values: Minus prefix (`-1,000`), brackets (`(1,000)`), or red highlight.
Paper Size Layout	`PrintPaperSize`	Selection list for printer page setups (Letter, A4, Legal, A5, or Thermal receipt size).
Logo / Slogan Toggles	`ShowLogoOnBill`, `ShowSloganOnBill`	Toggles to show/hide branding headers on dispatches.
Custom Print Footer	`CustomPrintFooter`	Holds custom terms, bank details, or thank-you notes printed at the bottom of bills.

Setting Parameter	DB Column Name	Purpose and Business Value
Custom HTML Print	`EnableCustomHtmlTemplate`, `BillPrintTemplateHtml`	Enables custom HTML/CSS template overrides for customer bills.
Voucher Print Overrides	`EnableCustomVoucherTemplate`, `VoucherPrintTemplateHtml`	Overrides the standard voucher print layout.
PDC Slip Overrides	`EnableCustomPdcTemplate`, `PdcPrintTemplateHtml`	Overrides default PDC receipts slip designs.
Interface Language	`LanguageCode`	Configures interface translations (English, Urdu, Arabic).
System Typography	`SelectedFontName`	Switches typography to match local fonts (e.g. Cairo for Arabic, Noto Nastaliq Urdu for Urdu, Inter/Outfit for English).
Font Scaling	`SelectedFontSize`	Set font scaling (Small, Normal, Medium, Large, Extra Large).

Setting Parameter	DB Column Name	Purpose and Business Value
Chatbot Profile Mode	`ChatbotMode`	Selects the active chatbot profile (Disabled, Command-Based, or Gemini LLM-Based).
Gemini API Key	`GeminiApiKey`	Secure database storage for the Gemini API key, enabling the LLM engine to parse and summarize reports in natural language.
SMTP Server Settings	`SmtpHost`, `SmtpPort`, `SmtpUsername`, `SmtpPassword`, `SmtpEnableSsl`, `SmtpFromEmail`, `SmtpFromName`	Configures company SMTP server details for automated report dispatches.
Audit Log Retention	`AuditLogRetentionDays`	Sets the retention period. Logs older than this value are purged.
Default Cost Center	`DefaultInvoiceCostCenterId`, `DefaultReceiptCostCenterId`	Pre-allocates default cost center values in incoming receipts.
Support Ticketing	`EnableSupportTickets`, `SupportNotificationEmail`, `TicketSubjectPrefix`	Configures helpdesk ticketing and dispatches.

2.12 Multi-Language RTL Translation & Gemini AI Chatbot Configurations

AQLign FinaSys Pro features extensive multi-language capabilities built directly into the core engine. Rather than translating just static labels, the application is capable of translating the entire user interface dynamically.

- **Dynamic RTL Layout Adaptation:** Selecting Arabic or Urdu as the interface language shifts the screen layout to Right-to-Left (RTL). Columns, menus, form labels, and inputs align to fit the language reading flow.
- **Localized Typography Engines:** The settings panel supports selectable typography options to display translations properly. Selecting Urdu maps the text elements to *Noto Nastaliq Urdu*, while Arabic maps text to *Cairo* or *Amiri* to ensure legibility.

2.12 Dual-Mode Chatbot Configuration

The system features an interactive chatbot that provides natural-language business intelligence queries. The chatbot operates in two modes:

1. **Command-Based Mode:** Processes simple predefined commands (e.g. `/ledger 5050` or `/balance bank`) to quickly return database views, making navigation faster.
2. **LLM-Based (Gemini AI) Mode:** Enabled by entering a valid Gemini API key in settings. The LLM parses database tables to answer complex queries, analyze variances, and summarize reports in natural text.

This allows managers to ask: *"Which cost center has the highest variance this month?"* and receive a summarized explanation instantly.

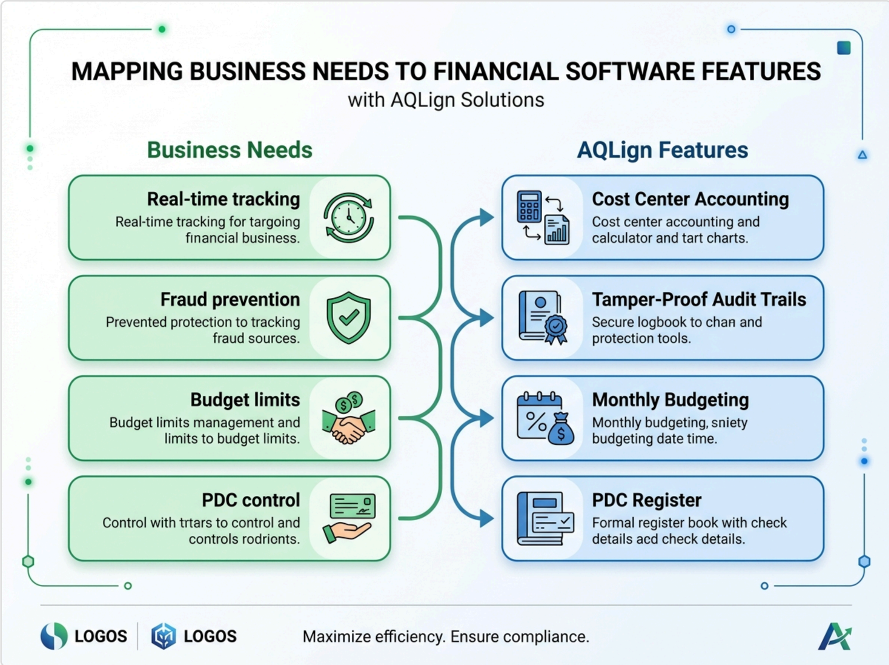

Figure 2.12: LLM chatbot intelligence schema layout

Section 3: System Utilities, User Access Management (UAM) & Database Controls

This section outlines security protocols, database management tools, and access controls in the system.

3.1 User Access Management (UAM)

Administrators can configure granular permission flags in `Users` to restrict user access:

- **Voucher Entries Permission:** View, Add, Edit, or Delete permissions for RV, PV, JV, and SV screens.
- **Report View Permissions:** Granular toggles to restrict access to specific reports, ensuring sensitive information like the Balance Sheet remains confidential.
- **Master Settings Access:** Restricts configuration edits to the administrator account.

3.2 Audit Logging Engine

An active background security monitor. Every transaction post, edit, price override, or deletion is tracked with details:

- **Action Types:** `Create`, `Update`, `Delete`, `Login`.
- **Timestamps & IP:** Tracks date, time, and source IP address.
- **Voucher Delta Logs:** Records before-and-after transaction snapshots, allowing recovery of modified entries.

3.3 Database Utilities

Includes utility tools to manage database states:

- **Master Data Import/Export:** Import charts of accounts or vendor lists from Excel.
- **Database Backup & Restore:** Creates on-demand compressed backup files of the active relational database on disk.

Section 4: Enterprise Feature Licensing Matrix & Feature Module Map

The table below summarizes the availability of features and reports across licensing tiers:

Feature / Report Name	AQLign FinaSys AI (Base Accounting)	AQLign FinaSys Pro AI (Advanced Accounting Add-on)	Audit Logging (Optional Module Add-on)
Chart of Accounts (COA) Tree Setup	**Available**	Available	Available
Voucher Entries (RV, PV, JV, SV)	**Available**	Available	Available
General Ledger & Cash Book Reports	**Available**	Available	Available
Receipts & Payments cash flow summary	**Available**	Available	Available
Trial Balance (2-Column & 6-Column)	**Available**	Available	Available
Voucher Audit Report	**Available**	Available	Available
Cost Centers & Monthly Budget Allocations	Restricted	**Available**	Available
Post-Dated Cheques (PDC) Register	Restricted	**Available**	Available
Income Statement (P&L) Report	Restricted	**Available**	Available
Balance Sheet Statement Report	Restricted	**Available**	Available
Cost Center P&L and Variance Reports	Restricted	**Available**	Available
PDC Clearing Register Report	Restricted	**Available**	Available

Feature / Report Name	AQLign FinaSys AI (Base Accounting)	AQLign FinaSys Pro AI (Advanced Accounting Add-on)	Audit Logging (Optional Module Add-on)
Security User Activity Audit Logging	Restricted	Restricted	**Available**