**RMS Flow**

**1. Introduction**

The RMS will automate the entire lifecycle of revenue management for two primary fee structures: a one-time **Registration Fee** and recurring **Quarterly Usage Fees**.

**In Scope:**

* User & Supplier (GenCo) Management
* Configurable Fee Slab Management
* Automated Quarterly Billing Cycle
* Secure Online Payment Processing via HDFC Payment Gateway
* Generation of Tax Invoices and Payment Receipts
* Integration with Zoho Books for e-invoicing
* Comprehensive Reporting and Analytics

Out of Scope at Present :

Credit Note Flow for refund of

**2. User Personas & Stories**

1. **Finance Admin:** Manages system settings, configures fee slabs, and oversees the entire billing process.
   * *“As a Finance Admin, I need to configure different fee slabs for registration and quarterly usage so that charges are applied correctly based on supplier turnover or invoice value.”*
   * *“As a Finance Admin, I need to initiate the automated quarterly billing process and receive detailed logs and error notifications to ensure its successful completion.”*
2. **Supplier (GenCo User):** An external user from a supplier company who pays fees.
   * *“As a Supplier, I need to view a clear breakdown of my quarterly usage charges and download the corresponding tax invoice before making a payment.”*
   * *“As a Supplier, I need to make online payments securely and receive an instant confirmation and a downloadable payment receipt.”*
3. **Audit Requirement:** .
   * *“I should have access to complete and immutable history of all fee slab changes to verify that historical calculations were correct.”*
   * *“I should be able to pull detailed GST and ERP reports for any given period for statutory filing.”*

**3. System Features and Requirements**

**3.1. Slab Management (Fee Structure)**

The system must allow administrators to manage the fee structures for both registration and quarterly usage.

* **Two**distinct types of slabs: **Registration** and **Quarterly**.
* Each slab must contain a SlabName, LowerBound, UpperBound, and SlabCharges.
* When a slab is updated, the system **must not** modify the existing record. It must deactivate the old record (IsActive = 0) and create a new one. This preserves historical data integrity for audits and recalculations. The new record should retain the original SlabCode.
* The system must generate a unique, sequential SlabCode (e.g., SLB001, SLB002) upon the creation of a new slab.
* A validation mechanism must exist to check for and prevent any gaps or overlaps in the slab ranges for a given fee type.

**3.2. Automated Quarterly Billing Cycle**

Automated process that runs quarterly to calculate and generate invoices for usage fees.

* **Apply Slab Charges:**
  + For each invoice of the quarter , the system must match its TotalInvoiceAmount against the active **Quarterly** slabs to determine the applicable SlabCharges, TotalGSTAmount, and GrossAmount.

**Total\_monthly\_usage\_charges=**

* **Generate Quarterly Usage Dump:**
  + The system must aggregate the processed invoices per supplier (GencoCode) for the fee period and insert the summary into rms\_qtrly\_usage\_dump.
  + This summary must include total SlabCharges and InvoiceCt (invoice count).
  + The system must first deactivate any existing, unbilled records for the same FeePeriod to prevent duplicate billing.
* **Generate Tax Invoices:**
  + The system shall iterate through the rms\_qtrly\_usage\_dump for all suppliers with outstanding charges and generate a formal tax invoice in the rms\_tax\_invoice table.
  + The invoice status (StatusCode) shall be set to Unpaid by default.
  + The due date (InvoiceDueDate) shall be calculated based on a configurable number of days from the invoice date.
  + This process must use the **critical invoice numbering logic** - Gaurav to confirm
* **Error Handling & Notifications:**
  + The entire quarterly process must be wrapped in error-handling logic. If any step fails, the system must log the detailed error and send an email notification to the designated technical support team.

**3.3. Registration Fee Billing**

This flow manages the one-time registration fee for new suppliers.

* The system must be able to calculate the registration fee for all approved suppliers who have not yet been billed.
* The calculation is based on the supplier's annual invoice turnover. If less than 4 months of invoice data exists, the system must project the annual turnover by annualizing the monthly average.
* The calculated fee is then matched against the active **Registration** slabs to determine the final charge.

**3.4. Payment Processing**

The system will integrate with the HDFC payment gateway to handle all transactions.

* When a supplier initiates a payment, the system must create a record in rms\_txn\_history with a pending status and the orderId from the payment gateway.
* The system must handle success and failure callback responses from the payment gateway.
* **On Payment Success:**
  + Update the rms\_txn\_history status to Success.
  + Update the corresponding rms\_tax\_invoice status to Paid.
  + Record the TxnRefId, AmountPaid, and PaidOn timestamp.
  + Generate a unique, sequential **Payment Receipt Number** (PFCCL Commercial Team).
  + Generate a PDF receipt and store the file path.
* **Supplier Deactivation:** The system must include a scheduled task that deactivates users if their quarterly bills remain unpaid for more than 45 days past the due date.

**3.5. Integrations & Reporting**

* **Zoho Books Integration:** The system must integrate with Zoho Books APIs to:
  + Submit generated invoices for e-invoicing and IRN generation.
  + Manage API authentication using refresh and access tokens.
* **Reporting:** The system must provide the following reports, exportable to CSV/Excel:
  + Tax Invoice Report (with filters for status, date, supplier)
  + Payment Receipt Report
  + HDFC Payment Gateway Response Log
  + GST Report: A formatted report for statutory filing.
  + ERP Report: A journal entry report for accounting, with specific GL codes and debit/credit flags
* **Analytics Dashboard:** The dashboard must display key metrics, including:
  + Total vs. Paid/Pending Invoices
  + Slab-wise Registration Statistics
  + Annual and Quarterly Billing Summaries
  + Ageing analysis of overdue bills.

**4. Financial Document Numbering( PFCCL Commercial)**

Logic for generating unique and sequential numbers for invoices and receipts should be cinsistent for audit and compliance.

**4.1. Tax Invoice Number Generation**

* **Format:** [Prefix][Initial][FinancialYear][Sequence]
* **Prefix:** A 'C' prefix must be used for non-production environments to prevent data contamination.
* **Initial:** Use TR for Registration invoices and TI for Quarterly invoices.
* **FinancialYear:** A 4-digit string representing the financial year (e.g., 2526 for 01-Apr-2025 to 31-Mar-2026). The logic must correctly identify the financial year based on the creation date.
* **Sequence:** A 5-digit, zero-padded number that **resets to 1 at the beginning of each financial year for each invoice type**. The system must find the last invoice of the same type within the current financial year to determine the next number in the sequence.

**4.2. Payment Receipt Number Generation**

The  logic for invoice receipot should be as below

* **Format:** [Initial]/[Year]/[Month]/[Sequence]
* **Initial:** A static prefix (e.g., PR).
* **Year & Month:** The 4-digit year and 2-digit month of the payment date.
* **Sequence:** A 5-digit, zero-padded number that **resets to 1 at the beginning of each calendar month**.

For Dashboard: Could be explored apart from the existing KPI’s [Zoho Book] provide suitable KPI’s for this.

Existing KPIs

Slab Wise Registered Suppliers/ Non Registered : Suitable chart

No of suppliers in the each slab

***Overall Bill Summary***

***Day/Week/month Wise No of Payment/Amount of the Payment- Interactive Chart***

***Flow For Credit Note:***