**Appendix B - Procurement Modules Requirements**

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14. **Project Description**

The procurement module is a critical component of the Office Automation, designed to streamline and optimize our procurement processes in alignment with our Digital Transformation Plan. This module focuses on enhancing supplier management and tendering processes, ensuring efficient and transparent operations.

**Supplier Management**

* **Supplier Registration**: Implement a more user-friendly registration system for suppliers to submit their information & certificates, ensuring a streamlined onboarding process.
* **Supplier Database**: Maintain a comprehensive and up-to-date database of all suppliers, including contact details, performance history, and compliance records.
* **Performance Evaluation**: Implement tools for regular assessment of supplier performance based on key metrics such as quality, delivery timelines, and cost-effectiveness.
* **Relationship Management**: Enhance collaboration with suppliers through automated communication channels and feedback loops, fostering long-term partnerships.

**Procurement & Tendering Management**

* **Automated Tender Processes**: Streamline tender creation, submission, and evaluation through automated workflows that reduce manual errors and time delays.
* **Integrated Supplier Portal**: Provide suppliers with a secure login to access their accounts, allowing them to manage their profiles and submit documents.
* **Submission Management**: Enable suppliers to submit bids directly through the portal, with features to track submission status and maintain a record of past submissions.

By incorporating these features, the procurement module will significantly contribute to the efficiency and agility of our procurement operations, aligning with our strategic goals for digital transformation.

1. **Expectation**

* Implementing a user-friendly procurement interface with improved order creation, tracking, approval, and search functionality.
* Automating purchase order generation, supplier matching, and invoice processing by utilizing industry-leading procurement automation techniques and solutions.
* Digitalizing supplier records, enabling fully digitalized tracking of procurement activities, replacing current manual practices.
* Enhancing collaboration features and workflow processes to optimize supplier communication and internal approvals.
* Incorporating customizable reporting tools to provide real-time insights and data-driven decision-making capabilities.

1. **Overview**

Below diagrams show an overview of what the procurement module should at least contain:

**Supplier Management Module**

**Procurement & Tendering Management Module**

1. **Supplier Management Module**
   1. **Supplier Registration**

|  |  |
| --- | --- |
| T01-01 | Develop a user interface for supplier registration that includes intuitive forms for collecting supplier information. |
| T01-02 | Support document uploads (e.g., Business licenses, ISO certificates). |
| T01-03 | Automate document verification (e.g., M1/M8 validation). |
| T01-04 | Set up automated email verification & confirmation. |
| T01-05 | Initial capacity for 1,500 supplier licenses, with future extendibility. |
| T01-06 | Provide a supplier self-service portal accessible via secure login, enabling suppliers to manage their registration, update profiles, and interact with procurement processes. |

* 1. **Supplier Verification**

|  |  |
| --- | --- |
| T02-01 | Incorporate real-time validation of input fields and email as part of data validation. |
| T02-02 | Duplicate checks against ERP/SAP databases. |
| T02-03 | Implement automated risk assessment tools (e.g. Dun & Bradstreet, QiChaCha, Ecovadis) for risk identification, utilizing supplier history and market dynamics, along with red flags for compliance issues and financial instability. This may require third-party applications for enhanced risk analysis and data integration. |
| T02-04 | Dashboard for risk monitoring and mitigation. |
| T02-05 | Allow manual or automated verification of supplier documents (e.g., licenses, certifications), with options to integrate third-party systems for background checks or credit assessments. |

* 1. **Supplier Pool**

|  |  |
| --- | --- |
| T03-01 | Develop a comprehensive supplier profiling system that includes a profile management feature offering a complete view of supplier details, such as contact information, product/service offerings, and certifications, with the ability to update supplier information dynamically. |
| T03-02 | Create a centralized repository for storing supplier data in the supplier database. |
| T03-03 | Include CRUD (Create, Read, Update, Delete) functionalities in the supplier database. |
| T03-04 | Implement versioning for historical data tracking in the supplier database. |
| T03-05 | Implement support for integration with existing ERP databases and synchronize with ERP systems to ensure accurate data access. |
| T03-06 | Define configurable categorization and tiering options for materials and services, including a hierarchical structure for sub-category management, and incorporate RPA/AI tools to assist in organizing and managing categories. |
| T03-07 | Enable advanced search and filtering capabilities based on criteria such as location, product category, or supplier status, with support for batch import/export of supplier data. |

* 1. **Supplier Relationship Management (SRM)**

|  |  |
| --- | --- |
| T04-01 | Create an integrated messaging system as a communication platform that allows direct live communication between suppliers and the procurement team, including real-time chat with file sharing capabilities (e.g., Word, Excel, PDF). |
| T04-02 | Incorporate compliance tracking tools, including sanction tools or other supplier risk assessment tools for monitoring compliance with legal and regulatory requirements (e.g., ISO), along with alerts for upcoming compliance deadlines and renewals. |
| T04-03 | Manage confidentiality by implementing role-based access control with options for 'read-only' access or 'blurred' view to protect sensitive information, ensuring all views of sensitive information include a dynamic watermark to deter and identify unauthorized screenshots. |
| T04-04 | Establish a feedback mechanism through surveys and feedback forms accessible via the supplier portal, with an anonymous feedback option to encourage candid responses, auto-triggered at pre-set intervals or manually as needed. |
| T04-05 | Implement a supplier performance evaluation system with configurable KPIs (e.g., delivery times, quality, compliance), interim (e.g., quarterly) and post-project automated scoring and reports, enabling alerts for approaching KPI thresholds. |
| T04-06 | Integrate performance management with sourcing by prompting buyers with historical scores, visual risk indicators (e.g., color-coded flags), warnings for breaches, blacklist status for severe/repeated issues (auto-excluding unless overridden, with reinstatement options), and configurable warning thresholds (e.g., 3 warnings in 6 months). |

1. **Procurement & Tendering Management Module**
   1. **Preparation of Purchasing**

|  |  |
| --- | --- |
| T05-01 | Develop a procurement planning interface to define procurement needs, including material/service specifications, quantities, and timelines. |
| T05-02 | Implement automated workflows for internal management approvals (e.g., budget approval, procurement justification). |
| T05-03 | Integrate market analysis tools to assess supplier availability, historical pricing trends, and supply chain risks. |
| T05-04 | Enable collaboration features for cross-departmental input during procurement planning (e.g., comments, document sharing). |
| T05-05 | Provide templates for procurement documentation (e.g., scope of work). |
| T05-06 | Configure notification settings to alert management of key procurement events (e.g., plan submission, approval deadlines). |

* 1. **Purchasing Requisition**

|  |  |
| --- | --- |
| T06-01 | Design an intuitive requisition form with dropdowns for material/service categorization. |
| T06-02 | Implement automated routing of requisitions to approvers based on predefined rules (e.g., budget thresholds, department). |
| T06-03 | Allow attachment of supporting documents (e.g., technical specs) to requisitions. |
| T06-04 | Provide requisition status tracking with notifications on the dashboards. |
| T06-05 | Integrate requisition data into procurement analytics dashboards. |

* 1. **Request for Quotation (RFQ)**

|  |  |
| --- | --- |
| T07-01 | Based on the last purchase history & PR, automatically suggest predefined information, including terms, conditions, and evaluation criteria. |
| T07-02 | Develop a supplier shortlisting tool based on historical performance, certifications, and risk assessments. |
| T07-03 | Enable bulk RFQ distribution to selected suppliers via the integrated portal. |
| T07-04 | Auto e-mail invitation. |
| T07-05 | Implement deadline management with automated reminders for both suppliers & buyers. |
| T07-06 | Options for Suppliers to insert the unit price, lead time & submit the proposals. |
| T07-07 | Integrate AI tools for preliminary quote analysis (e.g., price & lead time comparison) |

* 1. **Invited Tender**

|  |  |
| --- | --- |
| T08-01 | Develop a secure invitation system for verified suppliers, with role-based access to tender documents. |
| T08-02 | Enable encrypted submission of tender proposals via the supplier portal, with configurable stages for separate opening of commercial proposals, technical proposals, and additional proposals as required. The opening process allows for the selection of opening committee members with the flexibility to change these members even after proposals have been submitted to the system. |
| T08-03 | Auto e-mail invitation. |
| T08-04 | Implement automated compliance checks for submitted documents (e.g., mandatory documents, formatting). |
| T08-05 | Notify both buyers & suppliers of submission receipt automatically. |

* 1. **Open Tender**

|  |  |
| --- | --- |
| T09-01 | Develop a public tender portal with searchable listings (e.g. category, date, title). |
| T09-02 | Implement CAPTCHA and anti-bot measures to ensure genuine supplier participation. |
| T09-03 | Enable encrypted submission of tender proposals via the supplier portal, with configurable stages for separate opening of commercial proposals, technical proposals, and additional proposals as required. The opening process allows for the selection of opening committee members with the flexibility to change these members even after proposals have been submitted to the system. |
| T09-04 | Enable request for clarifications during the tender period. |
| T09-05 | Enable reservations for obtaining tender documents. |

* 1. **Evaluation**

|  |  |
| --- | --- |
| T10-01 | Develop a multi-criteria evaluation system with configurable weightings (e.g., technical, cost, quality, delivery) for scoring supplier proposals. |
| T10-02 | Enable cross-department evaluation teams to input scores via a centralized dashboard. |
| T10-03 | Automate inserting structured data (e.g., numerical scores, pricing) and unstructured data (e.g., PDF/JPEG documents like certifications, technical specs) into the evaluation table. |
| T10-04 | Automate scoring calculations and generate ranked supplier lists. |
| T10-05 | Flag discrepancies or outliers in evaluations for manual review. |
| T10-06 | Enable buyers to communicate with suppliers & document exchange. |
| T10-07 | Generate a report after finalizing the score for further analysis. |
| T10-08 | Allow defining standard evaluation schemes with pre-set criteria and weightings, saving them as templates for reuse, with options to adjust or create new schemes to ensure alignment across projects. |

* 1. **Negotiation**

|  |  |
| --- | --- |
| T11-01 | Create a negotiation workspace with shared documents & communication. |
| T11-02 | Implement internal workflows for negotiated terms (e.g., legal, finance). |
| T11-03 | Track negotiation timelines and allow buyers to send reminders for unresolved items. |
| T11-04 | Store negotiation history with timestamps and participant details, with the ability to export the history. |
| T11-05 | Enable side-by-side comparison of final terms against original proposals. |

* 1. **Purchase Order/Contract**

|  |  |
| --- | --- |
| T12-01 | Automate PO/contract generation using predefined templates with dynamic fields (e.g., pricing, delivery dates). |
| T12-02 | Integrate e-signature solutions (e.g., DocuSign) for digital signing. |
| T12-03 | Enable PO tracking with milestones (e.g., delivery, acceptance) and automated alerts. |
| T12-04 | Implement role-based access to view or edit contract terms. |
| T12-05 | PO created on the platform will automatically trigger the generation of a corresponding PO in SAP. |
| T12-06 | Enable the automatic sending of emails to suppliers when the approval of purchase order/contract is completed. |
| T12-07 | Contract Management Cycle – Alert before deadline as preset. |

* 1. **Order Status Tracking**

|  |  |
| --- | --- |
| T13-01 | Develop a real-time order tracking dashboard. |
| T13-02 | Implement blockchain-based immutable logs to record order milestones (e.g., dispatch, customs clearance, delivery). |
| T13-03 | Enable predictive delay alerts using machine learning models that analyze historical logistics data, weather patterns, and geopolitical risks to forecast potential disruptions. |
| T13-04 | Enable suppliers to access and submit real-time status updates (e.g., proof of delivery scans). |
| T13-05 | Create a supplier performance heatmap visualizing on-time delivery rates, defect rates, and compliance deviations to inform future procurement decisions. |
| T13-06 | Automate post-delivery feedback loops, including automated surveys sent to internal stakeholders and suppliers to rate service quality and resolve issues. |

* 1. **Billing & Invoice**

|  |  |
| --- | --- |
| T14-01 | Enable suppliers to submit invoices directly via the portal, with OCR for paper-based submissions. Invoices will then be forwarded to finance department via DMS. |
| T14-02 | Provide real-time payment status tracking for suppliers and internal teams. |

* 1. **Documentation**

|  |  |
| --- | --- |
| T15-01 | Enable user department to send the related documents (e.g. TOC, DLC, letters) to suppliers. |
| T15-02 | Enable both user department and suppliers to retrieve the documents at any time. |

1. **AI Capability**

The system is expected to incorporate advanced AI capabilities, including AI Agent (Agentic AI), proactive/predictive data analytics, and data-driven decision-making features to enhance procurement efficiency and decision quality; while these may not be currently available, suppliers are required to demonstrate potential for implementation and commit to future integration as part of the evaluation process.

1. **Data Analytics**

|  |  |
| --- | --- |
| T16-01 | Robust visualization tools, including graphical representations of supplier categories and interactive tools for exploring supplier relationships and dependencies. |
| T16-02 | Provide reporting tools, including customizable dashboards for visualizing performance trends and periodic performance reports that offer actionable insights. |
| T16-03 | Equip the system with tools for category strategy formulation based on market analysis and spend data, along with collaboration features for cross-departmental strategy alignment. |
| T16-04 | Visualization tools, including graphical representations of supplier categories and interactive tools for exploring supplier relationships and dependencies. |
| T16-05 | Deploy AI-driven spend analytics to categorize procurement spend by supplier, category, and region, identifying cost-saving opportunities and maverick spending patterns. |
| T16-06 | Integrate natural language processing (NLP) tools to analyze unstructured data from supplier communications, contracts, and RFQ responses for sentiment and risk trends. |
| T16-07 | Develop predictive supplier risk models using machine learning to flag high-risk suppliers based on financial instability, compliance violations, or geopolitical exposure. |
| T16-08 | Implement anomaly detection algorithms to identify irregularities in procurement data (e.g., inflated pricing, duplicate invoices) and trigger fraud investigations. |
| T16-09 | Offer customizable dashboards for monitoring procurement KPIs (e.g., spend analysis, supplier performance), accessible to different user roles. |

1. **Data Synchronization & Integration**
   1. **Data Cleaning**

|  |  |
| --- | --- |
| T17-01 | The system must enable extraction of the entire SAP supplier database into a standardized Excel format. |
| T17-02 | The vendor shall cleanse the extracted data by removing inactive accounts (defined as suppliers with no purchase orders or contracts for a certain duration to be input and adjustable by user, e.g. ≥5 years) |
| T17-03 | The solution must support an internal review and approval process where the Supplier Performance Management (SPM) team validates the cleansed supplier list before migration. |
| T17-04 | The vendor shall create accounts in the new supplier registration system only for validated suppliers post-SPM approval. |
| T17-05 | Automated activation emails must be sent to suppliers, redirecting them to a secure portal. |
| T17-06 | To complete activation, suppliers must be required to:   * + Cross-check and update their information (e.g., contact details, certifications, bank accounts) before confirming activation.   + Formally acknowledge activation via the portal. |
| T17-07 | Each supplier account in the new system must be permanently linked/bound to its corresponding SAP supplier ID to ensure traceability. |
| T17-08 | Any updates made by suppliers to their profiles shall trigger an automated notification to the SPM team for review. |
| T17-09 | Approved updates must automatically synchronize and overwrite the corresponding SAP master data records, following SPM confirmation. |

* 1. **Procurement Process Integration with ERP**

|  |  |  |
| --- | --- | --- |
| Stage | Key Features | Target |
| Supplier Registration | * Auto-sync supplier profiles to ERP master data. * Validate registrations against ERP duplicate records in real time. * Flag discrepancies for manual review. | ERP, Supplier Database |
| Purchase Requisition | * Sync requisition details (e.g., material codes, quantities) from ERP to procurement platform. * Push requisition status (approved/rejected) back to ERP. | ERP, Procurement & Tendering Management Module |
| PO/Contract Creation | * Generate ERP-compliant POs with dynamic field mapping (e.g., unit price, lead time). * Sync signed PO & contracts to ERP. * Track revisions and version history across systems. | SAP, DMS, Procurement & Tendering Management Module |
| Delivery & Logistics  (Enhancement, for future purposes, not for now) | * Auto-update ERP inventory upon delivery confirmation. * Sync delivery discrepancies (e.g., shortages) to supplier portals. | SAP, Supplier Management Module |
| Billing & Invoices | * Push payment status updates to supplier portals. * Archive invoices in DMS. | SAP, DMS |
| Synchronization Logs | * Maintain comprehensive logs of all synchronization actions for troubleshooting and auditing purposes. | ERP, Procurement & Tendering Management Module |

* 1. **Workflow & Automation**

|  |  |
| --- | --- |
| Stage | Description |
| Supplier Registration | Synchronize with current Supplier Pool in ERP System in a certain period. |
| Purchase Requisition | Real-time integrates to ERP System to create a PR |
| Purchase/Contract Order | Real-time integrates to ERP System to create a PO/CO |
| Delivery Status | Suppliers can update the delivery status on the platform. |
| Billing & Invoices | The invoices uploaded by suppliers can automatically forwarded finance department. |

1. **Implementation & Deployment**

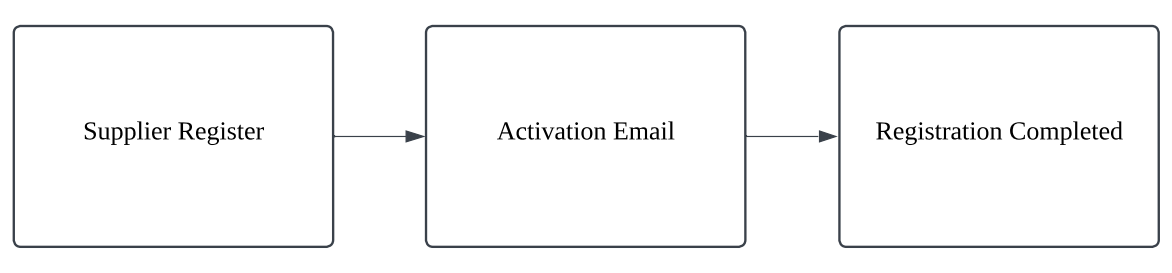
|  |  |
| --- | --- |
| T18-01 | Developing and executing a detailed implementation solution for deploying the new system. |
| T18-02 | Providing comprehensive knowledge transfer sessions with user manuals for end-users to ensure a smooth transition to the new procurement system. |
| T18-03 | Conducting thorough testing to validate the system's functionality andperformance before full deployment. |

1. **Security & Compliance**

|  |  |
| --- | --- |
| T19-01 | Implement robust security measures such as role-based access control, encryption to protect sensitive documents. |
| T19-02 | Data encryption, access controls, and data anonymization techniques should be implemented to protect sensitive information. |
| T19-03 | The system should support configurable (and can be disable) automated archiving and deletion processes to manage document lifecycle and retention periods. |
| T19-04 | Ensure all proposed implementation solutions meet relevant CEM legal and industry standards. Enable detailed audit trails to track document access, modifications, and user activities within the system. |
| T19-05 | Maintain comprehensive logs of user actions for accountability and compliance purposes. |

1. **General Description of Current System & Workflow**
   1. **Supplier Registration System**

The current supplier system is disconnected and not integrated with other systems, making it difficult to interact with the supplier database in SAP. Unfortunately, there is no regular review process to keep supplier information up to date, resulting in a lot of outdated data and many inactive accounts, which is one of our key pain points.

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**Pain Points**

* **Outdated Data:** Accumulation of inactive accounts and obsolete information due to lack of automated reviews.
* **Manual Interaction:** Difficulty accessing and managing supplier data across systems.

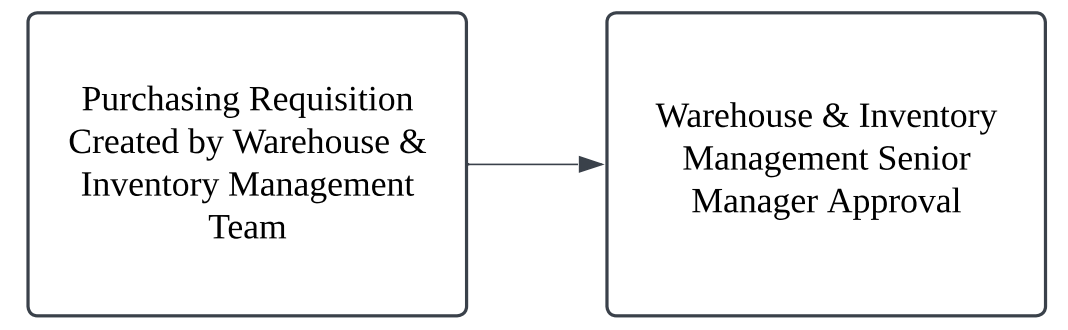
**Not Preferred Characteristics**

* Siloed systems with no synchronization.
* Absence of supplier lifecycle management (e.g. deactivation of inactive accounts, certificate validation)
  1. **Purchase Requisition (PR)**

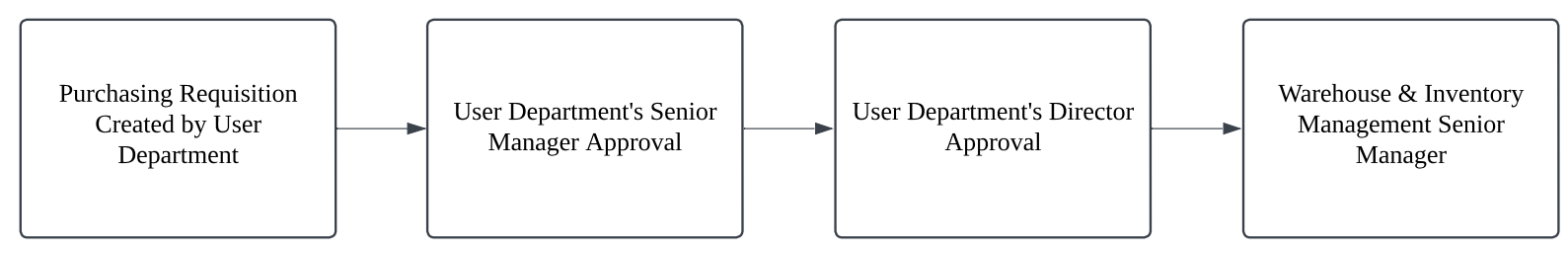
The Purchase Requisition is initiated within the SAP system, where all necessary information is stored, including details such as material and service descriptions, cost centers, and purchase history. Various scenarios can arise during the purchasing requisition process, and the specific workflow is tailored to the needs of different user departments.

**General** approval hierarchies will be listed as below:

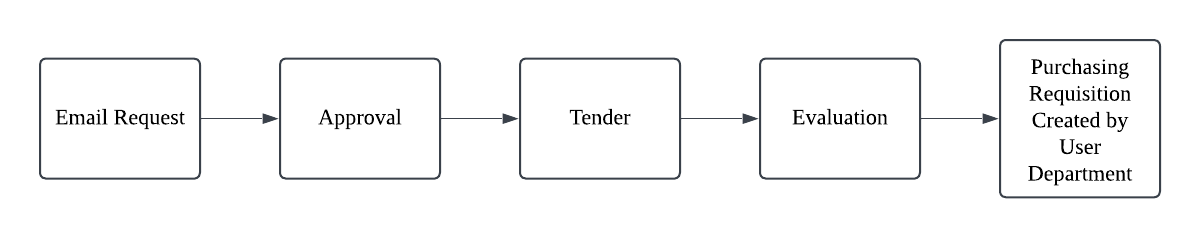
**Stock Material (add email from user department to WIM team)**

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**Non-Stock Material**

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There are some exception cases, especially for **Service based orders**.

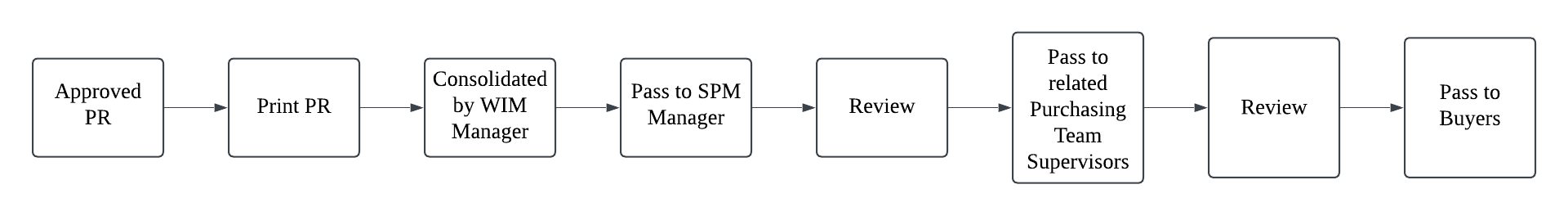


**Pain Points**

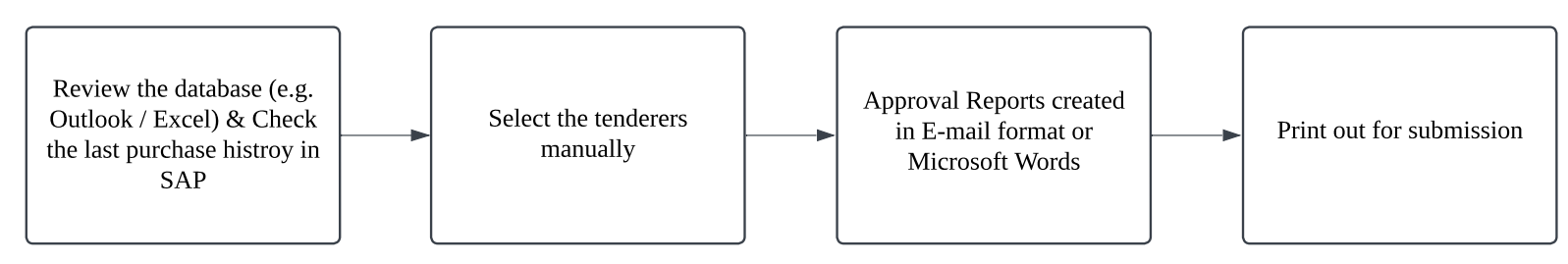
* **Complicated Manual Approval Process:** Varying workflows lead to delays.
* **Excessive Paperwork:** All PRs require printing out for approvals, leading to inefficiency, clutter and environmental waste.

**Not Preferred Characteristics**

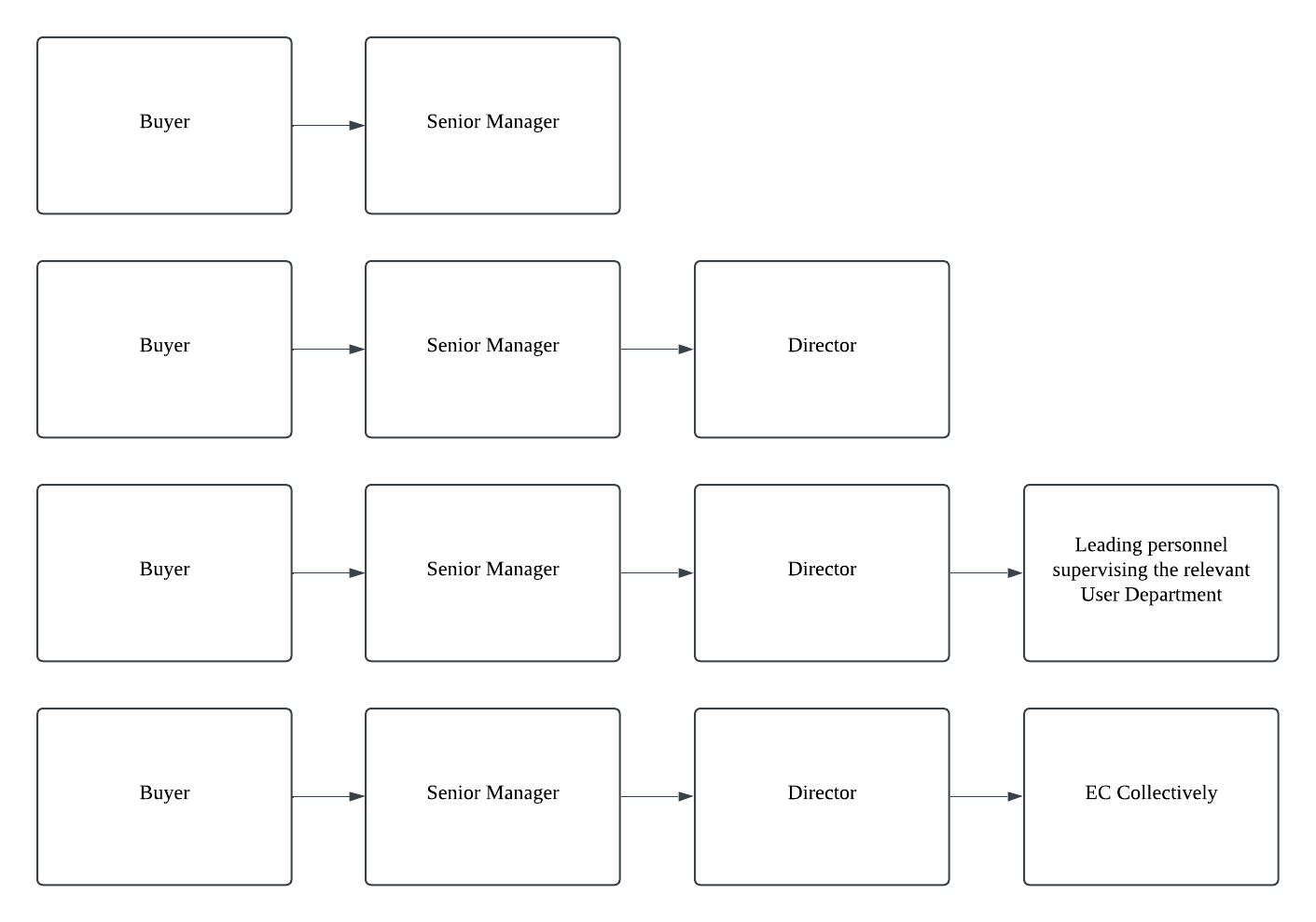
* Inability to automate routing based on predefined rules.
* Dependence on physical documents.
  1. **Pre-Tendering Stage**

The distribution of Purchase Requisitions is currently handled manually due to limitations within the SAP system and a lack of digitalization. This process involves screening by the manager, along with relevant supervisors, who review the requisitions before moving forward. 

The workflow relies heavily on paperwork and manual data entry. Buyers often have to navigate multiple sources, including SAP, the supplier registration system, and various Excel spreadsheets, to compile the necessary information.



Depends on the estimated amount, the approval hierarchies vary, shown as below:



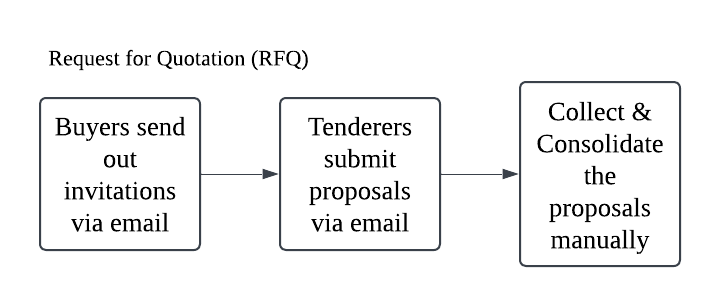
**Pain Points**

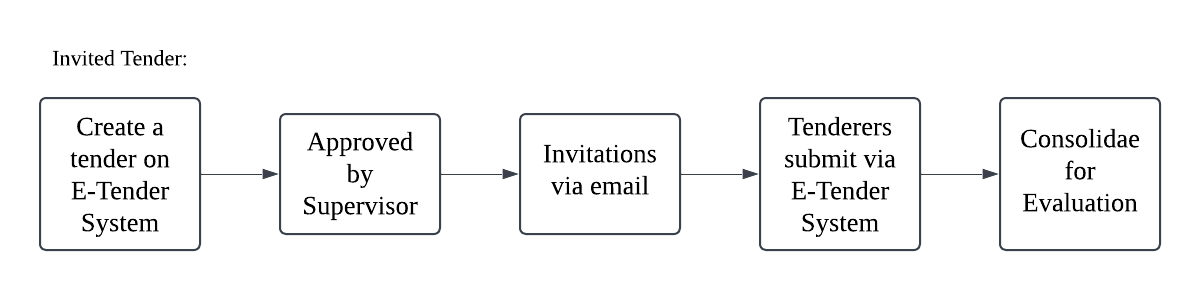
* **Time-Consuming Screening:** Manual review by management slows down the cycle.
* **Data Fragmentation:** Buyers must compile data from SAP, Excel and other systems.

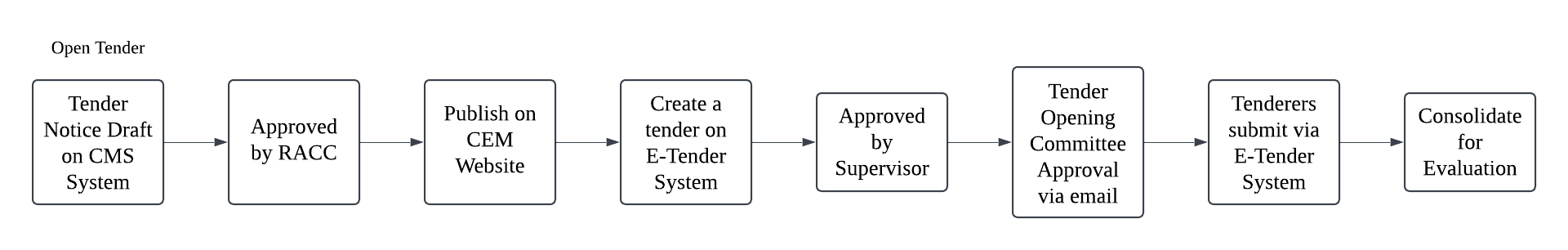
**Not Preferred Characteristics**

* Heavy reliance on paper-based processes.
* No integration between procurement planning and SAP system.
  1. **RFQ & Tendering Stage**

For this stage, there are 3 different approaches – Request for Quotation (RFQ), Invited Tender and Open Tender. Each approach consists usage of different platforms such as Outlook, e-Tender System.







For tender opening, the process involves several key steps to ensure security and transparency. Initially, tasks need to be preset on the e-Tender system, created by CTT (Macau Post). The system includes selecting pre-approved members such as managers or directors. They assemble in a meeting room, each bringing their encrypted USB devices, which serve as keys to access the e-Tender system. This secure access method ensures that only authorized personnel can verify and open the tender documents. The use of encryption and digital verification helps maintain the integrity of the process, ensuring that all submissions remain confidential and tamper-proof until the official opening.

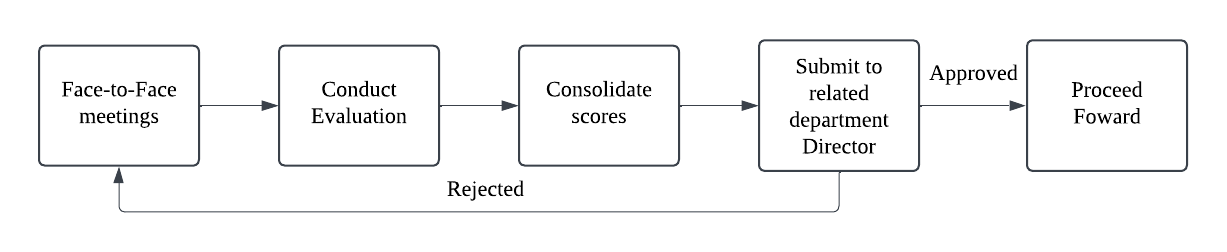
**Pain Points**

* **Fragmented Platforms:** Multiple systems cause coordination challenges
* **Security Risk:** Manual handling of encrypted USB keys may lead to operational bottlenecks.

**Not Preferred Characteristics**

* Lack of unified portal for submission and tracking.
* With only encrypted USB keys, it is inefficient and outdated manual security process.
  1. **Evaluation Stage**

The most standard procedure for the evaluation phase involves hosting face-to-face (F2F) meetings for both technical and commercial evaluations. During these meetings, marks are consolidated using different Excel files, as there are no specific platforms for evaluation. Major tools utilized at this stage include Outlook and Excel. Once the evaluations are completed, the results need to be approved by the relevant department directors before proceeding further.



**Pain Points**

* **Manual Scoring:** No centralized platform for evaluation.
* **Delayed Approvals:** Another paper-based process which requires sign-off via paper.

**Not Preferred Characteristics**

* Disconnected tools (e.g. Excel, Outlook)
* No automated scoring or real-time collaboration
  1. **Price Negotiation Stage**

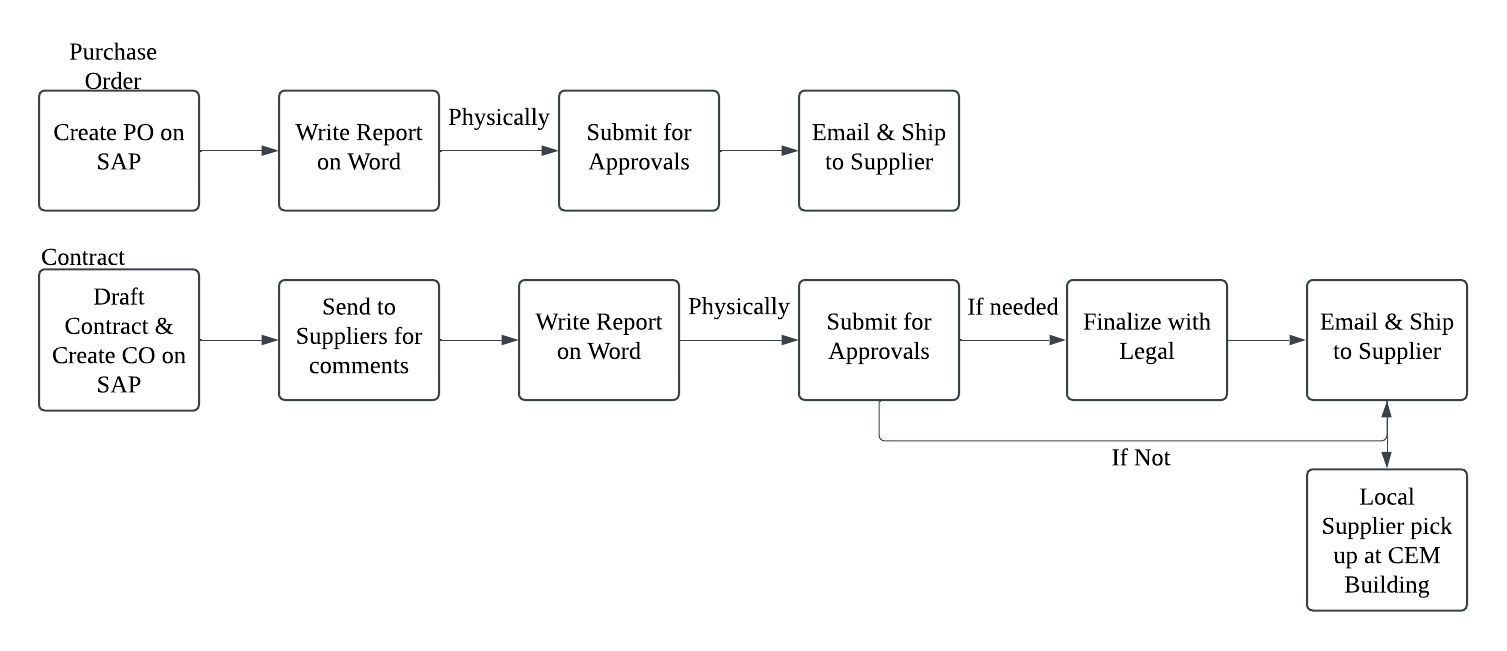
The negotiation process will be conducted primarily through Outlook, utilizing email as the main channel for all discussions. Negotiations with more than one tenderer will need to pass through the e-Tender System.

**Pain Points**

* **Decentralized Communication:** Negotiation history is scattered across emails.
* **Lack of Transparency:** No centralized workspace for term comparisons.

**Not Preferred Characteristics**

* Siloed systems with no synchronization.
* Absence of supplier lifecycle management (e.g. deactivation of inactive accounts, certificate validation).
  1. **Purchase Order/Contract**



**Contract (CO) Process**: The contract process begins with drafting the contract on both Words & SAP and sending it to the supplier for comments. Once feedback is received, a report is written and submitted for approvals, which includes obtaining signatures from management. In some cases, the legal department may be involved to finalize the contract and ensure all terms are compliant. After finalization, the contract is emailed and shipped to the supplier, and local staff is asked to come by for pickup as needed. Signature on the contract is required to be provide by the supplier and sometimes notarization of signature is required depending on the amount.

**Purchase Order (PO) Process**: The purchase order (PO) process starts with creating the PO in SAP, followed by writing a report that details the order. This report is then submitted for approvals, requiring signatures from management. Once approved, the documents are delivered to the responsible manager, ensuring that all necessary paperwork is in order and efficiently handled throughout the process. Acknowledgement of the PO is required to be provided by the supplier, mostly by email.

**Pain Points**

* **Manual Drafting:** Redundant work in multiple systems (e.g. Word, Excel, SAP).
* **Physical Handling:** Requiring in-person pickups delay processes.

**Not Preferred Characteristics**

* No e-signature integration or automated PO generation.
* Lack of real-time status tracking for both POs & contracts.
  1. **Billing & Invoice**

All invoices are sent to us directly via shipping or email. Once received, we forward these invoices to the FAS team. They then print the invoices and further distribute them to the finance department using an internal envelope. This streamlined process ensures that all invoices are properly managed and reach the appropriate department for processing in a timely manner.

**Pain Points**

* **Manual Processing:** Printing and internal envelope create delays.
* **No Real-Time Tracking:** Lack of visibility into delivery and payment status.

**Not Preferred Characteristics**

* Absence of digital invoice submission and OCR capabilities.
* Disconnected from SAP for automated payment updates.
  1. **Performance Evaluation**

Performance evaluations are automatically triggered for material purchases with contracts lasting at least 1 year and exceeding MOP500,000, initiated post-delivery, and for services with contracts over MOP500,000 or when deemed necessary, conducted at contract end by the User Department or Project Manager. Additionally, users can manually trigger evaluations as needed, with the system sending a link to complete the evaluation form in the Supplier Evaluation System.

**Pain Points**

* **Limited Insights:** Inability to correlate performance data with supplier profile.
* **No Real-Time Tracking:** Lack of visibility into delivery and payment status.

**Not Preferred Characteristics**

* No integration with supplier registration or historical KPI databases.
* Static evaluation forms without AI-driven analytics.

1. **Workshop Presentation**

A hands-on workshop is required to demonstrate the platform's capability by simulating the same operations listed in this document.

1. **Demo Presentation**

2 scenarios will be provided as below, and participants will be asked to present them, demonstrating the modules’ capabilities by simulating the same operations listed, which will be as part of the tender evaluation.

* 1. **Scenario 1 – Supplier Registration Module**

**Objective:** Validate **10 Suppliers’** eligibility for regular review. Analyze participation, awards, and categories for suppliers with dashboard and ability to extract the result as Excel.

**10 Suppliers:** 5 from China, 3 from Macau, 2 International

**Demo Requirements:**

**Verification:**

* + Real-time validation of Suppliers’ business licenses and ISO certifications via government/third-party APIs.
  + Duplicate check against existing supplier database.
  + Use dynamic watermarks to secure sensitive data.

**Supplier Pool:**

* + Review Suppliers’ historical KPIs (on-time delivery, response rates).
  + Run financial stability analysis
  + Filter the supplier pool by country using advanced search.
  + Categorize suppliers by product/service type (e.g., "Electronics," "Raw Materials") using AI tagging.
  + Flag compliance risks (e.g., sanctions).

**Analytics & Reporting:**

* + Generate a dashboard showing:
    - Total Chinese suppliers participating in tenders (2020–2025).
    - Award rate (%) compared to global suppliers.
    - Top 3 awarded categories (e.g., "Electronics," "Raw Materials ").
  + Use visualization tools to map geographic distribution of awarded suppliers, with timeframe & other filter options.
  + Generate a validation report with risk scores and compliance status.
  1. **Scenario 2 – Procurement & Tendering Management Module**

**Objective:** Demonstrate the complete procurement and tendering process end-to-end for upcoming infrastructure project, focusing on efficiency, transparency, and compliance.

**Demo Requirements:**

1. **Purchasing Requisition:**
   * Evaluation Criteria & Committee: Criteria & Committee must be set.
   * **Requisition Form:** Fill out a requisition form with required details and use dropdowns for material categorization.
   * **Approval Workflow:** Route the requisition to relevant approvers automatically, demonstrating the approval process with the type of materials. (Non-stock)
2. **Tender Process:**
   * **Open Tender:** Conduct an open tender process, allowing suppliers to submit proposals through the secure portal.
   * **Submission Management:** Track submissions and maintain records of all proposals received.
3. **Evaluation:**
   * **Evaluation:** Use the system to apply evaluation criteria, assessing proposals based on cost, quality, and compliance etc.
   * **Automated Scoring:** Demonstrate the automated scoring system, flexing to weighting system to rank suppliers.
4. **Negotiation:**
   * **Communication Tools:** Use the integrated messaging system for negotiations with shortlisted suppliers.
   * **Document Sharing:** Share revised terms and conditions securely through the portal.
5. **Purchase Order/Contract:**
   * **Generate Purchase Order:** Finalize and generate a purchase order or contract for the selected tenderer.
   * **Order Tracking:** Show how the system tracks order status and updates stakeholders.
6. **Billing & Invoice:**
   * **Invoice Processing:** Demonstrate the automated invoice processing and payment workflow.