NABD CHAIN SYSTEM (NCS) - Comprehensive Overview

Introduction

This document provides a comprehensive overview of the NABD Chain System (NCS), a robust platform designed to streamline and integrate supply chain operations within an organization. NCS aims to connect the core supply chain functions with all other relevant departments, fostering efficiency, transparency, and improved communication. The system offers a centralized dashboard with distinct user roles, ensuring tailored access and functionalities for various stakeholders, from supply chain specialists to top-level management.

The System - Basic

The fundamental concept behind the NABD Chain System (NCS) is to serve the diverse needs of supply chain departments while seamlessly integrating them with all other operational units within an organization. This integration ensures a cohesive and efficient workflow, breaking down traditional departmental silos and promoting a unified approach to supply chain management.

The Roles

NCS is built around a single, intuitive dashboard that accommodates various user roles, each with specific permissions and functionalities. This role-based access control ensures that users can perform their designated tasks efficiently without being overwhelmed by irrelevant information or unauthorized actions. Key roles within the system include:

- **Supply Chain Manager:** Oversees the entire supply chain process, making strategic decisions and ensuring smooth operations.

- **Supply Chain Specialist:** Manages day-to-day supply chain activities, including requests, orders, and vendor interactions.
- **Maintenance Manager:** Responsible for maintenance-related requests and their integration into the supply chain.
- **Production Manager:** Manages production-related requests and ensures alignment with supply chain capabilities.
- **Quality Manager:** Oversees quality control aspects throughout the supply chain process.
- **Factory Manager:** Manages overall factory operations, including supply chain dependencies.
- **CEO:** Has a high-level overview of all operations, with access to key performance indicators and strategic insights.

Each of these roles is assigned specific permissions, such as the ability to create, edit, or close tasks and records. Some users may have display-only access, allowing them to view information without making modifications, thus maintaining data integrity and security.

System Dashboard – Main Page

The main page of the NCS system serves as the central hub, providing users with a comprehensive overview and access to various functionalities. It is intuitively designed to combine different operational areas, ensuring a seamless user experience. The main page is structured around several key sections:

- **Rooms:** Dedicated areas for managing specific supply chain processes, including Requests, Orders, Inventory, Vendors, and Reports.
- **Lab:** A master board and reporting hub for management and specialists to visualize, track, and generate reports across all supply chain activities.
- **Discussion Board & Tasks:** A collaborative space for cross-departmental communication and task management.

In-details Main Page Sections – Rooms

The 'Rooms' section is a critical component of the NCS, designed to compartmentalize and streamline various supply chain operations. Each room is tailored to a specific function, providing dedicated tools and information for efficient management.

Requests Room

This room is designed for all departments to initiate and manage their requests. It provides a structured process for submitting, tracking, and communicating about various departmental needs.

- **Components Inside the Requests Room:**
  - **Request Lab:** A simple form (NRT – New Request Tool) for submitting new requests, including details such as type, quantity, specifications, department, and priority. It also supports attachments like images and PDFs. Supply Chain Specialists can convert requests to quotations, attach pricing, and send approved quotations directly to the Lab.
  - **Requests Board (Table View):** A compact table displaying all requests, with filtering options by Department, Status, and Date.
  - **Request Tracker (Mini Status Board):** A visual progress bar or timeline illustrating the request lifecycle: New → Under Review → Quotation → Approved.
  - **Mini Discussion Board:** A quick notes/chat feature linked to each request, facilitating cross-departmental communication on specific requests. It also includes tasks as a table and points.
  - **Quick Reports (Mini Analytics):** A small summary within the room, providing insights such as the number of new requests this week, top requesting department, and approval vs. rejection ratio.
  - **Vault:** A mini vault for storing request-related documents, technical reports, data sheets, quotations, and other relevant files.

Orders Room

This room allows all departments to view orders, while Supply Chain Specialists have dedicated access to its lab for managing order-related processes.

- **Components Inside the Orders Room:**

- **Orders Lab:** Requests that have met the conditions and have completed quotations will be displayed here. The Orders Lab includes purchase orders with all base documents (Request, Quotation, Technical data, etc.). It also manages order approvals, finance relations, and shipping details.
- **Orders Board (Table View):** A compact table showing all orders, with comprehensive filtering options by Department, PO ID, Vendor, Status, Delivery Date, Value, and Owner.
- **Orders Tracker (Mini Status Board):** A progress bar or timeline indicating the order status: Pending, Released, Closed.
- **Mini Discussion Board:** A quick notes/chat feature linked to each order, enabling cross-departmental communication and task assignments (e.g., follow-up with supplier, confirm delivery). It is used for clarifications with Finance, Production, or Vendor teams.
- **Quick Reports (Mini Analytics):** Provides key metrics such as the number of open/closed orders, on-time vs. delayed orders ratio, total order value this month, and top vendors by PO count/value.
- **Vault:** Stores purchase orders (PDF copies), contracts, delivery notes, invoices, and payment confirmations.

Inventory Room

The Inventory Room manages the stock of items requested by all departments. It is designed for efficient stock monitoring without requiring daily data insertion, allowing for weekly updates.

- **Stock Dashboard (Main View):** A list/table of all items in stock, with filtering options by Item category, Department, and Critical level.
- **Stock Status Board:** Visual indicators (Green, Yellow, Red) to represent stock levels:
  - **Green:** Stock sufficient.
  - **Yellow:** Low stock (close to reorder point).
  - **Red:** Out of stock.
- **Weekly Update Tool:** A simple form for departments to update inventory weekly, including Item, Quantity In/Out, Remarks, and Date.

- **Quick Analytics:** Provides insights such as stock value by category (Raw materials, Spare parts, Packaging), top 5 most requested items, and stock turnover ratio.

Vendors Room

This room contains a comprehensive list of all vendors associated with the company. Supply Chain Specialists can update vendor information and manage related documents.

- **Vault:** A dedicated vault for saving all vendor documents.
- **Vendors Status:** Tracks vendor performance based on Delivery and Payment.

Reports Room

The Reports Room provides a centralized location for generating and viewing various performance and analytical reports across different supply chain functions. It offers detailed insights into requests, orders, inventory, and vendor performance.

- **1. Requests Reports:**
    - Total number of requests by department/month.
    - Approval vs. rejection ratio.
    - Average approval lead time.
    - Top categories of requests (maintenance, raw materials, packaging, etc.).
- **2. Orders Reports:**
    - Total purchase orders issued (weekly/monthly/yearly).
    - Spend analysis (by department/vendor/category).
    - On-time delivery vs. delayed orders.
    - Partially delivered vs. fully delivered orders.
    - Pending payments vs. cleared payments.
- **3. Inventory Reports:**
    - Current stock value (by category).
    - Critical stock items (below reorder level).
    - Stock turnover ratio.

    - Dead stock items (not requested for a long time).
    - Consumption trends (weekly/monthly usage by department).
- **4. Vendors Reports:**
    - Vendor performance scorecards (on-time delivery, quality, responsiveness).
    - Top vendors by spend and by number of orders.
    - High-risk vendors (frequent delays, high rejection).
    - Approved vs. suspended vendors.
    - Vendor dependency analysis.
- **5. Financial Reports:**
    - Total spend vs. budget (monthly/YTD).
    - Cost savings from price negotiations.
    - Forecasted spend (based on pending requests/orders).
    - Outstanding liabilities (unpaid invoices).
- **6. Operational KPI Dashboard:**
    - Average Request → PO cycle time.
    - % of automated vs. manual approvals.
    - % of requests converted into orders.
    - Overall supply chain efficiency index.
- **Features of Reports Module:**
    - **Filters:** By Department, Date Range, Vendor, Category.
    - **Visuals:** Charts, KPI cards, heatmaps, trend lines.
    - **Export:** Excel, PDF.
    - **Customization:** Users can pin their most important reports to the main dashboard.
    - **Drill-down:** From summary into details inside each Room.

In-details Main Page Sections – Lab

Purpose: The Lab serves as the master board and reporting hub, providing management and specialists with a comprehensive visual representation and tracking mechanism for all supply chain activities. It is designed to facilitate insightful analysis and report generation.

- **1. Auto-Organized Big Board (Tree View):** A visual map, similar to a Miro board, illustrating the flow from Requests → Quotations → Orders → Deliveries → Payments. Each node is clickable, allowing users to access detailed information. Status colors (Green = Active, Yellow = Pending, Red = Delayed/Rejected) provide immediate visual cues. This board is auto-updated as actions occur in the various Rooms.
- **2. Global Reports Section:** A centralized location for all reports, including:
  - Requests reports (by department, status, approval ratio).
  - Orders reports (on-time vs. delayed, spend trends).
  - Inventory reports (critical items, stock value).
  - Vendors reports (performance, top vendors, risk).
  - Financial reports (cash withdrawal requests, outstanding invoices). It offers full filtering capabilities by Department, Vendor, Date, Status, and Category.
- **3. Specialist Tools:** Supply Chain Specialists can:
  - Generate customized reports on demand.
  - Create financial withdrawal requests.
  - Export and share reports (Excel/PDF).
- **4. Manager View:** Managers and the CEO have access to high-level KPIs directly within the board. They also have the ability to approve/reject requests/orders directly from the Lab interface.

In-details Main Page Sections – Discussion Board & Tasks

This page serves as a central hub for large-scale discussions related to tasks, complemented by a detailed task management system.

- **Components Inside the Discussion Board & Tasks:**

    - **1. Big Discussion Board:** A general wall for cross-departmental discussions. It supports threaded conversations by topic (e.g., urgent purchases, vendor updates, maintenance issues) and includes a tagging system for users and departments (@username / @department). A key feature is the ability to convert discussion points directly into tasks.
    - **2. Tasks Section:** Tasks are listed directly below the discussion board and can be viewed in various formats:
        - **Points list view:** Displays Task, Owner, Status, and Due Date.
        - **Calendar view:** Plots tasks by their deadlines.
        - **Kanban view:** Organizes tasks into Pending, In Progress, and Completed columns. Tasks are linked to discussions and system actions, such as pending approvals or follow-ups with vendors.
    - **3. Approvals Snapshot (Optional Integration):** Provides a quick view of all pending and completed approvals across the system. It allows filtering by type (Requests, Orders, Financial Approvals) and includes direct action buttons (Approve / Reject) for authorized roles.

In-details Main Page Sections – Vault

Purpose: The Vault functions as the central, automated repository for all supply chain documents and records. Its primary goal is to ensure traceability, transparency, and compliance by archiving every action within the workflow.

- **How It Works (Automation Flow):**
    - **1. Request Stage:** Upon creation of a request, its data and attachments (specifications, technical sheets) are automatically stored in the Vault.
    - **2. Quotation Stage:** When quotations are added, the related files (offers, vendor prices, comparison sheets) are automatically linked to the same request block.
    - **3. Order Stage:** Upon conversion to an order, the Purchase Order (PO), contracts, and vendor confirmations are stored as a continuation of the same block.
    - **4. Delivery & Inspection Stage:** Delivery notes, Goods Receipt Notes (GRNs), inspection reports, and Non-Conformance Reports (NCRs) are automatically added.

    - **5. Invoice & Payment Stage:** Vendor invoices, approvals, and payment confirmations are archived.
    - **6. Closure:** Once an order is fully received and closed, the block is sealed (no further edits), effectively acting as a mini-blockchain ledger for that specific transaction.

- **Components Inside the Vault:**

    - **Blocks of Records:** Each request/order lifecycle is stored in its own "block" with a complete chain of documents, creating an immutable audit trail (who/when/what).
    - **Search & Filter Tools:** Allows searching and filtering by Request ID, Order ID, Vendor, Date, and Department. Advanced filters include status (open/closed, paid/unpaid, rejected).
    - **Version Control:** Each updated file is stored with its history, preventing overwriting.
    - **Security & Access:** Implements role-based access control:
        - **Specialists:** Can upload and view documents.
        - **Managers/CEO:** Have full view access and approval capabilities.
        - Includes encryption and backup features.

Main Dashboard – Overview (Updated)

Purpose: The main page serves as the primary landing hub for the NCS system. From this central point, every user can easily access the various Rooms, the Lab, the Discussion Board & Tasks, and the Vault, while also gaining a quick snapshot of overall system performance.

- **Components on the Main Page:**
    - **1. Top Navigation Bar:** Includes the system logo and name (NABD Chain System – NCS), quick links to Profile, Notifications, Settings, and Logout, and a language toggle (Arabic/English).
    - **2. Side Menu (Main Sections):** Provides direct navigation to the core sections of the system:
        - **Rooms:** Requests, Orders, Inventory, Vendors, Reports.

    - **Lab:** (Big Board + Reports + Status).
    - **Discussion Board & Tasks.**
    - **Vault:** (Central Archive).
  - **3. Central Dashboard Widgets (Landing Snapshot):** Displays quick Key Performance Indicators (KPIs) and mini charts/graphs for an immediate overview:
    - **Quick KPIs:** Open requests count, pending orders, critical stock items, vendor performance index, pending approvals.
    - **Mini Charts/Graphs:** Spend trend this month, approval ratio, on-time vs. delayed orders.
  - **4. Tasks Preview:** A small panel showing tasks assigned to the user, their status (Pending / In Progress / Completed), and upcoming deadlines (calendar view). It includes a direct link to the full Discussion Board & Tasks page.
  - **5. Notifications Panel:** Provides alerts for important events such as approvals, low stock, delayed deliveries, and newly assigned tasks.