Functional Documentation – Product, BOM & Sales Order Flow

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Executive summary

The revised ERP flow begins with **Item Master** and **Product Master**, then branches into **SBOM** creation and **Sales Order** creation, which are independent of each other. **OBOM** sits at the intersection — it can only be created when both an SBOM and an SO exist for the same product.

Key updates:

- **SBOM has no With/Without Material types** — always contains the full component list.
- **Semi-finished items cannot be children of other semi-finished items** (no nesting).
- **Flow change:** SBOM and SO are independent; OBOM needs both.
- The rest of the procurement → production → delivery process remains unchanged.

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1. High-level flow

Item Master → Product Master → (SBOM & Sales Order in parallel) → OBOM → Procurement (PR → PO) → Receipt (GRN/SRN) → Production / Work Orders → Delivery / Invoice

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2. Key definitions (with updated terminology)

- **Item Master** – All stock/service/semi-finished items live here.
  - Semi-Finished flag — for assemblies needing their own SBOM.
  - Service flag — for non-stock/labour tasks.
  - Spare flag — for spare part identification (optional).
- **Product** – Sellable end item created in Product module.
- **Standard BOM (SBOM)** – Template recipe for a product or semi-finished item.
- **Ordered BOM (OBOM)** – Sales Order–specific copy of SBOM, editable for that order. Two types: With Material / Without Material.
- **Semi-Finished Item (SF)** – Assembly that exists only in Item Master (no Product record) but has its own SBOM. Can be used in another product's SBOM.
- **Nested SF** – SF item that has another SF item as a child in its SBOM.
- **Sales Order tags** (UI):
  - **product** — Finished product order.
  - **service** — Semi-finished item order.
  - **regular** — Spare part order (can be any item).

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3. Item Master — starting point

Rules:

- Semi-finished items are **not** created in Product Creation.
- Every semi-finished item must have its child items defined in its own SBOM.
- No SF-to-SF parent/child relationships allowed.
- All SF items are treated as service in SO tag logic.

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4. Product Creation

- Used for finished products only (tagged as product in SO).
- No components added here.
- Semi-finished items are not part of Product Creation flow; they live only in Item Master.

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5. Standard Bill of Materials (SBOM)

- Always treated as full BOM — no "With Material" / "Without Material" selection.
- Can include raw materials, service items, and SF items (but SF items cannot have SF children).
- Acts as the template BOM for production planning and OBOM generation.

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6. Sales Order (SO)

Line-level tags:

- **product** — Finished product order (linked to Product record).
- **service** — Semi-finished item order (linked to Item Master only).
- **regular** — Spare part order.

Behavior:

- For product tag → ERP links to product's SBOM.
- For service tag → ERP treats the item as a semi-finished assembly; production or stock allocation is triggered based on its SBOM.
- For regular tag → Spare part order, no production flow unless required.

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7. Ordered BOM (OBOM)

Definition:

An OBOM is a Sales Order–specific version of a product's Standard BOM, created to allow changes for a particular customer order while leaving the master SBOM unchanged.

Key Rules:

- **Prerequisite:** An OBOM can be created **only if** both:
    1. An SBOM exists for the product.
    2. A Sales Order exists for the same product.
- **Creation Process:** OBOM is generated by copying the SBOM linked to the Sales Order product, then edited as needed for that specific order.
- **Role in Workflow:** OBOM drives all procurement, production, and material planning for that Sales Order.

OBOM Variants and Display Rules:

OBOM – With Material

- Used when all components are physical items or service items ready for procurement/consumption.
- Semi-finished items are **excluded** from the OBOM display — only raw materials and service items are shown.

OBOM – Without Material

- Used when the order requires semi-finished items as part of the build.
- Semi-finished items **are included** in the OBOM display along with their child items.

Amendment / Revision Tracking:

- Any change to an OBOM or its linked Sales Order **from creation up to delivery** automatically generates:
    - A **Revision Number** (incremented for each update).
    - A **Revision Date** (date of the change).
- These details are recorded and stored in the system against the OBOM or SO.

- The system maintains a complete revision history, allowing tracking of **what changed**, **when it changed**, and **how many revisions** occurred.

Purpose:

To allow safe, order-specific edits without altering the Standard BOM while maintaining a full audit trail of all revisions. This ensures customer-specific flexibility, production accuracy, and change accountability.

Impact:

- Any OBOM changes affect procurement and production **only** for that order.
- SBOM remains unchanged for reuse in future orders.
- Revision tracking enables precise control over amendments and provides an audit history for quality and compliance.

8. Procurement & Production implications

- **With Material** → PR/PO created for raw/service items only; SF items hidden.
- **Without Material** → Procurement includes components for semi-finished items (via their child items).
- **Nested SF** → Procurement drills down through SF hierarchy until it reaches raw/service items.

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9. Benefits of updated logic

- **Clear separation** of products vs semi-finished assemblies vs spares.
- **Correct procurement planning** — avoids accidental purchase of assemblies instead of their components.
- **Better visibility** — without material SBOMs show the full breakdown including SF hierarchy.
- **Flexibility** — OBOM rules ensure correct display depending on BOM type.

10. Suggested Implementation Timeline

Phase	Task	Timeline
1	Finalize Item Master structure and flag rules	Day 1
2	Finalize Product Creation process	Day 2
3	Implement SBOM creation	Day 3 - 6
4	Implement SO tagging logic (product, service, regular)	Day 7 - 8
5	Implement OBOM display rules (With / Without Material logic)	Day 9–11
6	Internal QA & Testing	Day 12–14
7	UAT (User Acceptance Testing)	Day 15
8	Go-Live	Day 16

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11. Acknowledgment

Please review the proposed process flow and confirm agreement by email or by signing below.

Approved by:

Name : _____

Designation : _____

Signature : _____

Date : _____