Creation of a Production Order

Transfer the following verbal description into an EPC:

a) The manufacturing department creates a production order by converting a "Planned Order" (if available) using the "Production Planning and Control" (PP) system.

b) Alternatively, the production order is created manually. In this case basic data (scheduling data, production order header data, quantity data) is entered manually.

c) Thereafter the system tries to determine the routing automatically. If the routing already exists, then operation data (operation data and PRT) is transferred from the routing to the production order.

d) If the routing does not exist, then operation data is captured manually by the manufacturing department.

e) Thereafter the system automatically determines the BOM. If the BOM exists, the components are transferred to the production order. Otherwise, if BOM does not exists, the components are entered manually.

f) Alternatively, the components may be transferred from the planned order, if the BOM has not been determined. (The three possible cases regarding the BOM are mutually exclusive).

g) Once the components are entered, the manufacturing department reviews the production order data and afterwards the system schedules the production order. Finally, the production order is saved.

```
                                                                      ┌──────────┐
   ⬡ Production          ⬡ Planned order          ┌──┤ PP       │
   order to be           to be converted          │  └──────────┘
   created                    │                    │
   manually                   │         ┌────────────────┐
      │         ┌──────────┐  │         │  Manuf. Dept.  │
      │         │ Product  │  │         └────────────────┘
      │         │ data SOP ├──┤ Convert │
      │         └──────────┘  │ planned │
      │                       │ order to│
      │                       │production│
      │                       │ order   │
      │                       └────┬─────┘
     (∧)                            │
   ┌──┼──────────┬──────────┐       │
   │  │          │          │       │
┌──────────┐ ┌────────┐ ┌────────┐ ┌──────────┐
│ Product  │ │ Enter  │ │ Enter  │ │ Enter    │   ┌────────────┐ ┌──────────┐
│ data SOP ├─┤schedul-├─┤produc- ├─┤ quantity │───┤Manuf. Dept.│─┤ PP       │
│          │ │ing data│ │tion    │ │ data     │   └────────────┘ └──────────┘
└──────────┘ └────┬───┘ │order   │ └────┬─────┘
                  │     │header  │      │
                  │     │data    │      │
                  │     └────┬───┘      │
                  └──────┐   │   ┌──────┘
                        (∧)──┴───┘
                         │
                        (XOR)◄──────────┘
                         │
                   ⬡ Basic order
                   data is
                   created
                         │              ┌──────────┐
   ┌──────────┐   ┌─────────────┐       │ PP       │
   │Basic order│   │ Determine   ├───────┤          │
   │ data     ├──┤ routing     │       └──────────┘
   └──────────┘   └──────┬──────┘
                        (XOR)
          ┌──────────────┴──────────────┐
    ⬡ Routing does                ⬡ Routing exists
    not exist                            │
          │    ┌────────────┐            │       ┌──────────┐
          │    │Manuf. Dept.│ ┌──────┐   │       │ PP       │
   ┌────────┐ └────────────┘ │ PP   │ ┌────────┐ │          │
   │Operation│ ┌───────────┐ └──────┘ │Operation│ └──────────┘
   │ data   ├─┤Enter      ├──────────┤ data   ├─┤Transfer  │
   └────────┘ │operation  │          └────────┘ │operation │
              │data       │                     │data      │
              │manually   │                     └────┬─────┘
              └─────┬─────┘                          │
                    │                               (∧)
            ⬡ Operation data              ┌──────────┴──────────┐
            entered                   ⬡ PRT transferred   ⬡ Operation data
                    │                        │             transferred
                    │                        └──────┐   ┌──────┘
                    │                              (∧)──┴───┘
                    │                               │
                    └──────────────(XOR)◄───────────┘
                                    │
                                    │       ┌──────────┐
              ┌──────────────┐ ┌──────────┐ │ PP       │
              │Operation data│ │Determine ├─┤          │
              │Product data  ├─┤BOM       │ └──────────┘
              └──────────────┘ └────┬─────┘
                                    ▼
```

```
                              ┌─────────┐
                              │   XOR   │
                              └─────────┘

  ┌──────────────┐       ┌──────────────┐       ┌──────────────┐
  │ BOM does not │       │  BOM exists  │       │   BOM not    │
  │    exist     │       │              │       │  determined  │
  └──────────────┘       └──────────────┘       └──────────────┘
```

BOM does not exist

BOM exists

BOM not determined

Manuf. Dept.   PP

Product data SOP   Enter components manually

BOM data   Transfer components from BOM   PP

PP

Plan order data   Transfer components from planned order   PP

XOR

Components transferred/ entered

Manuf. Dept.   PP

Production order data   Review production order data

Production order data reviewed

PP

Production order data   Schedule production order

Production order is scheduled

Manuf. Dept.   PP

Production order data   Save production order

Production order created