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INCREASED WAREHOUSE EFFICIENCY USING JD EDWARDS PRE-PACKAGED BOXES FUNCTIONALITY

Abstract

With the rise of e-commerce and online shopping, customers expect their orders to be delivered quickly and accurately. Using pre-packed boxes can helps meet these expectations. This technique is now increasingly important in modern warehouse and retail operations due to growing demand. However, since many retail customers use JD Edwards as their ERP solution, they face difficulties in using the pre-packed functionality along with JD Edwards.
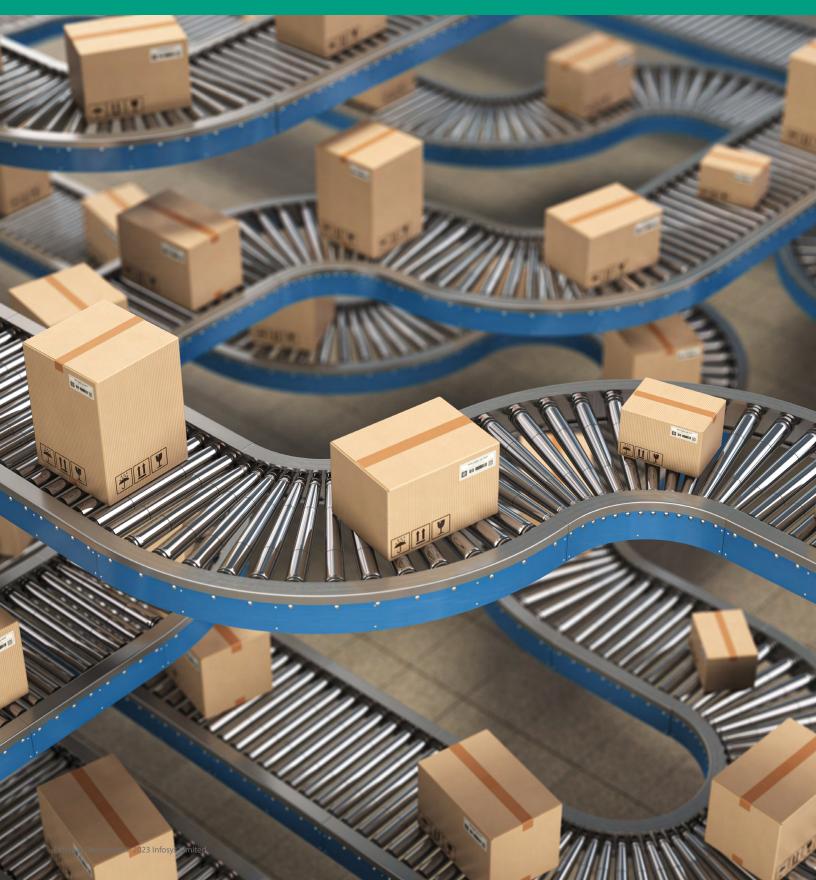
This paper examines how the solution can be integrated within JD Edwards system. It aims to guide IT professionals and business decision makers looking to implement pre-packaged box functionality for their customers, to accelerate business operations and revenue generation.
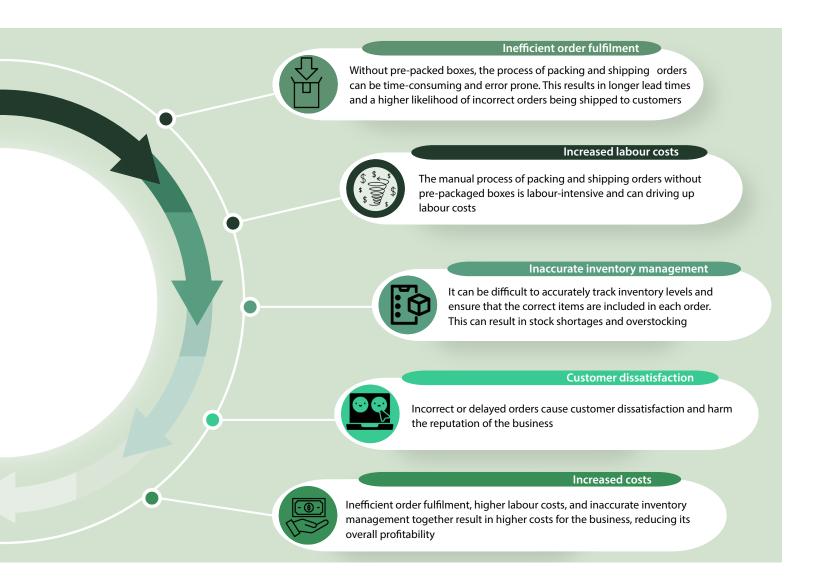
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Introduction

By enabling the pre-assembling boxes with a set of predetermined items, pre-packed boxes can help to streamline the process of packing and shipping orders, reducing the time and effort required to fulfil each order. This can help to increase the efficiency of warehouse operations and improve the accuracy of order fulfilment.

In addition, pre-packaged boxes can help optimize inventory management by ensuring that the correct items are included in each box and that inventory levels are accurate. This in turn reduces the risk of stock shortages and overstocking.

State of Warehouse Operations without Pre-packaged Boxes

Manufacturers and retailers that opt not to use pre-packaged boxes may continue to face the following problems in their operations:

Inefficient order fulfilment

Without pre-packed boxes, the process of packing and shipping orders can be time-consuming and error prone. This results in longer lead times and a higher likelihood of incorrect orders being shipped to customers

Increased labour costs

The manual process of packing and shipping orders without pre-packaged boxes is labour-intensive and can driving up labour costs

Inaccurate inventory management

It can be difficult to accurately track inventory levels and ensure that the correct items are included in each order. This can result in stock shortages and overstocking

Customer dissatisfaction

Incorrect or delayed orders cause customer dissatisfaction and harm the reputation of the business

Increased costs

Inefficient order fulfilment, higher labour costs, and inaccurate inventory management together result in higher costs for the business, reducing its overall profitability

Challenges of Using Pre-packaged Boxes with JD Edwards KIT Functionality

JD Edwards (JDE) provides a KIT functionality to handle pre-packaged boxes. But it comes with several challenges, limiting it usage from business point of view. These challenges are explained below:

- **Low Integration:** Nowadays, various tools are used for specialized functions like item creation, order pooling, warehouse management systems, reporting etc., along with the foundational ERP system. These tools are integrated with the ERP tool and must remain in sync. JDE standard KIT function has certain integration limitations as upstream/downstream systems do not recognize some JDE functions

- **Lack of Visibility for Customers:** Many customers want the details of purchased items from the vendors. They want information like quantity, components of pre-packaged box, prices etc. KIT functionalities are limited in providing such information to the end-customer

Pre-packaged boxes (PPB) Solution

PPB Structure

Technically PPB is a part of bill of materials (BOM) management along with child Stock keeping units (SKUs), as shown in Figure1. Sales orders are raised against the KIT SKU and exported to PPB and child SKUs when generating the sale order.

Logically, PPB is the parent of the child SKUs, which is how these pre-packaged boxes are created or received in the warehouse. PPBs are created on a fixed quantity of composite SKUs, based upon a discussion with customers and by analysing customer buying history patterns.

Figure 1: KIT and PPB structure

Once the customer's purchase order (PO) is received, a sales order is entered into the system on KIT SKU. This KIT is exploded during the order creation step to child SKUs. If system does not have sufficient PPB quantities, the user manually adds the SKU as an individual line item in the sales order to fulfil the order.

When the order enters the warehouse, the person responsible for it must collect, pack, and ship the PPB directly.

A Real-world Implementation for an Infosys Client

Infosys successfully implemented the PPB (Pre-Packaged Box) solution for a client which deals with greeting cards, gifts, ornaments, and gift wraps manufacturing and selling these to various retail outlets around the world. As they are into manufacturing and distribution, warehouse operations play a very critical role.

The conventional method required warehouse personnel to spend more time manually picking, packing, and shipping individual SKUs. However, with the implementation of the PPB solution, the process has been optimized. Warehouse staff can now create pre-packaged boxes, eliminating the need for multiple visits to pick SKUs and significantly saving time.

All inventory transactions such as warehouse processing and shipping confirmation occur on pre-packaged boxes (PPB). However, the customer is only interested in what they have ordered (the actual child SKUs) on reverse purchase order (RPO), advance shipping notice (ASN), and invoice reports.

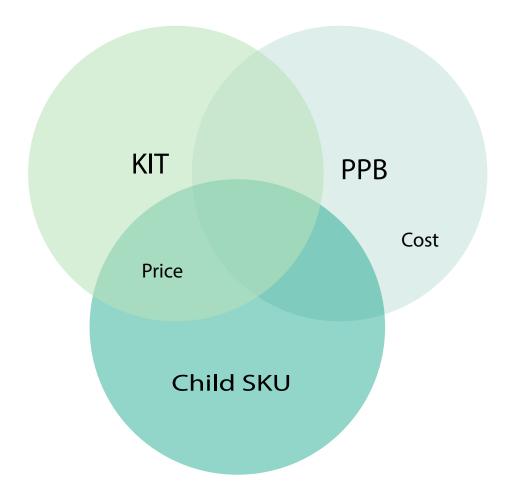To arrive at the price and cost of the PPB SKUs, Infosys performed a few steps.

Figure 2: How to define the price and cost for KIT, PPB and child SKUs

Since inventory movement will be tracked on the PPB SKU, cost is applicable for PPB SKUs only. Child SKUs are only visible to customers, so prices are applicable for child SKUs. The KIT can be assigned a price but has no cost.

When defining the BOM, Infosys changed line type of child SKUs to 'D' to avoid impacting inventory.

Sales order flow

- **Sales order Creation** – The creation of sales orders are initiated with a KIT SKU, which then trigger the expansion into PPB and its corresponding child SKUs

- **Warehouse operations** – Only the PPB SKU will be brought into the warehouse, thereby including operations such as picking, packing, and shipping on the PPB SKU. The Infosys solution bypasses the warehouse operations for KIT and child SKUs using status bumps

- **Order acknowledgement and RPOs** – Since the customer is only familiar with the actual SKU (PPB's child), the extracted RPO sent to the customer will contain only the child SKUs

- **Advance ship notice (ASN)** – To align with customer familiarity, only the child SKUs will be included in the ASN extract

- **Ship confirmation** – By tracking the inventory using the PPB SKU, the process of ship confirmation is carried out of these PPB SKUs

- **Invoicing**– Invoices are generated at both PPB and child SKU level. Once customers receive the boxes, they will know the contents and thus allowing for improved visibility of the items being sold

- **Sales update** – In the sales update, the inventory/ cost of goods sold is tracked at the PPB level. Revenue is tracked at the child SKU level for more precise financial tracking and reporting
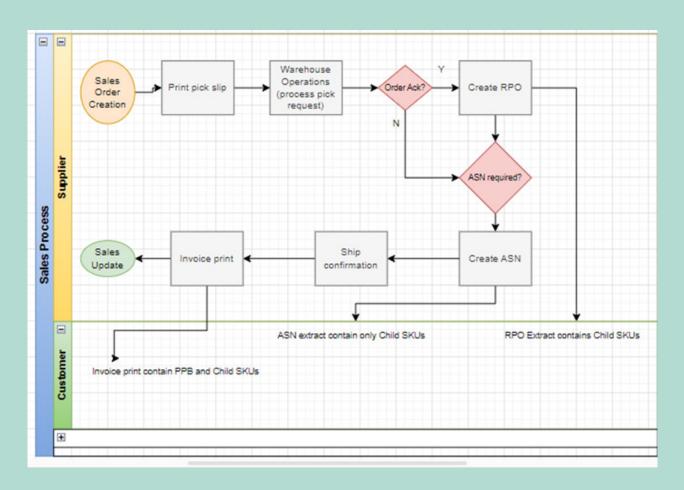
Figure 3: The sales order flow with PPB implementation

Business Benefits

Improved inventory visibility

With the previous solution used by client, it was hard to track item sales as sales were recorded at the module level but not on the child item level. After implementing the PPB solution, the PPB orders are exploded on sales order generation step and, thus, sales are recorded on child item level, thereby increasing the overall visibility. Further, the customer can, now receive invoice prints with PPB items and the child items shipped under each PPB

Warehouse efficiency

The solution ensured optimal warehouse efficiency levels as the inventory is still maintained at the PPB level. The warehouse teams pick and ship orders at PPB level while the backend teams track these at the child level

Improved customer communication

Detailed information of PPBs such as components quantity, price, etc. can be shared with end customers. This improves customer reporting and revenue collection

Better financial reporting

Revenue can now be posted in finance on the child level. This will improve financial reporting by providing more detailed and accurate information about the financial performance of individual products. It also provides valuable information for decision-making in budgeting. It helps identify trends and patterns in sales, enabling proactive measures to maximise revenue

Conclusion

Customer demand for fast and accurate deliveries call for efficient warehouse operations. Many organizations use the JD Edwards ERP solution, but face difficulties in integrating PPB solutions with it. Infosys has designed an approach that helps organizations effectively deploy PPB solutions for their warehouse operations. It streamlines sales order flow by incorporating PPB child SKUs and calculates price and cost accordingly. It also reveals to the customers only the most relevant information about their order. The use of the right pre-packaged box (PPB) solution is proven to accelerate order fulfilment, increase accuracy, and reduce time and effort.

About the Author

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