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How To Implement Data Synchronization

In a previous newsletter I described why Data Synchronization will never work. The fundamental point was that the use of the GTIN or UPC for multiple purposes has led to conflicting requirements that cannot be satisfied by a single value. The use of the UPC to identify logistics containers, index POS prices, identify PO and Invoice line items, manage replenishment and shelf allocation applications, and act as a link to POS Coupon Discounts is asking too much.

The retail store is where the conflicts between these various roles become apparent, so the primary obstacle to implementing Data Synchronization becomes the capabilities of the retailer's internal applications. The retailer's applications must be able to handle the complicated relationships that go beyond the simple UPC or GTIN.

Logistics Units vs Selling Units

The difference between Logistics Units and Selling Units is the first distinction that must be understood by retailers. Logistics Units are what may be ordered from a supplier and received at a retailer location. They include single units for categories like HABA or Spices, pallets for items like stone and detergents, and primal and sub-primal meat cuts or bulk containers for Meat or Deli Categories. Logistics Units are normally identified by a GTIN assigned by the manufacturer. For random weight or high value units that must be tracked by instance a Serialized Shipping Container Code (SSCC) may be used to assign a serial number to each unit. Logistics Units are good candidates for Data Synchronization.

Selling Units are one of the types of things referenced by the store POS systems. Selling units have traditionally been tracked by type, but the talk of item level RFID will put a unique identifier on each instance of an item. Type of selling unit might be a 16 oz can of brand X peas. Individual instance tracking requires a serial number on each can of peas. Selling Units are identified by POS Pointers. The POS Pointer may be the GTIN of the Logistics Unit if the Selling Unit comes from a Logistics Unit. Some Selling Units are produced in the store. Store produced Selling Units come out of departments like Meat, Deli, and Bakery. The identifiers for these items may come from industry standards groups such PEIB or URMIS, or may even be assigned by store personnel. Locally assigned POS Pointers are not confined to supermarkets. Variable measure items such as chain, rope, or linear feet of wood are sold in hard goods stores.

By separating the logistics data, which can be provided by the supplier, from the selling data, which requires information from other sources, Data Synchronization begins to become feasible.

But there are other things that must exist in a retailer's applications to make data synchronization viable.

Unit vs Item

Units are identified by UPC's and GTIN's and have precise physical characteristics. Items are really a generic term for all the units that meet a customer need. Thus a "Can of Coffee" has gone through several changes in size (from one pound to eleven ounces) but is still the same "Item" from a merchandising perspective. Many of the attributes retailers at first associate with units must be linked to the Item. This is one obvious example of the next point.

Logistics Unit and Selling Unit Associations

Since the manufacturer UPC or GTIN references the physical unit, very small changes in attributes like net weight result in a new Logistics or Selling Unit. This level of precision is often unnecessary for a particular item process which must consider all the units as the same "item" from an application perspective.

Unit associations capture the relationship between various units. On the Logistics Side, this is focused on ordering, replenishment forecasts, and costing. On the Selling Side, associations link units that should have the

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same retail, are merchandised together, or are combined in the stock ledger.

There may be attributes or accumulators that apply to an association. A price point association that links all the flavors of an item carries the retail effective dates and values. A replenishment association that links all the units that are equivalent for replenishment purposes will have aggregated inventory and forecasts. Merchandising associations that link all the units which should be displayed in the same shelf space will identify the planogram location. Advertised items are the association of all the units that qualify for a promotion (coke cans, jello all flavors, etc.) (This is very similar to the Family Codes that associate UPC's for coupon redemption.)

Dynamic PO Costs

Probably the most frequent discrepancy in invoice matching is cost. This is because the final cost is often the result of delivery specific characteristics ranging from the effective date for the costs to various quantity dependent bracket costs, performance allowances, and deals.

To reduce the cost discrepancies, the retailer's PO application must be able to handle various types of discounts and the receiving application must be able to adjust the stock ledger entries when actual delivery characteristics vary from the PO. Thus a PO generated for pickup must be adjusted to delivered costs if the retailer asks the supplier at the last minute to make the delivery. A PO based on LTL costs must be adjusted if a full truck load is received.

The retailer PO Cost files must be able to hold bracket costs for various purchase quantities.

The PO cost performance allowances must be capable of handling both per case dollar amounts and percentages off of cost. These allowances have frequently become part of a business practice called "menu pricing" by which the manufacturer offers retailers additional discounts for things like pre-assigned delivery schedules, electronic payments, or full pallet rounding. For percentage based allowances the retailer must support some kind of sequencing that determines the cost basis for the allowance amount. While all allowances must be captured, only certain ones may apply on a particular transaction. The retailer may not qualify for certain allowances or they may decide to handle a particular delivery differently. By having all allowances on record the retailer can do analysis to decide if it is worth developing capabilities that would make earning an allowance worthwhile.

The retailer must handle discounts that are temporary price reductions based on amount or percentage. Discounts have start and end dates based on order, ship, or receipt date. The retailer has to decide which discounts they want to earn and plan their replenishment activities to take advantage. PO discounts are often being replaced by Bill-Back discounts based on scanning data. Purchasing discounts are still popular in some business relationships and are particularly popular with manufacturers of seasonal merchandise who want to encourage early season buying to reduce their own pre-season warehouse requirements.

For all the costs, allowances, and discounts the retailer must be able to return the manufacturer's identifying codes. By returning the manufacturer's ID for a price list, allowance code, or deal sheet, the retailer "closes the loop" on PO Cost attributes so that questions can be resolved without phone calls between parties.

Resolving Timing Issues

Unit changes flow through both the supplier and the retailer supply chains. This means that when they change there is a period of time while multiple units exist. Retailer applications must be able to recognize when a change is pending and put it into effect when it occurs. Both suppliers and retailers must be able to implement "strict rotation" on inventory so once new units go out they don't revert back.

By developing retailer applications that can meet these minimal requirements: Logistics vs Selling Units; Unit vs Item; Unit Associations, Dynamic PO Cost Determination, and Timing Reconcilliation, Data Synchronization can be a success.

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