SAP Pricing at Hu-Friedy

Wayne Clark
Gina Cowart
Hu-Friedy Mfg. Co. Inc.
Hu-Friedy Mfg. Co. Inc.

- Global leader in the dental industry for over 102 years
- Develops products based on Master Clinician requirements
- Collaborates with clinicians, schools, and leading educators to provide the best and most innovative instrument designs
- Manufacture over 8,000 unique instruments for sale
- Distribution centers in USA, China, & Europe
- SAP Data:
  - Version 4.7
  - SAP Modules: SD, MM, PP, QM, FI, CO, WM, HR
  - SAP BW
  - SAP Users: 350
Hu-Friedy Mfg. Co. Inc.

- Strong & durable instruments that last
- Proven, experienced brand that customers trust
- Tradition of high quality instruments
- Consistent reliability
Hu-Friedy Mfg. Co. Inc.

IMS™ System

Sidekick™ Sharpener

Colorvue® Probes

Swivel Direct Flow™ Ultrasonic Inserts

EverEdge ® Scalers/Curettes
We are an SAP Service Partner and Value Added SAP reseller. We are headquarterd in Chicago, and with satellite offices in New York City, Cleveland, Washington DC, and Austin.

Our team of over 85 full-time SAP professionals and our extended pool of hundreds of known contract consultants bring a proven record of success in over 75 SAP projects in the U.S., Canada, Europe and Mexico.

Our consulting professionals are truly Business People who know SAP that bring the right combination of Industry and SAP expertise for your SAP needs.
Learning Points

- Pricing Structure in SAP
- How to control manual pricing
- How to manage Free Goods
Best Practices

- Standard Free Goods Configuration
- Profit Margin / Margin %
- Use of Requirements / Pricing formulas to enhance SAP pricing conditions
### Pricing Challenges

- Too many price lists to maintain
- Inability to determine how price was determined from year to year
- Visibility of Free Goods Value
- Control of Manual pricing
- Visibility of discount with Manual pricing
- Visibility of margin / margin percent within SD documents
Pricing Basics

- SAP uses the Condition Technique in many areas of SD such as Pricing, Text and Partner Determination. The following slides represent how pricing uses the Condition Technique. The Pricing Condition Technique is made up of the following building blocks:
  - Pricing Procedure
  - Condition Types
  - Access Sequences
  - Fields
  - Condition Records
  - Condition Tables
Pricing Basics

- Pricing Procedure is a group of condition types in a particular sequence.
Pricing Basics

- Pricing Procedure is determined by the following:

$$\text{Sales Org.} + \text{Dist. Channel} + \text{Division} + \text{Document Pricing Procedure} + \text{Customer Pricing Procedure} = \text{Pricing Procedure Assigned}$$
Pricing Basics

- Document Pricing Procedure is assigned in Configuration (VOV8) by SD Document Type
Pricing Basics

- Customer Pricing Procedure is assigned in Master Data (VD02) Customer sales area
Pricing Basics

- Pricing Procedure is assigned in Configuration (OVKK)
**Pricing Basics**

- Condition Type – Represents different pricing components. For example, different condition types can be defined for prices, discount or surcharges. A Condition type can be linked to an Access Sequence, which will be explained on the next slide.
Pricing Basics

- **Access Sequence** – Access Sequence is a combination of Condition Tables in a logical order which is used to obtain a condition record. Access Sequences are assigned to Condition Types. An access sequence is a search method which SAP uses to find valid pricing records for a given condition type. It determines the sequence, access number in which the system searches for data. The access sequence consists of one or more condition tables. This sequence determines which condition records have priority over others. The Exclusive Indicator controls whether the system stops searching for a record after the first successful access record found.
Pricing Basics

- **Condition Table** – The condition table defines which fields are used in the pricing condition record.
  - The example below shows that for MATNR table 905 will use PMATN which is the pricing reference material.

<table>
<thead>
<tr>
<th>Condition</th>
<th>I/O</th>
<th>Doc.struc.</th>
<th>Doc.field</th>
<th>Long field label</th>
</tr>
</thead>
<tbody>
<tr>
<td>VKORG</td>
<td>↓</td>
<td>KOMK</td>
<td>VKORG</td>
<td>Sales Organization</td>
</tr>
<tr>
<td>KUNNR</td>
<td>↓</td>
<td>KOMK</td>
<td>KUNNR</td>
<td>Sold-to party</td>
</tr>
<tr>
<td>MATNR</td>
<td>↓</td>
<td>KOMP</td>
<td>PMATN</td>
<td>Pricing ref.material</td>
</tr>
</tbody>
</table>

- To define the pricing material field select MATNR line then click the field catalog icon.
Pricing Basics

- EXAMPLE of how SAP Pricing Condition Technique comes together. Given the above definitions, the following is an example of how SAP uses the various pricing components to find a Pricing Record:
  1. Sales Area = Sales Org / Distribution Channel / Division

<table>
<thead>
<tr>
<th>Sales area</th>
<th>1000 / 01 / 00</th>
<th>HF Chicago, Dealers, Hu-Friedy</th>
</tr>
</thead>
</table>

  2. Order Type ZOR is assigned to Document Pricing Procedure: A
  3. Customer 69700000 is assigned to Customer Pricing Procedure: I

Based on the three entries above ZVHFUS pricing procedure is determined:

<table>
<thead>
<tr>
<th>SOrg.</th>
<th>DChl</th>
<th>Dv</th>
<th>DoPr</th>
<th>Cu...</th>
<th>PriPr.</th>
<th>Pricing procedure</th>
</tr>
</thead>
<tbody>
<tr>
<td>1000</td>
<td>01</td>
<td>00</td>
<td>A</td>
<td>1</td>
<td></td>
<td>ZVHFUS HF Standard Orders</td>
</tr>
</tbody>
</table>
Pricing Basics

EXAMPLE (cont.) How was ZPR0 price determined?

A. ZPR0 condition type uses access sequence ZPR0

Display View "Conditions: Condition Types": Details
Pricing Basics

EXAMPLE (cont.) How was ZPR0 price determined?

B. ZPR0 access sequence uses the following condition tables.

<table>
<thead>
<tr>
<th>Access sequence</th>
<th>ZPR0 Price list</th>
</tr>
</thead>
<tbody>
<tr>
<td>Action Tab Description</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>905</td>
</tr>
<tr>
<td>20</td>
<td>980</td>
</tr>
<tr>
<td>35</td>
<td>949</td>
</tr>
</tbody>
</table>

C. To determine which condition table was found during the order process, there are two methods

1. In the sales order Item Data Conditions Tab, select the condition (ZPR0) then click the Condition rec. icon near the bottom of the screen.
Pricing Basics

EXAMPLE (cont.) How was ZPR0 price determined?

- ZPR0 was found by Sales Org / Price List / Pricing Reference Material (Table 906)

- Within this screen you can view the pricing history of by clicking on the Validity Periods icon (see next slide)
Pricing Basics

- EXAMPLE (cont.) How was ZPR0 price determined?

- Validity Period History

*Display Price list price Condition (ZPR0) : Validity Periods*

<table>
<thead>
<tr>
<th>Sales_org.</th>
<th>Price List Material</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1000</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Current condition**
- Valid on: 12/07/2009
- Valid to: 12/31/9999
- Amount: 23.85 USD per 1 EA

**Existing validity periods**

<table>
<thead>
<tr>
<th>Valid on</th>
<th>Valid to</th>
<th>C</th>
<th>Amount</th>
<th>Unit</th>
<th>per</th>
<th>U...</th>
<th>DeletionID</th>
</tr>
</thead>
<tbody>
<tr>
<td>01/01/2005</td>
<td>12/31/2005</td>
<td>C</td>
<td>29.30</td>
<td>USD</td>
<td>1 EA</td>
<td></td>
<td></td>
</tr>
<tr>
<td>01/01/2006</td>
<td>12/04/2006</td>
<td>C</td>
<td>21.75</td>
<td>USD</td>
<td>1 EA</td>
<td></td>
<td></td>
</tr>
<tr>
<td>12/05/2006</td>
<td>12/02/2007</td>
<td>C</td>
<td>22.65</td>
<td>USD</td>
<td>1 EA</td>
<td></td>
<td></td>
</tr>
<tr>
<td>12/03/2007</td>
<td>11/30/2008</td>
<td>C</td>
<td>23.35</td>
<td>USD</td>
<td>1 EA</td>
<td></td>
<td></td>
</tr>
<tr>
<td>12/01/2008</td>
<td>12/06/2009</td>
<td>C</td>
<td>23.85</td>
<td>USD</td>
<td>1 EA</td>
<td></td>
<td></td>
</tr>
<tr>
<td>12/07/2009</td>
<td>12/31/9999</td>
<td>C</td>
<td>23.85</td>
<td>USD</td>
<td>1 EA</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Pricing Basics

EXAMPLE (cont.) How was ZPR0 price determined?

2. The second way to determine how a price was found is to es order Item Data Conditions Tab, click the Analysis icon near the bottom of the screen
EXAMPLE (cont.) How was ZPR0 price determined?

2. In the sales order Item Data Conditions Tab, click the icon near the bottom of the screen.
Pricing Challenges – Solutions Implemented

- **Issue:** Price List Maintenance

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Z1</td>
<td>WHOLESALE</td>
</tr>
<tr>
<td>Z2</td>
<td>SCHOOL</td>
</tr>
<tr>
<td>Z3</td>
<td>GOVT</td>
</tr>
<tr>
<td>Z4</td>
<td>INT DEALER</td>
</tr>
<tr>
<td>Z5</td>
<td>EXPORT</td>
</tr>
<tr>
<td>Z6</td>
<td>HFE XFER</td>
</tr>
<tr>
<td>Z7</td>
<td>BRSL XFER</td>
</tr>
<tr>
<td>Z8</td>
<td>CHINA XFER</td>
</tr>
<tr>
<td>ZX</td>
<td>HUSAVE-2</td>
</tr>
<tr>
<td>ZY</td>
<td>HU-SAVE</td>
</tr>
<tr>
<td>ZZ</td>
<td>RESIDENT SETUP</td>
</tr>
</tbody>
</table>

- **Goal:** Eliminate International Dealer and Export Price Lists. Reassigned customers from their current International / Export Price Lists to the Wholesale Price List. Discounts off Wholesale price will be used instead of separate price lists.
Pricing Challenges – Solutions Implemented

- **Issue:** Price List Maintenance
  - **Challenge:** Agreeing on a common discount structure. Because of the international market challenges, International / Export Customers had a unique price for each material, which causes a lot of pricing master data maintenance.

- **Solution:**
  1. Create new Condition Type ZDS4 Discount condition by product line (Product Hierarchy)
Pricing Challenges – Solutions Implemented

- Issue: Price List Maintenance
  - Solution: Discount from Wholesale

  2. Create new Access Sequence with new tables which include product hierarchy fields

NOTE: After assigning the tables to the access sequence ZDS3, the fields must be defined by first selecting the Table. Next double click on the Fields folder to the left of the screen. Then in “Change View “Fields”: Overview screen, select the field and click on the field catalog icon near the bottom of the screen. Some fields are already defined by default. In this case the Product Hierarchy Levels must be defined.
Pricing Challenges – Solutions Implemented

- **Issue:** Price List Maintenance
  - **Solution:** Discount from Wholesale

2. Assign Product Hierarchy Fields

- **Access:** ZDS3
- **Table:** 969

<table>
<thead>
<tr>
<th>Condition</th>
<th>I/O</th>
<th>Doc.struc.</th>
<th>Doc.field</th>
<th>Long field label</th>
</tr>
</thead>
<tbody>
<tr>
<td>VKORG</td>
<td>▲</td>
<td>K0MK</td>
<td>VKORG</td>
<td>Sales Organization</td>
</tr>
<tr>
<td>VTWEG</td>
<td>▲</td>
<td>K0MK</td>
<td>VTWEG</td>
<td>Distribution Channel</td>
</tr>
<tr>
<td>KUNNR</td>
<td>▲</td>
<td>K0MK</td>
<td>KUNNR</td>
<td>Sold-to party</td>
</tr>
<tr>
<td>KOND1</td>
<td>▲</td>
<td>K0MP</td>
<td>KOND1</td>
<td>Material pricing grp</td>
</tr>
<tr>
<td>PRODH1</td>
<td>▲</td>
<td>K0MP</td>
<td>PRODH1</td>
<td>Main group</td>
</tr>
<tr>
<td>PRODH2</td>
<td>▲</td>
<td>K0MP</td>
<td>PRODH2</td>
<td>Group</td>
</tr>
<tr>
<td>PRODH3</td>
<td>▲</td>
<td>K0MP</td>
<td>PRODH3</td>
<td>Subgroup</td>
</tr>
</tbody>
</table>

Select the Condition Field then click on the Field Catalog icon

Display View "Fields": Overview

<table>
<thead>
<tr>
<th>Table Name</th>
<th>Short Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>PRODH1</td>
<td>Standard data element PRODH1</td>
</tr>
<tr>
<td>PRODH2</td>
<td>Standard data element PRODH2</td>
</tr>
<tr>
<td>PRODH3</td>
<td>Standard data element PRODH3</td>
</tr>
</tbody>
</table>
Pricing Challenges – Solutions Implemented

- Issue: Price List Maintenance
  - Solution: Discount from Wholesale
    3. Assign Access Sequence to Condition Type
Pricing Challenges – Solutions Implemented

- **Issue:** Price List Maintenance
  - **Solution:** Discount from Wholesale
  4. Assign Condition Type to CoPa (Tcode KE41)

Assignments are necessary to keep CoPa reporting in line with the Financial Posting.
Pricing Challenges – Solutions Implemented

Issue: Price List Maintenance
- Solution: Discount from Wholesale
  5. Review / Change Master Data

- Change all International Dealer and Export customers to Wholesale Price List (Z1).
  - Can use table KNVV where Sales Org = 1000, Dist Chnl = 04 to get a list of customers.
- Review all current discounts for Distribution Channel = 04 (International).
  - Need to decide if these discounts will be in addition to ZDS4. If not the validity date should be changed to expire the price.
Pricing Challenges – Solutions Implemented

- Issue: Visibility of Free Goods Value
  - Free Goods Item categories were set up with Pricing setting of ‘ ‘ – No Pricing, which removed price when added to the sales order and gave the line a zero value.

- Goal: Visibility by posting free goods value (defined as the customers price) to G/L for reporting purposes.
### Pricing Challenges – Solutions Implemented

**Issue: Visibility of Free Goods Value**
- **Solution:** Use SAP Free Goods (100% Discount) functionality

1. **Change Free Goods Item Categories**

   Hu-Friedy has three item categories for free goods: TANN, ZANN, ZTKF. Change the Carry Out Pricing option to B – Pricing for free goods (100% discount) in the item category detail configuration screen.

---

**Before change:**

![Display View "Maintain Item Categories": Details](image)
Pricing Challenges – Solutions Implemented

- **Issue: Visibility of Free Goods Value**
  - **Solution:** Use SAP Free Goods (100% Discount) functionality

2. Pricing Procedure – R100 pricing condition added to pricing procedure. Note that R100 condition line in the procedure has Requirement = 55, which sets R100 to only those items whose item category is marked as B (Free Goods 100% Discount). Condition base value formula '28' is assigned to condition type R100 in the pricing procedure to apply the 100% discount rate as well as removes for Proforma invoice by document category.
Pricing Challenges – Solutions Implemented

- Issue: Visibility of Free Goods Value
  - Solution: Use SAP Free Goods (100% Discount) functionality

3. Account Assignment for Free Goods Value (R100) – Hu-Friedy wanted to assign the free goods value to a specific G/L account. The following steps reveal how this was accomplished.
   a. Create New Account Key – ZRS
   b. Assign Account Key ZRS to Hu-Friedy's pricing procedure for condition R100
Pricing Challenges – Solutions Implemented

- Issue: Visibility of Free Goods Value
  - Solution: Use SAP Free Goods (100% Discount) functionality

3. Cont.
   c. Assign G/L Accounts. Free Goods Discount G/L assignment is dependent on Sales org/ Customer Account Assignment Group. Table 002 will be updated.
Pricing Challenges – Solutions Implemented

- **Issue: Visibility of Free Goods Value**
  - **Solution:** Use SAP Free Goods (100% Discount) functionality

After Change:

![Create Standard Order: Item Data](image-url)

- **CnTy**
- **Name**
  - Price list price
  - Gross price -before
  - Total discounts
  - Rounding Difference
  - Net value
  - Price
  - 100% discount

- **Amount:**
  - 94.25 USD
  - 0.00%

- **Cry:**
  - USD

- **per:**
  - 1 EA

- **U:**
  - 1 EA

- **Condition value:**
  - 94.25 USD

- **Curr.:**
  - USD
Pricing Challenges – Solutions Implemented

- **Issue:** No Visibility of discount with Manual pricing
  - Manual pricing conditions ZFIX, ZORD, and ZCSM previously overrode the customer default price due to their position in the pricing procedure.

- **GOAL:** Calculate price “discount” given to customer when order item is manually priced. For example:
  - ZPR0 = $94.25
  - ZFIX = $80.00 (manually entered by customer service)

  $14.25 - calculated discount
Pricing Challenges – Solutions Implemented

- **Issue:** No Visibility of discount with Manual pricing
  - **Solution:** Create statistical condition – calculates the difference between automatic and manual price:

*Display View "Conditions: Condition Types": Details*
Pricing Challenges – Solutions Implemented

**Issue: No Visibility of discount with Manual pricing**

2. Assign ZPOD to pricing procedure

During the Assignment, the following fields should be populated accordingly:

- **Statistical** – mark as statistical so price doesn’t affect customer account
- **Requirement** – Assign 911 as described on next slide
- **Alternative calculation type** – Assign 974 as described on next slide

![Procedure Table](image)
Pricing Challenges – Solutions Implemented

- **Issue:** No Visibility of discount with Manual pricing

  3. **Requirement Formula 911 (assigned to ZPOD condition)**
     Define in VOFM > Requirements > Pricing
     Code checks
     - If ZPR0 is not equal to zero
       - Then if ZFIX, ZORD, ZCSM is active (note only one can be active at a time)

  4. **Alternative calculation type 974 (assigned to ZPOD condition)**
     Define in VOFM > Formulas > Condition Value
     Code calculates difference between Gross Price and Net price
Pricing Challenges – Solutions Implemented

- **Issue:** Little control of Manual pricing
  - **Issue:** Users were able to manually change ZPR0 which Hu-Friedy defines as the Customer Default Pricing. Allowing changes eliminated the capability to capture the difference between the default price and the new actual price. Without restricting ZPR0, our new ZPOD (price discount calculation) condition would be less effective.
Pricing Challenges – Solutions Implemented

- **Solution:** Remove change capability for ZPR0.
  - When users must change the price they will use ZFIX instead of overriding the customer default price.
  - To restrict ZPR0 from changes, in the condition detail screen:

```
<table>
<thead>
<tr>
<th>Manual entries</th>
<th>D</th>
<th>Not possible to process manually</th>
</tr>
</thead>
<tbody>
<tr>
<td>Header condition</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Item condition</td>
<td></td>
<td>Delete</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Value</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Calculat.type</td>
</tr>
</tbody>
</table>
```
Pricing Challenges – Solutions Implemented

- **Issue:** No Visibility of margin / margin percent within SD documents
  - **Solution:** Implement Margin and Margin Percent calculations in Hu-Friedy’s pricing procedure using Standard SAP Alternate Condition Type formulas:
    1. Added two lines to Hu-Friedy’s pricing procedure below the Cost line
Pricing Challenges – Solutions Implemented

- **Issue:** No Visibility of margin / margin percent within SD documents

  2. Assign SAP Alternate Condition Type formula 11 to the Profit Margin line, which calculates the Profit Margin Value.

     Net Value - Cost

  3. Assign SAP Alternate Condition Type formula 18 to the Profit Margin % line, which calculates the Profit Margin Percent.

     \[((\text{Net Value} - \text{Cost}) / \text{Net Value}) \times 100\]

     In the example below

     Net Value = $80.00
     Cost = $48.04

     Profit Margin $31.96 = $80.00 - $48.04
     Profit Margin % 39.95 = (($80.00 - $48.04) / $80.00) \times 100
Key Learnings

- Basic Understanding of SAP Pricing Condition Technique
- More controls for manual pricing
- How to implement 100% Discount for Free Goods items
Thank you for participating.

Please remember to complete and return your evaluation form following this session.

For ongoing education on this area of focus, visit the Year-Round Community page at www.asug.com/yrc