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White Paper

Dynamics NAV / Navision

Inventory Costing – Repair and Restoration

Now you can use NAV for Inventory Costing as it was meant to be used

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Accurate Inventory Costing

A recent survey of Dynamics NAV / Navision users turned up these results:

Does your Navision system give you accurate Inventory Costing?	
Yes, works perfectly	15%
Use it, but make manual G/L adjustments	70%
No, went out of balance and gave up	15%

The survey shows that only 1 out of approximately 8 companies are getting the benefits of Inventory Costing. Our experience shows that there are several major reasons the other 85% of users are not.

- Navision was implemented many years ago when Inventory Costing did not work as desired. Errors crept into Inventory Valuation and there was no way to correct them.
- In earlier versions, before the Inventory Period feature was released, the Adjust Costs process posted cost adjustments to closed Accounting Periods. To circumvent this unwanted activity this process was not used and manual adjustments were posted to G/L instead.
- Navision was implemented without using the Adjust Costs process. Then when it was time to implement this process it wanted to post unwanted transactions to G/L changing balances in historical periods and so this process was never implemented.
- An incomplete Navision upgrade made it impossible to run the Adjust Costs process without errors.
- Some Items were found that had zero quantity but a value attached, either positive or negative, and users switched to Excel because of loss of confidence along with accurate values.
- The Adjust Costs process began to post large Rounding transactions and users switched to Excel because of loss of confidence along with accurate values.
- Inventory Costing simply could not be understood, because there was no one capable of training the users and/or no one remaining in the company who was trained.

Dynamics NAV is a fully functional Inventory Costing system. All of these reasons can be handled to get the full benefit of accurate and balanced Inventory value. This takes three components, (1) a partner who understands Dynamics NAV Inventory Costing (2) a resource in your company who can be trained on maintaining Dynamics NAV Inventory and (3) the Dynamics West Cost Repair and Restoration Tool.

The Way Dynamics NAV / Navision Should Work

The Item Card offers 5 costing methods, FIFO, LIFO, Average, Standard and Specific. Any one Item can be assigned any one of these costing methods. Typically FIFO and Average costing are used for Items that are bought and sold and Standard costing is used for manufactured Items. This White Paper focuses on Average, FIFO and LIFO costing because these are where users have had the most difficulty.

Costs enter the system when an Item is Purchased, Manufactured or “Positively Adjusted” through the Item Journal. There are two ledgers that record Inventory Transactions. (1) The Item Ledger Entry table records changes in Inventory quantities. (2) The Value Entry table records changes in Inventory values.

There are several ways to post Inventory quantity and value.

- The Purchase and Sales Documents provide the facility not only for Actual Cost, but for Expected Cost. If the Expected Cost feature is in use, the estimated cost of an Item is posted based on historical cost when the Receipt or Shipment is posted, and the actual cost of the Item is posted when the Purchase or Sales Invoice is posted.
- The BOM Journal provides the facility for summing the collective cost of the Items and Resources in a Kit BOM and posting the BOM Item into Inventory at the total value of its Components.
- The Production Order provides the facility for moving the value of Production BOM Components into a WIP account, then posting the actual value of an Item, including variable Labor and Manufacturing costs, into Inventory when the Production Order is changed to Finished status.
- The Inventory Journal provides the facility of a one line Purchase, Sale, Positive or Negative Adjustment into or out of Inventory with the specified cost.

Inventory value is increased by the exact amount of each positive Inventory transaction. Then the Average, FIFO and LIFO costing methods come into play when a negative Inventory transaction is created.

- For FIFO costing, the exact amount of the Inventory being removed is applied to the negative transaction, whether it consists of a part of a single entry or a combination of multiple entries.
- For Average Costing, the value of all positive, open quantities of the Item in Inventory is averaged and applied to the negative transaction.

At the heart of the Inventory Costing module is the “Adjust Costs – Item Entries” process. Simply put, what this process does is to ensure “Supply”, meaning Inventory increases, is matched exactly with “Demand”, meaning Inventory decreases, especially after the fact of an application of Supply to Demand. This provides for situations such as where an Item is received into Inventory with an Expected Cost (or no cost) and sold before a cost is assigned by posting the Purchase Invoice. In this case, without the Adjust Costs process, the Cost of Goods Sold would be incorrect.

As an example, there is a field on the Sales Line for Unit Cost. This is normally filled in when the Item No. is validated but, if there is no cost yet available for an Item, it may be entered manually. If a mistake is made and an item is listed at a cost of \$100 instead of \$1, and the Sales Order is posted with this cost, the Adjust Costs process will create a corrective entry of \$-99. So, normally you *can't* make a costing error if the system is being used properly.

A History of Dynamics NAV / Navision Costing

Costing in Navision / Dynamics NAV has a long history of improvement and correction.

Versions 1.x/2.0 – The first “Windows” versions of Navision came only with the Item Ledger Entry table. The fields that held the value of each Inventory transaction were cumulative. That is, when value was added to or removed from an Item Ledger Entry, the value was changed and there was no record left of what the original value was nor the change. Costs were not posted for Receiving or Shipping transactions as there was no provision for expected costs.

Version 2.6 – Although this was not a major release it did add the Manufacturing functional area and so two new Item Journal Transaction Types of Consumption and Output and new ledger tables for these transactions.

Version 3.0 – This version added the Expected Costs feature and the Value Entry and Item Application Entry tables. It was now possible to post costs for Receiving and Shipping transactions, and changes in value were now recorded along with the original value of the Inventory transactions. It also consolidated Manufacturing Costing transactions into the Item, Value and Capacity Ledger Entry tables.

Version 4.0 – Added the Automatic Cost Adjustment feature allowing the Adjust Costs process to be run in real time with each transaction posting.

Version 5.0 – This version added the Inventory Period feature which allowed users to prevent posting G/L Transactions created by the Adjust Costs process into closed Accounting Periods. The Average Cost field on the Item Card was also no longer static but computed anew in real time every time it was viewed. It also came with many “Accountability” features, meaning that there was a drill down on the Average Cost field that would give a full history of Inventory increases, decreases and the related costs. You can actually do the math and have it match the drill down. As always, this version came with further corrections to the Adjust Costs process.

Version 2009 (6.0) – This version was a technology release based on Version 5.1. and so did not add features to Inventory costing.

Version 2013 (7.0) thru Business Central (14.0) – Production Order costing was incorporated with the new “Inventory Adjmt. Entry (Order)” table.

Hotfixes and Service Packs – These have been issued all throughout the history of Navision and are still being issued today.

Balancing with G/L

Inventory Setup offers the options of Automatic Cost Posting to G/L and Expected Cost Posting to G/L. Using both of these will post all changes in Inventory Value to G/L at the time the Inventory Transaction is posted. Otherwise costs must be posted manually. Also, the Adjust Costs process gives the option of Posting Costs to G/L along with the Value Entries it will create.

With these options selected, G/L should always be in balance with Inventory, because for every Inventory Transaction that involves change in Inventory Value that same value should be posted to G/L. The only time these can be out of balance is between the time when costs are posted that are supplemental or corrective, and the Adjust Costs process is run. Some companies run the Adjust Cost process daily to ensure that costs are up to date. The Adjust Costs process will post the difference to G/L in these cases.

- Difference between Received cost and Invoiced Cost for inbound transactions.
- Difference between Shipped cost and Invoiced cost for outbound transactions, in the case of average costing method.
- Correction to the Unit Cost of a Sales transaction to adjust Cost of Goods Sold.
- Adjustment to the WIP and cost of a Manufactured Item when changing production order status to finished.
- Posting of item charge lines.
- Posting of revaluation journals.

The Inventory to G/L Reconciliation report shows the difference in value between Inventory and G/L, as does the new “Inventory – G/L Reconciliation” screen under Financial Management > Inventory > Analysis and Reporting. The only reason for any difference is one of these:

- Inventory Costs were not posted to G/L
- Expected Costs are not in use or were not posted to G/L
- Inventory Accounts were posted to directly. “Direct Posting” should be turned off on the G/L Account Card to prevent this.
- Inventory Accounts are not properly assigned. Either they are mixed together with everything posting to the same account, they combined with accounts having other purposes, or historical Inventory accounts were deleted leaving the Balance Sheet unbalanced.
- Date Compressed transactions exist that cannot be corrected. Date Compression was a feature in earlier versions of Navision. Although this was useful for G/L, A/R and A/P ledgers, when the Item Ledger was date compressed it made accurate Inventory Costing impossible.

All of these reasons can be handled with proper setup and processing. If this is done and G/L still will not balance to Inventory, something else has gone wrong that cannot be handled with setup and processing. It is these circumstances that are handled by the Cost Repair and Restoration Tool.

What Goes Wrong

Residual Costs

The most prolific symptom of out of control costing is the situation where the Inventory Valuation report shows a value for an Item, whether positive or negative, but the quantity on hand is zero. This is a situation where the value has been incorrectly calculated. Whether the Adjust Costs procedure is being used or not, once this occurs the value of the Item will never be correct until the Cost Repair Procedure has been followed.

Incomplete Upgrade

It has occurred that incomplete upgrade steps leave Expected Costs in closed Item Ledger Entries. This may have occurred where a version was upgraded from before the Expected Costs feature and where these costs were never invoiced. The Expected Costs will show up as Received Not Invoiced or Shipped Not Invoiced on the Inventory to G/L Reconciliation report and can only be cleared by following the Cost Repair Procedure.

Historical Incompatibility

In instances where Item history exists that goes back before version 2.6, and where the Manufacturing granule is in use, it is possible that the Adjust Costs process will not be able to apply the value of a Consumption or Output Entry because these did not exist. The only way to permanently close these entries is to follow the Cost Repair Procedure. Also, if Date Compression was run this can destroy the basis of average cost calculations as well as work against the logic in the Adjust Costs process.

Manual Posting

If Inventory Accounts have been posted manually to “keep them in balance” it is probably undesirable and may even be impossible to remove the influence of months or years of corrective entries. Balances may be cleared and resynchronized using the Cost Repair Procedure.

Adjust Cost Overrun

Finally, it may simply be that running the Adjust Costs process will create too many entries or entries in too many periods and what is wanted is a clean start with Inventory Valuation. This can be done through the Cost Repair Procedure.

Setup and Training

Any Inventory Costing system must be well understood to be properly utilized. The Cost Repair Manual comes with a list of references to Microsoft Training materials. Dynamics West is also available to provide consultation on proper setup and use of Dynamics NAV Inventory Costing.

The Cost Repair Tool and Procedure

Dynamics West has developed a suite of tools and a proprietary procedure that can permanently fix Navision Costing errors while retaining all of your Item numbers and full history. The only requirement is that your system is currently at Dynamics NAV 5.1 or above. No matter long you have been using Navision nor how many times you have upgraded your costing can be repaired once and for all.

Cost Status Analysis Report

This report summarizes the conditions in the database that control and affect how costing is processed and offers detail of where costing errors may be occurring. There are three options to running the report:

- Quick. Shows Inventory settings and summaries of G/L, Inventory and Manufacturing data.
- Standard. Adds detail for data displayed in the quick version.
- Extended. Includes Inventory Valuation totals, detail of residual Inventory values and Inventory to G/L Reconciliation totals with export to Excel.

Cost Repair Control Display

- Every step of the Cost Repair Procedure can be executed from the menu selections on the Cost Repair Control screen.
- Each step of the procedure is listed along with a check box that indicates completion and a field that logs the date and time completed.
- The View, Functions and Reports pull-down menus provide access to view the Item and Value Ledgers and to run the Cost Repair and Adjustment Processes and Reports to carry out the various steps of Cost Repair, testing and verification.

Repair and Correct Costing

The Cost Repair Procedure runs in Phases and can be done one step at a time to verify each part of the procedure.

- Repair, a multistep process to clear all factors that interfere with accurate cost calculations.
- Testing, to ensure all factors have been handled as intended.
- Special Handlings, such as changing costing methods.
- Restore, puts Inventory back at the desired value and restores all relations between on hand Inventory and open transactions.

Comprehensive Testing Phase

Includes a complete testing phase where factors that influence Inventory Costing are tested and corrected.

- Test Adjust Costs
- Test Inventory Valuation
- Test Post Costs to G/L
- Test Inventory Reconciliation
- Basic Costing Error Detection
 - Valuation Date Errors *with automatic correction*
 - Value Entry Cost Method Errors *with automatic correction*

Expected Cost Analysis and Correction

Two reports allow for a complete analysis of Expected Cost entries to verify that they follow the business rules built into the Costing logic. These reports allow for automated correction of simple miscalculations or for removal of values and entries added by erroneous programming or left behind by incomplete upgrades.

Microsoft Costing Error Detection Report

This report will list potential errors in the database that relate to costing but will not correct them. The Cost Repair Tool will allow you to correct these errors automatically and in minutes.

- Corrects Valuation Date Errors
- Corrects Value Entry Cost Method Errors
- Finds and corrects lost Expected Costs (with no transaction pending to Actual)

Troubleshooting

The Cost Repair Procedure Manual includes section on balancing Inventory to G/L including:

- Unposted Sales and Purchase transactions
- Changing Average Cost Calculation type

And links to current Microsoft costing references and NAV technical releases:

- Training Manuals
- White Papers
- Knowledge Base Articles and Hotfixes

For more information about the Dynamics West Cost Repair Procedure in Microsoft Dynamics NAV, visit www.dynamicswest.com.

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What to add

Tom Blaisdell slide info

Transaction chart of expected and actual cost posting

List of tables in Inventory Costing

32 Item Ledger Entry

339 Item Application Entry

5802 Value Entry

5804 Avg. Cost Adjmt. Entry Point

5811 Post Value Entry to G/L

5823 G/L - Item Ledger Relation

5896 Inventory Adjmt. Entry (Order)

Navigation only

46 Item Register