



Caf2Code LLC
Microsoft Partner



Manufacture Products, Not Inventory Costing Mistakes in Dynamics 365 F&O (AX)

Session Notes

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Session Abstract

Manufacturing is difficult enough to navigate without needing to fix mistakes and configurations along the way. Attendees will explore a variety of ways to keep a company's physical and financial inventory value precise. During this session, users will study common issues found during the manufacturing process, and how to resolve and prevent them from occurring. Attendees will review necessary configurations, and financial impacts to keep inventory values accurate.

Learning Objectives

- Evaluate inputs for manufacturing products to ensure correct inventory value.
- Explore inventory transactions impact on inventory accounts.
- Troubleshoot difficult inventory transactions & financial vouchers.
- Review feature management for relevant tools.
- Understand inventory transactions systemwide.

Session Notes

Slide 2 – Who are we?

I'm Brittany Burke. I am a Solutions Architect at Caf2Code. Using my Masters' Degree in Accounting, I bridge the gap between finance and technical teams. I enjoy digging into transactions within D365 and getting a better understanding of the financial roots that are created by all transactions. When I am not working, I enjoy cooking and baking with my 6-year-old son Declan.

Hello! My name is Lauren Wooll. I am a functional consultant II at Caf2Code. I have a bachelor's degree in retailing. I have a passion and keen understanding for Product and inventory management in Dynamics 365. I hail from WI, "Go Badgers!"

Slide 3 – Who is Caf2Code?

Caf2Code is a boutique Dynamics 365 agency with some of the most talented and skilled consultants in the ERP space. Our mission defines how we work:

"Positively impacting the world by helping businesses become more effective and efficient with innovation."

Our goal to help the world become a better place translates into the passion and work ethic our team puts into projects. Not to mention, our productivity boost from caffeine which helps us write smarter code.

From our founder, tech experts, and QA consultants – we embody positive, can-do attitudes to achieve project milestones in accordance with helping the world!

Our key values of drive and integrity inspire us to deliver top quality solutions.

Slide 4 - Agenda

This session covers several topics about Inventory value.

- What is Inventory Value
- Physical vs Financial Cost
- Finance & Operations Alignment
- Operational Process Mapping
- Impacts from General Journals
- Correcting Timing Mistakes
- Corrections

Slide 5 – What is Inventory Value?

Inventory value is the monetary amount associated with inventory at the end of an accounting period. This valuation is based on the costs incurred to acquire the inventory and get it ready for sale.

Slide 6 – Physical Cost vs Financial Cost

When talking about costs and value- Dynamics has 2 different types of cost that make up the value in the system- Physical and Financial.

Slide 7 – Physical Cost

What is physical cost?

The value that an item has to an organization as it sits in a site and warehouse.

This is the value an organization defines based on the value it holds during different phases of its life. The physical cost is an accrued cost that will later be replaced by a financial cost once the transaction is complete.

Examples include:

- On its own as a finished good
- Raw material as an input for manufacturing
- Manufactured good- calculated based on how it was produced and valued internally

Slide 8-10 – Physical Cost

Where does it come from in Dynamics?

Within Dynamics this physical cost is stored on an item in the Product Information Management Module under:

Released Products > Manage Costs > Item Price

Slide 11 - Physical Cost

How do you change physical cost? You can add a new cost under Item Price by navigating to the **Pending prices** tab. Once the price has been entered, you can activate the pending price.

Slide 12- 15 - Physical Cost

Where is physical cost used?

Item Price is what Dynamics refers to the physical cost price as, and the most active version of this price is what is used for the system to value during a manufacturing reported as finished transactions and up until the point of **ending a manufacturing order** when it then also gets its financial cost.

Physical Cost is considered an accrued value.

Slide 16 – Financial Cost

What is Financial Cost?

- The real cost price determined by dynamics using the chosen financial accounting method
- This can only be adjusted during the closing and adjustment periods
- Estimate until inventory close is ran
- Depending on the method chosen-the financial cost calculation differs, but in the end will be the true cost of the good at that given time based on all the costs or steps incurred up until this point of sales or manufacturing completion
- This financial cost is the price that is determined at the end of a manufacturing process, or at the time of invoicing

Slide 17 - 18 – Financial Cost

Where does Financial Cost come from in Dynamics?

Within Dynamics this Financial Cost for an item- is found under the released products

Manage Cost Fast Tab > Costing > Cost Objects

Slide 19 – Financial Cost

How can you change Financial Cost?

Within this section to dynamics- the financial cost, is determined by the chosen accounting method for a company. The only place that this can be changed is during the closing and adjustments under the menu path:

Inventory management > Periodic Tasks > Closing and adjustments > Adjustment > Transactions

Now that we understand the different types of costing and value that exists for products, it's important to understand the different types of products that come from manufacturing, and how they get a value.

When manufacturing goods, it is not always just the main product that gets produced, often Co-Products and By-Products result from manufacturing and how they are accounted for and valued is important.

Slide 20 – Co-Products & By-Products

What are Co-products?

- Products that are expected to come off the production run
- Defined in the Formula
- Costed out at the end of a production run the same as the formula products

Slide 21 - 23– Co-Products & By-Products

Co-Products are setup under:

Product information management > Bill of materials and formulas > Formulas

Within the formula versions, select **Co-products**. Within this form, users can define which Co-products could be created during a production order.

Slide 24– Co-Products & By-Products

For each Co-product, the co-product cost allocation should be defined. Options include:

- **None** – No cost allocation is applicable for the co-product item
- **Manual** – Use a cost allocation percentage. The percentage is specified in the corresponding **Cost allocation percent** field
- **TCA** – (Total Cost Allocation) The dynamic method that the system uses for production orders to assign a cost by the total quantity of formula products and co-products reported as finished during a production order or “run”

Slide 25 - Co-Products & By-Products

What are By-Products?

- Referred to as “Burden” by the system
- These are products that are not always produced by a production run but need to be determined on how they are dealt with from a costing standpoint
- Defined with Co-Products within a formula

Slide 26 - Co-Products & By-Products

By-products are created within the same form as co-products by changing the **Production type** to By-product.

Slide 27 - 28 - Co-Products & By-Products

For each By-product, the **By-product cost allocation** should be defined. Options include:

- **None** – Always used for co-products
- **Percent** – Cost of disposing of the by-product is a percentage of the total production cost
- **Per series** – Burden amount is applied to the cost of the batch order, regardless of the quantity reported as finished
- **Per quantity** – Burden is applied to the cost of the batch based on the quantity reported as finished

Slide 29 - 30 – Finance and Operations Alignment

Once you have determined how to setup your physical costs and determined how to account for By-Products and Co-Products, where do you go from there to ensure your configuration and overall process is correct?

The alignment between Finance and Operations is critical to ensure accurate inventory value and GL reporting.

Finance and Operations teams should work as **one** to determine the best correct process- to ensure correctness not only on the operations/inventory side, but also the financial side. Failure to look at both sides could result in misaligned financials and lead to larger problems in the long run. The longer the misalignment between financial configuration and Operational processes exists, the larger the issue becomes.

Correct Operational processes are just as important as correct financial configuration. Only when the operational processes align with the expectations of results from Finance can your company be confident in their inventory value.

Slide 31 – Finance and Operations Alignment

What are operational processes?

- Operational processes are any process that results in the purchase, consumption, production, or sale of inventory
- Some examples of operational processes are Purchase Orders, Production Orders, Sales Orders, and Inventory Journals

What is financial configuration?

The financial configuration we will be focusing on for the topic of Inventory value and manufacturing is Posting types and Posting Profiles.

- Posting Types
 - Defines the main account related to a specific transaction step
 - A single voucher will have more than one posting type
- Posting Profiles

- The collection of posting types for an item, item group, or company that control how the subledger transactions are converted into main account postings. The same grouping does not have to be used for each posting type, but should make sense for your company.

There are several locations to define posting types within D365. For this session, we will focus on the posting types setup under

Inventory management > Setup > Posting > Posting.

Slide 32 – Operational Process Mapping

Now that we know what a posting type is, lets talk about how it is used.

Let's look at **Estimated Manufacturing Cost**. Can you guess where the posting type is used in an operational step within an operational process?

When is the posting Type triggered?

- Repost as Finished Journal is Posted
- Ending the production Order

Does the transaction create a Debit or Credit?

- DEBIT - Repost as Finished Journal is Posted
- CREDIT - Ending the production Order

Estimated manufactured cost is exactly what it suggests, an estimation, or accrued amount. Once the Production order is ended, the debits and credits wash, allowing the **Manufactured cost** to be actualized and posted based on the posting type setup for Manufactured cost.

Slide 33 – Operational Process Mapping

So why is operational process mapping important?

To Ensure correct posting types are used during operational processes and align with the expectations of Finance. This exercise can help detect and prevent posting issues, misaligned account balances, and help ensure accuracy of financial reporting.

So where do you start?

Be sure to conduct this process in a non-production environment with minimal activities going on at the same time to avoid any undesired vouchers created during the testing process. Use a highly controlled testing environment. Document changes as they are made.

Slide 34 – Operational Process Mapping

Here is a high level overall Operational Mapping Process

- Map Operational Processes to Posting Types
- Validate that Financial Impacts Align with Expectations from Finance

- Update Posting types to align with Expectations from Finance
- Repeat until aligned with Finance Expectations

Slide 35 – Map Operational Processes to Posting Types

For each step in the operational process, review voucher transactions to map the posting types and GL accounts for the process step.

I personally like to check voucher transactions after each mouse click to see when and how vouchers are created. Not all steps produce vouchers, such as starting a production order.

Use a date that has no other transactions hitting the GL to ensure that the data you are looking at is an uncontaminated sample to ensure accuracy.

If you have a user guide for a business process, it is sometime helpful to ingrate notes of what steps create vouchers, what the vouchers series is, and what posting types are used. This can be helpful for future troubleshooting and posting type updates if a new product, service, or legal entity is created. Take the work you are completing, and add it as a future resource.

Slide 36 – Validate Financial Impacts

How do you determine if posting types are correct?

Once you have completed the Mapping of operational processes to Posting types, review the overall flow of the transactions. Ask yourself the following question:

At the completion of the operational process, do the balances end in the intended accounts and make sense?

If we look at a proposed solution from Finance, does the actual result align with the expectations?

As you can see here, finance intends for there to be a Credit from Raw materials inventory, to deduct the raw materials that are consumed during the manufacturing process. They also intend a debit to finished goods inventory to account for the production of the finished good, and a credit to absorbed indirect labor to account for the expense of labor in production.

Now let's look at the actual results.

We have a credit to raw materials, no impact to finished goods inventory, a debit balance in both WIP clearing and WIP Materials, and a credit to absorbed indirect labor.

As you can see by the orange highlight, 3 of these balances do not align with the expectation of Finance.

Now that we have identified that the ending balance for the completion of the operational process does not align with the expectations of Finance, where do we go from here?

Slide 37 – Validate Financial Impacts

Whether the first test of the balances at the end of the complete operational process fails or passes, it is important to also ensure that a second test is evaluated. The second test is asking:

At the end of each operational step, do the balances end in the intended accounts and make sense?

Similar to the first test, we are looking at account balances, but now we are focusing on the balance at the end of each operational step.

There are a variety of ways and methods to review and analyze operational step mapping to GL Accounts. My preferred method is utilizing t-accounts to create a visual that informs and facilitates in identifying where issues may lie.

It is important to isolate the balances at the end of each operational step to determine if the balances make sense, even if they make sense at the end of the operational process. If there is production that spans over different months or reporting periods, it is important that balances make sense at the end of the reporting period. For example, if a production order is started and raw materials have been picked to prepare for production prior to month end but the actual production has not been reported as finished in the same month, you would want to see that Raw materials has been credited and a work in progress account has been debited. You can see here that this expectation for posting the picking list is reflected in the actual result.

Once you have mapped your steps in the T-accounts, you see a similar discrepancy between expectations and actuals as we did in our first test.

We can see which steps make up the balances to review voucher transactions to determine which posting types need to be updated.

Slide 38 – Update Posting Types to Align

Upon review and analysis, it was determined that the orange highlighted posting types were incorrectly mapped to the GL. As you can see, its not always just one line per account that is incorrect. Remember, we had out of balances in the following accounts: 140200, 150100, and 150150.

After analysis and manual re-mapping, we determined that the 150100 account should not have been used.

Posting types were then update and documented. Upon correction in the financial configuration and a new testing cycle to re-map the operational processes, we found that only the posting types we had updated were changed in the vouchers, identified in green here.

If we then look at the ending balances in accounts, we can see that accounts that were previously misaligned are now in alignment with the expectations of finance.

This process should repeat until both tests pass and finance expectations align with actual results.

Slide 39 – Corrections to Posting Types

How do we implement these changes that are needed?

If you haven't gone live yet, ensure the updated posting types changes are added to master configuration to ensure the proper mapping is applied during go-live.

Be sure to revalidate that posting types are mapped properly during each iteration of testing prior to go-live. With each iteration of testing, introduction of new customizations and more users, it is important that posting types are verified with each step. Don't assume they have not changed or been altered unintentionally. Also, don't assume your configuration was properly added to the new iteration of testing. There are a lot of moving pieces in this process and its easy for something to be missed.

Slide 40 – Corrections to Posting Types

But what if you have already gone live?

Determine the best timing to implement changes to posting types in Production. The beginning of a new month may be your best option. Document the timing for future reference.

Review transactions and balances that remain as a result of the previously misaligned posting types. Some of these balances may need to be reclassified or moved through additional inventory transactions.

Be sure to test any reclass processes in a non-Production environment to ensure desired results

Utilize Inventory Adjustment Journals to move inventory value and quantity from one main account to another

Slide 41 – Corrections to Posting Types

Inventory adjustment journals also use posting types to determine which accounts to hit. With controlled timing, we can use these posting types to ensure we are hitting the right accounts to move the balances. Typically, I recommend these be done in production after hours or on weekends, when users may not be in the system.

For Inventory Adjustment Journals, the posting types are used to determine how transactions will hit the GL

- Inventory Issue will determine where negative quantities will be posted. If you need to remove inventory from an account, you would want this account to be where you are moving it from. In the previous example we were moving inventory from 150100 to the 140200 account. We would want Inventory issue set to 150100.
- Inventory Receipt will determine where positive quantities will be posted. This account should match where the inventory should be moved to. From our previous example, we would want to move those finished goods from 150100 to 140200, so inventory receipt should be set to 140200.
- Inventory Expenditure, loss and Inventory Expenditure, profit will determine the expense account to offset with inventory

Values used for Negative Adjustment Line unit costs will be determined by the Costing Method assigned to the items. Positive and negative values may not always offset completely, it all depends on which costing method is used.

So why can't you just use a general journal to "reclass" the transaction?

Slide 42 – Impacts from General Journals

If there are misalignments for Inventory Transaction balances, corrections should occur using inventory transactions, such as Inventory Adjustment journals, to remove incorrect balances from one Main account to another, as well as the quantity. Inventory accounts should fluctuate with the purchase and sale of inventory.

Think of GL entries into inventory accounts like ice sitting in a cup of water. Is the appearance of the amount of water in the cup an accurate representation of the actual amount of water in the cup?

Think of an inventory account like a cup. The water in the cup represents the flow of inventory transactions in and out of the account. As you add water, the level rises. As you drink or pour out the water, the level decreases, similar to the flow of inventory in and out of the account.

Now let's add ice to that cup. Does the highest point of water in this cup give an accurate representation of the true amount of water in the cup? What about if we pour all the water out of the cup? Is the cup truly empty? Similar to how some well-known coffee shops use ice to allow a cup to have the appearance of being full, we all know that the cup is not full of our favorite latte or coffee. Inventory accounts are the same. General journal entries sit in our inventory accounts like the ice in our iced beverage, tricking us into thinking there is more (or sometimes less) inventory actually in the account. Unlike ice, GL entries will not melt and try to mix into inventory accounts like ice in coffee.

Another way to think of it: If I sold all my inventory, would this account balance go to zero, no more, no less? If not, there is a problem with the types of transactions and entries to your account. So how do we prevent general journals being added to the inventory accounts?

Use main account configuration to block manual entry for inventory accounts. Selecting "Do not allowing manual entry" on main account configuration will prompt additional through when a general journal to inventory accounts is created.

Utilizing out of the box functionality, we can prevent users from entering manual or non-inventory transaction-based entries into the main account. While there may be a need for an accrual or reversing journal entry into inventory accounts from time to time, it is important to note that in general, inventory accounts should not have manual entries.

Slide 43 – Impacts from General Journals

We always want to "Start on the right foot"

It is common practice to enter prior period balances into D365 for reporting purposes.

If entering prior period balances for reporting pre-go live, be sure to fully reverse any manual general journal entries before loading inventory transactions. If an inventory account balance is not zero before you load any inventory transactions, your balance is inflated or deflated. Don't forget to dump the ice out of your cup before you add the water to be measured.

Slide 44 – Corrections

Let's be honest, there is usually an opportunity every month for inventory transactions to be entered into the wrong period. As you approach month end or year end, the next period is usually opened to allow continuous entry of inventory and prevent a backlog of entries as the new month starts. There is usually a need to keep a prior period open until inventory can be validated and closed. So what do we do when we run into issues where the transactions are posted in the incorrect period?

Slide 45 – Correcting Timing Mistakes

To set the stage for how to correct timing mistakes, let's create a scenario. We have a production order and the date of 1/1/2022 was used instead of 12/31/2021.

Slide 46 – Correcting Timing Mistakes

Suppose a report as finished journal was posted with a date of 1/1/2022, but it should have been posted to 12/31/2021. Luckily, the production order has not been ended yet.

Slide 47 – Correcting Timing Mistakes

To correct this incorrect Physical transaction, enter a new report as finished journal for negative quantity of the original report as finished journal. The report as finished journal should have the same incorrect date as the original transaction. The negative journal will wash with the transactions from the original positive report as finished journal with the incorrect date.

Slide 48 – Correcting Timing Mistakes

To re-enter the quantity, create another new report as finished journal with the correct date and positive quantity. Once this journal is posted with the correct date, the production order can proceed on with your normal production processes.

Slide 49 – Correcting Timing Mistakes

But what if our transaction was Financial? Suppose a production order was ended with a date of 1/1/2022 but should have been ended on 12/31/2021? Since we cannot reverse an ended production order, what do we do?

Slide 50 – Correcting Timing Mistakes

Look at the vouchers created by the incorrect posting. We can see that the inventory accounts (140100 & 140200) do not have and impacts from these transactions.

Slide 51 – Correcting Timing Mistakes

Since the Production order was **Reported as Finished** on the correct date (12/31/2021) the inventory quantity is hitting the correct date, and only account balances need to be moved using a general journal.

If the production order was also reported as finished on the wrong date of 1/1/2022, the inventory would be hitting an incorrect date, requiring the use of an inventory adjustment journal to place inventory into the correct period, using the posting types we discussed earlier.

Slide 52 – Correcting Timing Mistakes

Create a **reversing** General Journal entry to move account balances from the wrong period to the correct period. A reversing journal entry would ensure that the same financial dimensions are used for both sets of entries, minimizing manual mistakes.

As you can see here, the balances are completely removed from 1/1/2022 after the reversing journal entry and properly placed into 12/31/2021 time period.

Slide 53 – Correcting Timing Mistakes

How can we prevent timing mistakes from happening and reduce risk?

Put correct months on hold at correct time

- Ensuring future periods are on hold until needed
- Placing past periods on hold when the month is completed.

User groups to limit access to open periods or future periods

- If a period must remain open, restrict who can post to it.

Running inventory close monthly

Use standard or custom security to address access to posting types.

People going in and change posting types to fit their departments needs and don't consider the larger picture of the whole company and how that impacts the other areas of the company.

Make sure they are locked down and documented so if something changes- you know what it was supposed to be and keeping a running log of changes to understand why and have it for audit.

Once you have determined the correct method to correct these timing issues, documentation is key.

Slide 54 – Documentation of Corrections

Testing and proving out the correct process is important. You never want to do something for the first time in production. Failure to determine the correct way to handle transactions posted to the wrong period could lead to further incorrect postings, costing your company time, money, and resources. Not to mention, multiple corrections for one issue could lead to enhanced audit of the situation.

Chances of remembering what you did to correct an error whether it was 3 weeks, 4 months, or a year ago are slim. Taking the time to document correction processes will serve you in a variety of ways

- Audit support

Auditors seem to be able to sniff out these types of corrections and seem to always pull them in audits, don't they? Always anticipate that this particular transaction will be pulled for audit. By creating documentation of the process, you save yourself time during the audit and can provide documentation

almost immediately. If the auditor presents any concerns about missing information or asks for additional details, take note! Be sure to add that information should you need to make a similar correction in the future. Attaching the documentation to the journal entry or inventory transaction will allow you to have the information right where you need it when you need it.

- Create Instructions for future occurrence of similar issues.

Don't re-invent or re-discover a solution you have already researched and tested. Taking a little more time initially will save your company time, money, and resources in the long run. I cannot count the number of times I have gone back to documentation of a previous issue in working to resolve a new issue. Majority of the time the resolution process is the same. Be sure to complete testing in a non-production environment just to be sure the resolution is the same.

- Develop Training materials and knowledge transfers

Use what you have learned to pass on knowledge, train up new users, and prevent further or future issues.

And finally, determine if a prevention or detection measure is right for your company.

See if there is a pattern of issues to help implement prevention or detection measures, whether those are out of the box or custom.

Slide 55 – Corrections not Questions

If you believe your inventory is valued incorrectly- what do you do?

- Don't Make Any Rash Changes

TAKE YOUR TIME!! All the inventory value issues didn't happen overnight and neither will the required corrections.

- Take Time to review how those changes will impact your value, and costing, and overall financials of the company

Review impacts to your company's Income Statement & Balance Sheet

- Make Proposed changes in a non-production environment first

Even though a point in time restore will take more time, it is more beneficial than trying to manually re-create the issue in a non-production environment. During re-creation, important steps could be missed. These missed steps could result in further issues when applying the final correction in production.

- Feature Management may provide possible solution

Mistakes happen, errors come up. It's also important to remember that you are not alone in them. Often, so many people also have similar issues, so Microsoft is constantly providing new features and system updates to help alleviate them.

If you find yourself facing an issue, before sounding any alarms, looking at the feature management section within dynamics might provide an update or lifeline from Microsoft to fix some of these things,

and often prevent them from happening again. Working with your internal team will be key in understanding if that feature is right for you and the issue you are facing.

It's not always the cure all but can certainly be a nice quick place to look whenever hitting a speed bump or roadblock in your road to manufacturing in dynamics.

- Don't be afraid to ask for help

Every company is unique and there are a lot of best practices. There are a lot of people and a lot of hands. Don't be afraid to make mistakes. That's the best way to learn and get better.

When there is a pattern of issues you would like to prevent, sometimes customizations are necessary to align D365 to your company's specific needs and processes.

At C2C we believe in learning and doing things differently. Customizations are not always necessary, but when they are, we believe in enhancing and adding to the system functionality, rather than suppressing or materially altering the native functionality. We look forward to hearing more about your company's specific inventory value issue and how we can help to correct these issues and prevent further questions.

Have questions?

Please feel free to contact us if you have any questions about this session or about how Caf2Code can help your company!

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