Acumatica
The Cloud ERP

Principles of Inventory Valuation and Manufacturing Costing for Inventory-Centric Businesses

INVENTORY VALUATION AND PRODUCTION COST CONSIDERATIONS FOR WHOLESALE DISTRIBUTORS AND MANUFACTURERS

Inventory valuation and manufacturing costing features are crucial for wholesale distributors and manufacturers. Entry-level applications like Intuit QuickBooks support limited inventory valuation with marginal features for manufacturing costing. These restrictions often serve as a catalyst, prompting growing companies to move to more robust midmarket ERP systems like Acumatica.

However, many companies never consider the importance of inventory valuation and manufacturing costing during their ERP evaluation process. Should you use a simple method like standard cost, or would you be better served by using average costs, actual (lot) costs, first-in-first-out (FIFO), last-in-first-out (LIFO), or a combination of valuation strategies? Each strategy may manifest vastly different corporate financial reporting results. In addition, there are many caveats to the choices you make. Further, some methods produce lower taxes than others.

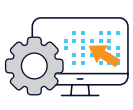
Larger companies have cost accountants to help them select the best valuation and job cost strategies for their businesses. However, smaller distributors and manufacturers often make these decisions with little input from accounting professionals. Unfortunately, many companies choose the wrong options, which negatively impact their financials and lead to costly conversions to alternate valuation and job cost methods. Lastly, every ERP system features a unique way of supporting each method, and some systems do not fully support all valuation and costing strategies.

This eBook provides an overview of inventory valuation and manufacturing costs. It features detailed examples of each strategy, including each method's advantages and disadvantages. In addition, the eBook offers guidance to help you select the proper costing and valuation methods for your unique business needs and insights into how different ERP applications support valuation and costing strategies.

STRATEGIES FOR INVENTORY VALUATION AND MANUFACTURING COSTING


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Fundamentals of Inventory Valuation and Manufacturing Costing

Since the middle of the 19th century, cost accounting has been critical for businesses in railroad, textile, oil, steel, and other industry segments. Cost accounting evolved significantly through the 20th century and remained relatively unchanged for decades.

Today, inventory valuation and manufacturing costing methods are crucial to every wholesale distributor and manufacturer. In addition, valuation and costing options may contribute to **significant tax savings.** Yet few companies consider these essential features when they evaluate ERP systems.

A certified cost accountant or accredited CPA firm should review inventory valuation and manufacturing costing. Professional review ensures that financial documents, like income statements and balance sheets, accurately represent the cost of goods sold (COGS) and inventory valuation. In addition, the selection of valuation and costing methods should **align with the nature of the products used and sold**. Auditors may question companies using techniques uncommon for their industry.

Further, international organizations are restricted from using LIFO valuation methods banned under International Financial Reporting Standards (IFRS). While permissible in geographies governed by Generally Accepted Accounting Principles (GAAP), **LIFO is no longer considered a best-practice** valuation method and has fallen out of favor with most accounting professionals. Consequently, modern ERP applications like Acumatica support best practices and do not support LIFO valuation.

Inventory valuation directly impacts COGS, gross profit, net income, and current assets. Combined, they deliver a crucial measure for establishing pricing. Inventory is categorized as either raw materials or finished goods (for both distributors and manufacturers) and work in process (for manufacturers only). Some companies also track consigned inventories. However, these inventory quantities in the possession of the distributor or manufacturer are not legally owned until they sell it or use it. As such, they have no bearing on inventory valuation or manufacturing costing.

Some systems require a single costing and valuation method across all items and warehouse locations. Modern ERP systems provide more flexibility and support multiple methods for specific items or items by warehouse location. However, most companies only use multiple methods if they have sound business reasons as a best practice. These may include variability in the products they buy or make. They may also choose multiple methods to simplify business processes for smaller locations better served with standard or average methods. Consult a certified accountant to determine appropriate cost strategies for your unique needs.

INVENTORY VALUATION

The total value of inventory at the end of a financial reporting period based on purchased costs for inventory items. Perpetual inventory systems like Acumatica continuously update inventory values. For manufacturers, inventory valuation combines purchased costs for raw materials with value-added manufacturing operations for finished goods.

MANUFACTURING COSTING

Costs of direct materials plus labor, overhead, outside processing, and resources to convert materials into finished goods. Raw material valuation methods are used to determine material costs plus value added manufacturing costs. The results are used for inventory valuation and cost of goods sold. Work in process (WIP) is evaluated in Job Cost reports and inquiries.

MANUFACTURING COST ELEMENTS

- Material
- Labor
- Fixed Overhead
- Variable Overhead
- Outside Processing
- Tooling

Manufacturing costs can be challenging to estimate. Manufacturing costs include fixed, variable, indirect, and direct costs such as known raw material costs and estimated costs for labor and scrap. Therefore, manufacturers must get close to the actual manufacturing cost to determine profitability, evaluate prices, and identify issues occurring on the shop floor that inflate costs.

Manufacturers monitor and capture work in process (WIP). WIP represents the sum of material costs for materials issued to the production job, work order, or manufacturing order plus value-added labor operation costs. WIP includes fixed and variable overhead costs and outside processing costs where applicable. However, WIP serves as a temporary cost since finished goods are processed into inventory when manufacturing is completed.

In manufacturing, fixed overhead costs are typically defined by a work center or group of similar machines. Fixed overhead costs remain constant over the production process and account for overhead cost elements such as rent, supervision, and depreciation of equipment.

Variable manufacturing overhead costs are also defined by the work center and vary in proportion to production. Examples of variable overhead include indirect labor such as supervisory costs and electricity.

Engineer-to-order (ETO), assemble-to-order (ATO), configure-to-order (CTO), and make-to-order job shop manufacturers tend to focus on job costing. Job cost reports provide insights to understand production order costs, which are often unique to each job.

Job Cost reports typically include work order information, bill of material and routing definitions, items produced, quantities for raw materials and finished goods, scrap pieces, setup and run times, outside process costs, and other details. In addition, the job cost report identifies cost deviations and highlights problems before completing the order by comparing current WIP to estimated costs from routing and bill of material standards.

"Acumatica helps us make sure all components are reflected accurately in inventory. It also makes sure we know what each component is related to what light and accurately reflects the true cost of a kit assembly."

– SHIVANI RAVAL, DIRECTOR OF OPERATIONS, FIDELUX LIGHTING

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CAUTION!

Make sure you use the front-end inventory valuation and manufacturing cost utilities inside your ERP system if you ever change valuation or costing methods. Making changes to these records through the back end, directly into the database, can cause serious problems including data corruption, loss of data required for financial audits, and inaccurate costs that will be timely and expensive to fix. This is due to how ERP systems manage cost tiers, the detailed cost transactions used for average, actual, FIFO, and LIFO costing. In some cases, you may not be able to fix the issues and may need to restore a much older backup file and then invest man-weeks of time entering all the data missing since the back-up was made.



Inventory Valuation Examples

Companies must understand valuation and costing strategies and how each impacts their COGS and inventory valuation. This section demonstrates how valuation methods produce different financial results. Examples are based on the transactional inventory purchase and sales data in the table displayed on the right.

INVENTORY TRANSATIONS	QUANTITIES	ITEM COST
Beginning Balance	4,000	$18.00
06/01 Purchase	2,000	$20.00
08/12 Purchase	6,000	$22.00
10/6 Purchase	5,000	$24.00
10/17 Sale (COGS)	(6,000)	?
Balance (Valuation)	11,000	?

"Acumatica provides the ability to have information at your fingertips . . . Acumatica has everything I need."

– ELENA MHEIDZE, CFO, ERICKSON INTERNATIONAL

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STANDARD COST VALUATION

Standard costs are predefined for items and represent the best guess for the unit cost. Standard costs remain unchanged and are independent of price or cost fluctuations until manually updated. Companies typically adjust standard costs annually or when they experience significant price increases. ERP systems may provide historic standard cost views with utilities to evaluate standard cost changes with what-if analysis for planned updates to work center rates. Standard costs are assessed against actual inventory and manufacturing costs creating variances tracked in the corresponding general ledger account inside the ERP system. For example, the standard cost for an item may be $21. However, the company may purchase the item from their vendor at $22 each. Therefore, the valuation transactions would be recorded to the general ledger at the standard cost of $21 with a $1 variance posted to the general ledger variance account.

STANDARD COST IS $21.00	TRANSACTIONS	ITEM COST
COGS	6,000 X $21.00 = $120,000	$126,000
Inventory Valuation	11,000 X $21.00 = $220,000	$231,000

SPECIFIC COST VALUATION

Specific cost, sometimes called actual purchase cost or lot cost, represents the exact cost for each inventory item. For example, if you sell any of the 4,000 units from the beginning inventory, the cost is $18 each. However, if you sell units from the 10/6 purchase, the specific cost is $24 each. Specific cost is often used with lot or serial tracking since all units purchased or manufactured simultaneously can be tracked in inventory at the same cost.

Most ERP systems require companies to track inventory by lot or serial number to use specific cost valuations. For manufacturers, the system adds labor, material, and overhead costs to the job as it moves through the production process to determine each production order's specific or real production cost.

Calculations assume 5,000 units from the 10/6 purchase and 1,000 units from the Beginning Balance were sold.

ACTUAL COST	TRANSACTIONS	ITEM COST
COGS	5,000 X $24.00 = $120,000 1,000 X $18.00 = $18,000	$138,000
Inventory Valuation	3,000 X $18.00 = $54,000 2,000 X $20.00 = $40,000 6,000 X $22.00 = $132,000 0 X $24.00 = $0	$226,000

AVERAGE COST

There are three types of average cost—weighted average, weighted moving average, and simple average. Each average cost calculation produces slightly different financial results, and average cost calculations vary widely across accounting and ERP applications. As such, financial executives should ask ERP vendors to verify average cost valuation calculations if they intend to implement average cost valuation within their business.

Modern systems like Acumatica use moving average costs that update when there is a purchase with a different price. The average cost is recalculated below using the sample data.

INVENTORY TRANSATIONS	QUANTITIES	ITEM COST	AVERAGE UNIT COST
Beginning Balance	4,000	$18.00	$18.00
06/01 Purchase	2,000	$20.00	$18.67
08/12 Purchase	6,000	$22.00	$20.33
10/6 Purchase	5,000	$24.00	$21.41
10/17 Sale (COGS)	(6,000)	$21.41	$21.41

COGS and the remaining inventory units are calculated using the weighted average of $21.41.

AVERAGE COST	TRANSACTIONS	ITEM COST
COGS	6,000 X $21.41 = $128,460	$128,460
Inventory Valuation	11,000 X $21.41 = $235,510	$235,510

FIFO COST

FIFO is a popular valuation method that assumes that you are selling or using the oldest inventory on hand at the price or cost at that time. This method typically results in a higher value for inventory and lower COGS since more recent purchases tend to be more expensive. As a result, FIFO typically produces higher gross profit and increased taxable income. When using FIFO, you must use the oldest transactions in order. For example, the beginning inventory balance was 4,000 units at $18, but we sold 6,000, so we need to make up the difference of 2,000 units at the cost of $20 each, the next oldest transaction on hand. Valuation is based on the remaining inventory units.

FIFO COST	TRANSACTIONS	ITEM COST
COGS	4,000 X $18.00 = $72,000 2,000 X $20.00 = $40,000	$112,000
Inventory Valuation	6,000 X $22.00 = $132,000 5,000 X $24.00 = $120,000	$252,000

LIFO COST

LIFO is the opposite of FIFO. It assumes that you sell or use the most recent (last) purchased items or the most recently manufactured items. With LIFO, ending inventory is usually valued lower, but COGS is typically higher, resulting in lower gross profit and lower taxable income in most scenarios. Few modern ERP applications support LIFO, which is banned for international companies.

LIFO COST	TRANSACTIONS	ITEM COST
COGS	5,000 X $24.00 = $120,000 1,000 X $22.00 = $22,000	$142,000
Inventory Valuation	4,000 X $18.00 = $72,000 2,000 X $20.00 = $40,000 5,000 X $22.00 = $110,000	$222,000

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PERPETUAL OR PERIODIC INVENTORY

Most of the strategies discussed in this document rely on a perpetual inventory system where transactions are captured, stored, and used for on-going calculations. Some legacy systems rely on periodic inventory which may not support every strategy. Periodic inventory requires the company to conduct a physical inventory at the end of the reporting period. Product costs are then applied to determine the ending inventory cost. COGS are calculated using the ending inventory cost, beginning inventory cost, and purchase transactions throughout the period.

VALUATION COMPARISON

As you can see, inventory valuation methods produce significantly different COGS and inventory valuation results. Moreover, these slight variations are magnified for larger distributors or multi-site manufacturers.

METHOD	COGS	INVENTORY VALUATION
Standard Valuation	$126,000	$231,000
Specific Valuation	$138,000	$226,000
Average Valuation	$128,460	$235,510
FIFO Valuation	$112,000	$252,000
LIFO Valuation	$142,000	$222,000

STANDARD COST CHANGES

Companies using standard valuation are familiar with cost update challenges. Avoid ERP systems with only one standard cost. Some companies may update standards annually or more frequently. Standard costs are more commonly updated every few years as raw materials, labor, utilities, rent, and other cost elements increase annually. If you use standard valuation—you absolutely need an ERP system to copy current standard costs and work center rates. This feature allows you to make changes and evaluate how cost changes impact your inventory valuation before you process them in the live ERP database. Further, the system should provide a historical view of standard costs for raw materials, work center rates, and finished goods. Lastly, during the cost modeling exercise, the cost update utility should perform a bill of material cost rollup for the proposed manufacturing cost.

"The fact that we can build out detailed BOMs and have good information about product costing is a big benefit and something that we really struggled with before."

– ANDY GALE, CFO AND COO, LIVEVIEW TECHNOLOGIES

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CAUTION!

Specialized ERP applications support other lesser-known inventory valuation strategies such as Highest in, First Out (HIFO), Lowest In, First Out (LOFO), Lower of Cost of Market, First Expired, First Out (FEFO), and Activity Based Costing (ABC). Business and financial executives should exercise extreme caution when considering any of these methods for financial reporting. FEFO has merit for transacting inventory quantities based on the expiration date but not for financial evaluation. Other strategies may provide valuable information for decision-making. Further, systems should offer utilities to update cost models without affecting the current standard valuation.



Job Cost Management

Acumatica provides real-time WIP reporting for open production orders. Manufacturers can also use the native project accounting application for more detailed job cost management. For production, Acumatica supports three production cost calculations:

- The **ACTUAL** method uses only the actual work in process (WIP) balance to calculate the cost.
- The **ESTIMATED** method combines actual and planned costs and is used when reporting material and labor transactions after the produced items are received in stock
- The **STANDARD** method allows manufacturing management to set a standard cost for finished goods. Then, manufacturers post costs to the general ledger at that cost, with variances posted to off-setting accounts.

PRODUCTION COSTS

Regardless of the cost method selected, as production occurs, the system should update the WIP account in real-time as costs are released to the production order. Acumatica supports the following production cost drivers:

- **MATERIALS:** Track the cost of stock and non-stock items used to make the finished product.
- **LABOR:** Track the actual cost of labor applied to make the product either by the labor rate associated with the work center OR by the labor rate associated with the employee recording labor.
- **FIXED OVERHEAD:** Apply a fixed overhead cost associated with production, such as administrative overhead.
- **VARIABLE OVERHEAD:** Apply variable overhead cost based on labor hours, labor cost, material cost, machine hours, Qty. completed at the operation, Qty. completed for the order. Specify variable overhead at a particular operation.
- **MACHINES:** Apply cost associated with the machines and machine time applied to the production order.
- **TOOLS:** Apply cost based on the cost rate for each use.
- **SUBCONTRACT SERVICES AND MATERIALS:** Track the cost of services provided by a vendor and any materials provided and purchased from a vendor used to make the finished product.

MANUFACTURING COST CALCULATIONS

Although every ERP system calculates manufacturing costs, each application does so with slight variations. The following cost calculations are based on Acumatica Manufacturing Edition features. They represent a base model for understanding manufacturing costing in a typical, midmarket ERP application. Make sure to consult with ERP vendors and resellers when evaluating other applications.

The table below uses sample data to illustrate how manufacturing costs work inside Acumatica. For simplicity, the table shows three manufacturing operations with only planned labor on each operation. The production order is to set to produce a quantity of five parts. Costs are represented in US dollars. However, Acumatica supports multiple currency transactions similarly.

OP #	QTY COMPLETE	BACKFLUSH LABOR	PLANNED LABOR COST	PLANNED LABOR HRS	ACTUAL LABOR COST	ACTUAL LABOR HRS
10	5	No	$250.00	10	$250.00	10
20	3	No	$300.00	10	$75.00	3
30	0	No	$500.00	10	$0.00	0
	0		**$1050.00**		**$325.00**	

"Our stock is made up of the cost from a brewery, the excise duty, and carriage. The excise duty is calculated by annual hectarage of liters that a brewer produces on a sliding scale, the alcohol by volume, and the literage. So, you can imagine how hard it is to calculate because we carry products ranging from .5 to 19 percent alcohol, and each has a separate excise calculation."

– LOUISE SMALE, CO-OWNER AND DIRECTOR, CAVE DIRECT

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The total value of work in process and the WIP balance amounts to $325.00. Each transaction results in credit or debit postings to various accounts. These include accrued labor expense, other expense, accrued production machine expense, accrued production overhead expense, accrued production tool expense, work in process, and inventory assets. This example credits accrued labor expense account when labor is reported, and the WIP account is debited.

Next, a partial receipt of three units is moved or produced to finished goods inventory at Operation 30. Backflush labor is marked as "no" for the operation. Consequently, the example issues no additional costs to production. Depending on the operation's setting, a move transaction can trigger the automatic backflush to allocate costs such as labor, machine, tooling, overhead, and subcontract costs to WIP.

OP #	QTY COMPLETE	BACKFLUSH LABOR	PLANNED LABOR COST	PLANNED LABOR HRS	ACTUAL LABOR COST	ACTUAL LABOR HRS
10	5	No	$250.00	10	$250.00	10
20	3	No	$300.00	10	$75.00	3
30	3	No	$500.00	10	$0.00	0
	0		**$1050.00**		**$325.00**	

MANUFACTURING COST COMPARISON

The manufacturing costing method determines the value to debit inventory and the amount to credit WIP. But what if an employee forgot to record their labor? In the example below, the employee did not record five hours of labor at the $60 hourly rate for operation 30. The table below shows how a partial receipt with incomplete reporting is managed by each costing method.

COST METHOD	UNIT COST	INVENTORY DEBIT	WIP CREDIT	WIP BALANCE
Standard Cost Method	$210.00	$630.00	$630.00	($305.00)
Actual Cost Method	$108.33	$325.00	$325.00	$0.00
Estimated Cost Method	$207.00	$621.00	$621.00	($296.00)

STANDARD COST METHOD

The example sets up the finished good at the standard cost, with a defined cost per unit of $210.00. Therefore, this increases the finished goods inventory by $630.00 (3 units X $210.00) and relieves the WIP account by the same amount at the time of receipt, which leaves a balance of ($305.00) due to incomplete reporting. If the production order closed now, the system would create an adjusting entry to clear the WIP balance. As a result, WIP would be debited $305.00, and a variance of $305.00 would be credited to the WIP variance account. However, this example does not close the production order. The employee later records their labor against operation 30 at the cost of $300. The WIP balance would therefore amount to ($5.00).

ACTUAL COST METHOD

Companies using actual manufacturing costs would see the true total value of $325.00 in job cost reports and general ledger financial transactions. The actual cost method does not protect the inventory value against missed reporting. As such, it does not provide an ideal strategy for partial receipts because the WIP balance is entirely relieved when the manufacturer receives inventory from the production order. If the employee later records their labor against operation 30, the WIP balance would be $300.

ESTIMATED COST METHOD

Estimated costs take a combination of remaining planned and actual costs to determine the finished good's unit cost at the time of receipt. The cost to credit WIP is calculated by multiplying the number of units to be processed by the sum of the current unit costs at the operation. The current unit costs are represented by actual work in process plus remaining planned work in process minus WIP already processed to inventory. This is divided by the total order quantity remaining. However, a cost of zero dollars is used if the result produces a negative result.

The remaining planned labor costs are calculated as planned hours minus actual hours times the work center standard rate. In the example, the cost to credit WIP is $621 leaving $296.00 in WIP until the employee later records the five hours worked, which would leave the WIP balance at $4.00. Systems like Acumatica make it easy to implement estimated costing as the software manages all calculations without human intervention.

MULTIPLE MANUFACTURING COSTING METHODS

Acumatica does not limit manufacturers to just one costing method. For example, manufacturers may use the estimated cost method for most production orders to protect inventory valuations for partial receipts and incomplete reporting. They may also use the actual cost method for production orders associated with a project where the customer is billed on a cost-plus basis.

"There would have been no way to have the control and flexibility we have today with customer pricing and an accurate view of our costs without Acumatica . . . I also liked that Acumatica continues to move forward in releasing new versions twice a year, and that they really listen to their customers. They are moving in the direction that their customers want them to go, not where an executive behind a desk wants to go. Acumatica's mindset is 'here are the resources we need to add to make our customers successful."

– KEITH FORD, PRESIDENT, EAGLE FENCE DISTRIBUTING

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How to Select the Right Options for Your Industry

Cost accountants and accredited CPA firms prove best suited to evaluate inventory valuation and manufacturing cost options. However, below are a few general considerations that may help you choose the best inventory valuation and manufacturing costing strategies for your industry and unique business needs.

WHOLESALE DISTRIBUTION

Companies that distribute durable goods with stable costs are more likely to implement average or FIFO inventory valuation. On the other hand, companies that distribute perishable or nondurable goods often select specific valuation strategies—especially if the products are lot tracked or when they experience a notable change in the price or cost of the item throughout the year.

MAKE-TO-ORDER MANUFACTURERS (MTO)

Engineer-to-order, configure-to-order, assemble-to-order, and job shops are more likely to choose specific inventory valuation and estimated manufacturing costs because they probably will not make the same product again. Manufacturers are challenged to capture actual production costs that are often recorded after the fact because production moves so fast. Further, many components and raw materials used in make-to-order environments are tracked by lot or serial number. However, plenty of make-to-order manufacturers use alternative cost strategies.

MAKE-TO-STOCK MANUFACTURERS (MTS)

Make-to-stock (MTS) and repetitive manufacturers who produce the same products continuously are likely to use standard costing because production costs are easier to predict. They also commonly use FIFO costing and average costing. Actual costing is less popular except when products are tracked by lot or serial number.

MATERIAL CONSIDERATIONS

The raw materials and finished goods you distribute or produce may indicate which inventory valuation methods your company should consider. For example, companies in nondurable goods and process manufacturing industries such as chemicals, oil, food, beverage, pharmaceuticals, and metals are more likely to use specific and FIFO valuation. Conversely, companies that distribute or manufacture durable goods or discrete products such as electronics, industrial equipment and machinery, or plastic products are more likely to use standard, average, or specific valuation methods. As mentioned previously, the best person to make this determination is your cost accountant or trusted CPA.



CAUTION!

Most distributors and manufacturers pick a single inventory valuation and manufacturing costing method and stick with it for multiple years. IRS and financial auditors scrutinize companies more closely when they deploy different valuation or costing methods simultaneously or when they change methods frequently. Businesses who do make a change tend to do so in their first year of operation or when there is a change to their business model that necessitates the change. There may be scenarios where you should use different costing methods (not inventory valuation) at the same time. For example, there may be valid reasons for using standard costing for finished goods but actual costing for lot tracked raw materials.



ERP Software for Costing and Valuation

Every ERP system is different despite complying with GAAP and FASB accounting standards in the USA and IFRS in international regions. For example, although valuation and costing methods resemble each other, not all systems use the same calculations.

Some lower-end ERP applications and older legacy systems support limited costing and valuation methods. Also, note that you do not have to use actual costing in some ERP systems to implement lot or serial tracking. However, in many older ERP systems, you must use actual costing to track items by lot or serial number.

Ensure that the ERP systems on your shortlist can effectively support your current, desired valuation and costing methods. Also, work with a cost accountant or CPA firm to discuss potential future valuation and costing methods that you may want to utilize down the road and make sure evaluated ERP systems support those options as well. Finally, ask the ERP vendor or reseller to demonstrate each valuation and costing method for a clear understanding of how their application supports each scenario. Also, do not forget to ask about their future development plans, as vendors may have plans to expand current options in the near term.

Many complexities across distribution and manufacturing industry segments affect inventory valuation and costing. Therefore, companies who need the specific features listed below should pay special attention to the capabilities of the ERP systems they are evaluating.

"QuickBooks wasn't giving us the visibility we needed across the business, especially regarding production and inventory . . . I would definitely recommend Acumatica to other businesses. It covers the full ERP functionality, it integrates with other products well, and it's cost-effective."

– DEREK SZABO, MANAGING DIRECTOR, DEVIL'S PEAK BREWING COMPANY

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CO-PRODUCTS

Co-products are common in metal stamping, printing, plastics, and other industries that produce more than one unique product in a single production run. For example, a plastic mold can make several products from a single operation. Each part may require varied raw material quantities. As such, the correct material quantity and cost must be allocated correctly to each finished good produced.

DISASSEMBLY

In some industries, a finished good serves as the raw material. For example, a remanufacturer of printer toner receives used toner cartridges and issue them to production. They add more toner to the cartridges and produce essentially the same product. Disassembly is typical in recycling and automotive industries where transmission or engine cores are returned, refurbished, resold, or salvaged.

BY-PRODUCTS

Manufacturers often produce by-products with value but are not the desired finished good from the production run. By-products range broadly across industry segments and include plastic regrind (for runners between parts in injection molds), recyclable precious metal shavings or chips in metal fabrication, and many other scenarios.

WAREHOUSE COSTING

Manufacturing costs often vary by location. For example, New York City and Los Angeles rent and utility costs can be 20% to 50% or higher than costs in smaller markets like Cleveland, Detroit, or Nashville. Consider these costs into overhead rates, which correlate to the overall inventory and manufacturing costs. Unfortunately, some legacy ERP applications and entry-level accounting software do not support variable cost or valuation by stocking location.



ERP Feature Checklist

Use the table below as a reference to compare inventory valuation and manufacturing cost functionality during your ERP evaluation process. As mentioned previously, ask vendors for details to understand how they support each feature. In addition, review documentation and watch available demonstration videos to gain a deeper understanding of each system being considered.

FEATURE	BENEFIT	PRIORITY	Acumatica		
Standard Valuation	The system supports standard valuation for purchased items and manufactured finished goods.		✓		
Valuation History	The application retains a history of valuations and costs over time for future review.		✓		
Average Valuation	The software supports average valuation methods. Note: verify average valuation calculations with potential ERP vendors.		✓		
Specific Valuation	Specific valuations (actual or lot costs) for purchased or manufactured items.		✓		
FIFO Valuation	The software supports first-in-first-out inventory valuation.		✓		
Multiple Methods	Multiple valuation and costing methods can be used simultaneously. For example, you can use Standard Valuation for finished goods and Specific Valuation for purchased raw materials.		✓		
Warehouse Costing	Cost and valuation methods are defined by warehouse location, not globally by item.		✓		
By-Products	The software supports by-products where unintentional material is recovered during production.		✓		
Disassembly	The ERP system supports disassembly, where finished goods can be broken down and restocked as components.		✓		
Perpetual Inventory	The application is designed for perpetual inventory (not periodic inventory).		✓		
Direct Material & Direct Labor	The software breaks out direct material and direct labor costs for reporting.		✓		
Fixed & Variable Overhead	The software breaks out fixed overhead from variable overhead for reporting.		✓		
Job Cost (WIP)	Job Cost inquiries and reports are provided to evaluate work in process costs.		✓		
Update Planned Cost Utility	Update production orders with planned costs when significant changes occur after the order was created and released.		✓		
LIFO Valuation	The software supports last-in-first-out inventory valuation. Note: IFRS standards do not support LIFO, which is not a best practice.				



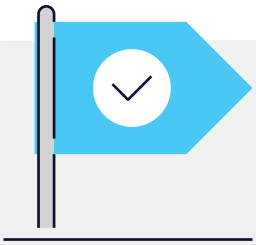
Simplify Inventory Valuation and Manufacturing Costs with Acumatica

Don't forget the importance and flexibility inventory valuation and manufacturing costing provides your distribution or manufacturing business over time. Your needs today are likely to be very different in five or ten years. Don't select an ERP system with limited options that impede future growth. Choosing the right product can dramatically improve your profitability. Picking the wrong application could wreak havoc on your accounting and future viability as a company.

Consider Acumatica, the leading cloud ERP application serving growing distributors and manufacturers. Acumatica supports average, standard, FIFO, and Specific inventory valuation with flexible actual, estimated, or standard manufacturing costing. Acumatica also allows you to manage costs by manufacturing warehouse with specialized functionality to split FIFO and specific (actual) item costs using unique sub-item codes found (to our knowledge).

Built on a future-proof cloud platform with native artificial intelligence and machine learning, Acumatica provides unparalleled manufacturing depth with robust financials, native customer relationship management, and powerful business intelligence applications.

Boost sales, maximize resources, and improve profits with best-in-class applications for production, estimating, engineering, material planning, scheduling, product configuration, and manufacturing data collection. Acumatica is designed for make-to-stock, make-to-order, configure-to-order, engineer-to-order, repetitive, and project-centric manufacturers.



"The leadership team of any small or medium business considering an ERP system is doing themselves a great disservice if Acumatica isn't on their list to investigate."

– BRAM KLEPPNER, CEO
DANFORTH PEWTER

Acumatica
The Cloud ERP

Acumatica Cloud ERP is a comprehensive business management solution that was born in the cloud and built for more connected, collaborative ways of working. Designed explicitly to enable small and mid-market companies to thrive in today's digital economy, Acumatica's flexible solution, customer-friendly business practices, and industry-specific functionality help growing businesses adapt to fast-moving markets and take control of their future.

For more information on Acumatica, visit www.acumatica.com or follow us on LinkedIn.