

POS System Best Practices



Sales & Inventory Analysis Best Practice – Answer Sheet

- Cash Register Functions - Best Practices
- Inventory Analysis Metrics - Best Practices
- Inventory Analysis Product Groups - Best Practices
- Inventory Analysis Product Sales - Best Practices

**2005 – Spring Arbor Distributors
Retailer Momentum Series**



Inventory Analysis - #2

Product Groups [Fixed Fields] - Suggested Best Practices

The key statistics developed in the **Inventory Analysis - Metrics** exercise are used here to complete the reporting format of the Inventory Analysis - Inventory Data “fixed field” reports.

1.)	Annual Retail Sales
2.)	% of Change in Annual Retail Sales from the Previous Year
3.)	COGS - Cost of Goods Sold (\$ and/or %)
4.)	GM - Gross Margin (\$ and/or %)
5.)	GMROII - Gross Margin Return on Inventory Investment
6.)	Inventory Turn

The column “Product Group” in the chart below identifies inventory analysis groups with fixed data fields from which reports are structured. These reports systematically measure and monitor information in these inventory analysis groups and should be scheduled and run on a regular basis.

Product Group	Sales	Sales Variance	Gross Margin \$ or %	Cost of Gds/Sold \$ or %	GMROII	Turns
[Department] Books						
[Subject Category] Christian Living						
[Publisher] Zondervan						
[Sub - Department] Music-Printed						
[Vendor] Spring Arbor						
[Front List] Pub Date <6 month						
[CPC Category] Inspirational/Motivational/Devotional						
[Price Point] \$14.99 to \$19.99						

Tracking performance in these “fixed data” areas will allow retailers to compare to:

- previous performance of the same store to assure a positive trending
- another similar store in your company, marketing group or area
- where applicable, published industry standards for a similar store size/sales

(continued)

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Inventory Analysis - #2 Product Groups [Fixed Fields]

Frequency - Dependent on the grouping - some should be run more frequently than others. There is no limit to the combinations available.

Benefit - Group product analysis allows a store to individually track the performance of a wide number of products that are in some way related to one another, such as publisher, department, subject category or many others. This group tracking and analysis process allows managers to look at data within specific groups to better manage those individual products. An example would be category management – a concept popular in most retail environments, but just catching on in the Christian product industry.

Additional benefits are available when analyzing inventory by data fields. Examples in the Best Practices section above indicate analysis can be done by vendor, department, subject category, order source or any other fixed data fields. Although mentioned here in this seminar of product analysis, these reports are also invaluable when making decisions in the buying, ordering, vendor selection and receiving functions. They will be addressed in much further detail in the other training modules in this POS Systems Best Practices series.

Inventory Analysis #3 Product Sales [Variable]

Inventory Analysis using fixed fields allows a book retailer to review overall inventory productivity and efficiency within related SKU groups. Ultimately it is the individual SKU's movement and productivity that contributes to the profitability of a store. Therefore, reports within groupings that are based on product movement will be considered next. It is the movement of product – out the door – SALE\$, that generate gross margin dollars and profit!

In the exercise that follows, we will identify Inventory Analysis reports that will focus on groups of individual SKU's which are based on product movement – SALE\$! Information used in this group of reports is based on sales and inventory levels which are constantly changing – hopefully! Stated in another manner, the data in these inventory fields is variable, rather than fixed, which we just completed.



Inventory Analysis - #1 Metrics [Measurements] - Suggested Best Practices

In addition to the Christian products industry, the following key metrics are used in many other retail environments to measure and monitor retail inventory productivity. These numerical values and statistics are derived directly from POS data or they are values that have been calculated from POS data using industry standard formulas. See the reverse side of this document for formulas and definitions related to the calculations suggested in the table below as Best Practice Metrics.

1.)	Annual Retail Sales
2.)	% of Change in Annual Retail Sales from the Previous Year
3.)	COGS - Cost of Goods Sold (\$ and/or %)
4.)	GM - Gross Margin (\$ and/or %)
5.)	GMROII - Gross Margin Return on Inventory Investment
6.)	Inventory Turn

Some retailers may use additional information and calculations to measure and monitor sales and inventory performance. The indicators above are considered by most retail industries to be the primary measurements. More sophisticated calculations are used by larger retailers and chains.

Inventory productivity & efficiency is historically gauged using three measurements - sales, gross margin and inventory turn. Our "Best Practices" recommendation is to use GMROII as the primary productivity & efficiency gauge since it is a ratio of the three - sales, gross margin and inventory turn. We also recommend that in addition to GMROII, you also monitor the individual measurements that make up ratio. Tracking information in this manner will enable a store to review specific measurements which contribute to the GMROII ratio and help determine which measurement to focus on for improvement.

Some systems currently calculate GMROII, while others do not. If may be necessary to run individual reports and determine the three measurements. A summary of the metrics that a retailer may gather could look similar to the metrics found in the top row in the following example:

Products	Sales	Sales Variance	Gross Margin \$ or %	Cost of Gds/Sold \$ or %	GMROII	Turns
Example #1 – defined in further exercise						
Example #2 – defined in further exercise						
Example #3 – defined in further exercise						
Example #4 – defined in further exercise						
Example #5 – defined in further exercise						
Example #6 – defined in further exercise						

(over)

Inventory Analysis - #1 Metrics [Measurements] - Glossary & Formulas

Cost of Goods Sold (COGS): The cost associated with purchasing inventory for resale. Components include what you paid for the books, shrinkage and freight-in. Actual merchandise cost and freight should be maintained separately and combined for the total COGS figure. The term COGS is also referred to as cost of revenue or cost of sales.

COST OF GOODS SOLD (COGS)	=	$\frac{\text{Beginning Inventory + Purchases}}{\text{Ending Inventory}}$
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Gross Margin: Can be expressed in either a real \$ value or as a percentage. The percentage of profit generated from the sale of inventory after deducting the cost of sales.

GROSS MARGIN	=	$\frac{\text{Sales - (COGS)}}{\text{Sales}}$
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GMROII: An analysis tool that indicates whether an adequate gross margin is being earned compared to the investment in inventory required to generate these gross margin dollars. GMROII takes both inventory profitability and productivity into account, and it looks only at capital invested in inventory.

GMROII	=	$\frac{\text{Sales - (Cost of Goods Sold)}}{\text{Average Inventory}}$
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Inventory Turn: The number of times a business sells and replenishes its inventory during a given period of time, usually a year.

INVENTORY TURN	=	$\frac{\text{Cost of Goods Sold}}{\text{Average Inventory}}$
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Average Inventory: The value of inventory calculated off monthly or quarterly Balance Sheet periods divided by the number of periods measured. Calculate the average inventory value for the entire 12 month period.

AVERAGE INVENTORY	=	$\frac{\text{Q1 + Q2 + Q3 + Q4}}{4}$
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POS Cash Register Functions Suggested Best Practice Measurements

#	Key Measurement/Statistic – Description	Frequency
1	# of sales transactions	hour / day / month / year
2	Average transaction size [\$]	day / month / year
3	Average transaction size [sku's]	day / month / year
4	Average transaction size [units]	day / month / year
5	Sales per square foot - entire store	month / year
6	Sales per square foot - by department	month / year
7	Sales per square foot - by subject category	month / year
8	Full Time Employee Equivalency	month / year
9	Sales per Full Time Employee Equivalency	year
10	Gross Margin per Full Time Employee Equivalency	year
11		
12		

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POS Cash Register Functions Suggested Best Practice Measurements

#	Key Measurement/Statistic – Description	Purpose Of Measurement	Frequency
1	Measurement: Number of sales transactions Example: 52 transactions per day	Purpose: Measures store traffic count at the register. Can be used to monitor and build store traffic and for budgeting purposes.	Freq: day / month / year
2	Measurement: Average transactions size [\$] Example: \$25.30	Purpose: Monitor average \$ sale per customer. Multiple uses to measure store and employee productivity.	Freq: day / month / year
3	Measurement: Average transactions size [sku's] Example: 3.5 sku's	Purpose: Monitor average # of sku's per sale. Multiple uses to measure store, add on and employee productivity.	Freq: day / month / year
4	Measurement: Average transaction size [units] Example: 5.2 units	Purpose: Monitor average # of units per sale. Measure sales depth and multi-unit productivity.	Freq: day / month / year
5	Measurement: Sales per square foot - entire store Example: \$154	Purpose: Measurement of space efficiency. Strive to continually increase.	Freq: month / year
6	Measurement: Sales per square foot - by department Example: \$238 - Bibles	Purpose: Measurement of departmental efficiency. Use to identify hot/cold spots and reallocate space.	Freq: month / year
7	Measurement: Sales per square foot - by subject category Example: \$205 - Worship CD's	Purpose: Measurement of category efficiency. Use to identify hot/cold spots and reallocate space.	Freq: month / year
8	Measurement: Full Time Employee Equivalency (/2080) Example: 4.5 people	Purpose: Determine the equivalent # of FT employees to measure staff efficiency and effectiveness.	Freq: month / year
9	Measurement: Sales per Full Time Employee Equivalency Example: \$125	Purpose: Determine sales per FT employee. Measures staff efficiency and effectiveness.	Freq: year
10	Measurement: Gross Margin per Full Time Employee Equivalency Example: \$38,100	Purpose: Determines Gross Margin generated per FT employee. Another measurement of staff efficiency.	Freq: year

All examples are random.

Use CBA Operating Survey to compare to industry averages by store volume classification.

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Inventory Analysis – #3

Product Sales [Variable Data] - Best Practices Worksheet

Inventory Analysis by Product Sales serves an entirely different purpose than that of Inventory Analysis by Product Group. In the previous fixed data inventory analysis section, we mentioned that ultimately it is the individual SKU's movement and productivity that contributes to the profitability of a store. Therefore, it is necessary to identify a variety of reports that focus on individual SKU's not based on "fixed data," but on the movement of product found in "variable data" fields. Information in these fields is termed "variable" because it is moving - constantly changing with the accumulation of buying, sales, and on-hand transactions.

We will develop two sets of criteria to help identify and develop Best Practices that will measure and monitor Product Sales. First, let's identify a list of the data fields that contain information that is in any way related to product movement – such as accumulated sales history, on-order and on-hand quantities, etc.

Data fields used to analyze product movement

1.	on hand quantity	7.	automatic desire level
2.	on order quantity	8.	reorder point
3.	YTD sales	9.	date first received
4.	period sales	10.	date last received
5.	minimum order quantity	11.	date last sold
6.	maximum order quantity	12.	

To perform Inventory Analysis by Product Sales, we use data fields related to product movement or SALE\$ – identified above. Product movement can easily be classified in four logical and recognizable levels of movement – active, moderate, low, and all others. We have developed worksheet tables below for each of the four product movement classifications. Identify the Inventory Analysis Product Sales Best Practices reports within each of the four product movement sections that can be used to measure and monitor store productivity:

Active Product Movement Reports

1.	Store Bestsellers – Front List (Top X00)
2.	Store Bestsellers – Back List (Top X00)
3.	Industry Bestsellers Lists – All Products
4.	This weeks (days, months) sales
5.	
6.	

R E T A I L E R M O M E N T U M

Moderate Product Movement Reports

1.	CBA Quarterly Industry Core List
2.	Publishers Core Lists
3.	Back List Product (>12 months sales history)
4.	80/20 Reports
5.	
6.	

Low Product Movement Reports

1.	Returns/Sales/Clearance – reports below can be used – dependent on SKU status/supplier
2.	No Movers – no sales in last 12 months
3.	Slow Movers – sales less than x
4.	
5.	
6.	

Other Product Movement Reports

1.	Overstock Search (multiple parameters)
2.	Out of Stock Reports (multiple parameters)
3.	All Front List (<6 month from pub date or first received)
4.	Seasonal Lists
5.	NYP – (project future cash outflow)
6.	Min/Max/ADL Report (reviews and adjusts stock levels based on sales history)
7.	
8.	
9.	
10.	