



ACME Widgets

bly:Optimize Detailed
Summary of Findings

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This document is an actual Summary Of Findings produced by one of our senior consultants. Names, dates and other pertinent information have been changed.

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Business Process Review - Full Detailed Summary of Findings

Overview

ACME Widgets contacted Blytheco, LLC in 2010 to discuss options to track manufacturing labor and improve accuracy of inventory quantities. Blytheco recommended purchasing Job Ops Base, Time Tracker and Scheduling modules and ScanForce and JoScan bar code software and handheld bar code scanners. In November 2012 ACME Widgets went live with the Job Ops Base and Time Tracker modules.

In order to go live with new system inventory physical count was performed in two days using the new scanning equipment versus weeks it took in the past. Today, inventory is 82% more accurate than it had been in the past. Previously the Sage Work Order module was used and materials were back flushed at the end of the job, reducing inventory quantities whether it was in stock or not allowing for negative inventory; and a standard labor rate was used. Currently parts are scanned relieving inventory as they are pulled from stock preventing negative quantities and labor hours are scanned in real-time.

Purpose

The bly:Optimize was conducted January 28th and 29th, 2012. Management will be opening a second manufacturing facility in July 2013 and is interested in automating the Sales Order Quoting Process, inventory Procurement Processing to increase and improve any process to improve efficiencies and prepare for the addition of a second manufacturing plant.

Personnel Interviewed

Bobby Smith, Mickey Mantel, Sally Strothers, Bob Harris – Quotes
Bobby Smith, Lucy Linus, Carol Singer – Purchase Order
Michael Cane, Dorothy Oz, Sally Strothers – Bill of Materials
Peter Gunn, Dorothy Oz t– Inventory
Michael Cane, Lucy Linus, Marge Mitchell – Searching/Inquiry
Bobby Smith, Carol Singer – Component Exception Manager (CEM)
Lucy Linus, Robert Kincade - Labor Reports
Michael Cane, Fred Astor – Sales Reports
Yvette Angel – Accounts Payable, Accounts Receivable, Custom Lookups
Alice Wonder – Outbound Freight and Back Orders
Bob Harris, Mickey Mantel – Executive Dashboard, Management Reports

Interview with Smith, Mickey Mantel, Sally Strothers, Bob Harris - Quoting

- **New Manufacturing Plant**
 - In July 2013 a new manufacturing plant will be open
 - A separate warehouse will be created in Sage 100 with the same company code
 - Industrial – old warehouse code; Agricultural - new warehouse code

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- **Quote Process for Widget Production**

- An Excel template with part numbers is used for calculations to calculate the cost and price
- A Word document is used re-entering data from the Excel file
- In Sage 100 prints a costed BOM report for top 9mil item number (Not always a 9mil); Looks for the component item in the BOM that requires manipulating because the item changes per customer specifications. Prints the another costed BOM report for a manifold
- Accesses inventory and searches for the pipe part number to locate the cost
- Enters the manifold removes the old pipe size and enters a new pipe size with the quantity required to obtain a new cost
- After the costing is computed in Excel opens a Word template and changes the lines to match what the customer ordered
- Once the quote is honored; Eric goes to Excel to obtain the parts list; creates the Sales Order/Work Ticket manually
- Michael spends a minimum time to cost a system is 15 to 20 minutes; others can take hours to compute; 3 to 10 quotes are created per day
- Standard Sage 100 reports - Quotes are included on the daily back order and sales recap report
- An hour is spent each week re-entering data from the Customer Quote for the salesperson report

Interview with Bobby Smith, Lucy Linus, Carol Singer - Purchasing

- **Purchase Order Processing**

- Maria is not using Component Exception Manager - CEM for inventory replenishment
- Would like to reduce the number of time entering purchase orders
- Purchasing by sales order special items and cycle counts; if below the minimum creates an order
- Cycle counts each month all items grouped by item type and Sage 100 is updated to agree to the cycle count
- 5 to 15 purchase orders per day
- System is being updated more often and more accurate
- Would like to email the purchase order directly to the vendor
 - Currently quick print to PDF; saves to desktop; emails from PDF to the vendor; deletes the PDF from the desktop
- Buy Cards and manually updated with pertinent order information currently recorded in Sage 100. This process is redundant, error prone and not required if all information is stored in Sage 100.

Interview with Michael Cane, Dorothy Oz, Sally Strothers – Bill of Materials

- **Bill of Materials**

- BOM's may not be accurate requiring inventory adjustments for component items
- BOM's are being adjusted to improve accuracy; components have physically changed but BOM's have not been changed in Sage 100
 - BOM's contain components that the shop is not using; BOM's need to be modified to match what production is using; Eric is working with the shop and engineering to resolve this issue

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- BOM's consist of up to 4 levels
- Requires the ability to add a new item in multiple BOM's at the same time. This request requires custom programming.
- Descriptions – if the top level BOM is changed it does not change it in inventory; affects RMA's
- Requires the ability to inactive an item
- Where used report does not provide a description – Single, Indented and Summary reports
- At the end of the day Molly
- prints single level BOM reports for sub-assemblies to pull the reports and attaches to the customer order. The same information is on the work ticket and should not have to do print the single level BOM report. Eric will begin to print an extra copy of the work ticket. Manny requested these printed documents be provided with every shipment. Manny feels 98% of the customers are not using the list.
- **Inventory**
 - 82% accurate; much better than in the past
 - Inventory items may be placed in the wrong bin creating unnecessary adjustments; this occurs twice per week
 - Five to Six people have access to the cage to be sure items are put away in the correct place
 - Cycle Counts
 - Carol performs the cycle count
 - Approximately 8 hours are spent each week performing manual cycle counts
 - The count sheets are printed which includes the item number, description and min/max levels
 - The count is performed based on a calendar schedule of the items to be counted for the day
 - Physical count is manually entered on the count sheet
 - The physical count is compared to the Sage 100 Inventory Inquiry screen for each item
 - Where this is a variance the information is provided to Eric and an inventory adjustment is manually performed in Sage 100
 - Marge compares the quantities manually entered on the count sheets against the Min/Max level printed on the count sheets and highlights any quantity manually entered which is below the minimum quantity required printed on the sheet
 - The items to be counted are similar to the Inventory Product Lines
 - After the cycle count is completed the Logging Cards are updated manually entering the quantity on hand on the card. Sales Order quantities are manually entered and a running total calculated. 30 to 60 minutes per day are spent on the Logging Cards. When there is a lot of order volume it takes up to 2 hours per day to update the cards.
- **Production**
 - Stock items/Make to Stock WT's - Ramon does not enter all work tickets for the month and provides one work ticket at a time to Eric.
 - Production Schedule is provided to Marge and Carol

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Interview with Michael and Melissa - Customer Service

- Taught how to perform a custom lookup to set the default by Customer Name
- Consider adding Knowledge Sync
 - Send an email alert with all new orders created for the day before with a copy of the sales order report
 - Send an email alert when an inventory item reaches within X of minimum order qty
- Upgrade to v4.5
 - Resolve a scheduling error
 - Resolve the RMA issue with the wrong description used for a replacement item

Interview with Mitch and Sally - Inventory

- Parts Orders
 - Currently not scanning items to be pulled
 - Currently printing a picking sheet with a dot matrix with carbon paper for a 2 part form
 - Copy 1 and 2 – manually enter quantity shipped and quantity back ordered
 - Copy 1 – goes back to customer service attached to the sales order
 - Copy 2 – goes in the box with the product
- Hand writing serial numbers on picking sheets
 - Widget X and Widget Z housing
- Inventory Maintenance
 - Dorothy unable to delete items in inventory maintenance
 - Bill of Material number 250040042 – Contains two component items; not performing a production entry or work ticket; none in inventory; determine why production entries are not performed
- On Sales Order lines enter two items with a work ticket; add two items with no work ticket. Show components and the components of the 2 parent item appear below the two items manually entered with no work ticket
- Alice Wonder – needs Sales Order Training
- Pricing
 - Sales Order Prices are manually calculated because Sage 100 is not accurate
 - Bill of Materials – item, description and cost, standard price exported to Excel.
- Custom Bill of Material report – need the total cost of all selected options
- Create an Excel Query to export Item Number, Description, Standard Cost, Standard Price

Interview with Eric, Molly and Carol – Job Ops Component Exception Manager/Purchasing and Inventory Replenishment

- CEM report – remove Primary Vendor, Qty on MRP, determine unit cost is zero; only print line if Qty to Stock or Qty to W/T have a value
- Purchase Order cleanup required

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Interview with Frank and Mike – Sales Reports

- Ship to Address file need to be changed for the new territory
- Sales Budget to Actual Reports
 - Group by Territory, by Product Line; select by invoice date range
 - Sales dollars, quantity sold, customer

Actual MTD, YTD – current year

Budget – customer monthly budget; report: MTD, YTD

Variance - \$

Variance - %

Fred to provide the monthly budget by customer in Excel file

By region which is Salesperson Number in Sage 100

Group by Customer_Saleperson_No

Sample headings:

2013 Period to Date				2013 Year to Date				2012 Actual	
Actual	Budget	Variance	Var %	Actual	Budget	Variance	Var %	MTD	YTD

Interview with Yvett - Accounts Payable and Accounts Receivable

- Add terms description to the AR Aging

Interview with Bobby – Gross Profit Review

- Customer – Equipment Supply; created an Excel query exporting the AR Invoice History Detail invoices to determine why the GP is 62.1%; seems too high for YTD 12/31/12. A large invoice was entered as a Miscellaneous Item Code recording sales with zero cost of sales.

Interview with Molly – Back Orders and Outbound Freight

- Back orders – sales order entry for parts order; unable to back order in the system
 - Cross out the quantity on the paperwork and manually enters how much is being shipped
 - Sue back orders the quantity during Sales Order Invoice Entry. Molly retains copy of the Sales Order with back order information. Back orders are rarely issued for customers.
 - Ask Mitch and Eric why they do not want Molly to enter back order quantities
- Freight
 - Requires the tracking number and freight to be added to the invoice automatically
 - Carriers – UPS, FedX, ABF, Covenant
 - Shipments – LTL, Parcel
 - Goal is to import freight and tracking number in Sales Order Shipping Data Entry

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Exit Interview with Bob and George

- Summary level reporting for Quarterly Company meetings – define reports to be used
 - GL Revenue/GP, current and prior year
 - Sales by Product Line
 - Sales grouped by Customer Type
 - Biggest moving items
 - Sales by territory by product line
- Bob would like summary level reports in a graphical view
 - Reviewed the Business Insights Dashboard with Bob and George

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Recommended Next Steps

Short Term

1. Inventory Setup Options
 - a. Change setting to not include Purchase Orders and Work Orders

2. Reports
 - a. Modify the Daily Back Order and Sales Recap reports to exclude quotes
 - b. Labor Reports
 - i. Remove prompt by work ticket number and add a prompt by employee department/number
 - ii. Create a report providing number of hours spent by Activity Code by Employee with sub-totals; prompt by work ticket number; closed work tickets only.
 - c. Train staff to run Crystal Report File Generation to update transactions before printing labor reports
 - d. Blytheco will edit the Custom Bill of Material report to add a shared variable to pass the sub-total of the Option sub-total to the main report and calculate the total BOM cost with options
 - e. Export the Ship to Address file to Excel, change the salesperson field to the new territory and import back into Sage 100. Required for Sales reports.
 - f. Create user-defined fields for budget amounts and import into Custom Office by Customer number, Month to Date and Year to Date for 2013 only. Each year the MTD and YTD amounts will be updated for the following year. Required for Sales reports.
 - g. Blytheco to create Sales Budget to Actual Reports – sample reports provided to Blytheco by Fred
 - h. Management reports – define reporting requirements with Bob Jones

3. Support
 - a. Determine the Work Ticket Number causing error 26 when Crystal Report File Generation is run
 - b. On Sales Order lines enter two items with a work ticket; add two items with no work ticket. Show components and the components of the 2 parent item appear below the two items manually entered with no work ticket.

4. Procedures
 - a. Write a procedure for Purchasing to use Component Exception Manager (CEM)
 - b. At the end of the day Molly Francis prints the single level Bill of Materials reports for sub-assemblies to pull the parts and attaches to the customer order. The same information is on the work ticket and should not have to do print the single level BOM report. Eric Roberts will begin to print an extra copy of the work ticket. Manny requested these printed documents be provided with every shipment.

This process seems to be redundant; further discussion is required to determine if this process may be eliminated. Consider change the process to print the Bill of Material report at the time of production and add to the box for pre-packaged products. Manny estimates 98% of the customers are not using the list.

5. Automate the Sales Order Quoting Process
 - a. Purchase and implement Job Ops Product Configurator for tanks, pressure ratings, voltages, etc.
 - b. Team for the implementation of Product Configurator will be Mike, Eric, Joyce

6. Automate email alerting of critical information

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- a. Purchase and implement Knowledge Sync
 - i. Send an email alert to specified personnel upon any buy item where the quantity on hand is below the minimum stock requirement
 - ii. Send an email alert to Eric and Raymond when any make item reaches the minimum order quantity required

7. Training

- a. Provide additional training of Component Exception Manager for the purchasing department
- b. Provide Sales Order training for Eric
- c. Upgrade the Sage Subscription Plan from Silver to Gold to enable access to Anytime Learning Training Videos

8. Paperless Office Setup and Training

- a. Enable ability to email purchase order directly to the vendor
- b. Enable ability to email invoices to customers saving money for postage and stationery and improve efficiencies

9. Improve Production/Purchasing Planning and Timing of Work Ticket Creation

- a. Stock items/Make to Stock WT's - Ramon does not enter all work tickets for the month and provides one work ticket at a time to Eric. Create work tickets for a month at a time which will create the inventory demand and improve purchasing requirements to ensure the materials are available when needed. Erica will hold the paperwork until Ramon is ready to begin production.

10. Improve Inventory Cycle Count Efficiencies

- a. Export the inventory items grouped by Product Line
- b. Develop a Cycle Code schedule to mimic the product lines to be counted according to the calendar. Example: A = Widget 1, B = Widget 2, C = Widget 3, D = Widget 4, E = Widget 5, F = Widget 6, etc. Add the Cycle Code to each item on the Excel file. Blytheco will import the Cycle Code.
- c. Modify the Sage 100 County Sheets to include the Min/Max Levels as reference only.
- d. Each week ensure all inventory related transactions are updated including Sales Order Invoicing, Inventory Adjustments and Purchase Order Receiving; freeze inventory by the Cycle Code to be counted and print count sheets.
- e. Use a bar code scanner to enter the counts to automatically update to Inventory Physical Count Entry.
- f. Print the Inventory Physical Count Variance report and double check large variances. Update the Variance Register. The inventory adjustments will be made by the system eliminating the need for manual adjustments.
- g. Run Component Exception for Buy items and automatically create purchase orders for items below the minimum quantities required.
- h. Eliminate the use of Buy Cards and Logging Cards manually updated for all inventory related transactions. Buy Cards are purchasing related transactions and Logging Cards are sales order related transactions.

Note: Determine if it is necessary to purchase another handheld scanner for regular cycle count processing.

11. Form Maintenance

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- a. Add bar codes to picking sheet adding the sales order number and inventory item numbers. Train the warehouse to scan items to be pulled for parts orders. Print as graphic form with shading with department name for each copy required.

12. Inventory Maintenance

- a. Change the inventory valuation method for Widget bars and Widget Rod housing to serialize. Print serialize numbers on picking sheets to eliminate personnel hand writing serial numbers on picking sheets
- b. Create an Excel Query to export Item Number, Description, Standard Cost, and Standard Price. Edit the field with the correct Standard Cost and Standard Price and import into the proper utilities and update.

13. Bill of Materials Maintenance

- a. Export inventory item and description, and import into the Bill of Material Header description
- b. Export the inventory item master file to Excel. Identify items to be Inactive or change the Product Type to Discontinued. Inactive items do not allow transactions, whereas Discontinued items prompt the user with a warning and are allowed to continue using the item. Import the changes into the inventory item master file.
 - i. Create a filter not equal to inactive items in the Bill of Material Header and Component lines lookup.
- c. Edit the Where Used Reports, Single, Indented and Summary reports adding the item description
- d. Consider changing the type of Bill of Material number 250040042 as a Kit item and explode during Sales Order Entry to relieve the component items as the item is sold. Production entries are not currently being performed.

14. Automate Freight calculation and transfer of tracking number to Sales Order Shipping Data Entry.

- a. Contact Federal Express and UPS and request they provide an *.CSV file to be uploaded with the freight amount and tracking number.

Mid Term

1. Upgrade Sage 100 from version v.4.40 to v4.50 to resolve error in the Schedule module and be current with the program files

Long Term

1. Requires the ability to add a new item in multiple BOM's at the same time. This request requires custom programming.
2. Automate Freight calculation and transfer of tracking number to Sales Order Shipping Data Entry.
 - a. Consider adding Smart Linc or other 3rd party freight software program.

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