

CHAPTER 9: ANALYSIS AND REPORTING

Objectives

The objectives are:

- Explain how to set up and use sales and purchase analysis reports.
- Describe and demonstrate how to perform analysis by dimensions.
- Explain how to create and export budgets and use them in analysis reports.

Introduction

The Analysis and Reporting features of Microsoft Dynamics® NAV 2009 provide sales managers, purchasing managers, and warehouse managers tools to easily budget, forecast, and analyze data. These features are designed for people without a background in finance and accounting.

Companies can use analysis reports to review real-time data in highly customizable reports, saved under unique names, and positioned in the respective application area to analyze data in a preferred format. Analysis line templates and analysis column templates are user-defined and unlimited. This means reports can be created that are customized for a company's needs and business processes. Dimensions enable the user to analyze trends and compare characteristics across a range of entries. It is also possible to combine and compare source data online by changing parameters. The program-wide drill-down functionality enables the user to make decisions based on real-time data investigations of detailed transactions.

Companies can use Sales and Purchase Budgets functionality to make sales budgets on customer and item levels and purchase budgets on vendor and item levels, both in amounts and quantities. Users can track actual performance by calculating variances and can move budget figures between Microsoft Dynamics NAV and Microsoft® Office Excel®. The system supports budget version control and lets users work on individual budgets at the same time. Comparing analysis report data against budgets is easier than traditional budgeting with dimensions and dimension filters. The user can create user-defined budgets for identical time periods, G/L accounts, and dimensions.

Analysis Reports

Companies can use analysis reports to create customized reports that are based on posted transactions, such as sales, purchases, transfers, and inventory adjustments.

An analysis report consists of objects to analyze represented as lines and analysis parameters (the way to analyze the object) represented as columns.

For sales analysis, the **Analysis Report Sale** page contains all analysis reports, the analysis line template, and the analysis column template attached to each analysis report.

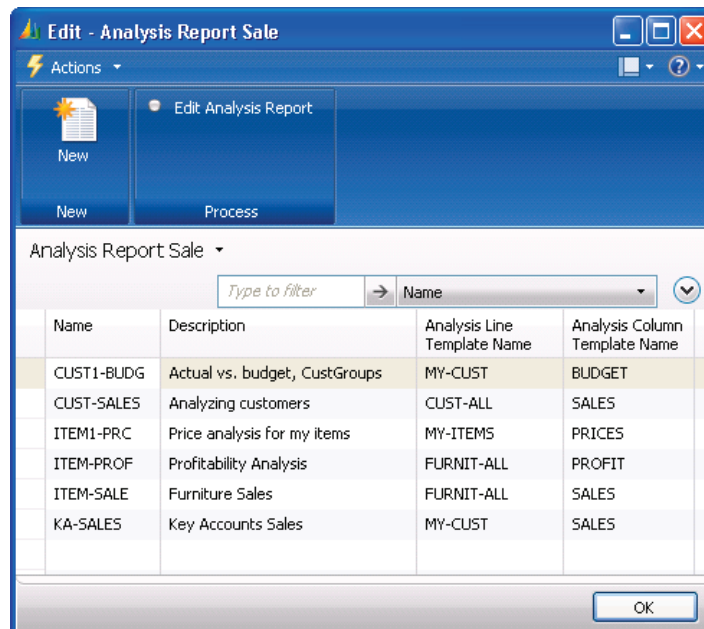


FIGURE 9.1 LIST OF SALES ANALYSIS REPORT NAMES

Users can create, view, and modify analysis reports from the **Sales & Marketing** page and the **Purchase** page by clicking **Reports and Analysis** and then clicking **Sales Analysis Reports** or **Purchase Analysis Reports**. The functionality is identical whether it is accessed from Purchase or Sales. The following explanation uses Sales Analysis Reports and also applies to Purchase Analysis Reports.

To create an analysis report:

- Set up the line template.
- Set up the column template.
- Enter a report name and description in the **Analysis Report Sale** page and then select the line and column templates.

Line Templates

The lines in a report contain the objects to analyze. Follow these steps to set up line templates:

1. On the navigation pane, click **Sales & Marketing**.
2. On the **Sales & Marketing** page, click **Administration** and then click **Sales Analysis Line Templates**.

In this page, create rows that display:

- Customers and Customer Groups
- Items and Item Groups
- Salespeople
- Formulas

Dimensions define Customer and Item Groups and Salespeople. Using dimensions in analysis reports is explained in the "Analysis by Dimensions" lesson.

Select which lines to use in an Analysis Report from the **Analysis Lines Templates - Sales** page. To access the **Sales Analysis Lines** page, click **Lines** on the Action Pane of the **Analysis Line Templates - Sales** page.

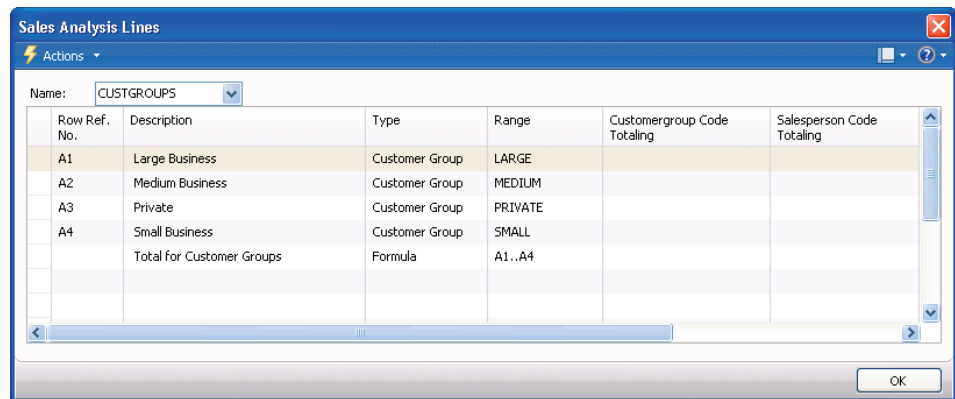


FIGURE 9.2 SALES ANALYSIS LINES SET UP FOR THE CUSTGROUPS SALES ANALYSIS LINE TEMPLATE

These lines can be modified manually or with the insertion function to add, for example, a new customer.

Column Templates

The columns in a report contain the analysis parameters. To set up column templates, on the **Sales & Marketing, Administration** page, click **Sales Analysis Column Templates**.

In this page, define columns that display:

- Sales amounts
- Cost amounts
- Quantities
- Non-inventoriable amounts
- Unit price
- Standard cost
- Indirect cost
- Unit cost

Companies can use the **Analysis Columns Templates - Sales** page to access existing column templates or create new templates. Click **Columns** on the Action Pane of the **Analysis Column Templates - Sales** page. The **Analysis Columns - Sales** page displays.

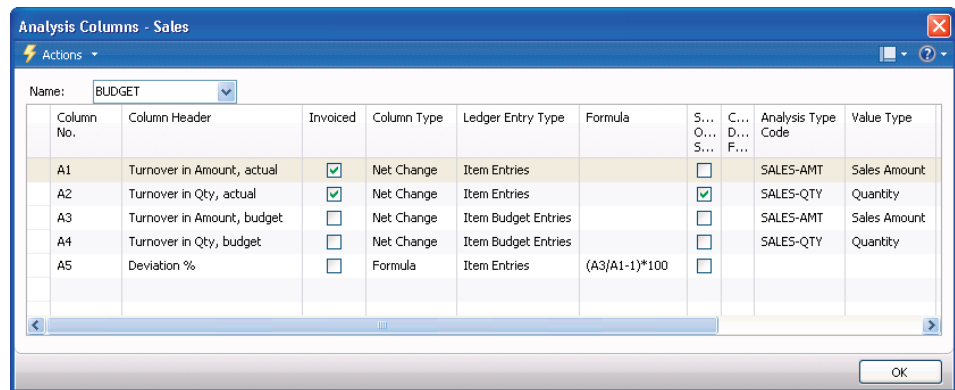


FIGURE 9.3 SALES ANALYSIS COLUMNS SET UP FOR THE BUDGET SALES ANALYSIS COLUMN TEMPLATE

Set up columns to appear in the analysis report. For each column, define the data in the item ledger entries and budget entries to retrieve for the analysis report. For information about each field, refer to the online Help.

Analysis Types

For each column set up in the **Analysis Columns - Sales** page, select an analysis type to specify a value in the column; for example, Cost of Goods Sold or Consumption. Default analysis type codes for most of the relevant analyses are included in the program.

NOTE: On the **Analysis Types** page, you can set up the default analysis types that are included in the program by clicking **Reset Default Analysis Types** on the Action Pane.

Click the drop-down arrow in the **Analysis Type Code** field and then click **Advanced** to view the **Analysis Type List**.

Each Analysis Type code has a default Item Ledger Entry Type filter, Value Entry Type filter, and Value Type that together define the values in the item and budget entries to retrieve. View, create, or modify analysis type codes by clicking **Analysis Types** from the **Sales & Marketing, Administration** page.

The following table shows from where Value Type information is accessed.

Value Type	Information From
Sales amount	Item ledger entries
Cost amount	Item ledger entries
Non-inventoriable amount	Item ledger entries
Quantity	Item ledger entries
Unit cost	Item card
Standard cost	Item card
Indirect cost	Item card
Unit price	Sales prices

Demonstration: Customize Analysis Reports

It is possible to use existing analysis reports to create customized reports. The following demonstration shows the key fields in the analysis report and describes how to customize an existing analysis report.

Scenario: Kevin, the sales manager at CRONUS International Ltd., created a report named KA-SALES, which provides an overview of sales turnover and profit for some specific customers who are being followed closely. Kevin has to run this report to retrieve January sales numbers, but first, it is necessary to add customer 49633663, Autohaus Mielberg KG, to the report.

Follow these steps to review the current KA-SALES analysis report for the month of January 2010:

1. On the **Sales & Marketing** page, click **Reports and Analysis** and then click **Sales Analysis Reports**.
2. Click the line for the KA-SALES and then click **Edit Analysis Report** on the Action Pane.
3. Expand the **Matrix Options** FastTab.
4. In the **View by** field, select Month.
5. On the Action Pane, click **Show Matrix**.

Follow these steps to add the customer to the analysis line template:

1. Close the **Sales Analysis Matrix** page.
2. On the **Related Information** menu, point to **Actions** and then click **Set Up Lines**.
3. Click the Key Accounts Total line and then click the **Actions** menu, point to **Functions**, and then click **Insert Customers**.
4. Click the line for customer 49633663 and then click **OK**.

The program automatically enters the customer information into the report lines. The customer number copies into the **Row Ref. No.** field.

***NOTE:** Row reference numbers are optional and are used to create formulas; they are not related to other number series in the program.*

*To use a row reference number in a formula, at least one character must be in the **Row Ref. No.** field that is not a number.*

Because row reference numbers are used in a formula to calculate the Key Accounts Total amount, Kevin must modify the information in the **Sales Analysis Lines** page accordingly.

Follow these steps to update the sales analysis lines and then review the updated KA-SALES analysis report for the month of January 2010:

1. In the **Row Ref. No.** field for customer 49633663, type A6.
2. In the **Range** field on the Key Accounts Total line, type A1..A6.
3. Click **OK** to close the **Sales Analysis Lines** page.

***NOTE:** You can also insert rows into the **Sales Analysis Lines** page manually.*

4. On the **Sales Analysis Reports** page, click **Show Matrix**.

Customer Autohaus Mielberg KG appears in the report.

Follow these steps to view the analysis columns to determine the parameters set up to analyze this data:

1. Close the **Sales Analysis Matrix** page.
2. On the **Related Information** menu, point to **Actions** and then click **Set Up Columns**.

The **Column Header** field shows the columns used to create the report and the **Formula** field shows how certain values are calculated on the report.

3. On any line, click the drop-down arrow in the **Analysis Type Code** field and then click **Advanced** to open the **Analysis Type List** page.
4. On the Action Pane, click **Setup** to view the filters for each analysis type.
5. Close the open pages to return to the **Sales Analysis Report** page.

Analysis reports allow users to drill down into the data to investigate the results. Drill down capabilities are available on any lines that pull information from the ledgers; users cannot drill down into formula lines.

Follow these steps to drill down into the **Sales, Invoiced** field on the KA-SALES report:

1. On the Action Pane, click **Show Matrix**.
2. On any row, click the **Sales, Invoiced** field.

The **Value Entries** page displays the invoiced sales entries that make up the data on the report line.

Demonstration: Create an Analysis Report

Scenario: CRONUS needs a report that shows quantities purchased this year versus last year for all the customers assigned to the YELLOW location.

Steps: Create Analysis Line Template

Follow these steps to create the analysis line template:

1. On the **Sales & Marketing** page, click **Administration** and then click **Sales Analysis Line Templates**.
2. On the Action Pane, click **New**.
3. In the **Name** field, type Yellow.
4. In the **Description** field, type Yellow Warehouse Customers.
5. On the Action Pane, click **Lines**.
6. On the **Actions** menu, point to **Functions** and then click **Insert Customers**.
7. On the Filter Pane, in the **Type to filter** field, enter YELLOW.
8. On the drop-down menu, select **Location Code** and then press ENTER or TAB.
9. Select all lines and then click **OK**. The customer information copies into the sales analysis lines.
10. Select all lines that contain a customer and then on the **Actions** menu, point to **Functions** and click **ReNUMBER Lines**.
11. In the **Start Row Ref. No.** field, type Y1 and then click **OK**.

12. Click **OK** to close the message.
13. In the first blank row underneath the customer names, in the **Description** field, type Yellow Warehouse Customers, Total.
14. In the **Type** field, enter Formula.
15. In the **Range** field, type Y1..Y34 to include all customer lines.
16. Select the **Bold** check box.

The screenshot shows the 'Sales Analysis Lines' window with the 'Name' field set to 'YELLOW'. The table below represents the data shown in the window:

Row Ref. No.	Description	Type	Range	Bold	Department Code Totalling	Project Code Totalling
Y26	Carl Anthony	Customer	45282829	<input type="checkbox"/>		
Y27	Ravel Møbler	Customer	45779977	<input type="checkbox"/>		
Y28	Lauritzen Kontormøbler A/S	Customer	45979797	<input type="checkbox"/>		
Y29	Marsholm Karmstol	Customer	46251425	<input type="checkbox"/>		
Y30	Konberg Tapet AB	Customer	46525241	<input type="checkbox"/>		
Y31	Englunds Kontormøbler AB	Customer	46897889	<input type="checkbox"/>		
Y32	Slubrevik Senger AS	Customer	47523687	<input type="checkbox"/>		
Y33	Klubben	Customer	47563218	<input type="checkbox"/>		
Y34	Sjøboden	Customer	47586954	<input type="checkbox"/>		
	Yellow Warehouse Customers, Total	Formula	Y1..Y34	<input checked="" type="checkbox"/>		

FIGURE 9.4 COMPLETED SALES ANALYSIS LINES FOR THE YELLOW TEMPLATE

17. Click **OK** to close the **Sales Analysis Lines** page.
18. Click **OK** to close the **Analysis Line Templates - Sales** page.

Steps: Create Analysis Column Template

Follow these steps to create the analysis column template and enter the first column row (many default values will not be changed):

1. On the **Sales & Marketing, Administration** page, click **Sales Analysis Column Templates**.
2. On the Action Pane, click **New**.
3. In the **Name** field, type Quantity.
4. In the **Description** field, type Quantity.
5. On the Action Pane, click **Columns**.
6. In the **Column No.** field, type A1.
7. In the **Column Header** field, type Quantity Invoiced.
8. Select the **Invoiced** check box.
9. Select the **Show Opposite Sign** check box.
10. In the **Analysis Type Code** field, enter SALES-QTY.
11. In the **Rounding Factor** field, enter 1.

Follow these steps to enter the next column row:

1. Go to the next line.
2. In the **Column No.** field, type A2.
3. In the **Column Header** field, type LY: Quantity Invoiced.
4. Select the **Invoiced** check box.
5. Select the **Show Opposite Sign** check box.
6. In the **Comparison Date Formula** field, type -1Y.
7. In the **Analysis Type Code** field, enter SALES-QTY.
8. In the **Rounding Factor** field, enter 1.

Follow these steps to enter the last column row and finish creating the column template:

1. Go to the next line.
2. In the **Column No.** field, type B1.
3. In the **Column Header** field, type Change %.
4. In the **Column Type** field, enter Formula.
5. In the **Formula** field, type (A1/A2)*100.
6. In the **Rounding Factor** field, enter 1.

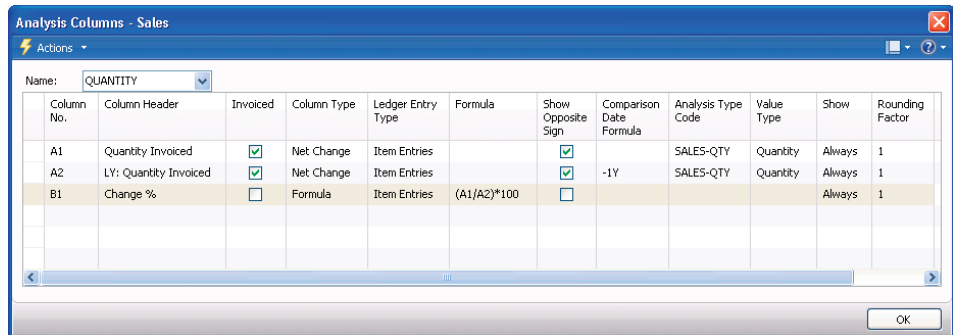


FIGURE 9.5 COMPLETED SALES ANALYSIS COLUMNS FOR THE QUANTITY TEMPLATE

7. Click **OK** to close the **Analysis Columns - Sales** page.
8. Click **OK** to close the **Analysis Columns Templates - Sales** page.

Steps: Create Analysis Report and Assign Lines and Columns

Follow these steps to create the analysis report and assign the lines and columns templates:

1. On the navigation pane, click **Sales & Marketing**.
2. On the **Sales & Marketing** page, click **Reports and Analysis** and then click **Sales Analysis Reports**.

3. On the Action Pane, click **New**.
4. In the **Name** field, type Quantity.
5. In the **Description**, type Location by Quantity.
6. In the **Analysis Line Template Name** field, enter YELLOW.
7. In the **Analysis Column Template Name** field, enter QUANTITY.

Steps: Review Report and Modify Line Template

Follow these steps to review the report:

1. On the Action Pane, click **Edit Analysis Report**.
2. Expand the **Matrix Options** FastTab.
3. In the **View by** field, select Year.
4. On the Action Pane, click **Show Matrix**.

The report contains quantity statistics for the yellow location customers for the current and previous year.

When Kevin prints this report, he wants it to show only those customers who bought from CRONUS this or last year so he needs to modify the line template.

Follow these steps to modify the line template:

1. Close the **Sales Analysis Matrix** page.
2. On the **Related Information** menu, point to **Actions** and then click **Set Up Lines**.
3. On each line, in the **Sales** field, enter If Any Column Not Zero.
4. Click **OK** to close the **Sales Analysis Lines** page.
5. Click **OK** to close the **Analysis Line Templates** page.

***NOTE:** This change does not affect the view in the **Sales Analysis Matrix** page.*

Steps: Preview Printed Report

Follow these steps to preview the printed report:

1. On the **Related Information** menu, point to **Reports** and then click **Print**.
2. Click **Preview**.

Only customers who bought from CRONUS this or last year appear on the report.

Procedure: Set Up Customer Groups and Item Groups

When creating the Analysis Report line templates, users cannot select customer groups, item groups, or salespeople without setting up a corresponding dimension in an **Analysis View Card**.

Define customer groups and salespeople as dimensions in **Sales & Receivables Setup**. Before use in an **Analysis View Card**, product groups must be defined as dimensions in **Inventory Setup**.

Follow these steps to set up customer groups and salesperson dimensions for use in analysis reports:

1. On the **Sales & Marketing** page, click **Administration** and then click **Sales & Receivables Setup**.
2. On the **Dimensions** FastTab, enter the relevant customer group dimension in the **Customer Group Dimension Code** field.
3. In the **Salesperson Dimension Code** field, enter the relevant salesperson dimension.
4. Click **OK** to close the **Sales & Receivables Setup** page.

Follow these steps to set up product groups for use in analysis reports:

1. On the **Warehouse** page, click **Administration** and then click **Inventory Setup**.
2. On the **Dimensions** FastTab, enter the relevant product group dimension in the **Item Group Dimension Code** field.
3. Click **OK** to close the **Inventory Setup** page.

***NOTE:** Advanced Dimensions functionality is necessary to use groups of objects in analysis reports. Generally, the two global dimensions are used for other reporting entities and are unavailable for analysis report grouping.*

After the user defines these dimensions in setup, he or she can assign each one to an analysis view.

***NOTE:** Customer and item groups are unusable in an Analysis Lines Template unless the appropriate Analysis View Code is selected in the **Analysis Lines Templates** page. The program lets users add customer and item groups in the Sales Analysis Lines. However, an error message displays when users try to use the Analysis Lines Template in a report.*

Procedure: Review Analysis View Setup

In the CRONUS demonstration database, an Analysis View Card exists for customers who have the dimensions for Customer Groups and Salespeople.

Follow these steps to review the customer groups and salespeople set up as dimensions in the Customers analysis view:

1. On the **Sales & Marketing** page, click **Administration** and then click **Sales Analysis View Card**.

2. With the line for CUSTOMERS selected, click the **Actions** menu and then click **View** or **Edit** to open the **Sales Analysis View Card**.
3. Expand the **Dimensions** FastTab.

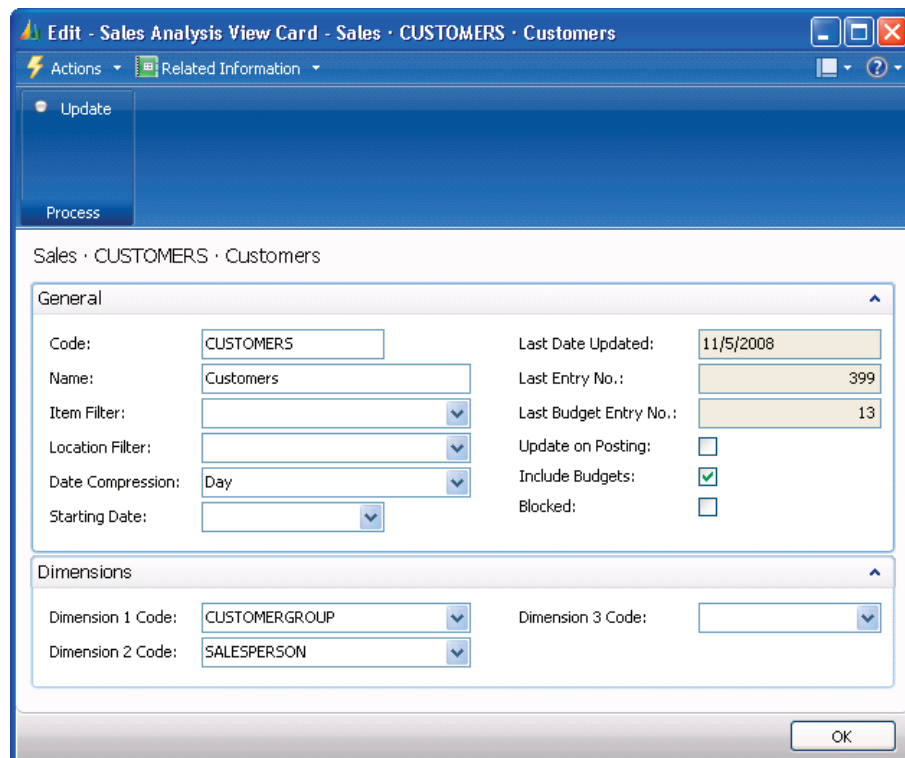


FIGURE 9.6 SALES ANALYSIS VIEW CARD FOR THE CUSTOMERS ANALYSIS VIEW

This analysis view is set up with Customer Group and Salesperson dimensions. Users can select up to three dimensions for each Analysis View. Users can also set up filters on dimensions not included in the analysis view by clicking the **Related Information** menu, pointing to **Analysis**, and then clicking **Filters**. No additional filters have been set on this analysis view.

On the **General** FastTab, the **Update on Posting** check box is clear. This means that this analysis view must be updated manually to ensure that the recent posted entries are included in the analysis view. You can update this view by clicking **Update** on the Action Pane or running the Update Analysis View batch job.

4. On the Action Pane, click **Update**.
5. Click **Yes** to update the analysis view.

Demonstration: Analyze Quantity Purchased by Customer Groups

This demonstration is a continuation of the "Create an Analysis Report" demonstration.

Scenario: Kevin now needs to modify the Location by Quantity report to analyze quantity purchased by customer groups this year versus last year.

Follow these steps to modify the existing analysis report:

1. On the **Sales & Marketing** page, click **Reports and Analysis** and then click **Sales Analysis Reports**.
2. On the line for the Location by Quantity report, click the drop-down arrow in the **Analysis Line Template Name** field and then click **Advanced**.

In the **Sales Line Templates - Sales** page, the CUSTGROUPS template has the **Item Analysis View Code** of CUSTOMERS.

3. Click CUSTGROUPS and then click **OK** to select this template for use in the analysis view.
4. On the Action Pane, click **Edit Analysis View**.
5. On the **Matrix Options** FastTab, in the **View by** field, enter Year.
6. On the Action Pane, click **Show Matrix**.

The report updates to show quantity statistics for each customer group.

View, Modify, and Present Analysis Reports

Users can modify and present analysis view reports in a variety of ways from the **Sales Analysis Report** or **Purchase Analysis Report** pages, respectively:

- Preview and print the report by clicking the **Related Information** menu, pointing to **Reports** and then clicking **Print**.
- Export the report to Microsoft Excel by clicking the **Related Information** menu, pointing to **Actions**, and then clicking **Export to Excel**. Use features in Microsoft Excel to modify and present the report.

Demonstration: Export an Analysis Report to Microsoft Excel

This demonstration is a continuation of the "Customize Analysis Reports" demonstration.

Scenario: Kevin has to demonstrate to the sales staff the January 2010 turnover for its top customers. He exports the KA-SALES analysis report to Microsoft Excel, where he can then use features to create the presentation.

Follow these steps to export an analysis report to Microsoft Excel:

1. On the **Sales & Marketing** page, click **Reports and Analysis** and then click **Sales Analysis Reports**.
2. Click the line for the KA-SALES and then click **Edit Analysis Report** on the Action Pane.
3. Expand the **Matrix Options** FastTab.
4. In the **View by** field, select Month.
5. On the **Related Information** menu, point to **Actions** and then click **Export to Excel**.
6. Click **OK** to create a new workbook.
7. Select the relevant server access to Excel and then click **OK**.

Microsoft Excel opens with the sales analysis report information.

Lab 9.1 - Create an Analysis Report

Scenario

CRONUS management has asked you, the sales manager, to provide a sales report that displays sales by sales representatives for January 2010. The requirements for the report are as follows:

- The report can only include sales representatives assigned the Salesperson dimension.
- The report must be broken down by invoiced sales and those that have not been invoiced.
- The report must include a final line that displays total sales by salespeople.
- The printed report can only show those salespeople who recorded sales in the report timeframe.

As the sales manager, you must first set up an analysis view card with the Salesperson dimensions and add it to the Analysis Lines Template before selecting salespeople in an Analysis Report. Before setting up the analysis column template, review existing templates to see whether you can reuse or modify one. The final step is to print preview the report.

Challenge Yourself!

1. Create the analysis view card.
2. Create the analysis line template.
3. Review the existing analysis column templates to see if one with the sales columns exists.
4. Create the analysis report.
5. Print preview the SALES analysis report.

Need a Little Help?

Follow these steps to create the analysis view card:

1. Open the **Sales Analysis View Card** page and create a new analysis view with a code of SALESREPS, name of Sales by Sales Representatives, and dimension filter of Salesperson.
2. Update the analysis view.
3. Open the **Sales Analysis Line Templates** page and create a new line template with a code of SALESPERS and description of Salespeople and use the SALESREPS item analysis view.
4. Open the **Sales Analysis Lines** page and insert all the sales/purchase persons.

5. Renumber the lines starting with row number S1.
6. Add a final row called Total Sales with the formula to include all salesperson lines and make this line bold.
7. Set each line to only print if there is value not equal to zero.
8. Open the **Sales Analysis Column Templates** page and review the columns for the SALES template to see if it contains the necessary information.
9. Open the **Sales Analysis Reports** page and create a new report called SALES with a description of Sales by Salesperson. Use the SALESPERS line template and the SALES column template.
10. Open the **Sales Analysis Report** page and set the filters to view the analysis for January 2010.
11. Print preview the report and then close the print preview.

Step by Step

Follow these steps to create the analysis view card:

1. On the **Sales & Marketing** page, click **Administration** and then click **Sales Analysis View Card**.
2. On the Action Pane, click **New**.
3. In the **Code** field, type SALESREPS.
4. In the **Name** field, type Sales by Sales Representatives.
5. In the **Dimension 1 Code** field, enter Salesperson.
6. On the Action Pane, click **Update**.
7. Click **Yes** to update the analysis view.
8. Click **OK** to close the **Sales Analysis View Card** page.
9. Close the **Analysis View List Sales** page.

Follow these steps to create the analysis line template:

1. On the **Sales & Marketing, Administration** page, click **Sales Analysis Line Templates**.
2. On the Action Pane, click **New**.
3. In the **Name** field, type SALESPERS.
4. In the **Description** field, type Salespeople.
5. In the **Item Analysis View Code** field, enter SALESREPS.
6. On the Action Pane, click **Lines**.
7. On the **Actions** menu, point to **Functions** and then click **Insert Sales/Purchase Persons**.
8. Select all lines and then click **OK**.
9. Select all lines and then on the **Actions** menu, point to **Functions** and then click **Renumber Lines**.
10. In the **Start Row Ref. No.** field, type S1 and then click **OK**.

11. Click **OK** to close the message.
12. In the first blank row underneath the salesperson names, in the **Description** field, type Total Sales.
13. In the **Type** field, enter Formula.
14. In the **Range** field, type S1..S4 to include all salesperson lines.
15. Select the **Bold** check box.
16. On each line, change the **Show** field to If Any Column Not Zero.
17. Click **OK** to close the **Sales Analysis Lines** page.
18. Click **OK** to close the **Analysis Line Templates - Sales** page.

Follow these steps to review the existing SALES analysis column template:

1. On the **Sales & Marketing, Administration** page, click **Sales Analysis Column Templates**.
2. Click the line for the SALES template, and then click **Columns** on the Action Pane. This analysis column template will provide the needed salesperson information.
3. Click **OK** to close the **Analysis Columns - Sales** page.
4. Click **OK** to close the **Analysis Columns Templates - Sales** page.

Follow these steps to create the analysis report:

1. On the navigation pane, click **Sales & Marketing**.
2. On the **Sales & Marketing** page, click **Reports and Analysis** and then click **Sales Analysis Reports**.
3. On the Action Pane, click **New**.
4. In the **Name** field, type Sales.
5. In the **Description**, type Sales by Salesperson.
6. In the **Analysis Line Template Name** field, enter SALESPERS.
7. In the **Analysis Column Template Name** field, enter SALES.

Follow these steps to print preview the SALES analysis report:

1. On the Action Pane, click **Edit Analysis Report**.
2. Expand the **Matrix Options** FastTab.
3. In the **View by** field, select Month.
4. On the **Related Information** menu, point to **Reports** and then click **Print**.
5. Click **Preview** and review the report.
6. Close the **Print Preview** page.

Analysis by Dimensions

To analyze information by using multiple dimensions, companies can use the Analysis by Dimensions feature found on either the **Sales & Marketing** or **Purchase** pages by clicking **Reports and Analysis**. This function lets users view amounts derived from analysis views.

With analysis by dimensions, users can:

- Combine dimensions
- Filter entries
- Explore data from different perspectives
- View net change or balance at date numbers
- Select time periods

Users cannot print this information directly. They can export it to Excel and use all of Excel's tools to create presentations and print data.

Analysis Views are used to analyze multiple dimensions: customers, customer groups, or salespeople versus items or item groups in term of actual or budgeted amounts or quantities. Immediately after a group is set up as a dimension, it can be added to an analysis report and analysis view by dimensions. These groups are set up in the Analysis View Card.

Demonstration: Analyze Purchase Costs by Dimensions

In this demonstration, a purchase analysis by dimensions is created and used to explore the analysis by dimensions features.

Scenario: Vince, the operations manager at CRONUS, must determine the cost amount of the inventory at each location. He wants to filter by purchaser and by specific business groups. This requires the following dimensions:

- Location
- Purchaser
- Business group

Follow these steps to create the analysis view card:

1. On the **Purchase** page, click **Administration** and then click **Purchase Analysis View Card**.
2. On the Action Pane, click **New**.
3. In the **Code** field, type Purchaser.
4. In the **Name** field, type Purchaser.
5. In the **Starting Date** field, enter 01/28/10.
6. Select the **Include Budgets** check box.

7. Expand the **Dimensions** FastTab.
8. In the **Dimension 1 Code** field, enter PURCHASER.
9. In the **Dimension 2 Code** field, enter BUSINESSGROUP.
10. On the Action Pane, click **Update**.
11. Click **Yes** to update the analysis view.
12. Click **OK** to close the Analysis View Card.
13. Close the **Analysis View List Purchase** page.

***NOTE:** Because the location dimension is available in the **Analysis by Dimensions** page, the **Analysis View Card** only has to be set up with the purchaser and business group dimensions.*

Follow these steps to review the Total Quantity and Total Cost by location by time period:

1. On the **Purchase** page, click **Reports and Analysis** and then click **Purchase Analysis by Dimensions**.
2. Click the line for PURCHASER and then click **Edit Analysis View** on the Action Pane.
3. On the **General** FastTab, in the **Show as Lines** field, select Location.
4. Ensure that the **Show as Columns** field is set to Period and the **Show Value As** field is set to Cost Amount.
5. On the Action Pane, click **Show Matrix**.
6. Close the **Purch. Analysis by Dim Matrix** page.

Follow these steps to review the analysis by dimension by quantity instead of cost amount:

1. On the **General** FastTab, in the **Show Value As** field, enter Quantity.
2. On the Action Pane, click **Show Matrix**.
3. Close the **Purch. Analysis by Dim Matrix** page.

Follow these steps to filter these results by purchaser and business group:

1. Expand the **Filters** FastTab.
2. In the **Purchaser Filter** field, enter RL.
3. In the **BusinessGroup Filter** field, enter INDUSTRIAL.
4. On the Action Pane, click **Show Matrix**.
5. Close the **Purch. Analysis by Dim Matrix** page.

Follow these steps to reverse the lines and columns displayed on the **Purch. Analysis by Dim Matrix** page:

1. On the **Related Information** menu, point to **Actions** and then click **Reverse Lines and Columns**.
2. On the Action Pane, click **Show Matrix**.
3. Do not close the **Purch. Analysis by Dim Matrix** page.

Follow these steps to export the analysis by dimensions report to Excel:

1. On the **Related Information** menu, point to **Actions** and then click **Export to Excel**.
2. Select the relevant server access to Excel and then click **OK**.

Lab 9.2 - Analyze Item Sales by Area

Scenario

You are the sales manager at CRONUS and have to analyze item sales by area for the year 2010. The analysis includes item numbers 1896-S to 766BC-C.

After reviewing the sales amounts of item sales by area:

- View the analysis as the COGS amount and quantity.
- Compare the sales amounts sold by Peter Sadow with those by John Roberts.
- Export the sales amounts by John Roberts to an Excel workbook.

***HINT:** Look for an existing analysis view that uses the Area and Salesperson dimensions.*

Challenge Yourself!

1. Review the existing analysis view cards.
2. Set up the analysis view to review the item sales by area information for the year 2010.
3. Review the analysis by dimension by COGS amount and quantity instead of sales amount.
4. Filter the analysis by dimension results by sales amounts for salesperson Peter Sadow and then John Roberts.
5. Export John Roberts' sales amounts to Excel.

Need a Little Help?

1. Open the **Sales Analysis View Card** page and browse through the existing analysis view cards to see whether a card is set up with both the Area and Salesperson dimensions.
2. Update the DEFAULT analysis view.
3. Open the **Sales Analysis by Dimensions** page and set the filters to view the year's item sales by area, for item numbers 1896-S through 766BC-C, and show column names.
4. Review the analysis in the **Sales Analysis by Dim Matrix** page.
5. Go back to the **Sales Analysis by Dimensions** page and then set the filters to view the same item sales by area by COGS amount.
6. Review the analysis in the **Sales Analysis by Dim Matrix** page.
7. Go back to the **Sales Analysis by Dimensions** page and set the filters to view the same item sales by area by quantity.

8. Review the analysis in the **Sales Analysis by Dim Matrix** page.
9. Go back to the **Sales Analysis by Dimensions** page and set the filters to view the item sales by area by sales amount for salesperson Peter Sadow.
10. Review the analysis in the **Sales Analysis by Dim Matrix** page.
11. Go back to the **Sales Analysis by Dimensions** page and set the filters to view the same item sales by area for salesperson John Roberts.
12. Review the analysis in the **Sales Analysis by Dim Matrix** page and then export it to Excel.

Step by Step

Follow these steps to review the existing analysis view cards:

1. On the **Sales & Marketing** page, click **Administration** and then click **Sales Analysis View Card**.
2. Browse through the existing analysis view cards to see whether a card is set up with both the Area and Salesperson dimensions. The DEFAULT analysis view card contains these dimensions.
3. Select the line for the DEFAULT analysis view.
4. On the Action Pane, click **Update**.
5. Click **Yes** to update the analysis view.

Follow these steps to review the item sales by area information for the year 2010:

1. With the DEFAULT analysis view selected, click **Edit Analysis View** on the Action Pane.
2. On the **General** FastTab, ensure that the **Show as Lines** field is set to Item.
3. In the **Show as Columns** field, enter Area.
4. Expand the **Filters** FastTab.
5. In the **Item Filter** field, enter 1896-S..766BC-C.
6. Expand the **Options** FastTab.
7. Select the **Show Column Name** check box.
8. Expand the **Matrix Options** FastTab.
9. In the **View by** field, enter Year.
10. On the Action Pane, click **Show Matrix**.
11. Close the **Sales Analysis by Dim Matrix**.

Follow these steps to review the analysis by dimension by COGS amount and quantity instead of sales amount:

1. On the **General** FastTab, in the **Show Value As** field, enter COGS Amount.
2. On the Action Pane, click **Show Matrix**.
3. Close the **Sales Analysis by Dim Matrix** page.
4. On the **General** FastTab, in the **Show Value As** field, enter Quantity.
5. On the Action Pane, click **Show Matrix**.
6. Close the **Sales Analysis by Dim Matrix**.

Follow these steps to filter these results by salespeople PS and JR:

1. On the **General** FastTab, in the **Show Value As** field, enter Sales Amount.
2. On the **Filters** FastTab, in the **Salesperson Filter** field, enter PS.
3. On the Action Pane, click **Show Matrix**.
4. Close the **Sales Analysis by Dim Matrix**.
5. On the **Filters** FastTab, in the **Salesperson Filter** field, enter JR.
6. On the Action Pane, click **Show Matrix**.

Follow these steps to export John Roberts' sales to Excel:

1. On the **Related Information** menu, point to **Actions** and then click **Export to Excel**.
2. Select the relevant server access to Excel and then click **OK**.

Sales and Purchase Budgets

Companies use Sales and Purchase budget functionality for planning, forecasting, and tracking against performance.

Access sales and purchase budgets on either the **Sales & Marketing** or **Purchase** pages by clicking **Reports and Analysis**. Select a budget to view and then click **Edit Budgets** on the Action Pane. Set any filters and then click **Show Matrix** on the Action Pane.

Code	Name	Budgeted Quantity	Budgeted Sales Amount	Jan 2010	Feb 2010
1000	Bicycle	0.00	0.00		
1001	Touring Bicycle	0.00	0.00		
1100	Front Wheel	0.00	0.00		
1110	Rim	0.00	0.00		
1120	Spokes	0.00	0.00		
1150	Front Hub	0.00	0.00		
1151	Axle Front Wheel	0.00	0.00		
1155	Socket Front	0.00	0.00		
1160	Tire	0.00	0.00		
1170	Tube	0.00	0.00		
1200	Back Wheel	0.00	0.00		
1250	Back Hub	0.00	0.00		
1251	Axle Back Wheel	0.00	0.00		
1255	Socket Back	0.00	0.00		

FIGURE 9.7 CUSTOMER BUDGET SET TO MONTHLY VIEW

Enter Budget Numbers

As soon as a budget is created, users must decide how to enter data:

- On the **Sales Budget Overview** page, in the **Show Value as** field, choices include Sales Amount, COGS Amount, and Quantity.
- On the **Purchase Budget Overview** page, choices in the **Show Value as** field are Cost Amount and Quantity.

When values are shown as a quantity, they are totaled in the **Budgeted Quantity** field. When values are shown as an amount, the values are totaled in the **Budgeted Sales Amount** or **Budgeted Cost Amount** field (depending on whether it is a sales or a purchase budget).

In the **Sales Budget Overview Matrix** or **Purchase Budget Overview Matrix**, clicking a number field opens the **Item Budget Entries** page. Here users can define additional information about the budget entry. For more information about the fields in sales and purchase budgets, refer to online Help.

Demonstration: Create a Purchase Budget

Scenario: Inga, the purchasing manager at CRONUS, must create a budget to forecast what is forecasted to be spent for each vendor for January through April 2010. This requires a new budget to be set up in Microsoft Dynamics NAV.

The first budget she sets up only has to include some specific vendors (vendors 01254796 through 01905382). Therefore, she filters out the vendors that she does not have to consider.

Follow these steps to set up the purchase budget:

1. On the **Purchase** page, click **Reports and Analysis** and then click **Purchase Budgets**.
2. On the Action Pane, click **New**.
3. In the **Name** field, type Purchase.
4. In the **Description** field, type Purchase.
5. In the **Budget Dimension 1** field, enter PURCHASER.
6. On the Action Pane, click **Edit Budget**.
7. On the **General** FastTab, in the **Show as Lines** field, enter Vendor.
8. Ensure that the **Show as Columns** field is set to Period.
9. In the **Date Filter** field, enter 01/01/10..04/30/10.
10. In the **Vendor Filter** field, enter 01254796..01905382.
11. Ensure that the **Show Value as** field is set to Cost Amount.
12. Expand the **Options** FastTab.
13. In the **Rounding Factor** field, enter 1.
14. Select the **Show Column Name** check box.
15. Expand the **Matrix Options** FastTab.
16. In the **View by** field, enter Month.
17. On the Action Pane, click **Show Matrix**.

Follow these steps to enter the budget line amounts:

1. On the line for vendor Progressive Home Furnishings, click the **Budgeted Cost Amount** field.
2. On the Action Pane, click **New**.
3. In the **Source Type** field, enter Vendor.
4. In the **Source No.** field, enter 01254796.
5. In the **Cost Amount** field, type 900.
6. Go to the next line.
7. In the **Date** field, enter 02/01/10.
8. In the **Source Type** field, enter Vendor.
9. In the **Source No.** field, enter 01254796.
10. In the **Cost Amount** field, type 900.

11. Go to the next line.
12. In the **Date** field, enter 03/01/10.
13. In the **Source Type** field, enter Vendor.
14. In the **Source No.** field, enter 01254796.
15. In the **Cost Amount** field, type 3600.
16. Go to the next line.
17. In the **Date** field, enter 04/01/10.
18. In the **Source Type** field, enter Vendor.
19. In the **Source No.** field, enter 01254796.
20. In the **Cost Amount** field, type 900.
21. Close the **Item Budget Entries** page.
22. On the **Action** menu, click **Refresh**.
23. Repeat steps 1-22 for the other lines as specified in the following table.

Vendor Name, Number	January	February	March	April
Custom Metals Incorporated, 01587796				
American Wood Exports, 01863656	3600	3600	4800	3600
Mundersand Corporation, 01905283	720	1800	720	720
NewCaSup, 01905382	4800	9000	12600	12600

In addition to entering the values in the **Item Budget Entries** page, users can add a description for the budget entry and assign dimensions and other information as needed.

Demonstration: Export Budgets to Excel

Users can export to and modify the sales and purchase budgets in Excel, and then import them back into Microsoft Dynamics NAV. This demonstration describes the steps to export and import a budget and view the results.

Scenario: Now that the purchase budget has been created, Inga sent it to Vince, the operations manager, for approval.

Vince is on the road and does not have access to Microsoft Dynamics NAV. Inga has to export the budget to Excel and then send it to him for changes. Vince wants to reduce purchases of a certain item from vendor NewCaSup, so he has changed the amounts as follows:

- January: 3500
- February: 7500
- March: 10000
- April: 10000

After changes are made, Inga imports the changes into the budget in Microsoft Dynamics NAV.

Follow these steps to export the budget:

1. On the **Purchase** page, click **Reports and Analysis** and then click **Purchase Budgets**.
2. Select the line for the PURCHASE budget.
3. On the Action Pane, click **Edit Budget**.
4. On the **Related Information** menu, point to **Action** and then click **Export to Excel**.
5. Ensure that the **Option** field is set to Create Workbook.
6. Click **OK**.
7. Select the relevant server access to Excel and then click **OK**.

Immediately after the data finishes processing, the Microsoft Excel workbook opens. The filters set in Microsoft Dynamics NAV are visible in the Excel worksheet. By default, the program has named the worksheet "Budget."

8. Save the workbook as Purchase Budget.
9. Change the budget as indicated in the following table.

Name	January	February	March	April
NewCaSup	3500	7500	10000	10000

10. Save and close the modified workbook.
11. On the **Purchase Budget Overview** page in Microsoft Dynamics NAV, click the **Related Information** menu, point to **Action** and then click **Import from Excel**.
12. In the **Workbook File Name** field, click the **Edit** button and browse to the Purchase Budget workbook.
13. In the **Worksheet Name** field, click the **Edit** button and select Budget.
14. Ensure that the fields are filled in as follows:

Field	Value
Budget Name	PURCHASE
Option	Replace entries
Description	Imported from Excel 01/28/10
Import Value as	Cost Amount

15. Click **OK** to import the workbook.
16. Click **Yes** to replace the existing entries and accept the message that appears.

The Microsoft Dynamics NAV budget updates with the new numbers for vendor NewCaSup.

Demonstration: Budgets in Analysis Reports

Use sales and purchase budgets in analysis reports to track budgeted amounts against actuals. This demonstration shows how to use budgets in analysis reports.

Scenario: Kevin, the sales manager at CRONUS, must compare the company's customer sales against the company's budget figures for January 2010.

Follow these steps to add budget information to the existing CUST1-BUDG report, which shows actual amounts against budgeted amounts for each customer group:

1. On the **Sales & Marketing** page, click **Reports and Analysis** and then click **Sales Analysis Reports**.
2. The first report is CUST1-BUDG. On the Action Pane, click **Edit Analysis Report**.
3. Expand the **Matrix Options** FastTab.
4. In the **View by** field, enter Month.
5. On the Action Pane, click **Show Matrix**.
6. Expand the Filter Pane.
7. Under Limit totals to, click **Add Filter**.
8. Select **Item Budget Filter** and then in the **Enter a value** field, enter BUDGET 10.

Row Ref. No.	Description	Turnover in Amount, actual	Turnover in Qty, actual	Turnover in Amount, budget	Turnover in Qty, budget	Deviation %
A1	Large Business	1,671.68	21.00	6,000.00		258.92
A2	Medium Business	13,963.28	45.00	20,000.00		43.23
A3	Private	17,730.43	30.00	13,000.00		-26.68
A4	Small Business	17,730.43	30.00	13,000.00		-26.68
	Total for Customer Groups	33,365.39	96.00	39,000.00		16.89

FIGURE 9.8 SALES ANALYSIS REPORT WITH ACTUAL VERSUS BUDGETED AMOUNTS

The **Sales Analysis Matrix** shows the actual amounts compared with the budgeted amounts.

Lab 9.3 - Create a Sales Budget

Scenario

Create a sales forecast for sales representative Linda Martin using the Sales Budget function for January through March 2010. The budget will show the following items and quantities you expect Linda Martin to sell:

Item	January	February	March
8904-W	10	10	10
8908-W	10	10	5
8912-W	15	15	
8916-W	10		20

Export the budget to Excel for feedback from Linda Martin in the field. Linda says that the March quantity for item 8908-W is supposed to be 10. Update the spreadsheet and import it back into Microsoft Dynamics NAV.

Challenge Yourself!

1. Create the sales budget as specified in the scenario.
2. Create the budget lines as specified in the scenario.
3. Export the budget to Excel and modify the workbook so that the March quantity for item 8908-W is 10, not 5.
4. Import the modified workbook into Microsoft Dynamics NAV and review the updated entries to confirm that the March budgeted quantity for item 8908-W is 10.

Need a Little Help?

1. Open the **Sales Budgets** page and create a new budget with the name Sales, description Sales Forecast, and set the budget dimension to Salesperson.
2. Open the **Sales Budget Overview** page and filter on the date range of January through March 2010 for items 8904-W through 8916-W.
3. Set filters so you can enter quantities rather than amounts for salesperson LM.
4. Set rounding to a factor of one and show the column names rather than the codes.

5. Open the **Sales Budget Overview Matrix** and enter the quantities of each item, for each month, in the **Budgeted Quantity** field as specified in the following table.

Item	January	February	March
8904-W	10	10	10
8908-W	10	10	5
8912-W	15	15	
8916-W	10		20

6. Refresh the page to see the changes.
7. Go back to the **Sales Budget Overview** page and export the analysis to Excel.
8. For item 8908-W, change the March quantity to 10.
9. Save and close Excel.
10. In the **Sales Budget Overview** page, import the modified workbook, Budget worksheet.
11. Open the **Sales Budget Overview Matrix** and confirm that the March quantity for item 8908-W has updated to 10.

Step by Step

Follow these steps to create the sales budget:

1. On the **Sales & Marketing** page, click **Reports and Analysis** and then click **Sales Budgets**.
2. On the Action Pane, click **New**.
3. In the **Name** field, type Sales.
4. In the **Description**, type Sales Forecast.
5. In the **Budget Dimension 1 Code** field, enter SALESPERSON.
6. On the Action Pane, click **Edit Budget**.
7. In the **Date** field, enter 010110..033110.
8. In the **Item Filter** field, enter 8904-W..8916-W.
9. In the **Show Value as** field, enter Quantity.
10. Expand the **Filters** FastTab.
11. In the **Salesperson Filter** field, enter LM.
12. Expand the **Options** FastTab.
13. In the **Rounding Factor** field, enter 1.
14. Select the **Show Column Name** check box.
15. Expand the **Matrix Options** FastTab.
16. In the **View by** field, enter Month.
17. On the Action Pane, click **Show Matrix**.

Follow these steps to create the budget lines:

1. On the line for item 8904-W, click the **Budgeted Quantity** field.
2. On the Action Pane, click **New**.
3. In the **Quantity** field, type 10.
4. Go to the next line.
5. In the **Date** field, enter 02/01/10.
6. In the **Quantity** field, type 10.
7. Go to the next line.
8. In the **Date** field, enter 03/01/10.
9. In the **Quantity** field, type 10.
10. Close the **Item Budget Entries** page.
11. On the **Action** menu, click **Refresh**.
12. Repeat steps 1-11 for the other lines as specified in the following table.

Item	January	February	March
8908-W	10	10	5
8912-W	15	15	
8916-W	10		20

Follow these steps to export the budget to Excel and modify the workbook:

1. Close the **Sales Budget Overview Matrix** page.
2. On the **Related Information** menu, point to **Actions** and then click **Export to Excel**.
3. Click **OK** to create a new workbook.
4. Select the relevant server access to Excel and then click **OK**.
5. On the line for item 8908-W, change the quantity to 10 in the column for 03/01/10.
6. Save the workbook and close Excel.

Follow these steps to import the modified workbook into Microsoft Dynamics NAV and review the updated entries:

1. On the **Sales Budget Overview** page in Microsoft Dynamics NAV, click the **Related Information** menu, point to **Actions**, and then click **Import from Excel**.
2. In the **Workbook File Name** field, click the **Edit** button and browse to the saved workbook.
3. In the **Worksheet Name** field, click the **Edit** button and select **Budget**.

4. Click **Yes** to replace entries and accept other messages.
5. On the Action Pane, click **Show Matrix**.

The March budgeted quantity for item 8908-W is 10.

Summary

The analysis reporting and budgeting functionality in Microsoft Dynamics NAV is important when companies present information about themselves for the management and other roles that analyze performance. This functionality is easy to use by employees without a background in finance or accounting.

The reporting functionality is customizable in many ways to suit the individual company's needs. Users can calculate variance and move budget figures between Microsoft Dynamics NAV and Microsoft Excel.

The budgets functionality can be used to make sales budgets and purchase budgets on a detailed level. Budget version control is supported and works on individual budgets at the same time. Finally, the program makes comparing analysis report data against budgets easy by using dimensions and dimension filters.

Test Your Knowledge

Test your knowledge with the following questions.

1. Where must you set up customer groups, item groups, and salespeople before using them in an Analysis View Card? (Select all that apply)
 - Sales & Receivables Setup
 - Purchases & Payables Setup
 - General Ledger Setup
 - Inventory Setup
2. Explain the difference between the line template and column template used when creating an analysis report.

3. How do you set up a budget to enter a quantity of items to be purchased or sold?

4. List three ways you can present analysis reports.

Fill in the blanks to test your knowledge of this section.

5. Sales and purchase _____ functionality is used for planning, forecasting, and tracking against performance.
6. Analysis by Dimensions functionality allows you to analyze information using _____ dimensions.
7. Analysis reports are customized reports that are based on _____ transactions.

Quick Interaction: Lessons Learned

Take a moment and write down three Key Points you have learned from this chapter:

1.

2.

3.

Solutions

Test Your Knowledge

1. Where must you set up customer groups, item groups, and salespeople before using them in an Analysis View Card? (Select all that apply)
 - Sales & Receivables Setup
 - Purchases & Payables Setup
 - General Ledger Setup
 - Inventory Setup

2. Explain the difference between the line template and column template used when creating an analysis report.

MODEL ANSWER: Line templates define the objects to analyze in an analysis report, such as customers, vendors, customer groups, items, or formulas. Column templates define the parameters used to analyze the objects, such as quantities and sales and cost amounts. The defined lines appear as rows in the report and the defined columns appear as the columns.

3. How do you set up a budget to enter a quantity of items to be purchased or sold?

MODEL ANSWER: Set the **Show Value as** field to Quantity on the **General FastTab** of the **Purchase Budget Overview** or **Sales Budget Overview** page, respectively.

4. List three ways you can present analysis reports.

MODEL ANSWER: Printed document, print preview from the screen, and exported Excel file

Fill in the blanks to test your knowledge of this section.

5. Sales and purchase budget functionality is used for planning, forecasting, and tracking against performance.
6. Analysis by Dimensions functionality allows you to analyze information using multiple dimensions.
7. Analysis reports are customized reports that are based on posted transactions.

