Spreadsheets and Business Graphics
Chapter 12
Facts and Figures

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Spreadsheets

- Are worksheets presenting data in a grid of rows and columns
- Are used to process and organize data

Uses of Spreadsheets

Spreadsheets can be used to:
- calculate budgets
- analyze scientific data
- calculate grades
- forecast loan payments
- analyze statistical data
- calculate salaries

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Advantages of Spreadsheets

- Save time.
- Are less tedious than traditional ledgers.
- Have fewer errors.
- Automatically recalculate values.
- Allow “what if” analysis.

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Automatic Recalculation

This feature saves time and reduces the chance of errors. When a value or calculation is changed, all dependent values on the spreadsheet are automatically recalculated to reflect the change.

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“What-if” Analysis

Spreadsheets allow users to see different results—forecasting—by changing one or more spreadsheet values and observing the resulting calculated effect.

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Spreadsheet Fundamentals

The following are basic spreadsheet characteristics:
- Cell and cell addresses
- Ranges
- Cell contents

Cell Address

A cell address is identified by the column letter and the row number.

Cell Contents

A cell can contain one of these three types of information:
- A label
- A value
- A formula

Labels

A label is descriptive text information about entries in the spreadsheet.

Values

A value is a number that has been entered from the keyboard.

Formulas

A formula is an instruction to the spreadsheet program to calculate a number.
Functions

A function is a pre-programmed formula. Common functions include:
- SUM to calculate the sum of a range
- AVG to calculate the average of a range
Functions are typed into the formula bar, never showing in a cell.

Ranges

A range is a group of one or more adjacent cells.

Printing

The appearance of the worksheet can be adjusted to improve the look of the printed document by changing:
- margins
- orientation
- grid lines

Decoration

Adding borders, color, clipart, etc. can also enhance the look of the printed document.

Using Spreadsheets

In the following six slides basic features of a simple spreadsheet will be demonstrated. Spreadsheets begin by planning.

Begin With a Sketch

Put your first draft on paper. Plan what will go into the rows and columns. Decide what labels you will need. Think about how you want the final document to look.
The appearance of the worksheet can be adjusted to fit user needs and to communicate important information.

Can you identify the changes to the worksheet in the next slide?
Computers—Tools for an Information Age

What Changes Have Been Made?

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Aurora</td>
<td>$1,006</td>
<td>$ 978</td>
<td>$ 956</td>
<td>$2,940</td>
</tr>
<tr>
<td>Ballard</td>
<td>$1,675</td>
<td>$1,566</td>
<td>$1,502</td>
<td>$4,743</td>
</tr>
<tr>
<td>Eastlake</td>
<td>$1,378</td>
<td>$1,340</td>
<td>$1,198</td>
<td>$3,916</td>
</tr>
<tr>
<td>Phinney</td>
<td>$1,312</td>
<td>$1,390</td>
<td>$1,150</td>
<td>$3,852</td>
</tr>
<tr>
<td>Total</td>
<td>$5,371</td>
<td>$5,274</td>
<td>$4,806</td>
<td>$15,451</td>
</tr>
</tbody>
</table>

Visualizing Data

The numerical information contained in a worksheet can be expressed visually in the form of a chart.

Selecting a Range to Chart

First, the cells to be charted are selected.

Business Graphics

An advantage of using graphics in business is that they allow the user to show numbers and data in ways that are meaningful and quickly understood.

Data in Visual Form

Comparison by Campus

<table>
<thead>
<tr>
<th>Campus</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aurora</td>
<td>25%</td>
</tr>
<tr>
<td>Ballard</td>
<td>25%</td>
</tr>
<tr>
<td>Eastlake</td>
<td>31%</td>
</tr>
<tr>
<td>Phinney</td>
<td>19%</td>
</tr>
</tbody>
</table>

Using Business Graphics

Most people use business graphics to view and analyze data and to make a positive impression during a presentation.
Two types of business graphics programs are designed to fit user needs:
- Analytical graphics
- Presentation graphics

This type of program is designed to produce simple graphs from already-entered spreadsheets or databases. However, they are too limited and inflexible for a user who needs to prepare elaborate presentations.

Analytical Graphics

Presentation Graphics

This type of program lets the user produce charts, graphs, and other visual aids that look like they were prepared by a professional. In addition to spreadsheet features covered thus far, presentation graphics include animation and sound capabilities.

You're Looking at It!

The slides you have been reading and watching, prepared by a professional, were produced with a presentation program.

Thank you for the applause!

Graphics Terminology

Thus far, only one type of chart has been shown.

However, there are three basic types of charting available:
- Pie
- Line
- Bar

Line Charts

This type of charting is the best way to visualize trends or cycles over a period of time. Line graphs are best when there are many values or complex data.
Bar Charts

This type of charting is best for visualizing multiple comparisons.

Pie Charts

This type of charting represents just a single value for each variable and shows how various values make up a whole.

Conclusion

Beginning with a sketch on paper, the user can move to a spreadsheet program to enter labels, values, and formulas. Formatting can improve the look and contribute to interpreting the data. Charting allows complex data to be better understood.