BUSINESS INFORMATION SYSTEMS

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I would like to acknowledge my Fiancé Tameka and my son Zade who have made significant sacrifice and has provided me with tremendous support during the writing of this course. Also, special thanks to the development team at COL in Vancouver for giving me the opportunity to participate in this worthwhile initiative.
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COURSE OVERVIEW

INTRODUCTION

The Business Information System course will prepare future entrepreneurs to use information and communication technology to support the growth and success of their business venture. They will be prepared to maximize the potential of the internet to attract and support customers, communicate with employees and others and support business operations. The entrepreneur will be able to employ business applications to automate their business practices and operations.

COURSE GOALS

Upon completion of the Business Information Systems you will be able to:

1. Maximize the potential of the web to market their products and services, support customers and manage employees.
2. Create databases, capture data and generate reports.
3. Employ Excel to create spreadsheets, generate financial reports and complete financial analysis.
4. Employ communications hardware and software to support virtual meetings.
5. Develop a corporate web presence.
6. Employ social networking software and groupware to share and collaborate with employees, customers and others engaged in the business.
7. Examine how an online presence can help you grow your business.

DESCRIPTION

The Business Information Systems course will prepare future entrepreneurs to use information and communications technology to support the growth and success of their business venture. They will be prepared to maximize the potential of the Internet to attract and support customers, communicate with employees and others, and support business operations. The entrepreneur will be able to employ business applications to automate their business practices and operations.

REQUIRED READINGS

<Insert list of required readings>. Provide a list of online or e-book materials. Ensure you use APA format to cite online sources.

ASSIGNMENTS AND PROJECTS

<Describe the major assignments and any final project/written examinations. Detailed instructions should be included as an Appendix.>. You need to provide an overview of the
six unit assignments and the final project. You need to provide details of the unit assignments in each unit and a detailed project description as an Appendix.

**Assessment Methods**

<Describe how the assignments, projects, examinations, etc. will be graded and what the overall assessment weighting is of each graded activity. Rubrics or other details of the assessment process should be paired with the assignment instructions.> Provide a grading rubric.

**Course Schedule**

<Insert course schedule and list of major events and due dates.> Provide a suggested study schedule based on 12 to 13 week semester.
STUDENT SUPPORT

Note: This section should be included in self-paced or paper-based courses that provide tutor/facilitator support and/or web and email support for the students. NOTE: This section is institution specific, so no additional work required here.

ACADEMIC SUPPORT

<Insert the following information if relevant>

- How to contract a tutor/facilitator (Phone number, email, office hours, etc.).
- Background information about the tutor/facilitator if he/she does not change regularly. Alternatively provide a separate letter with the package describing your tutor/facilitator’s background.
- Description of any resources that they may need to procure to complete the course (e.g. lab kits, etc.).
- How to access the library (either in person, by email or online).

HOW TO SUBMIT ASSIGNMENTS

<If the course requires that assignments be regularly graded, then insert a description of how and where to submit assignments. Also explain how the learners will receive feedback.>

TECHNICAL SUPPORT

<If the students must access content online or use email to submit assignments, then a technical support section is required. You need to include how to complete basic tasks and a phone number that they can call if they are having difficulty getting online>.
UNIT INTRODUCTION

Every business large, medium or small needs to keep accounting records. Accounting records are required for the proper administration of the business and to meet regulatory compliance and other accounting standards. Accounting records can be kept manually using a series of spreadsheets. However, as the business grows the usefulness and timeliness of the accounting information becomes critical. An automated solution is therefore required to allow the business to scale and grow while meeting the accounting requirements.

A number of commercial grade accounting packages such as Peachtree, QuickBooks and Bookkeeper are commercially available. These packages provide full blown automation of all the accounting procedures and tasks. In the absence of any of these, Microsoft Excel is the preferred low cost alternative for most businesses.

This topic will demonstrate how to use a series of Microsoft Excel Spreadsheets to create and maintain accounting records, to perform various analytical functions and to prepare reports for your business.

UNIT OBJECTIVES

Upon completion of this unit you will be able to: should be able to demonstrate how to:

2. Produce a flat data base to store customer information and inventory control.
3. Generate corporate reports and data compilation.
4. Create financial charts and diagrams to display data.
5. Exports formatted data, charts and diagrams into other office software.

This unit is broken down into five lessons.

UNIT READINGS

As you complete this unit you are required to read the following chapters/articles:

- <Insert list of required unit readings>.
ASSIGNMENTS AND ACTIVITIES

In this Unit you will be required to use the Microsoft Excel Spreadsheet to accomplish the following tasks.

1. Prepare a Balance Sheet from one of the available templates
2. Prepare an income statement from one of the available templates
3. Prepare an expense budget for your company from one of the available excel templates.
4. Prepare a flat database file using Microsoft Excel
LESSON 1.1 – CREATE BALANCE SHEETS, INCOME STATEMENTS AND BUDGETS

LESSON INTRODUCTION
The Balance Sheet, the Income statement or Profit and loss are the main financial statements of a budget. They quickly give the financial health of the company. These statements will be prepared periodically on a regular basis. Without automation, this will take plenty of effort and energy and is error prone. With a little skill in using Microsoft Excel you can quickly and easily prepare these statements. This lesson will equip you with the basic skills to create these financial statements.

LESSON OBJECTIVES
Upon completion of this lesson you will be able to:

1. Use Excel to create a Balance Sheet.
2. Use Excel to create and Income Statement.
3. Use Excel to create an Annual Budget.

BALANCE SHEETS
A balance sheet is a summary of the financial balances of a sole proprietorship, a business partnership or a publicly listed company. A sole proprietor is usually a single person who is engaged in business without others, a partnership is an association of two to twenty persons who are engaged in a business to make a profit, while a publicly listed company is a type of business which offers stocks (part ownership) for sale to the public usually through stock exchange. A balance sheet is essential for any type of business as it reports the financial state of a company for a given period.

There are three main sections of a balance sheet: assets, liabilities and shareholder’s or owner’s equity. Assets and liabilities are broken down into current and non-current assets. Examples of current assets are: as cash at bank, inventory and accounts receivables. Property, plant and machinery, motor vehicle are examples of non-current assets. Shareholders equity comprises of retained earnings, share capital, capital or sometimes investment revaluation. The items under a balance sheet will differ depending on the type of the business and industry.

It is called a balance sheet because liabilities plus owner’s equity must equal assets. Likewise assets minus liabilities (net assets) must equal the owner’s equity (they must balance). This is known as the accounting equation and is represented by the following formula or what is known as the accounting equation.

A balance sheet is based on the following formula or what is commonly known as the accounting equation.

\[
\text{Assets} = \text{Liabilities} + \text{Owner’s equity or Assets} - \text{Liabilities} = \text{Owner’s equity}
\]
We will now examine two different formats of a balance sheet.

**Example 1: (basic balance sheet)**

<table>
<thead>
<tr>
<th></th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Current Assets</td>
<td>$120,000</td>
</tr>
<tr>
<td>Non-current Assets</td>
<td>$400,000</td>
</tr>
<tr>
<td><strong>TOTAL ASSETS</strong></td>
<td><strong>$520,000</strong></td>
</tr>
<tr>
<td>Current Liabilities</td>
<td>$110,000</td>
</tr>
<tr>
<td>Non-Current Liabilities</td>
<td>$210,000</td>
</tr>
<tr>
<td><strong>TOTAL LIABILITIES</strong></td>
<td><strong>$320,000</strong></td>
</tr>
<tr>
<td><strong>NET ASSETS</strong></td>
<td><strong>$200,000</strong></td>
</tr>
<tr>
<td>Owners Equity</td>
<td>$200,000</td>
</tr>
</tbody>
</table>

*Fig 1.1 – Basic Balance Sheet*

The basic balance sheet above simply shows the key components of the Balance SheetS laid out in an easy to understand fashion. The following definitions will assist you in understanding these components.

**Assets** are tangible or intangible resources that a company uses to operate its business such as cash, inventories, land and buildings, and equipment.

**Current assets** or sometimes called short-term assets are items of value that are expected to be consumed or converted into cash within the next 12 months. Examples include cash, short-term investments, income tax recoverable, inventory, resale agreement and accounts receivable.

**Non-current assets** are items that cannot be consumed or converted into cash easily (usually within the next 12 months). Examples include items such as plant and equipment, retirement benefit asset and buildings.

**Liabilities** are the financial obligations or debts of the business. These are amounts owed by the business to external parties and are categorized as either current or non-current liabilities.
Current liabilities are short-term obligations which are expected to be paid within a year. It includes accounts payable, income tax payable and short-term loans.

Non-current liabilities are long-term obligations are not expected to be settled within a year. It includes mortgages on buildings and equipment, and long term borrowings or loans.

Owner’s equity is the residual amounts which belong to the shareholders after all financial obligations have been paid. It is equal to the difference between assets and liabilities.

Fig. 1.2 below is a more comprehensive balance sheet from a publicly listed manufacturing company on the Jamaica Stock Exchange (JSE). The disclosures contained in this Balance Sheet are statutory requirements under law. Microsoft Excel can help you to create both the simple and the more complicated form of the balance sheet.

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Total assets</td>
<td>9,236,230</td>
<td>7,505,837</td>
<td>5,932,976</td>
<td>5,076,536</td>
</tr>
<tr>
<td>Current assets</td>
<td>4,367,349</td>
<td>3,773,779</td>
<td>2,533,041</td>
<td>1,972,887</td>
</tr>
<tr>
<td>Inventories</td>
<td>1,427,412</td>
<td>1,333,459</td>
<td>794,994</td>
<td>628,808</td>
</tr>
<tr>
<td>Receivables</td>
<td>1,021,887</td>
<td>981,999</td>
<td>813,551</td>
<td>948,507</td>
</tr>
<tr>
<td>Available for sale investments</td>
<td>997,781</td>
<td>403,559</td>
<td>172,637</td>
<td>261,552</td>
</tr>
<tr>
<td>taxation recoverable</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Associated companies</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Taxation recoverable</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Payables</td>
<td>16,990</td>
<td>16,351</td>
<td>16,351</td>
<td>0</td>
</tr>
<tr>
<td>Cash and bank balances</td>
<td>275,402</td>
<td>380,166</td>
<td>489,793</td>
<td>133,990</td>
</tr>
<tr>
<td>Current liabilities</td>
<td>213,270</td>
<td>787,480</td>
<td>599,509</td>
<td>781,596</td>
</tr>
<tr>
<td>Non-current assets</td>
<td>4,088,885</td>
<td>4,120,056</td>
<td>3,992,474</td>
<td>3,885,245</td>
</tr>
<tr>
<td>Fixed assets</td>
<td>2,580,809</td>
<td>2,126,771</td>
<td>1,866,885</td>
<td>1,491,224</td>
</tr>
<tr>
<td>Investment in associates/investments</td>
<td></td>
<td></td>
<td></td>
<td>1,574,785</td>
</tr>
<tr>
<td>Available for sale investments</td>
<td></td>
<td></td>
<td></td>
<td>741,271</td>
</tr>
<tr>
<td>long term receivable</td>
<td></td>
<td></td>
<td>2,211,579</td>
<td>1,211,579</td>
</tr>
<tr>
<td>Retirement benefit asset</td>
<td>21,300</td>
<td>15,900</td>
<td>24,100</td>
<td>33,100</td>
</tr>
<tr>
<td>Deferred tax assets</td>
<td>370</td>
<td>606</td>
<td>649</td>
<td>53,915</td>
</tr>
<tr>
<td>Biological assets</td>
<td>149,933</td>
<td>129,565</td>
<td>95,630</td>
<td>90,566</td>
</tr>
<tr>
<td>Intangible assets/Goodwill</td>
<td>44,679</td>
<td>52,019</td>
<td>59,360</td>
<td>39,600</td>
</tr>
<tr>
<td>Stockholders’ equity</td>
<td>6,978,761</td>
<td>5,875,350</td>
<td>5,255,047</td>
<td>4,423,726</td>
</tr>
<tr>
<td>Share capital</td>
<td>561,287</td>
<td>561,287</td>
<td>561,287</td>
<td>561,287</td>
</tr>
<tr>
<td>Share premium</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Capital reserve</td>
<td>720,575</td>
<td>764,021</td>
<td>849,264</td>
<td>854,409</td>
</tr>
<tr>
<td>Retained earnings</td>
<td>6,496,919</td>
<td>4,550,042</td>
<td>3,844,396</td>
<td>3,008,030</td>
</tr>
<tr>
<td>Non-current liabilities</td>
<td>1,101,288</td>
<td>788,987</td>
<td>677,429</td>
<td>652,810</td>
</tr>
<tr>
<td>Long-term liabilities</td>
<td>633,255</td>
<td>366,302</td>
<td>410,094</td>
<td>399,145</td>
</tr>
<tr>
<td>Deferred tax liabilities</td>
<td>394,262</td>
<td>333,295</td>
<td>212,735</td>
<td>203,865</td>
</tr>
<tr>
<td>Other post-retirement obligations</td>
<td>66,200</td>
<td>59,400</td>
<td>54,600</td>
<td>49,800</td>
</tr>
<tr>
<td>Other</td>
<td>7,671</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Total Liabilities</td>
<td>9,236,230</td>
<td>7,505,837</td>
<td>5,932,976</td>
<td>5,076,536</td>
</tr>
</tbody>
</table>

Fig 1.2 - Comprehensive Balance Sheet of a manufacturing company
CREATING A BALANCE SHEET USING EXCEL

In order to create a balance sheet and other financial statement, an understanding of certain basic Excel functions is required. Let us start by understanding the definition of a function. A function is part of a spreadsheet formula. You can tell it's a function because it consists of letters of the alphabet immediately followed by an open bracket. Anytime you see letters of the alphabet followed by an open bracket – it implies you are working with a function. What does a function do? That depends on the function. Different functions do different things.

Let us look at three basic functions: SUM, AVERAGE and COUNT.

The function button on the toolbar offers assistance and stores several useful functions which can be entered into a spreadsheet cell. Alternatively once you are familiar with the functions you can type the function directly into the formula spreadsheet cell. The SUM function adds numbers, the AVERAGE function averages numbers, and the COUNT actually counts the number of cells in a range that contains numbers.

SUM(), AVERAGE() and COUNT() are common functions that are used frequently and relatively easy to understand. They each apply to a range of cells containing numbers and return either the arithmetic total of the numbers, the average mean value or the quantity of values in the range. Two important elements in Excel are the product and the division sign which are denoted by * and / respectively.

The figure below illustrates the results of the operations of the functions SUM, AVERAGE and COUNT on the data set.

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>A</strong></td>
<td><strong>B</strong></td>
<td><strong>C</strong></td>
</tr>
<tr>
<td>1</td>
<td><strong>Current Assets</strong></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>May</td>
<td>April</td>
</tr>
<tr>
<td>3</td>
<td><strong>Cash</strong></td>
<td>210</td>
</tr>
<tr>
<td>4</td>
<td><strong>Short-term investments</strong></td>
<td>360</td>
</tr>
<tr>
<td>5</td>
<td><strong>Accounts receivable</strong></td>
<td>650</td>
</tr>
<tr>
<td>6</td>
<td><strong>Resale agreements</strong></td>
<td>250</td>
</tr>
<tr>
<td>7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>= Sum (B3:B6)</td>
<td>1470</td>
</tr>
<tr>
<td>9</td>
<td>= Average(B3:B6)</td>
<td>368</td>
</tr>
</tbody>
</table>
### Fig 1. Illustrating the Sum, Average and Count functions.

<table>
<thead>
<tr>
<th></th>
<th>Formula</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td>=COUNT(B3:B6)</td>
<td>4</td>
</tr>
<tr>
<td>11</td>
<td>=B3+B4</td>
<td>570</td>
</tr>
<tr>
<td>12</td>
<td>=B3+SUM(B3:B6)*B6</td>
<td>367,710</td>
</tr>
</tbody>
</table>

Using the same data set in Fig 1, let us consider a more complicated function below:

\[ =B3+\text{SUM}(B3:B6) \times B6 \]

In the formula above, SUM is a function.

In the SUM example above, B3:B6 describes the range of numbers we want to add. So B3:B6 is the argument of the SUM function. Bracketed enclosures represented by ( ) are called arguments. The product sign denoted by * multiplies the figure in the B6 cell by the sum total of the figures in cells B3 to B6, then adds the overall total to the figure in the B3 cell, resulting in an outcome of \( 367,710 \).

The SUM, AVERAGE and COUNT can be useful functions in either the balance sheet or income statement, depending on what you wish to depict. But let us consider other functions that can be useful when creating financial statements:

#### AND function

The AND is a logical function that accepts a number of TRUE and FALSE parameters and returns TRUE if all of the parameters are TRUE or FALSE if all the parameters are FALSE. Logical tests involve comparing two quantities and determining whether they are equal to each other, or one is less than the other, one is greater than or equal to the other, and so on.

<table>
<thead>
<tr>
<th></th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>TRUE</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Cell A1 contains the logical test \( C1 < E1 \). The result of the logical test above is TRUE because \( C1 \) (5) is less than \( E1 \) (7). The test in A3 is FALSE because \( C3 \) (5) is not greater than \( E3 \) (7).

The illustration below shows the use of the **AND** function to determine whether each net income figure in the G column falls "between" the income figures in columns E and I. Only row 2 satisfies the AND condition. The net income of $650,000 (G2) in yr 2001 is between net income of $250,000 (E2) in yr 2000 and $950,000 (I2) in yr 2002.

### IF function

The IF function takes three arguments. The first describes a test or condition (which should return TRUE or FALSE). If the first argument is true the IF statement returns its second argument (which is “greater”) and otherwise it returns the third argument (which is “less or equal”).

In the example below the IF statement’s first argument is \( A1 > C1 \). Using shareholder’s equity for 2009 and 2010, A1 ($500,000) is not greater than C1 ($600,000) and so the test returns the third argument FALSE (“less or equal”).
Fig 1.6. Using the IF functions to analyse figures from the balance sheet.

The following example relates to budgeting. We can use the AND function to know whether the actual figures in both 2009 and 2010 were within budget. Since the actual 2009 figures of $140,000 (B4) and 2010 of $170,000 (C4) were less than the budgeted 2009 figure of $150,000 (B2) and the 2010 of $180,000 (C2) respectively, then the function written on E6 will test TRUE (D4).

Fig 1.7. Using the AND function to analyse the budget statement.

The following example is an extension of the previous one. Based on what we have learnt so far, we can see that the result of the AND function is either TRUE or FALSE. We can combine the TRUE or FALSE argument with an IF functions. The IF function returns "within" or "outside" depending on whether the AND returns TRUE or FALSE.
The following example seeks to explain the above. Let us first start by understanding what the **AND** function is saying. In 2009, the actual in cell B4 of $140,000 is less than the budget in cell B2 of $150,000 but the actual budget for 2010 in cell C4 of $190,000 is actually more than budget in yr 2010. If we were using the **AND** function by itself then we agree that the parameter is **FALSE**. Since the **IF** function in this example returns “within” or “outside”, and we are combining the **AND** with an **IF** function, we are arguing that based on the outcome of the **AND** function which is **FALSE**, the **IF** function will return outside.

Since the **AND** function is **FALSE**, the **IF** function returned “outside”.

<p>| | | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>B</td>
<td>C</td>
<td>D</td>
<td>E</td>
</tr>
<tr>
<td></td>
<td>2009</td>
<td>2010</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Budget</td>
<td>$150,000</td>
<td>$180,000</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Actual</td>
<td>$140,000</td>
<td>$190,000</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Within budget:</td>
<td></td>
<td>outside</td>
<td>=IF(AND(B4&lt;=B2,C4&lt;=C2),&quot;within&quot;,&quot;outside&quot;)</td>
</tr>
</tbody>
</table>

*Fig 1.8. Using the **AND** and **IF** functions to analyse figures from the budget statement*

**OR function**

The **OR** function will test the condition of its arguments and return **FALSE** if any of the condition fails, otherwise it returns **TRUE**.

Let us look at the example below which explains the **OR** function. We want to tag column E when either net income growth was less than zero (negative) or the net income was within target.
<table>
<thead>
<tr>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Year</td>
<td>Net Income Growth</td>
<td>Within Target</td>
<td>Tag</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>1997</td>
<td>5%</td>
<td>yes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>1998</td>
<td>3%</td>
<td>yes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>1999</td>
<td>10%</td>
<td>yes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>2000</td>
<td>-12%</td>
<td>yes</td>
<td>x</td>
<td>=IF(OR(B5&lt;0, C5=&quot;no&quot;),&quot;x&quot;,&quot;&quot;)</td>
</tr>
<tr>
<td>6</td>
<td>2001</td>
<td>5%</td>
<td>yes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>2002</td>
<td>3%</td>
<td>yes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>2003</td>
<td>5%</td>
<td>no</td>
<td>x</td>
<td>=IF(OR(B8&lt;0, C8=&quot;no&quot;),&quot;x&quot;,&quot;&quot;)</td>
</tr>
<tr>
<td>9</td>
<td>2004</td>
<td>7%</td>
<td>yes</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Fig 1.9. Using the OR functions to analyse net income growth figures from the Budget statement*

We use an OR function to test whether net income growth (in column B) was less than zero or whether the "within target" figure (in column C) was "no". If either or both of those are true then the OR function will return TRUE. And in that case the IF function will set a "x" marker in the tag column (column E).

**SUMPRODUCT function**

The SUMPRODUCT function is very useful. It multiplies two rows (or columns) of numbers together and to add the resulting subtotals to give a grand total.

In the example below we show the purchase of three fixed assets (Computers, Desks, and Chairs) and their associated quantity purchased and unit price. The quantities are in column B and the prices are in column C. The SUMPRODUCT function in cell E1 calculates the total value paid.

In the example below the SUMPRODUCT function multiplies each of the quantities in cells B2:B4 by the corresponding unit prices in cells C2:C4 and then adds the individual results to form a "grand total".
Fixed Assets | Quantity | Unit price | Total Value
--- | --- | --- | ---
Computers | 12 | $200,000 | $9,900,000
Desks | 15 | $100,000 | 
Chairs | 30 | $200,000 | 

![Fig 1.10. Using the SUMPRODUCT functions to show a grand total figure.](image)

Remember that functions are useful tools to perform mathematical calculations on the data set stored within an Excel sheet.

**HOW TO CREATE A BALANCE SHEET USING AN EXCEL TEMPLATE**

A balance sheet can be created by using an excel template or it can be created manually. One can find financial templates in excel (balance sheet, income statement and ratios) or browse the internet to find a desired template online. We start by showing how to create a balance sheet by using an excel template.

*Step 1.*

Open an excel sheet and select “NEW” under the “FILE” tab (usually found in the top left hand corner of the excel sheet). Under “NEW” select the financial report folder and select balance sheet (File/New/financial reports/balance sheet). There are several types of balance sheets. If using Microsoft office 2010, one can decide to use a pre-prepared balance sheet, a comparative balance sheet or a blank balance sheet template. If you don’t see any of the desired templates, then the search utility within [http://office.com](http://office.com) immediately becomes available once you are connected to the internet as illustrated in Fig 1.11 below.
Step 2.

When you’ve decided which balance sheet template you wish to use click "Download" to download or double click and open the desired template in Excel. Once downloaded the template becomes available and ready to receive input data.

Step 3.

Fill out your balance sheet with your financial data that you have gathered. If using the comparative balance sheet, simply replace your data with the data that’s in the template and modify the necessary cells for example the company’s name, year and the date. Please remember to “SAVE FILE”.

Fig 1.11 – Excel Template Window
Balance Sheet

[Date]
(all numbers in $000)

<table>
<thead>
<tr>
<th>ASSETS</th>
<th>LIABILITIES</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Current Assets</strong></td>
<td><strong>Current Liabilities</strong></td>
</tr>
<tr>
<td>Cash</td>
<td>Accounts payable</td>
</tr>
<tr>
<td>Accounts receivable</td>
<td>Short-term notes</td>
</tr>
<tr>
<td>(less doubtful accounts)</td>
<td>Current portion of long-term notes</td>
</tr>
<tr>
<td>Inventory</td>
<td>Interest payable</td>
</tr>
<tr>
<td>Temporary investment</td>
<td>Taxes payable</td>
</tr>
<tr>
<td>Prepaid expenses</td>
<td>Accrued payroll</td>
</tr>
<tr>
<td><strong>Total Current Assets</strong></td>
<td><strong>Total Current Liabilities</strong></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Fixed Assets</strong></td>
<td><strong>Long-term Liabilities</strong></td>
</tr>
<tr>
<td>Long-term investments</td>
<td>Mortgage</td>
</tr>
<tr>
<td>Land</td>
<td>Other long-term liabilities</td>
</tr>
<tr>
<td>(less accumulated depreciation)</td>
<td></td>
</tr>
<tr>
<td>Plant and equipment</td>
<td></td>
</tr>
<tr>
<td>(less accumulated depreciation)</td>
<td></td>
</tr>
<tr>
<td>Furniture and fixtures</td>
<td></td>
</tr>
<tr>
<td>(less accumulated depreciation)</td>
<td></td>
</tr>
<tr>
<td><strong>Total Net Fixed Assets</strong></td>
<td><strong>Shareholders’ Equity</strong></td>
</tr>
<tr>
<td></td>
<td>Capital stock</td>
</tr>
<tr>
<td></td>
<td>Retained earnings</td>
</tr>
<tr>
<td></td>
<td><strong>Total Shareholders’ Equity</strong></td>
</tr>
<tr>
<td><strong>TOTAL ASSETS</strong></td>
<td><strong>TOTAL LIABILITIES &amp; EQUITY</strong></td>
</tr>
</tbody>
</table>

XYZ Corporation
September 20, 2011

Base year of analysis
2007 2008 2009

<table>
<thead>
<tr>
<th>Assets</th>
<th>2007</th>
<th>% of total</th>
<th>2008</th>
<th>% of total</th>
<th>2009</th>
<th>% of total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cash and Receivables</td>
<td>$10,000</td>
<td>1.0%</td>
<td>$90,000</td>
<td>6.0%</td>
<td>$90,000</td>
<td>6.0%</td>
</tr>
<tr>
<td>Investments</td>
<td>454,775</td>
<td>33.0%</td>
<td>454,775</td>
<td>31.0%</td>
<td>454,775</td>
<td>31.0%</td>
</tr>
<tr>
<td>Real Estate</td>
<td>520,000</td>
<td>37.0%</td>
<td>520,000</td>
<td>35.0%</td>
<td>520,000</td>
<td>35.0%</td>
</tr>
<tr>
<td>Business Interests</td>
<td>130,000</td>
<td>9.0%</td>
<td>130,000</td>
<td>9.0%</td>
<td>130,000</td>
<td>9.0%</td>
</tr>
<tr>
<td>Personal Property</td>
<td>160,000</td>
<td>11.0%</td>
<td>160,000</td>
<td>11.0%</td>
<td>160,000</td>
<td>11.0%</td>
</tr>
<tr>
<td>Retirement Assets</td>
<td>122,000</td>
<td>9.0%</td>
<td>122,000</td>
<td>8.0%</td>
<td>122,000</td>
<td>8.0%</td>
</tr>
<tr>
<td>Other</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Total Assets</strong></td>
<td>$1,396,775</td>
<td>100.0%</td>
<td>$1,476,775</td>
<td>100.0%</td>
<td>$1,476,775</td>
<td>100.0%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Liabilities</th>
<th>2007</th>
<th>% of total</th>
<th>2008</th>
<th>% of total</th>
<th>2009</th>
<th>% of total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Credit Cards</td>
<td>$11,250</td>
<td>4.0%</td>
<td>$11,250</td>
<td>4.0%</td>
<td>$12,000</td>
<td>4.0%</td>
</tr>
<tr>
<td>Automobile loans</td>
<td>10,500</td>
<td>3.0%</td>
<td>10,500</td>
<td>3.0%</td>
<td>10,500</td>
<td>3.0%</td>
</tr>
<tr>
<td>Mortgages</td>
<td>229,000</td>
<td>76.0%</td>
<td>229,000</td>
<td>76.0%</td>
<td>229,000</td>
<td>75.0%</td>
</tr>
<tr>
<td>Other Debts</td>
<td>52,500</td>
<td>17.0%</td>
<td>52,500</td>
<td>17.0%</td>
<td>52,500</td>
<td>17.0%</td>
</tr>
<tr>
<td><strong>Total liabilities</strong></td>
<td>$303,250</td>
<td>100.0%</td>
<td>$303,250</td>
<td>100.0%</td>
<td>$304,000</td>
<td>100.0%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Net Worth</th>
<th>2007</th>
<th>% of total</th>
<th>2008</th>
<th>% of total</th>
<th>2009</th>
<th>% of total</th>
</tr>
</thead>
<tbody>
<tr>
<td>$1,093,525 78.3%</td>
<td></td>
<td></td>
<td>$1,173,525 79.5%</td>
<td></td>
<td>$1,172,775 79.4%</td>
<td></td>
</tr>
<tr>
<td><strong>Total Liabilities and Equity</strong></td>
<td>$1,396,775</td>
<td>100.0%</td>
<td>$1,476,775</td>
<td>100.0%</td>
<td>$1,476,775</td>
<td>100.0%</td>
</tr>
</tbody>
</table>

Fig 1.12. Showing a blank balance sheet template.

Fig 1.13. Showing a comparative balance sheet template.
**How to Create a Balance Sheet Manually**

A balance sheet can also be created manually using an excel sheet.

**Step 1.**

Open an excel sheet and begin by formatting the sheet (horizontally or vertically). List the components of your current and fixed assets followed by the current, long-term liabilities and shareholder’s equity as seen in fig. 1.14 below.

**Step 2.**

After listing your current asset, long-term assets, current liabilities and long-term liabilities as well as stock holder’s equity, list the years on the top horizontal side of the excel sheet followed by inputting the actual data for each entry.

**Step 3.**

The next step will be to insert functions in the main cells. For example the cell representing the total asset for the year 2009 (E7) equals the total current assets cell (E9) plus the total current liabilities (E29). The total current assets cell equal the `SUM` of all the cells in the current assets. Likewise the sum of the various other balance sheet entries is generated from the summation (`SUM`) of their individual components.

**Step 4.** Ensure total assets equals total liabilities and “SAVE FILE”

<table>
<thead>
<tr>
<th>Assets vs. Liabilities Multi-Year Spreadsheet/Balance Sheet</th>
<th>2009</th>
<th>2010</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Total Assets</strong></td>
<td>=SUM(C4+C19)</td>
<td>=SUM(D4+D19)</td>
</tr>
<tr>
<td><strong>Current Assets</strong></td>
<td>=SUM(C5:C11)</td>
<td>=SUM(D5:D11)</td>
</tr>
<tr>
<td>Inventories</td>
<td>$X</td>
<td>$X</td>
</tr>
<tr>
<td>Receivables</td>
<td>$X</td>
<td>$X</td>
</tr>
<tr>
<td>Available for sale investments</td>
<td>$X</td>
<td>$X</td>
</tr>
<tr>
<td>taxation recoverable</td>
<td>$X</td>
<td>$X</td>
</tr>
<tr>
<td>Associated companies</td>
<td>$X</td>
<td>$X</td>
</tr>
<tr>
<td>Taxation recoverable</td>
<td>$X</td>
<td>$X</td>
</tr>
<tr>
<td>Cash and bank balances</td>
<td>$X</td>
<td>$X</td>
</tr>
<tr>
<td><strong>Current Liabilities</strong></td>
<td>=SUM(C13:C17)</td>
<td>=SUM(C13:D17)</td>
</tr>
<tr>
<td>Payables</td>
<td>$X</td>
<td>$X</td>
</tr>
<tr>
<td>Current portion of long term liabilities</td>
<td>$X</td>
<td>$X</td>
</tr>
<tr>
<td>Taxation payable</td>
<td>$X</td>
<td>$X</td>
</tr>
<tr>
<td>Bank and short term loans</td>
<td>$X</td>
<td>$X</td>
</tr>
<tr>
<td>Other</td>
<td>$X</td>
<td>$X</td>
</tr>
<tr>
<td><strong>Net Current Assets</strong></td>
<td>=SUM(C4-C12)</td>
<td>=SUM(D4-D12)</td>
</tr>
<tr>
<td><strong>Non-Current Assets</strong></td>
<td>=SUM(C20:C27)</td>
<td>=SUM(D20:D27)</td>
</tr>
<tr>
<td>Fixed assets</td>
<td>$X</td>
<td>$X</td>
</tr>
</tbody>
</table>
### Assets vs. Liabilities Multi-Year Spreadsheet/Balance Sheet

<table>
<thead>
<tr>
<th>Year</th>
<th>2009</th>
<th>2010</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Investment in associates/Investments</td>
<td>$X</td>
<td>$X</td>
</tr>
<tr>
<td>Available for sale investments</td>
<td>$X</td>
<td>$X</td>
</tr>
<tr>
<td>long term receivable</td>
<td>$X</td>
<td>$X</td>
</tr>
<tr>
<td>Retirement benefit asset</td>
<td>$X</td>
<td>$X</td>
</tr>
<tr>
<td>Deferred tax assets</td>
<td>$X</td>
<td>$X</td>
</tr>
<tr>
<td>Biological assets</td>
<td>$X</td>
<td>$X</td>
</tr>
<tr>
<td>Intangible assets/Goodwill</td>
<td>$X</td>
<td>$X</td>
</tr>
<tr>
<td>Stockholders’ Equity</td>
<td>SUM(C29:C32) =SUM(D29:D32)</td>
<td></td>
</tr>
<tr>
<td>Share capital</td>
<td>$X</td>
<td>$X</td>
</tr>
<tr>
<td>Share premium</td>
<td>$X</td>
<td>$X</td>
</tr>
<tr>
<td>Capital reserve</td>
<td>$X</td>
<td>$X</td>
</tr>
<tr>
<td>Retained earnings</td>
<td>$X</td>
<td>$X</td>
</tr>
<tr>
<td>Non-Current Liability</td>
<td>SUM(C34:C37) =SUM(D34:D37)</td>
<td></td>
</tr>
<tr>
<td>Long-term liabilities</td>
<td>$X</td>
<td>$X</td>
</tr>
<tr>
<td>Deferred tax liabilities</td>
<td>$X</td>
<td>$X</td>
</tr>
<tr>
<td>Other post-retirement obligations</td>
<td>$X</td>
<td>$X</td>
</tr>
<tr>
<td>Other</td>
<td>$X</td>
<td>$X</td>
</tr>
<tr>
<td>Total Liabilities</td>
<td>SUM(C12+C28+C33) =SUM(D12+D28+D33)</td>
<td></td>
</tr>
</tbody>
</table>

---

### INCOME STATEMENTS

An income statement, also known as the profit and loss or statement of revenue and expense, is a measures a company’s financial performance over a given period. An income statement shows the profit or loss position of the company during a given financial period and it summarizes revenue and expenses on a quarterly or yearly basis. See fig 1.15 illustrating a typical example of an income statement.

The main components of an income statement are defined as follows:

**Revenue** – This refers to the value of sales of a goods or services.

**Cost of sales** - This includes expenses directly related to manufacturing a good or providing a service. For a manufacturer the cost of sales is the expenses incurred for raw materials, labor and overheads used in the production of a good. For a service elated business, the cost of sales represents the cost of services rendered and for wholesalers and retailers, the cost of sales is the purchase cost of merchandise used for resale.

**Gross profit** – This shows the difference between the revenue and the cost of sales.
Selling, General and Administrative Expenses - This includes all a company’s operational expenses.

Operating income – This is calculated from subtracting SG&A from a company’s gross profit.

Income taxes - This is a tax usually levied by the government and is deducted after the operating income.

Net Income – This is usually referred to the company’s bottom line and is an important indicator of profitability. If expenses exceed income or revenue this results in a net loss (vice-versa).

### Income Statement For Company XYZ FY 2008 and 2009

<table>
<thead>
<tr>
<th>(Figures USD)</th>
<th>2008</th>
<th>2009</th>
</tr>
</thead>
<tbody>
<tr>
<td>Net Sales</td>
<td>1,500,000</td>
<td>2,000,000</td>
</tr>
<tr>
<td>Cost of Sales</td>
<td>(350,000)</td>
<td>(375,000)</td>
</tr>
<tr>
<td>Gross Income</td>
<td>1,150,000</td>
<td>1,625,000</td>
</tr>
<tr>
<td>Operating Expenses (SG&amp;A)</td>
<td>(235,000)</td>
<td>(260,000)</td>
</tr>
<tr>
<td>Operating Income</td>
<td>915,000</td>
<td>1,365,000</td>
</tr>
<tr>
<td>Other Income (Expense)</td>
<td>40,000</td>
<td>60,000</td>
</tr>
<tr>
<td>Extraordinary Gain (Loss)</td>
<td>-</td>
<td>(15,000)</td>
</tr>
<tr>
<td>Interest Expense</td>
<td>(50,000)</td>
<td>(50,000)</td>
</tr>
<tr>
<td>Net Profit Before Taxes (Pretax Income)</td>
<td>905,000</td>
<td>1,360,000</td>
</tr>
<tr>
<td>Taxes</td>
<td>(300,000)</td>
<td>(475,000)</td>
</tr>
<tr>
<td>Net Income</td>
<td>605,000</td>
<td>885,000</td>
</tr>
</tbody>
</table>
HOW TO CREATE AN INCOME STATEMENT USING AN EXCEL TEMPLATE

**Step 1.**
Open an excel sheet and select “NEW” under the “FILE” tab (usually found in the top left hand corner of the excel sheet). Under “NEW” select the financial report folder and select income statement (File/New/financial reports/income statement). If using Microsoft office 2010, one can decide to choose among a variety of income statement. If you don’t see any of the desired templates, then the search utility within [http://office.com](http://office.com) immediately becomes available once you are connected to the internet as illustrated in fig 1.6 below.

![Available excel templates](image)

**Fig 1.16 – Available excel templates**

**Step 2.**
When you’ve decided which income sheet template you wish to use click “Download” to download or double click and open the desired template in Excel. Once downloaded the template becomes available and ready to receive input data.

**Step 3.**
Fill out the income statement with your financial data that you have gathered. Simply replace your data with the data that is in the template and modify the necessary cells for example the company’s name, year and the date.

Please note when using a template the main functions are already inputted into the cells and are seen as the highlighted light blue cells. Therefore, all you have to do is place the data you have gathered in the cells which are not highlighted. Please remember to “SAVE FILE”.

---

**Fig 1.15 Example Income Statement.**
## Two-Year Comparative Income Statement

<table>
<thead>
<tr>
<th>Financial statements in U.S. dollars</th>
<th>[Current Period]</th>
<th>[Prior Period]</th>
<th>Increase / (Decrease)</th>
<th>Percent Change</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Revenue</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gross Sales</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Less: Sales Returns and Allowances</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Net Sales</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td><strong>Cost of Goods Sold</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Beginning Inventory</td>
<td></td>
<td></td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Add:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Purchases</td>
<td></td>
<td></td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Freight-in</td>
<td></td>
<td></td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Direct Labor</td>
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</tr>
<tr>
<td>Indirect Expenses</td>
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<td>0</td>
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<tr>
<td>Inventory Available</td>
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<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Less: Ending Inventory</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Cost of Goods Sold</td>
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<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td><strong>Gross Profit (Loss)</strong></td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td><strong>Expenses</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Advertising</td>
<td></td>
<td></td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Amortization</td>
<td></td>
<td></td>
<td>0</td>
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</tr>
<tr>
<td>Bad Debts</td>
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<td></td>
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</tr>
<tr>
<td>Bank Charges</td>
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<td></td>
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<tr>
<td>Charitable Contributions</td>
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<tr>
<td>Commissions</td>
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<tr>
<td>Contract Labor</td>
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<td></td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Depreciation</td>
<td></td>
<td></td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Dues and Subscriptions</td>
<td></td>
<td></td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Employee Benefits Programs</td>
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<td></td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Insurance</td>
<td></td>
<td></td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Interest</td>
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<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Legal and Professional Fees</td>
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<td></td>
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<td>0</td>
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<td>Licenses and Fees</td>
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<td></td>
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<td>0</td>
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<tr>
<td>Miscellaneous</td>
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<td></td>
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</tr>
<tr>
<td>Office Expense</td>
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<td>0</td>
</tr>
<tr>
<td>Payroll Taxes</td>
<td></td>
<td></td>
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<td>0</td>
</tr>
<tr>
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<td></td>
<td></td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Rent</td>
<td></td>
<td></td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Repairs and Maintenance</td>
<td></td>
<td></td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Supplies</td>
<td></td>
<td></td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Telephone</td>
<td></td>
<td></td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Travel</td>
<td></td>
<td></td>
<td>0</td>
<td>0</td>
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<tr>
<td>Utilities</td>
<td></td>
<td></td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Vehicle Expenses</td>
<td></td>
<td></td>
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<td>0</td>
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<tr>
<td>Wages</td>
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</tr>
<tr>
<td><strong>Total Expenses</strong></td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td><strong>Net Operating Income</strong></td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td><strong>Other Income</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gain (Loss) on Sale of Assets</td>
<td></td>
<td></td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Interest Income</td>
<td></td>
<td></td>
<td>0</td>
<td>0</td>
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<tr>
<td><strong>Total Other Income</strong></td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
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<tr>
<td><strong>Net Income (Loss)</strong></td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

**PREPARATION OF ANNUAL BUDGETS**

A Budget is a plan that outlines an organization's financial and operational goals. It outlines the projected income and expenses of a person or company and shows an estimate of costs, revenues and resources over a specific period. A budget helps a business allocate resources, evaluate performance, and formulate plans.

As an entrepreneur, planning a budget plays an important role in determining your start up and operating costs.
How to create an annual budget using an excel template

**Step 1**
Open an excel sheet and select “NEW” under the “FILE” tab (usually found in the top left hand corner of the excel sheet). Under “NEW” select the financial report folder and select budget (File/New/financial reports/budget). There are several budget templates you may wish to use depending on the type of business you are engaged in. If you don’t see any of the desired templates, then the search utility within [http://office.com](http://office.com) immediately becomes available once you are connected to the internet as illustrated in fig 1.18 below as seen below.

![Available templates](image)

**Fig 1.18 Available templates**

**Step 2**
When you’ve decided which budget template you wish to use click "Download" to download or double click and open the desired template in Excel. Once downloaded the template becomes available and ready to receive input data.

**Step 3**
Fill out your budget statement with your financial data that you have gathered. Simply replace your data with the data that’s in the template and modify the necessary cells for example the company’s name, year and the date. Please note when using a template the main functions are already inputted into the cells and are seen the highlighted light blue cells. Therefore, all you have to do is place the data you have gathered in the cells which are not highlighted. Please remember to “SAVE FILE”.
### Expense Budget

*Fig. 1.19 – Typical expense budget*

<table>
<thead>
<tr>
<th>Personnel</th>
<th>Budget</th>
<th>Actual</th>
<th>Difference ($)</th>
<th>Difference (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Office</td>
<td>$</td>
<td>-</td>
<td>-</td>
<td>0.0%</td>
</tr>
<tr>
<td>Store</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>0.0%</td>
</tr>
<tr>
<td>Salespeople</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>0.0%</td>
</tr>
<tr>
<td>Others</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>0.0%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Operating</th>
<th>Budget</th>
<th>Actual</th>
<th>Difference ($)</th>
<th>Difference (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Advertising</td>
<td>$</td>
<td>-</td>
<td>-</td>
<td>0.0%</td>
</tr>
<tr>
<td>Bad debts</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>0.0%</td>
</tr>
<tr>
<td>Cash discounts</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>0.0%</td>
</tr>
<tr>
<td>Delivery costs</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>0.0%</td>
</tr>
<tr>
<td>Depreciation</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>0.0%</td>
</tr>
<tr>
<td>Dues and subscriptions</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>0.0%</td>
</tr>
<tr>
<td>Employee benefits</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>0.0%</td>
</tr>
<tr>
<td>Insurance</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>0.0%</td>
</tr>
<tr>
<td>Interest</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>0.0%</td>
</tr>
<tr>
<td>Legal and auditing</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>0.0%</td>
</tr>
<tr>
<td>Maintenance and repairs</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>0.0%</td>
</tr>
<tr>
<td>Office supplies</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>0.0%</td>
</tr>
<tr>
<td>Postage</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>0.0%</td>
</tr>
<tr>
<td>Rent or mortgage</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>0.0%</td>
</tr>
<tr>
<td>Sales expenses</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>0.0%</td>
</tr>
<tr>
<td>Shipping and storage</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>0.0%</td>
</tr>
<tr>
<td>Supplies</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>0.0%</td>
</tr>
<tr>
<td>Taxes</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>0.0%</td>
</tr>
<tr>
<td>Telephone</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>0.0%</td>
</tr>
<tr>
<td>Utilities</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>0.0%</td>
</tr>
<tr>
<td>Other</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>0.0%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Total Expenses</th>
<th>Budget</th>
<th>Actual</th>
<th>Difference ($)</th>
<th>Difference (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$</td>
<td>-</td>
<td>-</td>
<td></td>
</tr>
</tbody>
</table>

*Fig. 1.19 – Typical expense budget*
LESSON SUMMARY

Financial statements and reporting requirements are key components for the ongoing and successful operation of any business. Management decisions are made on the basis of the information presented in the financials. This is where the performance indicators inform whether the business is viable or not. As mentioned before, the timely and accurate preparation of these statements and report requires automation. For most start-ups and medium size business, it may be too costly to procure and maintain licenses for enterprise level solutions such as QuickBooks.

Microsoft Excel is a very popular, versatile and useful tool in achieving these goals. The software is already a part of the office productivity suits that most persons already have. In this lesson, we introduced some basic arithmetic functions within the spreadsheet. A working knowledge of these functions forms the basis for more advanced computation within the software. With this knowledge we went further and introduced the preparation of key financial statements, namely Balance Sheet, Income Statement and Annual Budget. We demonstrated how to create these sheets manually or from the many available templates within Excel. Finally, we examined the budgeting process and how excel enabled us to create and maintain annual budgets. In the next lesson we will use these financials to generate corporate reports and data compilation.

Self-Reflection Question:

What would be the greatest challenges for a company or a business that keeps all its records and prepares its financial statements manually?
LESSON 1.2 – PRODUCE A FLAT DATABASE FOR CUSTOMER DATA & INVENTORY CONTROL

LESSON INTRODUCTION
A database is a centralized collection of data organized to serve many applications. Once the data is stored in the database it can be queried, retrieved, sorted and organized in such a way as to control redundant data. Each individual entity within the database is called a record and records are further broken down into attributes or fields. This unit looks at a particular database known as a flat file database. If you have had to input a series of data into a spreadsheet, then you have interacted with a flat file database.

LESSON OBJECTIVES
Upon completion of this lesson you will be able to:

1. Understand the difference between a flat file database and a relational database
2. Create a flat file database

FLAT FILE VS RELATIONAL DATABASE
As stated earlier, databases are centralized repository of information. A database is useful for the storage of large volumes of data. Centralized access, minimise the possibility of tampering, loss of data, unauthorized access and manipulation of data. It allows for various search and query routines to be performed on the data to return desired results. The way the data is organised in the database is called the structure of the database. The database can have what is known as a flat or single file or it can be organised in multiple tables that relates or linked to each other in some way. The latter is called a relational database structure.

In a flat file, the data is organised in a single table or list. Each entry or record in the database is supported by corresponding parameters or attributes. There can be multiple tables but there exists no relationship or automation between the tables. Each table or list in a flat file is stand alone or independent. E.g. you could have one table holding a list of customers and another holding a list of orders. This separation cannot tell you which customer orders what as there is no relationship between the two tables. The movement of data from one database or file to the other is completely manual (cut and paste) and is error prone due to duplications or other anomalies. There is not much data manipulation that can be done on the database. With a flat file you are able to display the information in a snap shot or printed format, you are also able to email the file as an attachment to share with others. There is no sophisticated reporting feature on the flat file.

Unlike a flat file database a relational structure organise the data around several tables and provide a mechanism for the tables to work together. Each table identifies a unique field or primary key. The Key is used to access or query information from other tables. Care must be
taken in entering data into each table so that the relationship between tables makes sense. The data must be organized so that its integrity is preserved and the data structure should be able to support storage, query, and easy manipulation. Relational databases are either proprietary, open source or embedded. Proprietary relational databases require the use of proprietary development languages such as visual basic. Open source codes are available free and encourage open and shared development. Embedded databases are usually a part of an existing special purpose application such as a tax or audit package.

**A relational database has several advantages:**

- Stores large volumes of data.
- Can manage large volumes of text based data.
- Can create robust reports that filter and display certain fields. Users can run reports at anytime.
- Allows multiple users to work on the same data at the same time and support access over a network or the internet.
- Data is easier to manage as it is stored in different tables.
- Helps keep information accurate by preventing users from entering information in the wrong table.

**Some of the disadvantages are:**

- Requires specialised database software or a Database Management System (DBMS) such as Access, SQL, MySQL
- Requires expensive hardware computing resources such as database server hardware
- Requires skilled software technician in the form of a database administrator

Please note that you will not be required to create a relational database. As an entrepreneur, you will be required to hold key information on customers, suppliers, employees and other stakeholders. As such, a working knowledge of a flat file can be extremely useful in your everyday business life.

**CREATE A FLAT FILE**

As a business operator, you will need to quickly and easily store customer information in a flat database file in order to track customer purchasing pattern, send email alters and updates on product information etc. To create a flat file requires little or no expert knowledge of database systems. Basic proficiency with Microsoft Excel or any other spreadsheet will suffice.
The database in table 1 below contains a list of all the customers at a retail store. Basic demographic data is kept on all customers. The database shows ten individual records. Each record has six attributes or fields associated with it. A unique field e.g. customer # is selected as the Primary field for the record in order to uniquely identify it within a database. No two fields within a database can have the same primary key. The primary key because of its uniqueness is used exclusively or in conjunction with other fields to return particular queries on from a given database.

<table>
<thead>
<tr>
<th>NO</th>
<th>Customer #</th>
<th>Last Name</th>
<th>First Name</th>
<th>Address</th>
<th>Email Address</th>
<th>Tel number</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>90654020</td>
<td>Ellington</td>
<td>Sophia</td>
<td>21 Gore Terrace, MD</td>
<td><a href="mailto:sophie.ellington@csd.edu">sophie.ellington@csd.edu</a></td>
<td>892.234.5749</td>
</tr>
<tr>
<td>2</td>
<td>98734567</td>
<td>Saunders</td>
<td>Erica</td>
<td>43 Richmond Close</td>
<td><a href="mailto:erica.saunders@csd.edu">erica.saunders@csd.edu</a></td>
<td>234.456.7890</td>
</tr>
<tr>
<td>3</td>
<td>76490846</td>
<td>Briggs</td>
<td>Jonathan</td>
<td>14 abercrombie Drive</td>
<td><a href="mailto:jonathan.briggs@csd.edu">jonathan.briggs@csd.edu</a></td>
<td>234.098.4567</td>
</tr>
<tr>
<td>4</td>
<td>34567964</td>
<td>Anderson</td>
<td>Ray</td>
<td>86 knights Road</td>
<td><a href="mailto:ray.anderson@csd.edu">ray.anderson@csd.edu</a></td>
<td>345.769.9744</td>
</tr>
<tr>
<td>5</td>
<td>36859066</td>
<td>Smith</td>
<td>Leon</td>
<td>locked Bag 86, Waaga Waaga</td>
<td><a href="mailto:leon.smith@csd.edu">leon.smith@csd.edu</a></td>
<td>678.767.8984</td>
</tr>
<tr>
<td>6</td>
<td>34893760</td>
<td>Riley</td>
<td>Yanika</td>
<td>13 merivale Close</td>
<td><a href="mailto:yanika.riley@csd.edu">yanika.riley@csd.edu</a></td>
<td>910.834.4743</td>
</tr>
<tr>
<td>7</td>
<td>87344940</td>
<td>Sharma</td>
<td>Pree</td>
<td>12 Jerinham Ave, POS</td>
<td><a href="mailto:pree.sharma@csd.edu">pree.sharma@csd.edu</a></td>
<td>987.643.9998</td>
</tr>
<tr>
<td>8</td>
<td>43448374</td>
<td>Sing</td>
<td>Jasmine</td>
<td>1 Devon Road, Kingston</td>
<td><a href="mailto:jasmine.sing@csd.edu">jasmine.sing@csd.edu</a></td>
<td>876.678.8371</td>
</tr>
<tr>
<td>9</td>
<td>43443489</td>
<td>Lee</td>
<td>Tommy</td>
<td>14 Alexander Close</td>
<td><a href="mailto:tommy.lee@csd.edu">tommy.lee@csd.edu</a></td>
<td>7654.497.0393</td>
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<tr>
<td>10</td>
<td>57809403</td>
<td>Woznatski</td>
<td>Javier</td>
<td>12 Gibraltar Way</td>
<td><a href="mailto:javer.wozntski@csd.edu">javer.wozntski@csd.edu</a></td>
<td>654.738.3233</td>
</tr>
</tbody>
</table>

Table 1.1 – A flat file database showing customers and their contact info (attributes)

Table 1 above illustrates a portion of the customer database at a retail store. The rows are the individual records within the database while the columns represent the individual attributes or fields of a particular record. The customer # field is unique for each record and can therefore be used as the primary key to uniquely identify each customer in the database. You may add information (records) as you deem necessary. If the number of entries or records in the database is getting too large e.g. running into hundreds of thousands, then you may wish to consider a relational structure.
LESSON SUMMARY

In this lesson we introduced the concept of database as a useful business tool for the storage, modification and retrieval of information. Data within the organisation will continue to grow exponentially. As the business grows, customer base and suppliers increase, so too will the need to properly identify, access and modify customer data such as shipping information, contact information, billing information and order information among others. The database is the central repository of information used by various users and in some instances, other programs or applications. There are two forms of databases available to us, a basic “flat file” and a more complex and feature rich relational structure. In this lesson we examined how a flat file worked, the pros and cons of its use and we made a comparison between it and the relational database. We further suggested that the flat file database is quicker and easier to set up and should meet the basic needs of most individual and small businesses. The obvious drawback is the number of different tables that you will be required to set up and maintain. If the number of tables and the amount of data or information is becoming too large and unmanageable then the flat file structure has outlived its usefulness and should be replaced by a more robust relational structure.

Self-Reflection Question:

If you have one thousand clients worldwide in your small business and you do not store their information in a database, how would you locate the address of a particular customer?
LESSON 1.3 – GENERATE CORPORATE REPORTS AND DATA COMPILATION

LESSON INTRODUCTION
A corporate report is comprised financial statements and corresponding notes to the financial statements. Financial statements and their notes contain a wealth of useful information regarding the financial health of the company, the profitability of its operation, policies and strategies and the future outlook. The statements are made up of the balance sheet, income statement, statement of stakeholder’s equity and the statement of cash flow. The compilation of these statements requires the manipulation of huge amounts of financial data. This data has to be compiled and presented in easy to read format to the shareholders and other stakeholder. In this lesson, we will build on the foundation skills learnt in Lessons 1.1 and 1.2 in order to compile these financial statements and present them as corporate summary reports. In Topic 1.1 we examined how to use excel to prepare balance sheet and income statements. These statements will form part of the corporate report or annual report. In many instances management will require some form of report for quick and informed decision making. The source data for this report may be scattered in various tables or flat files stored on your computer system. What is required is to “pull it all together” so that the data can be presented in a simple, readable and understandable format. Pivot tables will help us to do just that. This will enable you to make informed decisions about critical data in the enterprise.

LESSON OBJECTIVES
Upon completion of this lesson you will be able to:

1. Generate simple reports using Pivot Tables.
2. Generate reports from Pivot Tables

PIVOT TABLES
We will continue our discussion on Microsoft Excel by looking at Pivot Table and see how this tool can be used to generate report for the enterprise. A PivotTable report is useful to summarize, analyze, explore, and present summary data. They are dynamic and interactive tables that quickly help you to make comparisons identify patterns and trends. It allows you to see how different types of information fit together.

One of the key indicators in any business is product sales. Managers often want to know the best or worst performing products over a period of time. We will build on this concept to produce a report using pivot tables to show the top ten 5 performing products in a supermarket over three consecutive quarters (Q1,Q2 Q3). The source data is shown in table 2 below.

VUSSC
Table 1.2: Source Data – Supermarket sales figures

By using pivot table you can interrogate the source data and answer questions such as the following:

1. Which product is the highest by annual sales volume?
2. What are the top ten selling products over the first two or last two quarters?
3. What are the top 5 performing products by sales?

As an illustration, we will demonstrate how to arrive at the top 10 selling products over the first two quarters.

Step 1: Make sure each column as a heading as it is carried over to the

Step 2: Highlight the data range from the source including the headings from the data sheet

Step 3: Click the insert tab, from the table section and select pivot table
The following dialog box will appear

![Create PivotTable dialog box](image)

**Fig 1.20 – Dialog Box showing range and pivot table location**

Confirm that the select table range and a new worksheet are selected by default, then click ok. A new worksheet with the blank pivot table report will open up. See fig 1.21 below.

![Pivot table report](image)

**Fig 1.21- Pivot table report**

**Step 4:** Drag the product field from the top right box and drop it in the row labels box at the bottom right. This will cause the pivot table to use the product column as rows in the output

**Step 5:** Drag the headings Q1, Q2, and Q3 to the summation ($\sum$) values box. See result in fig. 1.23 below.
Step 6: Select the row label drop down menu and choose value filters. This will allow you to select the top 10 as the filter criteria. Once completed, the output in table 3 will appear.
Table 3 above shows the pivot table generated from the source data. The table shows the top selling products across the first three consecutive quarters.

As stated earlier, management would be interested in summary information. It can be seen that the output (table 3) shows some important summary information. For example, the total sales for each quarter can be seen from the Grand Total. In addition, various sales information can be extracted by simply examining the table in greater detail.

The following are a few ad hoc inferences garnered from the output:

1. Third Quarter (Q3) was the lowest performing across the top ten products
2. First Quarter (Q1) was the best performing products across the top ten products
3. Bottled water was the highest performing product across all three quarters
4. Carrot was the worst performing product in the first Quarter (Q1).
5. Orange Juice was the worst performing product in the third Quarter (Q3).
LESSON SUMMARY
Summary information is critical for managers and business operators to be able to make important decisions quickly. This information must be made on an informed basis. During the normal activities of business, large volumes of data will be generated daily. This data must be stored and processed. We have seen in earlier lessons where the application of Microsoft Excel has been used to store, process and analyse data. In this lesson we went one step further and examined how Excel enabled certain reporting features through the use of pivot tables. Excel also allows us to create different types of financial statements, namely, Balance Sheet and Income statement. A consolidation of these statements is what forms the basis of corporate reports.

Self-Reflection Question:
Do you currently use Excel to help you generate reports? If not, what reporting tool/s do you use if any?
LESSON 1.4 – CREATE FINANCIAL CHARTS AND DIAGRAMS TO DISPLAY DATA

LESSON INTRODUCTION
Charts, graphs and diagrams are ways of displaying data in a visually appealing manner. This gives you a clear picture how your data is distributed. One look at the chart or graph should give you a fair idea of the data you have described and the various types of charts. Charting is an important tool in excel. It makes it easier to see trends, patterns and anomalies in data than if the data were shown numerically. In this lesson we will use the visual display tools to present data sets in various forms. We will look at various types of charts and diagrams in Excel to create graphical representation of your data set.

LESSON OBJECTIVES
Upon completion of this lesson you will be able to:

1. Use Excel to create various types of charts.
2. Create Column Charts.
3. Create Line Charts
4. Create Pie and Bar Charts

COLUMN CHARTS
Column charts are used to compare values across categories. There are several types of column charts namely: 2D, 3D, cylinder, cone and pyramid. Each column chart can be represented by a cluster column, stacked column and 100% stacked column.

2D Cluster Column Chart
Column Cluster compares values across categories by using vertical rectangles. It is used when the order of categories is not important or for displaying item counts such as a histogram. Using the data in table 4 below, the following steps will guide you through the creation of a 2D chart.

Step 1: Open an excel sheet.
Step 2: Place data in excel sheet as seen below and format the year column by right clicking/format cell/date. Note that you can decide to display any category of data or quantity you desire.
Step 3: Place cursor over the entire data set to select the dat.
Step 4: Select the insert tab/column/2D cluster column.

When the chart is displayed you can format the chart by inserting a title under the layout tab (layout tab/chart title/centre overlay title), by changing the chart...
background (right clicking and selecting format chart area) and by changing the plot area background (right clicking on the plot -the inner area the histogram lies – and selecting format plot area/solid fill)

Step 5: Save the excel file.

You can move the chart from the sheet and place it in another existing sheet or an a new sheet by clicking on the move chart tab under the chart tools ribbon

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>A</td>
<td>B</td>
</tr>
<tr>
<td>1</td>
<td>Year</td>
<td>Total assets</td>
</tr>
<tr>
<td>2</td>
<td>22-Jun-00</td>
<td>USD 56,784.00</td>
</tr>
<tr>
<td>3</td>
<td>23-Jun-01</td>
<td>USD 67,547.00</td>
</tr>
<tr>
<td>4</td>
<td>24-Jun-02</td>
<td>USD 87,654.00</td>
</tr>
<tr>
<td>5</td>
<td>25-Jun-03</td>
<td>USD 123,000.00</td>
</tr>
<tr>
<td>6</td>
<td>25-Jun-04</td>
<td>USD 345,267.00</td>
</tr>
<tr>
<td>7</td>
<td>26-Jun-05</td>
<td>USD 432,675.00</td>
</tr>
<tr>
<td>8</td>
<td>27-Jun-06</td>
<td>USD 567,948.00</td>
</tr>
<tr>
<td>9</td>
<td>28-Jun-07</td>
<td>USD 675,432.00</td>
</tr>
<tr>
<td>10</td>
<td>28-Jun-08</td>
<td>USD 543,246.00</td>
</tr>
<tr>
<td>11</td>
<td>29-Jun-09</td>
<td>USD 564,327.00</td>
</tr>
<tr>
<td>12</td>
<td>30-Jun-10</td>
<td>USD 765,432.00</td>
</tr>
<tr>
<td>13</td>
<td>1-Jul-11</td>
<td>USD 654,321.00</td>
</tr>
</tbody>
</table>

Table 1.4- Sandy’s Boutique raw data
The chart below in fig. 1.24 was generated from the data set above. It shows a direct comparison between total assets and total liabilities for Sandy’s boutiques during the years 2000 to 2011. This side by side representation allows for a quick comparison.

![Sandy's Boutique's Total Assets vs Total Liabilities](chart.png)

*Fig 1.24 - Column chart showing Assets against liabilities*

**2D Stacked Column Chart**

A stacked column chart compares the contribution of each value to a total across categories by using vertical rectangles. Consider the data in table 5 below.

Follow steps 1-3 above

**Step 4:** Select the insert tab/column/2D stacked column.

Similarly, when the chart is displayed you can format the chart by inserting a title under the layout tab (layout tab/chart title/centre overlay title), by changing the chart background (right clicking and selecting format chart area) and by changing the plot area background (right clicking on the plot - the inner area the histogram lies – and selecting format plot area/solid fill).

**Step 5:** Save the excel file.
<table>
<thead>
<tr>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Year</td>
<td>Revenues</td>
<td>Expenses</td>
</tr>
<tr>
<td>1-Jan-00</td>
<td>USD 547,882.00</td>
<td>USD 234,563.00</td>
<td>USD 313,319.00</td>
</tr>
<tr>
<td>1-Jan-01</td>
<td>USD 564,237.00</td>
<td>USD 345,725.00</td>
<td>USD 218,512.00</td>
</tr>
<tr>
<td>1-Jan-02</td>
<td>USD 666,382.00</td>
<td>USD 345,728.00</td>
<td>USD 320,654.00</td>
</tr>
<tr>
<td>1-Jan-03</td>
<td>USD 562,233.00</td>
<td>USD 342,256.00</td>
<td>USD 281,977.00</td>
</tr>
<tr>
<td>1-Jan-04</td>
<td>USD 845,267.00</td>
<td>USD 356,437.00</td>
<td>USD 488,830.00</td>
</tr>
<tr>
<td>1-Jan-05</td>
<td>USD 655,738.00</td>
<td>USD 342,565.00</td>
<td>USD 421,173.00</td>
</tr>
<tr>
<td>1-Jan-06</td>
<td>USD 765,443.00</td>
<td>USD 456,333.00</td>
<td>USD 309,110.00</td>
</tr>
<tr>
<td>1-Jan-07</td>
<td>USD 789,996.00</td>
<td>USD 563,436.00</td>
<td>USD 226,560.00</td>
</tr>
<tr>
<td>1-Jan-08</td>
<td>USD 876,543.00</td>
<td>USD 234,647.00</td>
<td>USD 641,896.00</td>
</tr>
<tr>
<td>1-Jan-09</td>
<td>USD 776,538.00</td>
<td>USD 342,554.00</td>
<td>USD 433,984.00</td>
</tr>
<tr>
<td>1-Jan-10</td>
<td>USD 876,543.00</td>
<td>USD 234,543.00</td>
<td>USD 642,000.00</td>
</tr>
<tr>
<td>1-Jan-11</td>
<td>USD 1,235,648.00</td>
<td>USD 654,326.00</td>
<td>USD 581,322.00</td>
</tr>
</tbody>
</table>

*Table 1.5 – Source data*
The chart below is generated from the data set in table 5. The output shows a visual comparison of net income, expenses and revenues over the 11 year period 2000-2011.

![Sandy's Boutique's Comparison of Revenues, Net Income and Expenses for the year 2000-2011](image)

*Fig 1.25 – 2D stacked column chart*

**2D 100% Stacked Column Chart**

A 100% stacked column chart compares the percentage that each value contributes to a total across categories by using vertical rectangles. It is used to shows the proportion of each data series. Using the source data in table 5.

Follow step 1-3 above

**Step 4:** Select the insert tab/column/2D 100% stacked column.

When the chart is displayed you can format the chart by inserting a title under the layout tab (layout tab/chart title/centre overlay title), by changing the chart background (right clicking and selecting format chart area) and by changing the plot area background (right clicking on the plot -the inner area the histogram lies – and selecting format plot area/solid fill).

**Step 5:** Save excel file.
<table>
<thead>
<tr>
<th>Year</th>
<th>Revenues</th>
<th>Expenses</th>
<th>Net Income</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-Jan-00</td>
<td>USD 547,882.00</td>
<td>USD 234,563.00</td>
<td>USD 313,319.00</td>
</tr>
<tr>
<td>1-Jan-01</td>
<td>USD 564,237.00</td>
<td>USD 345,725.00</td>
<td>USD 218,512.00</td>
</tr>
<tr>
<td>1-Jan-02</td>
<td>USD 666,382.00</td>
<td>USD 345,728.00</td>
<td>USD 320,654.00</td>
</tr>
<tr>
<td>1-Jan-03</td>
<td>USD 624,233.00</td>
<td>USD 342,256.00</td>
<td>USD 281,977.00</td>
</tr>
<tr>
<td>1-Jan-04</td>
<td>USD 845,267.00</td>
<td>USD 356,437.00</td>
<td>USD 488,830.00</td>
</tr>
<tr>
<td>1-Jan-05</td>
<td>USD 655,738.00</td>
<td>USD 234,565.00</td>
<td>USD 421,173.00</td>
</tr>
<tr>
<td>1-Jan-06</td>
<td>USD 765,443.00</td>
<td>USD 456,333.00</td>
<td>USD 309,110.00</td>
</tr>
<tr>
<td>1-Jan-07</td>
<td>USD 789,996.00</td>
<td>USD 563,436.00</td>
<td>USD 226,560.00</td>
</tr>
<tr>
<td>1-Jan-08</td>
<td>USD 876,543.00</td>
<td>USD 234,647.00</td>
<td>USD 641,896.00</td>
</tr>
<tr>
<td>1-Jan-09</td>
<td>USD 776,538.00</td>
<td>USD 342,554.00</td>
<td>USD 433,984.00</td>
</tr>
<tr>
<td>1-Jan-10</td>
<td>USD 876,543.00</td>
<td>USD 234,543.00</td>
<td>USD 642,000.00</td>
</tr>
<tr>
<td>1-Jan-11</td>
<td>USD 1,235,648.00</td>
<td>USD 654,326.00</td>
<td>USD 581,322.00</td>
</tr>
</tbody>
</table>

Table 1.6 source data for Bar Chart

Figure 1.27 – Bar Chart Example (Use this as example for all diagrams and charts)
Please note that if using a column chart to display your data you can select a 3D, cylinder, cone or pyramid chart by selecting the insert tab and selecting your desired chart.

2D Line Chart

Line charts display trends overtime and are useful when there are many data points and the order is important to depict a trend over many years. Using table 4.

Step 1: Open an excel sheet.

Step 2: Place data in excel sheet as seen below and format the year column by right clicking/format cell/date. Note that you can decide to display any category of data or quantity you desire.

Step 3: Place cursor over the entire data set.

Step 4: Select the insert tab/2Dline/ line.

When the chart is displayed you can format the chart by inserting a title under the layout tab (layout tab/chart title/centre overlay title), by changing the chart background (right clicking and selecting format chart area) and by changing the plot area background (right clicking on the plot - the inner area the histogram lies – and selecting format plot area/solid fill).

Step 5: Save the excel file.

Example 1.4

![Sandy's Boutique's Total Assets vs Total Liabilities year 2000-2011](image)

Fig 1.28 – 2D Line Chart
**Stacked Line Chart**

A stacked line chart displays the trend of contribution of each value over a given period of time. Using the table 4:

Follow step 1-3

Step 4: Select the insert tab/2Dline/ stacked line.

When the chart is displayed you can format the chart by inserting a title under the layout tab (layout tab/chart title/centre overlay title), by changing the chart background (right clicking and selecting format chart area) and by changing the plot area background (right clicking on the plot -the inner area the histogram lies – and selecting format plot area/solid fill).

Step 5: Save the excel file.

---

**Fig 1.29 – stacked Line Chart**

---

**Pie Chart and Bar Charts**

A pie chart displays the contribution of each value to a total. It is used when the values can be added together or when you have only one data series and all values are positive. Below is an example of a pie chart. Using the data in table 1.7.
Step 1: Open an excel sheet.

Step 2: Place data in excel sheet as seen below.

Step 3: Place cursor over the entire data set.

Step 4: Select the insert tab/2D pie/pie.

When the chart is displayed you can format the chart by inserting a title under the layout tab (layout tab/chart title/centre overlay title), by changing the chart background (right clicking and selecting format chart area) and by changing the label options (right click on chart/format data labels/label options/percentage or values)

Step 5: Save the excel file.

<table>
<thead>
<tr>
<th>A</th>
<th>B</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Categories</td>
<td>USD</td>
</tr>
<tr>
<td>2 Revenues</td>
<td>USD 547,882.00</td>
</tr>
<tr>
<td>3 Cost of goods sold</td>
<td>USD 34,098.00</td>
</tr>
<tr>
<td>4 Expenses</td>
<td>USD 234,563.00</td>
</tr>
<tr>
<td>5 Other Income</td>
<td>USD 66,543.00</td>
</tr>
<tr>
<td>6 Net Income</td>
<td>USD 345,646.00</td>
</tr>
</tbody>
</table>

*Table 1.7 – data for pie chart*
Please note that you can select different pie charts such as an exploded pie chart, pie of pie and 3D pie chart.

**Bar Chart**

A bar chart is best used to compare multiple values. There are several types of bar charts namely: 2D, 3D, Cylinder, cone and pyramid. Below is an example of a cone bar chart. A cone bar chart compares values across categories. Using source data from table 1.8 below

<table>
<thead>
<tr>
<th>Category</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Revenues</td>
<td>45%</td>
</tr>
<tr>
<td>Cost of goods sold</td>
<td>3%</td>
</tr>
<tr>
<td>Expenses</td>
<td>19%</td>
</tr>
<tr>
<td>Other Income</td>
<td>5%</td>
</tr>
<tr>
<td>Net Income</td>
<td>28%</td>
</tr>
</tbody>
</table>

Step 1: Open an excel sheet.

Step 5: Place data in excel sheet as seen below.

Step 3: Place cursor over the entire data set.

Step 4: Select the insert tab/Bar/Cone.

When the chart is displayed you can format the chart by inserting a title under the layout tab (layout tab/chart title/centre overlay title), by changing the chart background (right clicking and selecting format chart area/fill/gradient fill) and by changing the colour of the chart wall (right click on chart/format chart wall/solid fill).

Step 5: Save the excel file.
<table>
<thead>
<tr>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Year</td>
<td>Revenues</td>
<td>Expenses</td>
</tr>
<tr>
<td>2</td>
<td>1-Jan-00</td>
<td>USD 547,882.00</td>
<td>USD 234,563.00</td>
</tr>
<tr>
<td>3</td>
<td>1-Jan-01</td>
<td>USD 564,237.00</td>
<td>USD 345,725.00</td>
</tr>
<tr>
<td>4</td>
<td>1-Jan-02</td>
<td>USD 666,382.00</td>
<td>USD 345,728.00</td>
</tr>
<tr>
<td>5</td>
<td>1-Jan-03</td>
<td>USD 624,233.00</td>
<td>USD 342,256.00</td>
</tr>
<tr>
<td>6</td>
<td>1-Jan-04</td>
<td>USD 845,267.00</td>
<td>USD 356,437.00</td>
</tr>
<tr>
<td>7</td>
<td>1-Jan-05</td>
<td>USD 655,738.00</td>
<td>USD 345,728.00</td>
</tr>
<tr>
<td>8</td>
<td>1-Jan-06</td>
<td>USD 765,443.00</td>
<td>USD 456,333.00</td>
</tr>
<tr>
<td>9</td>
<td>1-Jan-07</td>
<td>USD 789,996.00</td>
<td>USD 563,436.00</td>
</tr>
<tr>
<td>10</td>
<td>1-Jan-08</td>
<td>USD 876,543.00</td>
<td>USD 234,647.00</td>
</tr>
<tr>
<td>11</td>
<td>1-Jan-09</td>
<td>USD 776,538.00</td>
<td>USD 342,554.00</td>
</tr>
<tr>
<td>12</td>
<td>1-Jan-10</td>
<td>USD 876,543.00</td>
<td>USD 234,543.00</td>
</tr>
<tr>
<td>13</td>
<td>1-Jan-11</td>
<td>USD 1,235,648.00</td>
<td>USD 654,326.00</td>
</tr>
</tbody>
</table>

Table 1.8 source data

![Cone Bar Chart](image)

*Sandy's boutique income statement results for year 2000-2011*

**Fig 1.31 – Cone Bar Chart**
**Scatter Plot**

A scatter plot is used to compare pairs of values. There are several types of bar charts namely: Scatter plot with marker only, Scatter plot with smooth line and marker, Scatter plot with smooth line, scatter plot with straight line and marker and a scatter plot with a straight line only. Below is an example of a scatter plot with marker only using the source data from table 1.9 below.

**Step 1:** Open an excel sheet

**Step 2:** Place data in excel sheet as seen below.

**Step 3:** Place cursor over the entire data set.

**Step 4:** Select the insert tab/scatter/scatter with markers only.

When the chart is displayed you can format the chart by inserting a title under the layout tab (layout tab/chart title/centre overlay title), by changing the chart background (right clicking and selecting format chart area/fill/gradient fill) and by changing the colour of the plot (right click on chart/format plot area/fill/solid fill).

**Step 5:** Save the excel file.

<table>
<thead>
<tr>
<th></th>
<th>A</th>
<th>B</th>
<th>C</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Year</td>
<td>Current assets</td>
<td>Current liabilities</td>
</tr>
<tr>
<td>2</td>
<td>2000</td>
<td>USD 342,442.00</td>
<td>USD 344,232.00</td>
</tr>
<tr>
<td>3</td>
<td>2001</td>
<td>USD 346,738.00</td>
<td>USD 234,352.00</td>
</tr>
<tr>
<td>4</td>
<td>2002</td>
<td>USD 223,737.00</td>
<td>USD 143,537.00</td>
</tr>
<tr>
<td>5</td>
<td>2003</td>
<td>USD 254,464.00</td>
<td>USD 144,436.00</td>
</tr>
<tr>
<td>6</td>
<td>2004</td>
<td>USD 664,534.00</td>
<td>USD 564,564.00</td>
</tr>
<tr>
<td>7</td>
<td>2005</td>
<td>USD 556,477.00</td>
<td>USD 464,646.00</td>
</tr>
<tr>
<td>8</td>
<td>2006</td>
<td>USD 453,637.00</td>
<td>USD 577,474.00</td>
</tr>
</tbody>
</table>

*Table 1.9 – source data for scatter plotter*
**OTHER TYPES OF CHARTS**

Other types of charts include the stock, surface, doughnut, bubble and radar.

*The Stock Chart* – This chart displays pertinent components of a particular stock such as its volume traded, high, low and closing price. Other information such as its open, high, low and closing price can all be depicted on one chart.

*The Surface Chart* – This chart shows trends in values across two dimensions in a continuous curve. It is used when categories and series are both numeric.

*The Doughnut Chart* – This chart displays the contribution of each value to a total like a pie chart but it can contain multiple series.

*The Bubble Chart* – This chart is similar to a scatter chart but only compares three sets of values instead of two.

*The Radar Chart* – This chart displays values relative to a centre point and is used when values are not directly comparable.

**EXPORTS FORMATTED DATA, CHARTS AND DIAGRAMS INTO OTHER OFFICE SOFTWARE**

Having completed all this work in the spreadsheet it is now time for data consolidation. All your data, charts and diagrams may be scattered in different excel files or worksheets. You will now need to present this information in a complete document or in a comprehensive presentation. If you are preparing a document, the default program used to write the document will be Microsoft Word. However, the information for the document may contain several graphs, charts, images, diagrams and text scattered across different applications. The challenge therefore is to pull all this together in one single complete document in word as a written presentation or in PowerPoint for oral presentation.
Microsoft Office allows for seamless transition across application. Majority of this consolidation can be done through the cut (crt-c) and paste (crt-v) operation. There may be instances when you will need to do a past special and select particular import options. You will be required to select the file type to be paste in the document. E.g. word can accept a spreadsheet or portions of it as a device independent bit map which is a graphic file format, hence the spreadsheet is imported as a graphic or picture file. Most of the tables and figs in this book were imported as graphics in order to maintain their original appearance and reduce the storage space requirements.

LESSON SUMMARY
Charts and graphs are useful ways of displaying and publishing information visually. In this lesson we introduced you to various types of charts. Each chart types carries different flavours to provide additional options for data representation. We demonstrated, using source data, how to create column charts or bar graphs, the various line chart, pie chart, bar charts and scatter plotter. As you sift through your data and decide on what you need to represent, you must also determine which of the visual tools best meet your needs and effectively represent your data. Some corporations may already have pre-determined formats and templates for data representation, keeping in mind that some types of charts are more suited for certain types of data than others.

Your graphical representation can be very appealing if you add a little color to it. In this lesson, we have showed you the major types of charts and graphs available. Finally, we discussed methods of exporting data, charts and diagrams into other office software example Microsoft word for presenting a single document or in Microsoft PowerPoint as a consolidated presentation.

Self-Reflection Question:
Do you find it tedious and frustrating to prepare a single report with the data scattered across various programmes?
UNIT ONE – SUMMARY

ASSIGNMENTS AND ACTIVITIES

Using data from your business contained in Excel, generate the following

1. Create a Balance Sheet from one of the available templates
2. Create a flat file database of customers within your organisation
3. Create a report showing the top 10 sales products
4. Create a 2D column chart
5. Export the Chart created in 4 above into a word document or PowerPoint for presentation.

SUMMARY

In this unit we focussed on the use of spreadsheets to support small business. We used Microsoft Excel as the spreadsheet tool. Excel is part of the Microsoft Office suite and is the most widely deployed office productivity tool in use today.

We paid particular attention to the use of Excel to create balance sheets, income statements and annual budgets. We also demonstrated how to use excel as a database utility and compared and contrast it with the more feature rich relational database systems. Corporate reports are a part of any business and the tools and features discussed in the lessons allowed us to create various forms of reports, particularly through the use of pivot tables. Once reports are created, they need to be made available to the reader in an easy to understand “eye catching” format. As such, we showed you how to prepare and publish data visually using various charts and graphs.

Spreadsheets are valuable management information system tools and can be effectively used to support small businesses and other entrepreneurial activities. We have demonstrated how it can be used as an accounting package, a database, a report generation tool and a data presentation tool. These are the basic functionalities that every small business must rely on to operate efficiently. As we stated earlier, this doesn’t require significant investment in hardware software and technical expertise. Basic or average proficiency with Microsoft Excel can achieve this. There are hundreds of how to Excel tutorials and videos available online through your favourite search engine or on YouTube (http://www.youtube.com).
**Next Steps**

Having built up foundation competencies with the use of spreadsheets, you are now able to undertake the basic data manipulation for your enterprise. This data manipulation is part of your internal management control systems. In the next unit we will examine how to make your business operation available externally to the general public by examining global web presence.
UNIT TWO – CREATE A CORPORATE WEB PRESENCE

UNIT INTRODUCTION

In the current information age, a web presence is critical to the success of any business. Some business operates exclusively online while more traditional ones are seeking or have already established a web presence. Whatever the scenario is you must have a web presence. It allows you to extend your opening hours to 24 hours per day, reach more people in more countries on more continents faster, quicker and in ways previously unimagined.

The main purpose of your website is to advertise the products and services that your business is offering and to sell them online if you have an ecommerce facility available. This unit we will examine the major components and features of a corporate web presence to help you reach markets and drive profitability. It also seeks to help you understand the critical elements that form a worthwhile and credible web presence.

UNIT OBJECTIVES

Upon completion of this unit you will be able to produce a corporate website that demonstrates:

1. The products and services offered by the small business.
2. How to contact the company.
3. An e-commerce capability that allows customers to pay for the products or services online.
4. That captures customer data.
5. Allows potential customers to ask questions about the products and services.
6. Provides a customer support capability.
7. Other information based on the needs of the target audience.
8. A unique URL that reflects the business name

This unit is broken down into three lessons

Lesson 1: Corporate Websites
Lesson 2: Website features and functionalities
Lesson 3: Launching your website – Going Public
UNIT READINGS

As you complete this unit you are required to read the following chapters/articles:

- <Insert list of required readings>.

ASSIGNMENTS AND ACTIVITIES

<Insert a description of the unit assignments, activities and discussions to be completed as they progress through the unit. Detailed instructions can be attached as Appendices to the course main body.>
LESSON 2.1 – CORPORATE WEBSITES

LESSON INTRODUCTION
A web presence in today’s corporate world is a “must have”. No longer can companies rely on traditional marketing techniques and conventional mass media to be noticed. A website is the “life blood” of the company. In this short lesson we seek to make the case as to why a website is important to your business and to identify key considerations for its creation and maintenance.

LESSON OBJECTIVES
Upon completion of this lesson you will be able to:

4. Understand the business case for having a website

CORPORATE WEBSITES
A corporate websites can take on different formats depending on the nature of the business, the amount of resources (financial, human) available to support it and the scope of the target audience. The website represents the online or cyberspace presence of your business and should not be treated differently. Some businesses are operating exclusively online, in which case the website is the business. Most commercial websites today carries an e-commerce facility that allows users to make online purchases, payments, generate invoices and sales receipts and place and track orders.

Website has the potential to accrue significant benefits to the company. Some of these include the following:

- Instantaneous access to global markets
- No opening or closing hours – the store is open even when you are asleep
- No need for physical plant and machinery
- Inventory can be accessed on demand when customers place orders – Goods can be shipped directly from manufacturers consumers thus eliminating or reducing the need for storage, warehousing, transportation and other logistics.
- Efficient way of tracking sales, inventory, purchasing patterns etc.
- Allows for constant contact with customers
- Permanent presence (24 hour operation)
- Facilitates outsourcing of key business services e.g. marketing and promotion.

Websites don’t get a second chance to impress. There’s a one-visit time to win, as such it is critical that your website engages the user on the first attempt and offers something important to the viewer (speed, convenience, relevant information etc.) that would encourage them to return to the site. You should consider the following questions before you attempt to build a website.
1. What do you want your web site to do?
2. Are you trying to secure new customers?
3. Do you wish to engage and interact with your most loyal customers?
4. Are you executing an e-commerce presence?
5. What are the customers’ expectations of the site? Don’t create a site just for the sake of having one –
6. Can a social page such as Facebook do the job?

The answers to these questions can provide the blue print for you to get started. Key considerations are discussed in the next lesson

**Types of websites - Static vs Dynamic web Pages**

You must decide if the website will be made up of static or dynamic pages. Static pages are difficult to maintain as it requires the webmaster to go in and effect a change each time one it is required. It is also not a scalable solution as the number of pages grows with the expansion of the site. The information on the pages is fixed and cannot be user generated. As such this significantly limits the way in which the site can interact with the user, making it very inflexible. You should consider creating dynamic or database driven website rather than a site consisting of many static or unchanging web pages.

With a dynamic web site each page is generated on demand from the data in your database. This is called a user driven database as it is the user who generates the output on the page by clicking certain links on the page. The link queries the database and returns the results. This allows the information to be displayed on demand, provide user driven content and is far more flexible, interactive and versatile. For business purposes this is suitable for accommodating and interrogating large volume of data and other product information. An E-commerce site is a bright example of the use of a database to store the client’s online orders and billing information.

The creation of a web presence requires the use of specialized skill and knowledge of web and database programming using tools and scripting languages such as, JavaScript, ASP/VBScript, Cold Fusion, Perl and PHP. The primary databases to consider for the Dynamic website are Microsoft SQL Server, Microsoft Access, MySQL, and Oracle. For the purpose of this course, you will not be required to learn or have knowledge of these programming languages.
LESSON SUMMARY
The rewards or returns from your website are a function of the amount of time energy and resources you place in it. You should not simply have a website because everybody is having one or it is relatively inexpensive to launch one. A business case for the website should be considered. As explained in this lesson the capital and recurring cost should be determined and also a forecast on the projected revenues. This business analysis will allow you to make informed decision on the amount of investments you are prepared to make in the operation of the site. The next lesson looks at the features and functionalities that are possible.

Self-Reflection Questions
In what ways do you think a website can enhance the efficiency of your operation, increase revenue and reduce cost?
If you have a Facebook presence why would you need a separate website?
LESSON 2.2 – WEBSITE FEATURES AND FUNCTIONALITIES

LESSON INTRODUCTION
Now that you have answered the questions presented in lesson one and is now clear in your mind that a website is essential to your business then it’s time to get down to the business of actually creating the site. Creating the site involves taking into consideration all the features and functionalities that you would wish the site to offer. Keep in mind that the site is not for you but for your primary target audience – your customers.

This lesson seeks to introduce, for your consideration the range of features that needs to be incorporated in order to make the site fully functional and business friendly.

LESSON OBJECTIVES
Upon completion of this lesson you will be able to:

5. Identify the main considerations that drives the creation of a website
6. Identify key features and functionalities of a corporate website

Key considerations
To create a site you will need to seriously consider the following:

A Budget
A budget is a critical consideration for your website. The features and functionalities you are able to include will depend largely on how much money you are willing to pay for the site. The site is an integral asset in your business and should be budgeted for in the same way as other fixed assets such as motor vehicle or property. As such you must set aside an appropriate sum for the capital outlay and the monthly or recurring maintenance charges. All the services associated with the site will attract a fee. You should be prepared to meet the following service fees associated with the operation of the site: Services such as:

1. Hosting services fee
2. Domain name registration fee
3. Advertising charges with popular search engines to get noticed on the internet
4. Bandwidth charges
5. Webmaster fees

From the above you can see that website cost is not a “on the side fee” and ought not to be treated as such. Proper planning and budgeting for your site is required in order to ensure a high quality credible presence that is reliable and always available.
Naming your site
You must also determine an appropriate name for your site. Remember the website is simply the online version of your brick and mortar establishment and as such there should be no real variation in identity between the two. The identity of your business is important as this is how you are recognized to the outside world. In choosing a name for your website you should choose a meaningful identifier. The name you select for your business will be called your domain name or Universal Resource Locator (URL). Each URL must be unique as this is how your website will be identified in cyberspace.

When you have selected the name for your site you must register the name with the internet name registry to ensure that the name you have chosen can be assigned to you.

Who will build the site?
You also need to consider how the site will be built and maintained. Where will the technical expertise come from and reside. People who build and maintain websites are generally known as webmaster. You will need to have a webmaster assigned to your site. Depending on the features of your site, you will need one or more webmasters with different areas of expertise. You may have a webmaster who concentrates exclusively on graphics, layout, designs, flash and another who focuses exclusively on writing and maintaining the database. Large corporations like Microsoft, Google, Amazon and CNN to name a few use hundreds of programmers to maintain their website.

A quick way to get a web presence up and running is to consider the use of templates. Templates can either be free or commercial. If your website is going to be simple without too many features then you can consider one of the many free templates available. The problem with free templates is that they may not have the professional look and feel as most of them are designed by tech savvy kids. If you need professional looking templates then go with the commercial ones. There is an abundance of templates providers such as templatemonster.com available on the web. Here you will find templates already configured for almost every business and service types. Once you have selected your template, you must customize it. This involves selecting layout, color scheme designs to match your logo etc. When the customization is complete you can start concentrate on inputting the content. It is not sufficient to simply design and build the site and leave it hanging, you must also decide how it will be maintained.

What will the site offer?
You must determine during the planning phase what will be the purpose of the website. What will be the content? Some individuals and companies simply put up a website because they were told it’s the latest trend in business and they must have one. These sites don’t drive the business and visitors often times do not return to the site as it is offering nothing to them. You must decide what services your site will offer.

Here is a list of possible considerations:
1. Advertising – getting people to know about your company
2. Informational – simply providing information about your company, employees, product etc.
3. Product sales – selling products online
4. Customer support – using your site to provide customer support for clients through discussion forums and blogs, live chat or email
5. Product demonstration – display images, features, specifications and components of your product. This can be done with flash photography and animation in small video clips with or without sound bytes.
6. Staff training through e-learning modules
7. Facebook Integration – seamless connection to Facebook and other social media site

You do not necessarily have to make a choice from the list above. In fact, it is quite possible that a website can offer all of the services above and even more. The scope of the services offered on the site will be proportional to the time, money and effort required to support it. Whatever the purpose of the site, you must keep the users in mind. They are the ones you need to attract and maintain.

**E-Commerce**

E-commerce is the actual buying and selling of products and services over the web. The selling of goods online will require a lot more from your site. Well developed and supported e-commerce modules will be required to allow customers, suppliers shipper to interact with the site. An ecommerce payment system will also be required to handle online payments. PayPal ([http://paypal.com](http://paypal.com)) is a popular e-commerce system and more recently Google Checkout ([https://checkout.google.com/seller/sales.html](https://checkout.google.com/seller/sales.html)). Of course there are plenty more providers on the market offering a range of payment services. All of them will require some form of merchant account to be setup to manage the interface between your site and the Electronic Data Interface System (EDI). Please feel free to check out any of the provider listed in table 2.1 below and be sure to read their terms carefully. The security of your website has become even more critical. We will discuss internet security in detail in Lesson 6.4.

<table>
<thead>
<tr>
<th>2CheckOut</th>
<th>Digital River</th>
<th>Authorize Net</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fire Pay</td>
<td>MerchantEquip</td>
<td>Any Pay</td>
</tr>
<tr>
<td>Internet Cash</td>
<td>Charge.com</td>
<td>Pro Pay</td>
</tr>
<tr>
<td>PayQuake</td>
<td>CCNow</td>
<td></td>
</tr>
</tbody>
</table>

*Table 2.1 – list of e-commerce payment systems*
E-commerce activities continue to grow at an alarming rate. As at March 2012 the industry was reported to worth 4.2 trillion dollars globally *(source: Boston Consulting group: http://www.e-commercefacts.com/background/2012/03/boston-consulting-group-f/index.xml)*. An e-commerce presence may just be the catalyst you need to propel your business to the next level.

**Design features and Customer support**

The design of your website is very important. It is a good idea to secure the services of a professional graphic artist to help in designing the visual elements of the site. You will need to consider:

1. Visual appeal
2. Layout
3. General presentation
4. Attractiveness
5. Ease of use and user friendliness
6. Hyperlink and page navigation

Users will stick to your site if it’s visually appealing and attractive. People do not like to browse a website that’s heavily text based and requires a lot of reading, they like to see or hear things. Neither do people like sites with too many graphical elements as the images usually take a longer time to load, requiring higher bandwidth and faster download speeds. There has to be a good balance of colors, graphics, texts and other multimedia elements. Website design professionals can quickly help you put this together.

What type of customer support will your site offer? The website must be a medium where you interact directly with your customer for all their needs. Customer support can take various forms. It can be high end real time interaction using live chat software or simply providing an email address and a telephone number for “contact us”. Your customers must be able to contact you. Some websites will go further and provide facilities where the customer can sign up for free newsletter, product brochures and other promotional materials. This will be discussed in units three and four. Customers can also order goods, complete product feedback forms, rate products and services and to collaborate and share information in the social space before or make a purchase.
Lesson Summary

Your website is easily the most critical element of your business. It is your “public face” and as such considerable care and attention must be given to its creation. In this lesson we have outlined a roadmap of some of the elements that you need to consider when contemplating a website to support your business. These include

- Budget
- Site naming
- Purpose of the site
- e-commerce
- Design consideration and customer support

Serious thought and attention to details and what your clients are saying can give you a competitive advantage.

Self-Reflection Question:

If you intend to establish a website for the first time to support your business what are some of the first thing you will consider?
LESSON 2.2 – GOING PUBLIC

LESSON INTRODUCTION
Now that you have built the site, taking in consideration all that we discussed in the two previous lessons, it’s now time to go public. Going public means that anyone anywhere in the world with a web browser and an internet connection can browse your website. In this lesson we will examine Domain Names and hosting services, two critical and necessary components in launching a website.

LESSON OBJECTIVES
Upon completion of this lesson you will be able to:

1. Register your website to a Domain Name Registration (DNS)
2. Launch your website with an appropriate hosting service provider.

DOMAIN NAME REGISTRATION (DNS)
As mentioned earlier in the previous lesson, your site will be identified on the web by a unique name. Every website name must be assigned by the Internet Corporation for assigned Names and Numbers (ICANN). Names are registered with ICANN through what is called internet registries or registrar. There are more than 1000 registrars worldwide. See fig 2.2 below showing total number of domains registered for the top eight registrars worldwide.

<table>
<thead>
<tr>
<th>Rank</th>
<th>Registrar Name</th>
<th>Country</th>
<th>Total Domains</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Onamae.com</td>
<td>JP</td>
<td>1,097,223</td>
</tr>
<tr>
<td>2</td>
<td>DOMAINMONSTER.COM</td>
<td>GB</td>
<td>89,696</td>
</tr>
<tr>
<td>3</td>
<td>Above, Inc</td>
<td>US</td>
<td>12,956</td>
</tr>
<tr>
<td>4</td>
<td>ANTAGUS.DE</td>
<td>DE</td>
<td>144,139</td>
</tr>
<tr>
<td>5</td>
<td>STARGATE</td>
<td>US</td>
<td>25,393</td>
</tr>
<tr>
<td>6</td>
<td>HICHINA</td>
<td>CN</td>
<td>39,827</td>
</tr>
<tr>
<td>7</td>
<td>MARKMONITOR</td>
<td>US</td>
<td>524,021</td>
</tr>
<tr>
<td>8</td>
<td>EPAG Domainservices</td>
<td>DE</td>
<td>147,963</td>
</tr>
</tbody>
</table>

Fig 2.1 – Top 8 Internet registries worldwide
Source: [http://www.webhosting.info/webhosts](http://www.webhosting.info/webhosts)
All domain names are registered and kept in a central repository by ICANN to maintain uniqueness. Domains are registered with ICANN through service providers known as registrars. The registrars will charge you a fee for the registration once you have identified a unique name. To identify a unique name you must check with the ICANN database to see if your chosen name is available. Service providers such as whois ([http://whois.com](http://whois.com)) provide an online facility for you to check name availability. See screen shot of the whois website in Fig 2.2 below. If the name is not available, then the system usually suggests a list of similar names for your consideration. Once you have decided on a name you then proceed to registration with the domain registrar.

![Whois](http://whois.com)

*Fig. 2.2 - Whois supports Domain name look up and*

Each domain name on the internet corresponds to a unique number known as an Internet Protocol (IP) address. IP addresses are also unique and it is these addresses that the network use to find your computer in order to send information to it. A network service known as Domain Name Resolution (DNS) maps or resolves Domain name to IP addresses allowing the computer to send and receive information to remote machines on the internet. If a DNS service is not available, there can be no transmission and the web browser will return a “page not found” message. Does this sound familiar to you?

**HOSTING YOUR WEBSITE**

The website has been created, you have registered a name with ICANN through the services of a registrar and you are now ready to go live. In order to go live your web pages with all your information must be hosted on an internet platform. This is called web hosting. The webhosting provider provides the infrastructure (storage, security, bandwidth, server) on which your files will be loaded. Once uploaded and installed on the server hardware with access through the networking and telecommunications infrastructure, your site is now ready to be accessed by the outside world. You can choose to own and operate the
infrastructure yourself or adopt a cloud based approach where the infrastructure is leased from a cloud based provider for a fee. We discuss cloud based computing and services in unit 6. Whichever approach is taken, you or your webmaster will need to upload the files or webpages to the hosting infrastructure.

When choosing a hosting service, you will need to consider from among a variety of hosting plans and packages. Different providers provide different types of plans targeting different kinds of markets. You will have to determine which plan best suits your budget and your business.

Some of the hosting categorisation is as follows:

1. Starter hosting – mainly for static pages with little or no changes (this will not suit you).
2. Business hosting – corporate or commercial grade (should consider).
3. E-commerce hosting – requires lots of disk space due to high traffic volume and requires added security feature (SSL).
4. Enterprise hosting – This requires lots of disk space (for large businesses relying almost exclusively on their web presence).

There are a variety of commercial hosting service providers to choose from including industry giant wildwestdomains.com. Fig. 2.3 shows a list of the top 10 hosting services worldwide and the number of domains hosted. Most of these companies offer both registry or name registration and hosting services. There is a difference between the two services and we want you to be clear with the distinction. The Domain Name registration is the assigning or recording of a unique name with the internet authority. In the same way you can’t have two yahoo.com and two cnn.com. In the same breath, no one can have the name of your site. This is why the registry is important. The hosting service is the access to the infrastructure platform that will reside on the net. Large corporations with significant resources and expertise do their own internal hosting. The trend now is to invest less in infrastructure and host in the cloud.

Most hosting services are also registries so it’s possible to register and host from the same company. Of course there are free hosting services available. These usually require banners and advertisement to be placed on your sites s ticker or crawlers. From a professional standpoint this may not be desirable and you would be better served by buying the hosting services from the commercial providers.
<table>
<thead>
<tr>
<th>Rank</th>
<th>Hosting Company</th>
<th>Country</th>
<th>Total Domains</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>WILDWESTDOMAINS.COM</td>
<td>🇺🇸</td>
<td>33,373,391</td>
</tr>
<tr>
<td>2</td>
<td>ENOM.COM</td>
<td>🇺🇸</td>
<td>3,309,018</td>
</tr>
<tr>
<td>3</td>
<td>NETWORKSOLUTIONS.COM</td>
<td>🇺🇸</td>
<td>3,070,811</td>
</tr>
<tr>
<td>4</td>
<td>ONEANDONE.COM</td>
<td>🇺🇸</td>
<td>2,893,626</td>
</tr>
<tr>
<td>5</td>
<td>HOSTGATOR.COM</td>
<td>🇺🇸</td>
<td>2,110,736</td>
</tr>
<tr>
<td>6</td>
<td>BLUEHOST.COM</td>
<td>🇺🇸</td>
<td>1,715,503</td>
</tr>
<tr>
<td>7</td>
<td>SEDOPARKING.COM</td>
<td>🇩🇪</td>
<td>1,671,500</td>
</tr>
<tr>
<td>8</td>
<td>YAHOO.COM</td>
<td>🇺🇸</td>
<td>1,564,214</td>
</tr>
<tr>
<td>9</td>
<td>REGISTER.COM</td>
<td>🇺🇸</td>
<td>1,542,976</td>
</tr>
<tr>
<td>10</td>
<td>NAMEADMINISTRATION.COM</td>
<td>🇳🇿</td>
<td>1,263,700</td>
</tr>
</tbody>
</table>

*Fig 2.3 – Top 10 hosting companies worldwide – Source: [http://www.webhosting.info/webhosts](http://www.webhosting.info/webhosts)*
LESSON SUMMARY

This Lesson focussed on the two main requirements for making your website live, Name registration and site hosting. We explained the process involved in registering your business name as a domain name for your site along with a list of the registries that provide the service. Whois is a neat tool that allows you to check and determine if a domain name is available. Finally we introduced the concept of webhosting. Your website is useless if it is not hosted and made available to the public. Also a list of hosting services providers was presented for information.
UNIT TWO – SUMMARY

ASSIGNMENTS AND ACTIVITIES
Provide description and instructions for unit assignment.

SUMMARY
It is almost impossible for any business to survive in this globalised environment without a web presence, whether that presence is a dedicated website or a presence on a social site such as Facebook.

This unit engaged us on what to consider as part of the planning and execution of a website. It stressed the importance of knowing what you want your site to do before it is made and the need to commit adequate resources to your online presence. We closed off by explaining how a website gets its name and the process involved in going live.

NEXT STEPS
Now that you have established your website it will be your gateway to the world. The remainder of this course will refer to web based services. The assumption from here on is that you are operating or will operate a credible web presence in order to leverage the various tools and technologies that we will be discussing throughout the course. The next section considers emails and how email communications can contribute to the successful and efficient operation of a business.
UNIT THREE – E-MAIL AND BUSINESS COMMUNICATIONS

UNIT INTRODUCTION

Electronic Mail (email) has become a part of our everyday life. Few communications takes place without it and the medium is now considered a critical communication tool for small, medium and large enterprises. It is hard to conceive running a business or organisation without it. The instantaneous nature of the communication and the global footprint that it offers makes it an attractive business communication tools. Email has bridged geo-physical divide allowing ease of communication between people and corporations scattered across the globe. This makes it easier to reach customers, suppliers and establish multi-national corporations.

Most people use email for their personal and professional communication needs however, in this Unit we will introduce the use of email as a business communication tool, demonstrating its instantaneous and enhanced communication capabilities. We will show why email is considered a critical business application, pulling customers and suppliers together in ways that were hitherto, not possible. Also, we also explore its multimode and multi device access capabilities particularly in the mobile space providing online, real time and on time communication possibilities.

UNIT OBJECTIVES

Upon completion of this unit you will be able to: establish a business email capability using an appropriate service that allows the entrepreneur to:

1. Use email to market the potential customers
2. Allows the entrepreneur to conduct e-mail surveys and collect data
3. Support communication with providers and others
4. Receive and respond to email on a smartphone

UNIT READINGS

As you complete this unit you are required to read the following chapters/articles/websites:

- http://www.benchmarkemail.com/
- http://eprints.kingston.ac.uk/2108/1/paper.html
- http://benchmarkemail.com
ASSIGNMENTS AND ACTIVITIES

There are a number of practical activities that you will be required to do in this unit. These will include the creation of your own email address and the setting up of a live mailing list using the available technologies.
Lesson 3.1 – Use Email To Market Potential Customers.

Lesson Introduction
Email has changed our communication patterns providing a much faster and easier way of communication when compared to snail mail (mail sent through the post office). Millions of emails are sent and received throughout the world each day as business, governments, NGO’s, commercial, industrial financial, educational and almost every sector of society communicates daily.

There have been many technological advances with respect to the application and usage of email system into the business sector primarily, to reach greater markets and to keep in contact with existing and potential clients. In this lesson we will look at a brief developmental history of email, its application to email marketing and how specially configured and customized email lists can be helpful to your business.

Lesson Objectives
Upon completion of this lesson you will be able to:

5. Recognise email as a business communication tool
6. Have a clear understanding of how email works
7. Describe email marketing tools and techniques.
8. Create e-mailing lists.
9. Create an email account

Email as a Business Communication Tool
In today’s highly competitive and global market space, It is no longer sufficient for businesses to rely on “walk in customers” or online “browsing customers.” In order to widen the potential client pool, business is now cleverly embarking on unconventional marketing strategies to woo and attract potential customers. Some of these innovative techniques include the use of targeted email messaging services. Corporations spend millions of dollars to develop and maintain email communication tools that can manage a range of email messaging services geared towards handling hundreds of thousands of potential clients. Email as a business tool is particularly useful in targeting and maintaining contact with potentially, millions of customers wherever they are, soliciting and receiving product information from customers and maintaining communication prior, during and after a transaction has been completed. In some quarters email is considered legacy since communication has now evolved into more real time social and collaborative environment. Despite this, email is still widely used and accepted as a formal means of communication.
HOW EMAIL WORKS

Email is the electronic transmission of data or information from one person known as the sender to another person or group of persons known as the recipients. Email is a computer to computer transaction and can take place between users in the same room or between users dispersed over large geographical distances and international borders. The sender uses a PC to compose or create the message to be sent. Traditional emails were ASCI text based and users found them not to be very user-friendly, with limited features. In today’s multimedia rich environment, emails now include attractive text, graphic images with embedded video and voice integration. These file types can be affixed or added to the email message and sent as an attachment. Attachment is a useful way of sending large volume of different types of data that cannot be contained in the body of the email message itself. Some attachment require the use of specialises software applications to view them. These added features make email attractive for use in marketing to distribute high resolution graphic content such as flyers and brochures. Email attachment is the primary method of document transmission around the world. Once the email is sent, the receiver then uses his or her computer to access and read the sent message along with any attachment, if included. The attachments can be downloaded separately and stored locally on the user’s computer.

Both machines must be connected to a telecommunications network such as the internet or some other private network in order to complete the transaction. The process need not take place simultaneously as the transfer is asynchronous allowing the receiver to pick up the email any time after it has been sent. A common mistake is to think that an email is received by the recipient once it is sent. Recall that the transmission may be instantaneous but the receiver may or may not access the email at the same time, unless he or she is online or accessing via some mobile devices. We will discuss email on mobile devices later in this Unit.

Hosted vs Premises based

Email services within an enterprise are either hosted or premises based (located on site). Premises-based implies that the company has invested in its own hardware server infrastructure and messaging platform in order to deliver its email services. Microsoft exchange server is a popular enterprise application for email messaging. Hosted on the other hand, implies that the user sees none of the infrastructure as this is managed by ISPs or other providers such as Google, Microsoft and Yahoo. Hosted solutions are increasingly referred to as “cloud based services”. We will discuss cloud based services further in Unit Six. If you are currently using any of the free email service from Google, Microsoft or Yahoo you are using a hosted service. The advantage of premises based email is that you own and control the data on your own PC or server within your premises. This however requires constant monitoring and technical administration from support personnel to ensure safety, security, data integrity, accessibility and reliability of the service. The hosted solution
removes all that overhead and simply delivers a service. However, you do not own the data and the service provider has complete control over the data and can do whatever they please with it. This could be a data integrity and security risk. The trade-off here is ease of use and accessibility versus ownership and control. The hosted service is much more attractive for small entrepreneurs because of the low overheads. Service providers such as Google promise 0% downtime and large storage capacity. However, they must comply with any US government requisition for the data.

**Email Marketing**

What is email marketing? Email marketing can be considered as any activity that uses email to directly market a commercial message to a group of persons. Commonly used to send advertisements, request business, solicit sales or donations. In other words, any email communication that is sent to build loyalty, trust and brand awareness can be recognized as an email marketing effort. Email marketing allows a business operator to design and broadcast specific product information to targeted groups on a random or scheduled basis. E-mail marketing uses specialised software to track and monitor the activities related to the marketing campaign. The software drills deep into the email messaging system and come up with real time analysis, often presented on graphics and charts. These include but not limited to:

1. Number of emails sent
2. Number of times it was sent
3. Number of emails opened or read
4. Numbers deleted
5. Conversion rates (results into business)
6. Responses from specific geographic location

These statistics will assist you to send and track high-performance email and newsletter campaigns. Email campaign allows the entrepreneur to build relationship and real time interaction with customers. This is made possible due to the precision with which the email can be customized and targeted.

The first email applications targeting specific user groups were LISTSERV and USENET. LISTSERV is an email software application consisting of a set of email addresses that allows the user to use technology to push or broadcast a single email set to a number of recipients. LISTSERV has since gone commercial with its list management software by way of its flagship product L-Soft ([http://www.lsoft.com/products/listserv.asp](http://www.lsoft.com/products/listserv.asp)). However, users can still access up to 10 lists with 500 recipients for free. This is more than adequate for most small businesses. Another popular messaging software is USENET. These have developed and morphed into more real time feature rich collaboration software such as ZOHO. [http://zoho.com](http://zoho.com).
It is very easy to and often necessary to incorporate a mailing list application into the advertising and communication plan of a business or corporation. Many corporations have policies that allow the use of emails to target potential customers in a subtle and disguised way by discretely request the filling out of an information data sheet, product requisition or feedback information from their website. A mandatory field requiring a valid email address is usually placed on the form. This address is then used to broadcast unsolicited product information on cost savings, special discounts and new product announcements among other things. Upon receipt, the user has the option to either act upon the information presented or to ignore and delete. Survey shows that a significant amount of unsolicited emails translates into new business. Most users consider these email blasts an invasion of their privacy or “mailbox invasion.” It is customary for the senders to offer the unsubscribe options (after the fact) which usually takes the form of “to unsubscribe from this list click here.” If no action is taken the subscription will remain in effect and the user will continue to receive these unsolicited emails. The practise is becoming widespread as the competition heats up and businesses seek to reach new markets quickly. However, this practice is unethical. If you are soliciting subscriptions, the please allow the user to make a determination if he or she wishes to participate and be sure to offer the “opt out” option at all times.

As mentioned earlier, powerful email analysis tools are available to allow you to gauge and determine the effectiveness of the email campaign. These tools are critical to fast decision making, allowing the firm to compete effectively and gain and maintain a sustainable competitive advantage in the operating environment. Fig 3.1 below shows the output of an email analysis tool from benchmark email that tracks the number of “opens” “clicks” and “bounces”.

**Track your Opens, Clicks and Bounces**

See emails opens, clicked-on links and customer activity as it happens. See which emails bounced and make notes on which emails to take off your list for next time. Watch who forwarded emails to their friends,

<table>
<thead>
<tr>
<th>Activity 1.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Go to <a href="http://www.lsoft.com">http://www.lsoft.com</a></td>
</tr>
<tr>
<td>Register for a mailing list account using the service available from the website</td>
</tr>
<tr>
<td>Create 20 users within your business on the mailing list</td>
</tr>
<tr>
<td>NB: The service is free</td>
</tr>
</tbody>
</table>
colleagues, family and more. Track who unsubscribed so you can get a jump start on growing your list to make up for lost subscribers.


**Fig 3.1.** Graphic showing email usage statistics

The graphic in Fig 3.2 below allows you to do comparison of previous campaigns to determine their effectiveness. This allows you to detect early patterns and trends in order to decide where particular emphasis is required in the campaign. Fig 3.3 shows graphic of the global picture of where your customers are located in particular advertising campaigns. This is an example of just two of the powerful tools available for rapid analysis and quick decision making when using email advertising campaigns. Visit [http://benchmarkemail.com](http://benchmarkemail.com) to see more email management tools available.

### Compare past email campaigns

You can view your campaigns side-by-side and compare how well each one did. Check out the answers to your survey early on to detect patterns and get a head start on your next campaign.


**Fig 3.2.** Making campaign comparisons

<table>
<thead>
<tr>
<th>Email Name</th>
<th>Sent</th>
<th>Opens</th>
<th>Opens %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Barcode Campaign</td>
<td>5</td>
<td>4</td>
<td>30%</td>
</tr>
<tr>
<td>Neeetz Users</td>
<td>1765</td>
<td>274</td>
<td>16%</td>
</tr>
<tr>
<td>TEST 4 SoGrPoBd</td>
<td>5</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>College Basketball</td>
<td>120</td>
<td>48</td>
<td>40%</td>
</tr>
</tbody>
</table>

**Email Opens Geographic Map**

Get the Big Picture of where most of your customers are located.

Create custom email lists based on geographic location.

Build and send custom campaigns targeting customers in certain countries and cities.

Focus your efforts on pockets of people in different areas.


**Fig 3.3.** benchmark global trend analysis

These examples are the kinds of data that can be produced by analyses software to support email advertising and marketing. It is a worthwhile investment as the results are powerful and can guide you how to tailor your campaign, where to deploy resources and where not to. This results in better decision making leading to greater levels of output. A major challenge with emails in general is how to manage spam.
Spam vs Opt-in

Before starting an e-marketing campaign, the marketers must be clear on the difference between spams and opt in. Spam is a means of sending promotional emails to people who do did not request them. This is considered abusive, invasive and unethical. Opt-in emails are commercial emails sent to the recipient with their expressed consent by way of button clicks. Sign up forms or subscriptions.

For your e-marketing campaign, be sure to use opt-in email with your target groups as opposed to spam. On the contrary, some companies have chosen to use spam techniques for their marketing campaigns as a way to get to vast amounts of unknown recipients. Opt-in allows you to send emails to people who really want them and saves time and resources sending emails to people who treat them as a nuisance and throw them in the trash or spam folder. Sending spam can harm the reputation of your business. Your ISP can block your IP address if you are found to be generating an unusually high percentage of spam.

MAILING LISTS

Mailing lists allow for discrete groups of individuals or interests groups to be configured and treated as a single user group. The sender or composer of the message usually creates a single message and broadcast a single email to all the users on particular mailing lists. All the users listed on a list will receive the same information. This can be very useful for targeted advertising or to send product information to existing and potential clients. The cost savings embedded in this form of communication makes it efficient and attractive to business operators as a speedy low cost communication option. E-marketing campaigns has discussed above uses specialised mailing lists with advanced reporting features.

As a result of the advances in list management technologies corporations now have a much wider range and feature rich tool set available for email message management. These allow for seamless list management. At a minimum, these products offer the following features:

1. Conversation views (a snap shot view of multiple conversations).
3. Visual search builder (display “results so far” as you search).
4. Powerful sorting options
5. Attachment type and date location

The following section provides a snap shot of some of the industry leading email management software along with the most commonly available features.

   - Email newsletter
• Announcement List
• Discussion groups
• Email communities

2. Benchmark Email (http://benchmarkemail.com)
   • Create professional email newsletter
   • Build and manage unlimited email lists
   • Real time survey and email tracking

These products allow enterprise level performance offering feature rich capabilities and sophisticated messaging, tracking and monitoring services.

As attractive and feature rich as these email list applications and e-marketing tools are, they may be unaffordable for start-ups and thus becomes prohibitive. It is not mandatory to use them for e-marketing. Small entrepreneurs can arrange their marketing campaign by manually configuring their own mailing lists from known customer addresses. Multiple lists can be created for multiple products while targeting different groups. This does not require the roll out or acquisition of expensive software but can be accomplished with any of the popular free email services. This is tedious but all email platforms allows this to be done with a high degree of accuracy. As your business grow and expand however, you may wish to consider further automation of the process.

LESSON SUMMARY

In this lesson we explained the power of email as a business communication tool. We further examined how email works and its application as an innovative and viable marketing tool through the use of mailing lists. We discussed how email advertising campaign can be used to reach global clients in an effective, easy to use and instantaneous manner.

Traditional email as we know it is broken. Businesses need tightly integrated emailing and collaboration tools that include calendaring, instant messaging and a range of other tightly integrated tools. We will discuss collaboration tools in further details in Units 5 & 6.

Self-Reflection Question

If you were to be cut off from all email access for six months, how would this affect you and your business?
LESSON 3.2 — EMAIL SURVEYS AND DATA COLLECTION

LESSON INTRODUCTION
Customer feedback is critical to the viability of a business. The entrepreneur needs to be in constant contact with clients, soliciting feedback and incorporating this feedback into the decision making process. This lesson will examine how email can be used to replace paper based surveys in obtaining feedback from existing and potential customers. It will also examine data collection techniques.

LESSON OBJECTIVES
Upon completion of this lesson you will be able to:

7. Use emails to conduct surveys
8. Use emails to gather and collect data and feedback information

EMAIL SURVEYS
Feedback is important to any business. You must know what your customers are thinking, whether they are satisfied or disgruntled. This is harder to accomplish in traditional ways which include filling out a form and insert in a drop box or dedicating time and resources to telephone your entire list of customers, ask questions and record each answer. Often times you cannot decipher or make sense of what is written on completed questionnaire or other survey instruments. Both methods are time consuming and inefficient. Survey instruments must be non-intrusive, easy to understand and complete i.e. user friendly and be able to quickly administer. Email and other forms of electronic survey provide a better way of achieving this.

Email surveys are increasingly becoming popular as a market research tool. It allows you to quickly know what your customers are thinking. The popularity of email surveys stems from the clear advantages when compared to more traditional forms of surveys such as telephone and mail methods.

These include:
Potential to collect large amount of data in a short time

1. Instant responses
2. Responses can be automatically entered into a database for further analysis
3. Simpler and cheaper
4. Less intrusive than telephone or direct contact
5. Asynchronous – can be completed anytime, anywhere from any device

On the contrary, associated disadvantages could stem from technical glitches such as:
1. Persistent error messages
2. Freezing and crashes of computer systems
3. Repetitive entries

Despite these drawbacks, email surveys enable you to solicit and receive feedback from existing and former customers about their experience with your company. You can quickly analyse these results and make decisions or create and appropriate response to the situation. Fig 3.4 below shows a typical online form used by QCI solutions (http://qcisolutions.com) to solicit feedback from its customers. User centric and user controlled feedback can be the best marketing tool a business can have.

**Fig 3.4 – screen shot of a typical uses feedback form from qcisolutions.com**

Most commercial software packages allow the users to conduct email surveys and data collection in order to analyze trends in an attempt to identify patterns that can inform decision making. Such activity is commonly referred to as Data Mining.

**ONLINE DATA COLLECTION**

Email is a quick and easy way of contacting and keeping in touch with customers. Once the initial contact is made, a mechanism is now required to receive the customer information. This is where the online data collection system kicks in. Good web response management techniques are essential in building customer relationships and loyalty. This is where you continue to interact with your clients and the experience must be great in order to attract new customers and retain existing ones, especially if your online presence is primarily a sales channel. Electronic or web forms are effective tools for collecting data online. The following are some tips to be considered when creating forms for data capture:
• *Keep it consistent* – keep the same from as much as possible with the same look and feel
• *Keep it short* – Users get turned off when there are too many fields to be filled in. Only request information that is absolutely necessary.
• *Keep it simple* – same applies here, the simpler the better. It may be better to break the data capture into two different forms than one long never ending form. Always consider the user experience. Consider using pre-predetermined response options and auto fill techniques
• *Keep it clean* – Include responses such as “other” or “does not apply” to cater for extremes.
• *Use personalization techniques* - Follow up communication will inspire loyalty and build confidence. Individualise the form as much as possible based on your knowledge of the person or target.

**Lesson Summary**

In this short lesson we examined the critical role of feedback through the use of surveys. We further discussed the benefits of online or web surveys when compared to traditional forms of surveying. Finally, we looked at methods and tips for effective online data collection and how this can be of value to your business.

**Self-Reflection Question**

*How often have you shy away from filling out forms online because there are too many field or questions to be filled in?*
LESSON 3.3 – SUPPORT COMMUNICATION WITH PROVIDERS AND OTHERS

LESSON INTRODUCTION
In the previous lesson we discussed the use of emails for conducting customer surveys and to collect customer information online. In this lesson we will expand the use of emails by examining how email subscriptions can be used to maintain contact with customers. We will also describe how social media can be used to support communication with providers and others.

LESSON OBJECTIVES
Upon completion of this lesson you will be able to:

1. Setup and administer email subscriptions.
2. Use social media to communicate with providers and others.

EMAIL SUBSCRIPTIONS
One method of establishing and retaining contact with providers and others is by way of email subscriptions. Email subscription is a useful method of pushing content periodically to persons you wish to send regular updates to. It is convenient because it requires only a one time set up. The user subscribes or sign up to a messaging system using his/her email address. The messaging system then sends the information periodically to the subscriber without them having to check the blog of interest or web site every day to see if something has been added. The subscription functions like a news feed or an RSS (Real Simple Syndication) feed. The information is pushed to the audience only when you have something to send them. This can be very useful to push information to the market on upcoming product release or updates and upgrades on existing products. Remember for this to work, the recipients must have signed up or subscribe to the system. The following are a few ways to attract people to sign up to the permission based subscription system.

1. Add sign up forms to every page on your website.
2. Put an email sign up at the end of every transaction.
3. Put a sign up link to each email you post on a message board or discussion forum.
4. Offer incentives by way of coupon discounts to members who subscribe for emails or newsletters.

Figs. 3.5 and 3.6 shows tow sample sign up forms that can be embedded on your web page to allow customers to sign up. You can design and create your own forms to complement the look and feel of your website.
<table>
<thead>
<tr>
<th><strong>Sign up for Our Newsletter</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Email Address</strong>&lt;sup&gt;*&lt;/sup&gt;</td>
</tr>
<tr>
<td><a href="mailto:jd@xy.com">jd@xy.com</a></td>
</tr>
<tr>
<td><strong>First Name</strong>&lt;sup&gt;*&lt;/sup&gt;</td>
</tr>
<tr>
<td>John</td>
</tr>
<tr>
<td><strong>Last Name</strong>&lt;sup&gt;*&lt;/sup&gt;</td>
</tr>
<tr>
<td>Doe</td>
</tr>
</tbody>
</table>

- **Monthly**
- **Weekly**
- **Partners & Affiliates**

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**Fig 3.5 Sample sign up form**

---

**Fig 3.6 – Sample sign up form**
**SOCIAL MEDIA**

In this section we will not be drilling down into the host of social media platforms available today, neither will we be discussing the differences, features, pros, cons nor technologies of each. This section will simply introduce the concept and focus on the marketing side of the social media landscape and to see how it can be used to help businesses grow through advertising and collaboration. There are hosts of different social media platform available today. Fig 3.7 below is a snapshot of but a few of the more popular ones.

![Social Media Platforms](image)

*Fig 3.7 – Host of social media platforms*

The world is all a “buzz” with social media. What is social media? There are many definitions of the concepts even as it continues to evolve. One way of defining the concept is to break it down into two parts, social and media. We have a very good handle on what social means and media is ways of communicating such as newspaper, radio and television. Hence social media can be considered as social communication using a set of Web 2.0 tools that enables interactive or two way communication. Unlike the newspaper and radio which is one way the social platforms allow you to have a say in the communication. For the entrepreneur, the real question is - how can social media help your business and boost profits?

Marketing, advertising and collaboration are the main ways in which social media can be used to enhance your business. Almost every business today has a Facebook and twitter presence but are they optimising the use of this social presence. Is it adding to the bottom line? To make social media work for you requires some sustained effort. The following are a few tips to consider when contemplating a social media presence.

1. Pick the right platform – not every platform is suitable for every business. Each platform has their own flavour and personality.

2. Choose a good moderator Social media requires sustained administration or moderation. The mantra of social media is conversation. The blog that doesn’t facilitate conversation will loose their audience. Someone needs to be dedicated to
handle blog posts, comments, feedback and other postings. You must also select the right person for e and engage in the job as some persons prefer to work with one platform over another.

3. Scope out what your competition is doing with social media and how they are using it. This will better inform you on how to tailor your message.

4. Don’t commit to the presence indefinitely without reviewing and monitoring the returns. Set attainable goals and timelines within which you would like to achieve certain results. If the returns are not forthcoming, don’t be afraid to pull the plug

5. Don’t waste time and resources on the next big thing. Not all things are created equal.

If your target audience is the millennial (the generation born after 1980) then you have a great chance of succeeding with the use of social media. This is the way to engage them as most if not all of them have a Facebook profile, a twitter presence. Their involvement with technology surpasses any other generation and presents a huge challenge for those who wish to engage them with the popular tag line “Like us of Facebook” and “follow us on twitter.”

**LESSON SUMMARY**

We will be discussing communication at various points during this course and examine a range of tools and technologies that will help us meet our ever evolving communication needs. In this lesson we focussed primarily on how to use subscription based emails to keep in touch with customers and other interest groups by disseminating flyers, newsletters and other relevant product information. The way we work has changed significantly and “social is now a part of our everyday life whether you are in business or not. We briefly discussed social media and its emerging application to business and entrepreneurship.

**Self-Reflection Question**

*How can product ratings of purchases assist future buyers of the same product?*
LESSON 3.4 – RECEIVE AND RESPOND TO EMAILS ON A SMARTPHONE

LESSON INTRODUCTION

In Lesson 3.1 we discussed the use of email for various purposes, including e-marketing and advertising, receive order and customer information and in the previous lesson we saw how emails can be used for feed based subscriptions. This lesson intends to add mobility to the email system by using mobile phones as access devices. As we are aware, mobile phones are ubiquitous in most parts of the world and they no longer exclusively supports voice communications. Mobile phones or smart phones now have data capabilities comparable to desktop and laptops. It is this feature that allows you to have anytime anywhere access through the use of emails on smartphones.

An email client is required In order to send and receive emails. Some email services are web mail i.e. they do not require a client to access the service as the service is accessible through a web browser with an internet connection. Common examples are Hotmail, yahoo mail and Google’s Gmail. These services allow users to use the web as a direct connection into their cloud based enterprise server. Most if not all email providers will allow some form of connection into their enterprise server using an email client.

In this lesson we will focus on the use of the three major smart phone platforms (RIM’s BlackBerry, Google’s Android and Apple’s IPhone) as mobile devices that allows you to access and respond to emails on the go. The ability to do this has proven indispensable for many businesses and organizations.

LESSON OBJECTIVES

Upon completion of this lesson you will be able to:

1. Use mobile phones to access emails

MOBILE EMAIL ACCESS

Prior to the advent of smartphones, emails were usually accessed from a desktop or laptop PC. To do this, the computer would require the use of a small programme known as an email client that interfaces with the email server, whether client hosted server or webmail. An email client will among other things, carry the following features:

1. Manages email, contacts, calendar, files and documents
2. Works with any Post Office Protocol (POP) or IMAP
3. Automatically synchronize with yahoo, Gmail etc.
4. Compatible with Mozilla thunderbird or Microsoft Outlook.

Microsoft Outlook and Mozilla’s Thunderbird are popular email clients used to interface with a messaging platform. With smartphones emails can be sent and received directly on the phone with no need for the user to interface with a client. The phone does all that
synchronising behind the scene through the use of what is called enterprise messaging servers.

It is possible to send, receive and manage email data using a smartphone, a tablet or other handheld devices. Smartphones in addition to voice communication allows the users to do data and email manipulation directly from their mobile phones. The email address and login information is inserted in the email setup feature of the messaging properties on the phone. The phone then uses its telecommunication network to make a remote connection into the email service provider’s network. A handshake is done during which authentication information is exchanged and the device is then granted access to the email messaging platform (Yahoo, MSN, Gmail etc.). Once connected, emails will start appearing on the mobile devices in real time. The email can be configured to send only copies of the email to the phone while keeping a copy on the enterprise messaging server. The user can still access the mails from the mail provider using a PC or any other device. The entire operation is synchronized between smartphone and enterprise provider’s network, allowing the users a range of control and signaling options. Fig 3.8 below shows a number of emails presented on a BlackBerry smartphone.

Most if not all mobile handset providers are running Operating Systems (OS) that are compatible with the email messaging infrastructure of the major email service providers. The service providers use open standards to ensure that their systems are interoperable with handset manufactures. Fig. 3.9 below shows the compatibility matrix of smartphones along with the supported features.
The Fig. 3.9 also gives an indication of the range of other data services available on a mobile phone, including calendaring, contacts and web browsing.

An email address is the entry point on the Google apps platform and once created allows you access to a suite of Google web based apps. Activity 2 below requires you to establish an email account using Google Enterprise Applications (Google Apps).

**Activity 2.**

Go to the Google sign on page to establish an email account

https://accounts.google.com/ServiceLogin?service=mail&passive=true&rm=false&continue=https://mail.google.com/mail/&ss=1&scc=1&ltdt=20190708111524.89887693.1644005986@bogomol&source=mx&l=1

Use the screen shots below as a guide to set up your email

*NB: The service is free*

The following Google screenshots (Fig 3.10 – 3.11) steps you through the creation of a free Gmail email account from the Google website.
Step 1: Go to the Gmail homepage for login or sign up

![Gmail homepage](image)

*Fig 3.10: Screen shot - Create Gmail account.*

Step 2: Insert Required Information

![Gmail account creation form](image)

*Fig 3.11: screen shot -*
Step 3: Click the “I accept create my account button” to create your Gmail account

Fig 3.12: screen shot - Step 3:
LESSON SUMMARY
Email is a very fast and convenient way to communicate worldwide. It is a standard form of business communication in most societies. As we have demonstrated in this lesson, emails are versatile and can be used for other specialised campaigns such as, e-marketing, e-advertising, email subscriptions to brochures and flyers. It can do much more than communicate. Emails are everywhere and the free service offered by the main webmail providers makes the service ubiquitous. This is an added advantage to entrepreneurs and businesses as they can quickly leverage the vast capabilities available through emails without a commensurate roll out of capital or IT infrastructure.

We also looked at ways to solicit and receive feedback online including e-questionnaires and online surveys and other data collection mechanisms. Anytime anywhere communication is the key in today’s highly competitive business environment. We showed how anytime anywhere communication via email could be facilitated through the use of mobile smartphones. The power of receiving and transmitting documents, videos, graphics and other file types. For the entrepreneur, a mobile smartphone is no longer a luxury gadget but a necessary communication tool that is completely indispensable.

Self-Reflection Question
How can product ratings of purchases assist future buyers of the same product?
UNIT THREE – SUMMARY

ASSIGNMENTS AND ACTIVITIES
Provide description and instructions for unit assignment.

SUMMARY
In this Unit we have described how email works and demonstrate the capabilities of electronic mail for business communication, marketing and promotion, to reduce operational costs, increase efficiencies and productivity, ultimately to make profit. In so doing we have highlighted a number of list management and e-promotional products specifically geared toward this. We also discussed using online forms to capture customer and vendor information for data mining and decision making. We argued that with this information the entrepreneur can have more targeted use of email marketing. Feedback from users is also critical. You want to know what your customers are thinking with respect to your offerings. As such, it is critical to make your site as interactive as possible and solicit feedback from clients. Businesses who do not entertain this practice are “shooting themselves in the foot”.

Social media was considered as an addition to the communication toolkit, allowing entrepreneurs to use the service for product marketing and advertising while communicating in a collaborative and interactive online environment. We also examined the developments in the mobile space where emails are available anytime from anywhere via the internet and accessible by a range of hand held devices (smartphones, tablets, etc.). The two mail benefits of mobile email are the instantaneous receipt and sending of emails.

NEXT STEPS
As collaboration services continue to converge in a unified way, emails are becoming part of a wider set of online and collaborative tools. Most providers are rolling out product suits designed to meet all your possible business and communication needs. Email is no longer a “stand alone” application but is now embedded within a wider suite of collaboration products. These include Microsoft’s, SharePoint 2010, Google Apps and most other mature enterprise level messaging and collaboration software. We will examine collaboration tools, both synchronous and asynchronous in the upcoming unit.
UNIT FOUR – ESTABLISH A COMMUNITY OF PRACTICE

UNIT INTRODUCTION

A community of practice (CoP) is a group consisting of members with common interests who share the same goals or ideals and are regularly engaged in knowledge sharing, information sharing and innovative thinking. The group can either be formal with scheduled meetings and discussion topics or ad hoc with random meetings. A CoP allows its members a space for creative and innovative thinking. A number of corporations currently use CoP for Knowledge Management.

As businesses become more interdependent a strong reliance on CoP is becoming increasingly important. Industry players need to collaborate and share more in order to meet the common challenges that they face. The challenges may include how to get to markets quicker and cheaper, how to engage and retain customer loyalty, how to maintain contact and support along the supply chain. Achieving any of these tasks require constant dialogue and information sharing among industry players wherever they may be located. This Unit seeks to introduce you to the idea of a community of practice where like-minded people or interest groups converge and collaborate around a common theme or issue. Many business challenges are solved through community of practice, likewise many innovations are created out of a community of practice.

In this Unit you will learn how to share files and documents with in a community while supporting ongoing communication and collaboration

UNIT OBJECTIVES

Upon completion of this unit you will be able to: use groupware and collaboration software to create a site that allows the business to:

1. Share files, orders, forms etc., with potential providers
2. Support customer ratings or services or products
3. Support communications and collaboration with employee, customers and others engaged in the business

UNIT READINGS

As you complete this unit you are required to read the following chapters/articles:

<Insert list of required readings>.

ASSIGNMENTS AND ACTIVITIES

In this unit you will be required to use various online tools to create online order form.
Lesson 4.1 – Share Files, Orders, Forms and Documents with Potential Suppliers.

Lesson Introduction
In the normal course of business it is often required to share information among different key stakeholders along the supply chain. As a result, file sharing and sharing of orders among suppliers can greatly enhance the speed and efficiency with which the business is able to deliver to its customers. Forms are used to capture a variety of information including customer name, billing and shipping address, and product and payment details. The forms can be manual or paper based. The information captured on a form is then entered into a database either manually or automatically. The information is then used to facilitate filling of orders and interaction with customers. This lesson will examine how data can be shared among suppliers, and the use of forms to capture and store key information relating to customers and suppliers.

Lesson Objectives
Upon completion of this lesson you will be able to:

10. Create and use online order forms.
11. Share files and documents with potential suppliers

Online Order Forms
Online order forms are used to facilitate online sales. There are various types of forms for various purposes. In its basic sense, the online order form must capture basic information such as product, billing information, shipping information and payment information. Forms are designed to capture product information by way of drop down menus.

By using online order forms, the business is ensuring that an order is submitted instantly, reducing the time to place the order and increasing the speed and efficiency with which the order is filled and shipped to the customer. Businesses that can quickly receive fill and deliver orders will have a competitive advantage as they have much shorter product to customer time.

Everyone in the organisation needs to be able to see the status what’s happening with the orders to ensure that all orders are handled properly and meet the customers’ needs. Email notification can be set up to alert relevant persons when orders come in and when they are filled and dispatched. Orders are kept in a centralised database and everyone has access to the same information. This reduces the chance of errors in the order management process.
The process is depicted in Fig 4.1 above. A well designed order form will allow the customer to go online and

1. Make product selection
2. Supply billing information
3. Supply shipping information
4. Supply payment information

The collected information is then automatically populated to a central database for further processing by the company staff. The relevant personnel can now access the information from the database by triggered alerts or email notification. The company staff will fill the order, monitor the order as it moves through the system, ship the order and conduct post sales services and follow up as may become necessary. Information can also be used for future email marketing campaigns. The information is also available to be used for data mining and other data analysis techniques using Business Intelligence (BI) tools such as an Online Analytical Processing (OLAP)
FORM BUILDER

Forms can be generated or built from a number of available online templates. These forms can be adopted and customized to fit your operating environment through the use of form builder tools. Most form builder allows you the freedom and flexibility to configure the templates to fit your use. Example product information can be captured using drop down menus offering a list of products and corresponding prices. It is important to have a good order from that’s properly designed, fully functional and easy to use. This will encourage users to become paid customers.

Online forms can be developed using a form builder which allows the creator of the form to edit field or questions and to track responses in real time. Responses are made available to the owner in a spreadsheet and can be shared online with other business partners or stakeholders.

Activity 1 – Create a simple form order from a template

Go to http://www.elbowspace.com/FRHformexample8.htm

Create your own product order form using this template

Modify the form to reflect your own product and fees

DO NOT ENTER A CREDIT CARD NUMBER

DO NOT SUBMIT

This is for demonstration purpose only

Let’s consider Google Enterprise Apps and use Google Forms as our online form creation tool. This form builder allows you to create your form with your own customization or to choose from a range of templates and themes. You can build as many questions as you like. The form builder supports a variety of question types including MCQs, checkboxes, alphanumeric (text), grid and scale (e.g. on a scale of 1 to 5). You will require a valid Gmail address. Once signed on into Gmail you can access the form builder tool by clicking on the form tab from Google docs.

The Fig 4.2 below shows the output or published version of an online form that allows customers to place order to a jewelry store. This form was created using Google forms. Once created, you can publish your form to the web thus providing online real time access to customers. In order for the forms to be effective they must be available twenty four seven so that potential customers can use them any time. And they must be accessible from anywhere and from any device.

In addition to the actual order form, it is possible to go a step further and create a form online that allows the purchaser or customer to track the order status via a secure web login. This can be done via a search routine that allows the option of searching on fields such as order number, customer number or Purchase Order (PO) number.
Activity 1. – To create an online form

Activity 1 – Create an electronic order form using Google Forms

Log into your Gmail, click on docs and select create form. From here you will complete the following tasks.

1. Create an order form to order products from a baby store. Your form should contain at least 5 fields with no more than 2 being mandatory fields.
2. Publish the completed form on the web. Embed the form into a blog or website
3. Enter data into the form
4. View the summary results of the inputted data
FILE AND DOCUMENT SHARING

In today’s modern and competitive business environment, information is king. Whoever has access to the information will be ahead of the curve. Businesses need to be in constant contact with all the stakeholders along the supply chain. These include employees, customers, suppliers, resellers, distributors etc. It is quite common to have multiple persons in multiple locations working on the same document at the same time. To move the document around in a sequential or linear manner is very time consuming and error prone. It is also difficult to keep track of who makes what changes when. To overcome these difficulties, documents can now be centrally stored and shared to all users at the same time. This gives tighter version control as the system records and timestamp the document to indicate who is accessing the file. It also provides a quick and efficient mechanism for the management of constant updates and modifications. Enterprise apps such as Google docs is a low cost file sharing and document management system that can be used by the entrepreneur. Google docs allow you to upload documents from your computer to its cloud based service (cloud services will be discussed further in Unit 6). Once uploaded the owner of the document has the option to share it with any number of users. Some users can be allowed to read without making changes while others are given full read write access, allowing them to make updates and changes.

The ability to share files and make them always available improves the speed and efficiency at which tasks can be accomplished.
LESSON SUMMARY

Online forms are an important business tool to capture customer information and to solicit feedback from customers and other stakeholders. The time it takes for you to hear from your customers and the time it takes for them to hear from you can be critical to the survival of any business, particularly in today's fast-paced environment. Online order forms speedily facilitate the placing of orders, the movement of those orders through the system to the point where it is filled and shipped to the customer. In this lesson, we considered the ordering process and the types of online forms that make the process possible. We looked at the template version which is widely available and also demonstrated through the use of Google Apps for business show you can build and publish different types of order forms on the web.

The advancement in ICT and the rapid shift to the digital world means that we are operating in the digital domain, where documents and other multimedia files are created rapidly. They can no longer be stored locally and accessed by one or two persons. Businesses must endorse these new ways of interaction and communication. File sharing and document sharing will continue to increase as businesses seek to expand their footprint into multinationals and global corporations.

Self-Reflection Question:

Imagine that you have an online ordering filling and shipping system in place. There is a failure with your system and you cannot see the orders when they are placed, what backup system do you have in place to minimise disruption to your loyal customers?
Lesson 4.2 - Customer Ratings of Products or Services

Lesson Introduction
Feedback is critical to the lifeblood of a business. Owners and operators need to know what customers are thinking in order to be able to respond quickly and efficiently. There are various ways of soliciting and receiving feedback. Traditionally, customers would be asked to fill out a survey or feedback form and place in a drop box prominently displayed in the business place. This practice limited the response to walk-in customers as those who conducted business remotely (phone, fax, web) would not enjoy the same opportunity of providing feedback. No one ever knew what was the outcome of the comments box or if they were even read in the first instance. These outdated and traditional ways of receiving feedback have given way to more automated processes that are accessible by more customers, from more places, through the use of various online tools and technologies.

This lesson is intended to demonstrate how the actual ratings of products and feedback from customers can be seamlessly integrated into the web or online environment of the business, thus making it more responsive and agile to the needs of its customers.

Lesson Objective
Upon completion of this Lesson, you will be expected to:

1. Have a full understanding of why online feedback and other customer ratings mechanism are useful
2. Use product rating tool to do online product and customer ratings

Customer Ratings
As a result of the rapid expansion in ecommerce and online merchants, an increasing number of persons are buying things on the web thus increasing online sales. In order to enhance customer satisfaction it is becoming more important to hear from them. It is now common place for customers to express some sentiments or comments on the product they buy. They comment on whether or not the products or service delivers on its promise.

It is widely accepted that product sales is a function of posted product ratings. Consumers tend to trust opinions of other consumers than how they would trust the retailers. They trust opinions on product quality, pricing, after sales service etc. and this boost sales when positive ratings are posted on a product due to the multiplier effect. Some products get hundreds of reviews making it difficult to choose. This is one danger you must be aware of when setting up and monitoring your product review system. Product ratings are usually written by users based on their own experience with the product. Normally it provides detailed information on the “good” or “bad” of the product. The rating is usually on a five star basis with 5 stars being the highest. Product rating is not only limited to the customer but the merchant or manufacturer can also publish information on the product.
From this it is easy to see why an automated system that can capture, sort, filter and publish customer's viewpoint is so essential. Some larger business operators e.g. Amazon can build these systems and implement them. Customer review software is difficult to implement on your website. As a small business operator or entrepreneur it is easier to use third party solutions to accomplish this.

**Tools for Customer ratings and product services**

By adding customer ratings and review software to your website you can take advantage of “word of mouth marketing” and social networking integration. The products can be used to rate any products or services.

There are a host of rating products available today. Some are mere add-on scripts to websites while others are full-fledged mature applications. Whichever you choose will depend on the maturity of your business, the capital you have to invest and the features you intend to use. Basic low cost systems are available that can provide you with the required features. Irrespective of what you choose, most of the rating products available will include the following basic features:

1. **Hosted** - Available as the Software as a Service or (SaaS) service model.
2. **Moderation** – Can modify, delete or approve your customer rating before they get to the website.
3. **Follow up email** – The systems sends a follow up email asking customers to review the items they have purchased (popular on Amazon).
4. **Search engine optimization** – Makes it easy for search engine to pick up your products using keywords.

It is difficult to suggest or recommend a particular product to use as this is based on a number of different factors including budgets, ease of customization, after sales support etc. However [http://www.rating-system.com/ can serve as a guide when investigating and comparing different products](http://www.rating-system.com/).

As mentioned earlier, other popular ways of incorporating rating features on your website is through the use of scripts. The script is a small programme containing the ratings and review software that is installed directly on your website. Some of these scripts include:

2. [http://www.randommouse.com/cgi-bin/rms/product/about/about_product.cgi?sku=FNDRY&page=splash](http://www.randommouse.com/cgi-bin/rms/product/about/about_product.cgi?sku=FNDRY&page=splash)
LESSON SUMMARY

Whether you are incorporating the feature on your website through scripting or you are setting up a dedicated platform for the purpose it is critical as an entrepreneur to have some method of customer ratings incorporated into your business. The benefits are tremendous as you will be hearing directly from the customers as to how they feel about the product. You will be better able to give them what they want and not what you think they want.

Amazon is the perfect example of a site that makes full use of reviews and makes it available to potential shoppers. Almost every product for sale is reviewed and “starred” on Amazon. The rating feature is critical to product sales on Amazon as it serves as the ultimate guide for new customers. Amazon doesn’t say anything directly about the product. It allows the shoppers to do all the talking. All it does is listen and facilitates. You can do the same.

Self-Reflection Question:

Do you think customer rating influence the decision of other potential shoppers to buy or not to buy?
LESSON 4.3 – SUPPORT COMMUNICATION AND COLLABORATION

LESSON INTRODUCTION
The modern entrepreneur needs a complete integrated communication and collaboration platform to meet the growing demands of their business. It is ineffective, time-consuming, and inefficient to have all the required communication tools, applications, and devices scattered in various locations. It is therefore necessary to have email, instant messaging, document sharing, and voice conferencing in a single location accessible on a single platform with a single sign on.

In this lesson, we will focus on the tools and techniques to support communication and collaboration with particular emphasis on open source and proprietary solutions. We will demonstrate how to use the Google enterprise architecture to meet the ever-expanding need for real-time collaboration and communication.

LESSON OBJECTIVE
Upon completion of this lesson, you will be able to use

1. Identify and use Google Enterprise Application for business
2. Identify and use enterprise level proprietary application
3. Establish a community of practice (CoP)

GOOGLE ENTERPRISE APPLICATIONS (GOOGLE APPS)
Modern collaboration software or applications have moved beyond traditional email, bulletin boards, and discussion forums. They now offer tightly integrated collaboration tools that allow users a greater degree of flexibility and a wider range of choices with respect to how they communicate and collaborate. Collaboration is like taking communication to a higher level. It’s no longer sufficient to send and receive documents, messages, etc. The sender must now have the ability to make content available and expect real-time interaction with the content by the receiver. Fortunately, there are a number of integrated collaboration environments that allow for this.

In the previous section, we made reference to Google Apps. We will now take a closer look at the business potential and capabilities of the commonly used application available on the Google Enterprise Architecture, commonly referred to as Google Apps. Google APPS is a series of business productivity tools that reside on the Google architecture and are made available to individuals and corporations to carry out their basic business needs. The most widely used applications are email and instant messaging (Gmail), Office productivity tools (Google Docs), calendaring, and websites (Google Sites) for web presence. In addition, there is a range of feature-rich real-time file sharing and collaboration tools.
The Google Architecture environment is readily available, accessible from anywhere over the internet and enjoys the enterprise security and data protection available on the Google platform. In addition, the service is free for individuals, corporations, NGOs and educational institutions. The enterprise email platform (Gmail) for example, is quite popular among several US universities as it frees up the massive recurring IT spend in licensing and personnel that would have otherwise obtained. The same benefits can be accrued to both MSEs and large corporations. Google has solutions tailored for and targeted to SMEs. This free service is advertised on its website, see Fig x below. And is also available to you

![Google Apps for Business](https://chrome.google.com/webstore/category/home)

**Fig 4.3 Google Apps for Business**

Google Apps brings the following benefits to the users

1. Enable single sign on from your Google Apps account
2. Easy upload of existing docs and spreadsheets into Google Apps
3. Enable collaboration and document sharing with other Google Apps users
4. Mobility – allows users to sign on from anywhere including handhelds

In addition to the core applications available in Google Apps, the Google architecture provides and supports thousands of smaller business apps that are geared towards specific uses, eg. These are available from Google’s Chrome store at https://chrome.google.com/webstore/category/home. If you look closely at the Gmail icon above in Fig 4.3 you will observe that you can register your company name using your unique
company name as your domain. The format is company@yourcompany.com where both portions of the email address are determined by you and should reflect your business name. This email can be used as an enterprise mailing solution for your business. This is becoming a popular option for businesses, especially start-ups as it frees the owners from dealing with the hassle of implementing and maintaining a reliable secure enterprise mail platform such as MS Exchange. Google is now reporting take up in excess of 4 million businesses and counting. The Drawback to this and similar enterprise apps is that the owner is never really the “owner” of the data as you are not 100% in control of the data residing externally on Google’s servers, stored somewhere in their enterprise cloud architecture, somewhere in the US or other colocation facilities around the world.

If you browse the Google Apps product environment at http://www.google.com/intl/en/about/products/index.html you will discover a full suite of available products. Fig. 4.4 below gives a snapshot of some of these products that can be immediately adopted into your business to meet various types of everyday business needs.

![Google enterprise suite of products](image)

**Fig 4.4 Google enterprise suite of products**

The Google Docs application is a commonly used suite of office products. Users familiar with Microsoft Office comprising of Word, Excel, PowerPoint and Access can hit the ground running as the same set of office productivity tools software are bundled within Google Docs.
The following table gives a quick comparison of Microsoft Office and Google docs productivity tools.

<table>
<thead>
<tr>
<th>Google Enterprise Apps</th>
<th>Microsoft Office</th>
</tr>
</thead>
<tbody>
<tr>
<td>Always available online (cloud based)</td>
<td>Usually available on a single local machine</td>
</tr>
<tr>
<td>Instant file sharing and collaboration</td>
<td>Need to send via email or invest in expensive apps e.g. SharePoint</td>
</tr>
<tr>
<td>Secured on Google Enterprise Architecture</td>
<td>User is responsible for security and protection of docs</td>
</tr>
<tr>
<td>No storage requirements. Files online</td>
<td>Stored un user hard drive or other storage medium</td>
</tr>
<tr>
<td>Multiple users can collaborate in real time</td>
<td>Single user environment</td>
</tr>
<tr>
<td>No cost</td>
<td>Licensing requirement</td>
</tr>
</tbody>
</table>

*Table 1. Google Docs vs. Microsoft Word*

Microsoft has now offered its SkyDrive in order to compete with the Google APPS. You will notice in the figure below that the name of each application, specifically states Web App. This indicates that the service is available online and is accessible through Microsoft’s web portal using a windows Live login and password. In effect, there are now options available to access web based cloud services for everyday business activities. These cloud based user application services available from Microsoft are providing alternatives to Google Apps.

*Fig 4.5- Microsoft web apps (SkyDrive)*
PROPRIETARY COLLABORATIVE ENVIRONMENT

We will now focus our attention to other collaboration platforms that are available. These are proprietary environments and require subscriptions and other costly licensing arrangements. They are feature rich, mature and well developed and supported architecture. Enterprise level feature rich applications such as Zoho [http://zoho.com] and SocialCast [http://socialcast.com] are fully mature products that can solve the collaboration and communication needs of both small businesses and large corporations.

Social Cast & ZOHO
Socialcast [http://www.socialcast.com/] and ZOHO [http://zoho.com] are specialized enterprise (business level) collaboration platform offering a range of collaborative tools and transforming the way people work. They allow users to create and maintain a CoP. These applications offer solutions from enterprise Intranets to team portals and documentation. Portals allows for a single user sign on to a secure environment accessing information that has already been statically or dynamically configured and assigned for the user. These sites create collaborative portals for effective knowledge sharing and management. Group Portals can be created within minutes, quickly creating content and securely sharing it with team members, clients & partners.

A COMMUNITY OF PRACTICE
CoP has been around for as long as humans have been existing however, modern ICT tools (groupware and collaboration software) allows web based 2.0 tools to be used to coordinate and moderate online CoP activities. Some of these tools include specifically designed groupware and collaboration software. Over time, a CoP usually develops into a repository of related documents, procedures and models to accomplish specific tasks.

A well-managed CoP can be a useful tool for businesses within a particular industry. A CoP can be used to develop and share expertise. FAQs, provide solutions to known problems and maintain constant contact and communication with vendors, partners, agencies and customers. See Fig x. below illustrating the use of an online web presence to create and maintain a CoP for pregnant women, Baby Centre [http://babycentre.com].

Members can also create their customize community to share and expand knowledge workspace, Create searchable, centralized information repository for easy organizational access. Create private or public workspaces and promote active conversation between employees, teams, project clients and partners.

The following example is a CoP maintained by a group of Nissan truck enthusiasts. The environment is a discussion forum that allows owners of this particular Nissan Titan pickup truck to post information relating to all aspects of the truck. The particular interest in this community is a special Nissan truck. The CoP is aptly named Titantalk and is available at [http://titantalk.com]. The site is set up to share information, posts problems and solutions on any and everything related to Nissan pick-up trucks. An account, (user name login and
email address is usually required to join and participate in a COP. The screen shot in Fig. 4.5 below gives an illustration of the services available on Titantalk community portal.

![Screen shot of Titantalk community portal](image)

Fig 4.5 screen shot – Titan talk, an online community of practice

On the banner in Fig 4.5 above you will observe links to:

1. The community’s home page
2. Register as a new member to the community
3. The photo gallery
4. The current topics being discussed
5. Posts made on the current day.

Another community of practice is Baby Centre. At Baby Centre [http://babycentre.co.uk](http://babycentre.co.uk) pregnant moms and mothers have formed themselves in a community of practice to share information. In this space, the users use the interactive tools to post information, share their multiplicity of experiences and review baby products and other information. See Fig. 4.6 below for a screen shot of the Baby centre community page. The topic of interest is obviously child bearing and rearing. All stakeholders who have anything to do with the topic can find the community interesting and make a contribution. In a similar way you could establish a community of practice around your industry or product. This would drive interests and encourage stakeholders with direct or value added service to be a part of the community. The idea is that at the end of the day, everyone benefits from the service.
In closing, note that a CoP need not be a sophisticated enterprise solution such as socialcast but can simply be a simple website with authentication, and discussion forums. As mentioned earlier, the emphasis is on community where people “rally around” a common interest.
LESSON SUMMARY

Collaboration is very important in the business world. Others need to see and know what you are doing in real time in order that they may make input suggestions etc. If you are working with a supplier to fill orders then you would like the supplier to be able to see the orders as soon as you receive them. This increases speed and efficiency and reduce the time it takes for you to fill the order.

Google apps is a powerful online or web based environment containing various tools that can be meaningfully applied to your business. Besides the regular office productivity tools, the calendaring or shared calendar allows your business partners and other stakeholders to see when you are free. This is a convenient feature, particularly for those who are always on the go. The email registration using your own business name is revolutionary for free webmail providers. It is a cutting edge innovation for businesses as this allows you the freedom to brand and name your email address to reflect the name of your company.

In this lesson we also explained that a community of practice is a simple philosophy where different people of different backgrounds, origins and geographic locations are drawn together around a common theme of interests. Businesses and entrepreneurs are embracing and using communities of practice as a way of engaging customers and heightening awareness around their products as groups of people share information and ideas. The flexibility of the software makes it possible to include a variety of adjunct players which translates as value added and inure to the ongoing success of the business. Even as the concept is not new, the collaborative or “community effort” is made possible and much easier through the use of web based ICT tools.

Self-Reflection Question

How can product ratings of purchases assist future buyers of the same product?
UNIT FOUR – SUMMARY

ASSIGNMENT
Insert unit assignment description and instructions.

SUMMARY
In this unit we showed you how customer requests can be facilitated through online order forms that send their information directly to a database. Company staff then pulls information from the database in filling orders. With the use of online order form, this process simplifies what would have otherwise been a logistical nightmare, resulting in timely completion and shipping of orders. This ultra-modern convenience placed the power in the hands of the buying public. The buying public or customers were also able to review a product before they buy and rate the products that they have purchased. In so doing, they created a better sense of product awareness for subsequent shoppers. This was made possible through the use of customer ratings and product review software.

Communication and collaboration is now at the heart of global businesses that are increasingly becoming interdependent as buyers are scattered around the world. We extended collaboration to the concept of community of practice. In this Unit we have shown that a community of practice can be created and maintained by any group of persons with common interest in a particular subject area. There are several tools capable of hosting a CoP. These ranges from simple discussion forums, bulletin boards, and closed email user groups (CUG) or lists to full-fledged enterprise applications like Google APPs. From an entrepreneurial perspective, a CoP can be set up for business to collaborate, share and store information on clients, suppliers, products etc. it can be particularly useful in solving problems and sharing information as with our pickup truck example. As business continue to grow and expand in the social and collaborative space, CoP and other online collaborative environment will increasingly become critical to the success and survival of a business.

NEXT STEPS
This unit focussed on certain online tools that facilitated customer interaction with product website. It is the customers who decide if and when the interaction takes place. The environment simply sits there as an enabler. In the next section we will transform this environment into collaborative synchronous collaborative space with real time interactions that can support business practices.
UNIT FIVE – SYNCHRONOUS TOOLS TO SUPPORT BUSINESS

UNIT INTRODUCTION

In unit four you learnt how to use the web to operate in a collaborative environment and to build web tools to allow for smooth interaction and communication with customers and other stakeholders. In this unit we will be examining how to communicate in real time using a raft of synchronous communication tools. Some tools are suited for individual or small group meetings and presentation while others are more suited for larger groups. Whatever your needs are, there are tools available to meet them. In determining which tools to use, you must carefully assess what your needs are.

This unit explains the features of each type of communication tools and presents scenarios in which they can be considered appropriate. We will focus our attention primarily on synchronous or real time communication tools for business and the technologies that supports them and allowing you to connect with individuals, team members, customers and suppliers in real time.

UNIT OBJECTIVES

Upon completion of this unit you will be able to employ a variety of synchronous tools to:

1. Conduct small group virtual meetings in real time
2. Conduct Webinars to Support product and service marketing
3. Connect with individual customers
4. Support communications with virtual employees and providers
5. Participate in video and audio conferencing calls

This unit is divided into three lessons.

Lesson 1: Synchronous vs Asynchronous communication
Lesson 2: Synchronous communication tools for individuals and small groups
Lesson 2: Audioconferencing videoconferencing and webinars for business
UNIT READINGS

As you complete this unit you are required to read the following chapters/articles:


ASSIGNMENTS AND ACTIVITIES

<Insert a description of the unit assignments, activities and discussions to be completed as they progress through the unit. Detailed instructions can be attached as Appendices to the course main body.>
LESSON 5.1 - SYNCHRONOUS VS ASYNCHRONOUS COMMUNICATION

LESSON INTRODUCTION
In business communication, people are talking to people constantly. This is predominantly done over a phone call however, a phone call is limited to audio only interaction. Not all business transactions can be accommodated exclusively by voice calls. To present charts diagrams and images to make presentations or business proposals, marketing or advertising campaigns requires visual support. This lesson seeks to explain the difference between the forms of communication that are real time and those that are not.

LESSON OBJECTIVE
Upon completion of this lesson you will be to:

1. Explain the difference between synchronous and asynchronous communication
2. Identify the different forms of technologies that supports each mode

SYNCHRONOUS COMMUNICATION
Synchronous means occurring at the same time, coinciding in time or simultaneous. Synchronous communication therefore means that the communication or the interaction between the sender and the receiver is taking place at the same time or in real time. Both sender and receiver must be transmitting and receiving at the same time. This is a time based communication pretty much like radio or television. If you miss the broadcast then it is gone and can only be heard if it was recorded. A telephone conversation is an excellent example of synchronous communication; another person must be at the other end of the line to receive the communication. The communication is instantaneous as both sender and receiver are sending and receiving at the same time, using some form of end user device such as a telephone and facilitated by a telecommunications channel. A face-face meeting is a synchronous activity as the participants are hearing and seeing each other in real time. Any successful attempt to replicate a face to face meeting online will result in a synchronous activity taking place, albeit via a different medium. Once the communication is real time then it is considered synchronous.

Popular forms of synchronous communication include voice calls, video calls, Instant Messaging (IM) chat sessions, VOIP calls with or without video, videoconference and webconferencing. With the convergence of data and traditional telephone voice network over a unified internet transport, all forms of synchronous communications can now take place over the web. The fact that this is web based communication using the internet doesn’t mean that the communication is not synchronous. It still is, as only the medium has shifted while the time dependence nature remains thus making the communication synchronous.

Note that even with these technological advancements, the telephone network remains a critical business tool, especially in cultures where computer and internet usage are either
unavailable or have not been significantly adopted. This does not mean that traditional phone calls are outdated. Lots of people still rely on the use of the telephone for synchronous interaction. This is more of a cultural practice and what persons are accustomed to and comfortable with.

**ASYNCHRONOUS COMMUNICATION**

Asynchronous communication on the other hand implies that the sender and user need not be available at the same time as the communication is not instantaneous and does not take place in real time. The sender sends a message and the receiver can pick up the message at any time convenient to him/her once it has been received. This is like the traditional postal system where a letter is sent and received days or weeks after. An email is a perfect example of asynchronous communication. The sender of the email need not be online for it to be received. Web based communication is usually asynchronous as the receiver has to go to a PC to receive and respond to the communication. Bulletin boards, message board, blog postings discussion forum, RSS feeds, podcasts and of course emails are all forms of asynchronous communication. All this communication doesn’t happen instantaneously. Also as mentioned earlier, the web has traditionally been considered an asynchronous medium, however, this has been changing rapidly as more and more synchronous type activities are simulated in the online environment.
LESSON SUMMARY
Both synchronous and asynchronous communications have their pros and cons. The type of communication and by extension the tool that you will use is largely dependent on your need and the medium available to you. Before you decide you will need to ask yourself the following questions

1. Will you be presenting charts diagrams etc.? 
2. Do you need to see and hear the person or persons? 
3. Is a voice call sufficient to do the business?

The answers to these questions can help you choose the right tool for the right purpose. The next section focuses on ways of virtually connecting with individual customers or to hold small group meetings.

Self-Reflection Question:
Which of the communication tools discussed in this lesson best suits your business needs?
LESSON 5.2 – SYNCHRONOUS COMMUNICATION TOOLS FOR INDIVIDUAL AND SMALL GROUPS

LESSON INTRODUCTION
In this lesson we will examine softphones, mobile phones and Skype and demonstrate how these devices can be used to facilitate real time business communication between individuals or to hold small group meetings.

LESSON OBJECTIVE
Upon completion of this lesson you will be able to:

1. Appreciate how softphones can be used for business communication.
2. Understand the full impact of mobile telephony on businesses.
3. Use Skype to conduct business meetings

SOFTWARE
A softphone is the PC based version of a physical voice phone or video phone. Software is used to simulate the features and functionalities of the hardware version. Softphones are exclusively digital and requires the computer and internet access in order to operate. This makes it extremely portable and easily deployed as once installed on your PC or laptop it can be launched on your computer from anywhere with an internet connection. This can be an attractive option to hard wired room based systems, especially for busy business people who do extensive road trip and wish to enjoy the same convenience of communication as if they were at the office. Fig 5.1 depicts the image of a softphone mimicking various features of its hardware counterpart. In fact the softphone has the ability to quickly improve on the hard version, thus providing enhanced call and conferencing features.
Cisco’s IP Communicator

This softphone ([http://www.cisco.com/en/US/products/sw/voicesw/ps5475/index.html](http://www.cisco.com/en/US/products/sw/voicesw/ps5475/index.html)) allows users to transform their PC into a business communication tool. This is a soft version of your IP phone right on your desktop or laptop PC. The softphone supports the same features and functionalities as its hardware counterpart. After all they are both running on the same network.

![Cisco’s IP Communicator](image)

This softphone allows the user the following benefits:

1. Real time voice and video communication
2. Enterprise level messaging platform (voice mail)
3. Conferencing call access
4. Flexible work options - from home, office or anywhere
5. Low bandwidth usage, particularly from home
6. Portability

This IP telephony solution is usually a part of a wider technology infrastructure deployment including conferencing and messaging servers. It is proprietary grade software and attracts licensing charges per user and per mail box. Visit the cisco.com website for further information.
Perfect for medium to large organisations where the licensing can be leveraged from the purchase of other cisco networking gear such as router, switches, access points and IP phones.

**X-Lite**

This is a free softphone available from CounterPath Solutions ([http://www.counterpath.com/x-lite.html](http://www.counterpath.com/x-lite.html)). This is their entry level product and is available for download from their website. This is not a complete solution by itself but fits well within a business if the owner already has an IP VOIP service provider or an IP PBX. There are other feature rich premium versions available but at a cost to the user. Even with the basic software installed, the user can experience toll quality audio to remote users running the same system on his/her PC.

![X-Lite Softphone](image)

**POLYCOM PVX**

Available from Polycom ([http://polycom.com](http://polycom.com)), the PVX is a desktop videoconferencing application that enables your PC to deliver high quality videoconferencing over IP networks. This video endpoint emulator gives your PC the ability to conduct one-one or one-to many business communications in small business, homes or offices, without the need for a conferencing bridge. This allows up to four users from different locations to see, hear and share content with others directly from their PC. The PVX conferencing software through its rich telepresence will bring remote colleagues, offices and telecommuters together easily and affordable.

Softphones options are additions to the business users communication toolkit and combines the power of flexibility, accessibility, availability and ease of use to provide a robust communication platform that can readily meet the needs of today's business users. What we have described in this section is but few of the solutions available. There are
numerous other softphone solutions available on the internet. These include DIAx, FlashPhone, MiniPax, IAXComm, MizuPhone, Express talk and a host of others.

**MOBILE TELEPHONY**

Mobile phones are no longer confined to voice communication. They have become much smarter and have become a part of our everyday life. The ubiquitous nature of these devices makes them ideally suited for business communication. Business communication requires heavily loaded fast reliable phones. In addition to voice communication, smartphones bring the power of the web into your hands. In this lesson we will examine three of the major or popular smartphones that are common place in business communication. These are Research in Motion’s BlackBerry, Apple’s IPhone and smart phones from Google’s Android variety.

**BlackBerry**

The BlackBerry (BB) is a line of smartphones developed in 1999 by Research in Motion (RIM) a Waterloo, Ontario Company. Like other smartphones they are designed to function as personal digital assistants (PDA), media players, cameras and much more (see Fig.5.4). They are primarily known for their ability to send and receive (push) email and instant messages. The sturdy QWERTY keypad makes it a convenient tool to quickly input emails and text messages into the phone. As a result of this, BB has been marketed predominantly has a mobile corporate business machine allowing you to have your email inbox at your fingertips. This can be very useful for the entrepreneur who needs to be able to quickly respond to received information and make instant business decisions. Without communication devices such as the BB and other smartphones, emails would only be accessed in office at the desktop or from home. This type of inaccessibility could stifle production and growth due to missed opportunities.

![Fig. 5. 4- Rim’s BlackBerry](image_url)

The BB is first and foremost a mobile telephone. Voice telephony is the core application on the phone. This fact tends to be lost in the myriad of available features including the operating system. The BB functions like any other fixed line telephone offering features such as conference calls, call forwarding, call waiting, voice dialling and speakerphone.

**IPHONE**
The IPhone manufactured by US based Apple Inc. is considered the ultimate business mobile phone. The IPhone is the most widely used mobile phone in the world today. In addition to its core function as a mobile phone it offers a variety of other features such as MP3, MP4 player, browser, phone, voice recorder, email, document editor and has a versatile display.

Fig 5.5 - Apple IPhone

The intelligent assistant Siri allows you to issue voice commands to the phone to carry out certain tasks such as make calls, send texts and set reminders among others. The IPhone is part of the Apple ecosystem and as such, is compatible with all other Apple products including the IPod, IPad, IMac and MacBook. The versatility of the IPhone comes is experienced through the wide range of application or apps that it supports. An app is a small programme designed and built for a specific task e.g. a city map that runs on your phone. There are numerous business apps available for free downloading on the IPhone.

**Android Phone**

Android is an open source mobile operating system running on some of the world’s leading mobile phones, tablets and other devices. It was introduced by Google in 2007 as the ultimate mobile operating system and has since gained wide market share due to the “openness” of the OS. This allows for speedy development and upgrades by a wider community. Android phones offer the same feature set as other smartphones. The major difference is the power of its web browsing and display capabilities. In addition, its extensive use (in excess of 200) of applications (apps) makes it a powerful communication tool for business class users.
Fig. 5.6 shows a typical android phone with its full QWERTY keypad and widescreen display interface. An Android phone with the appropriate business apps makes it easy for you to manage how you sell your products and the exact set of customers you want to target and reach.

**Skype for Business**

For most start-ups and small business, full blown web conferencing products may be too costly to deploy. As such, there are other effective low cost or free solutions such has Skype (http://www.skype.com/intl/en/home) which is more than capable of managing basic communication needs. Skype is a free (for now) web based feature rich communication platform that allows multiple participants to convene a meeting online. In addition to its excellent audio quality, Skype supports the following features:

1. Document sharing
2. In conference messaging
3. Video support

Skype is rapidly emerging as an alternative to the traditional telephone network offering users the choice to seamlessly integrate voice calling to the public network at a minimal fee and free PC to PC calling. The popularity of this service in evidenced by the fact that there are web apps from Google’s chrome store that allows number display and one click dialing e.g. it is not uncommon to see business advertising themselves as is the case with this images such as this [TheTelecomSpot.com](http://www.theskype.com). The green thumbnail in the image, indicates that the telephone number is available for one click dialing using Skype. These calling features becomes available to you once you have installed the Skype app in your favourite browser..

In order to use Skype the user will be required to download and install the application available freely from skype.com. The app runs on any basic PC, MAC, or tablet PC. You will be required to create a Skype account and find and add other users of Skype in other to make successful connections. Skype allows you to call PC to PC or “on net” without charges, however if you are placing local or long distance calls to public telephone networks then a
charge is applicable at far reduced rates that traditional carriers. The software allows the user to add credit to a Skype user account maintained by the system.

Microsoft has recently acquired Skype and we can expect that it will be rolled into and becomes part of the Microsoft bundle and as such the future free usage is unclear. Skype offers a very inexpensive high performance way of holding small group meetings over the web. It doesn’t carry the bells and whistles of a fully mature webconferencing suite of products. Its high quality audio, high quality video, in conference instant messaging (IM) and file and document sharing capabilities makes it more than adequate in meeting the basic communication needs of the entrepreneur.

Skype is a virtual meeting space that opens more possibilities to clients and employees.
LESSON SUMMARY

This lesson considered synchronous communication tools such as softphones and mobile phones as a means of making individual connections with customers, suppliers, staff and other stakeholders. Most of the softphones have video capabilities and can participate in video calls.

Mobile phones enable real time voice communication amongst its range of other supported functions. Mobile phones have now been converted into smartphones. The impact of smartphones as a business application is phenomenal. In addition to the range of other uses, private, personal, social etc., the smartphone is capable of functioning as a mobile office. The power is in the mobility, flexibility and versatility of these devices. Although they were presented in this lesson as synchronous devices primarily for mobile telephony, their data communication features also allows them to function asynchronously.

Skype was presented as low cost alternative for group discussions with strong audio support a video presence and presentation capabilities.

**Self-Reflection Question:**

*How would your business function if the data service on your mobile phone was down for a week?*
LESSON 5.3 – AUDIO, VIDEO AND WEB CONFERENCING FOR BUSINESS

LESSON INTRODUCTION
In the previous lesson we looked at communication technologies that were primarily geared towards individual use and small groups. This lesson will extend the concept of synchronous communication to large group meetings facilitated by audioconferencing, videoconferencing and webconferencing. All three platforms are capable of holding multiple participants. This lesson will introduce three other forms of synchronous business communication technologies. It will also focus on both traditional and more contemporary form of web and internet based synchronous communication technologies.

LESSON OBJECTIVE
Upon completion of this lesson you will be able to:

1. Recognise the usefulness of audioconferencing.
2. Recognise the usefulness of videoconferencing.
3. Understand what a webinar is and how it works.

AUDIOCONFERENCING
Audioconferencing is largely facilitated over the Public Switched Telephone Network (PSTN). If you have ever participated in a conference call with three or more participants, then you have done an audioconference. The conference call is the simplest form of audioconference as the users is not required to use any specialised equipment. All that is required is your regular telephone handset at your desk or a mobile phone. One participant may imitate the call to another and then use the conferencing feature on the phone to add participants to the conference. The conference call has become a productivity tool for most businesses. Millions of conference calls are held each day simply to conduct business meetings with employees, suppliers and other stakeholders.

More advanced audioconferencing system requires the use of specially configured meeting rooms, and specialised speakerphone systems known as conference phones and a Conference Bridge. Multiple participants in a meeting room places a call from the room into the conference bridge. A conference phone (Fig 5.8) with its microphone and a loudspeaker system will be required in each room to make the conference call. Other participants located remotely in similar rooms also place their call into the Conference Bridge. The bridge mixes the voice channels so that every participant can hear each other. An enterprise level conference bridge is expensive and can host hundreds of participants in the same call. Conference phones have the ability to “bridge” or conference a number of users into a single conference.
The conference call is a quick and easy way of getting people together at the same time to discuss a common issue. The participants can be local as in the same building or geographically dispersed across international borders. Due to cost associated with international toll charges most multinational and transnational corporations have turned to the web as a low cost alternative to the PSTN. Using specialised bridging software and softphones (softphone was discussed in lesson 5.2) an audioconference can be convened on the web without toll charges.

**VIDEOCONFERENCE**

Any form of communication that sends both audio and live video images to remote participants in real time can be considered a videoconference. With scattered branch offices, geographically and dispersed workers, videoconferencing is an easy way to facilitate rich media real time communication from anywhere at anytime. In addition to audio, videoconference supports the transmission of live video images so participants can hear and see each other. Videoconference can either be single or multiuser.

Single user systems are usually PC or laptop equipped with webcam and videoconferencing software. Some PC based videoconferencing software does bridging and allowing a small number of remote participants in a single conference call. Fig 5.2 shows an image of a PC based multiuser videoconferencing system. In addition to PC based or desktop systems Videoconferencing systems also includes room based systems and large or large multiuser auditoriums. Room based systems or roll about units are common among businesses and multinational corporations with international remote branch offices. This VC system requires a dedicated conference room and specialised hardware including a large display monitor, video codec, video camera, microphones and loudspeakers.
See Fig 5.3 depicting a typical room based videoconferencing system supporting multiple local participants connected to a remote system with multiple participants.

The main benefit of the videoconference for businesses is that it replicates the face to face presence and you can meet as if the participants were all in one room. You are able to see and assess facial expressions and body language even though you are not physically present in the same room. This is an added advantage over the conference calls. Videoconferencing also supports people and content meaning you are able to send presentations over the system and it is normally displayed on a separate monitor in the same meeting room. Systems such as Cisco’s telepresence offer crystal clear, life size, real time, high definition experience. One of the drawbacks with videoconferences is that it requires high levels of bandwidth to support a quality video call. It also relies heavily on a competent and reliable internet connection. You would want to ensure that your
network is robust prior to delving into videoconference. A poor videoconference can be a most unpleasant experience.

As budgets sinks and travel costs rise it is definitely more economical to convene meetings via videoconference as opposed to moving people around. A videoconference is the quickest and most efficient way of simulating a face to face meeting using ICT. Business people rely on videoconference calls to hold meetings, conduct product demonstration in addition to normal meeting deliberations. The real time or synchronous nature of it allows for rapid decision making since all the participants know what is happening at the same time, as if they were meeting face to face. Everyone involve in business should invest in some form of system that will allow them to quickly connect to remote stakeholders. It simply saves time and money.

**Webconferencing**

Traditional voice and video communication as we know it have been fully migrated and incorporated into web based or online communication, known as a webconferencing. In addition to the audio and video, webinars supports a variety of additional interactive tools available either synchronously or asynchronously. These features make for a feature and media rich experience. Powerful in session tools such as voting, polling, raise hands, request to speak are some of the available features in a webconferencing platform. Webinars have become powerful business tools because of their ability to reach small or large audiences or markets anywhere around the world at any time. Webinars offers a great opportunity to do live product demonstration and training, instantly solicit and capture meaningful and useful feedback. They are usually geared towards more productive meetings and collaborative work.

Webconferencing offers the following key benefits:

- Keeps teams and customer relationships moving forward
- Quickly showcase products and ideas
- Rich interactive collaboration
- Quickly create, deliver and track training
- Increase productivity

Webconferencing tools are used by both small and large business to enhance productivity and mobilise global workforce. Xerox for example uses Adobe Connect ([http://www.adobe.com/products/adobeconnect.html](http://www.adobe.com/products/adobeconnect.html)) to efficiently connect and train their global workforce.
Other commercial grade webconferencing products include:

- Blackboard Collaborate  
- Desire 2 Learn - [http://www.desire2learn.com/](http://www.desire2learn.com/)
- Microsoft Live Meeting - [http://www.microsoft.com](http://www.microsoft.com)

In order to use any of these products you will require some form of subscription fee or licensing arrangement. The customer is usually required to host the hardware platform required to deploy the application. This can be costly to acquire, set up and maintain and require specialised technical skills. Thankfully environment is rapidly shifting towards cloud-based solutions, owned and operated by the provider. This allows the customer the benefit of a one stop solution. We will examine cloud in further details in unit six.

Web conferencing tools offer the power of simulating face to face meetings with online. This gives the entrepreneur the ability to engage with customers, suppliers, employees and other stake holders wherever they may be located. A full feature set is available that allows for voice, video and slide presentation, whiteboarding with free hand annotation, polling, alerts and a variety of question and answers features.

Every business that intends to gain and keep market share must invest in some form of webconferencing technologies. It is through web conference that you will be able to connect with individual or groups of customers and suppliers. The range of interactive tools available in a web conference makes it an ideal tool for simulating face to face business meetings with visuals and presentations.
LESSON SUMMARY
Audio and video conferencing were the main forms synchronous communications discussed in this unit. Both have been around for a considerable amount of time and has proven to be invaluable, especially for businesses that operates in multiple locations. Your business may be located in the US while suppliers are all the way in China. You need to be in contact on an ongoing basis across different time zones. These communication devices bridge the divide and functions as enablers.

Self-Reflection Question:
You are a used car importer in Canada and suppliers are located in Japan. Your customers need to see what the cars look like prior to purchasing from you what communication tool discussed in this lesson would you use to overcome this challenge?
UNIT SUMMARY

The major communication tools discussed in this unit were:

- Softphones
- Mobile phones
- Audioconferencing
- Videoconferencing
- Web conferencing
- Skype

The Unit explained of each of these tools work and how they can be applied to entrepreneurial and business activities.

Real time communication has become increasingly important in today’s fast pace business environment. Communication can no longer be restricted to traditional voice or facsimile. There is now a need for full service interaction and sharing that includes the transmission and receipt of voice, video images, documents, photos, charts and messaging. A typical business meeting, local or remote will include some or all of the multimedia elements referred to above. The modern entrepreneur needs to be able to seamlessly access a range of communication tools to effectively support the business.

NEXT STEPS

In this unit we turned our attention to the use of technology for business communication and other purposes. The next section we will turn our attention to other business information tools including a further look at database technology and the industry buzz- cloud computing.
UNIT SIX – OTHER BUSINESS INFORMATION TOOLS

UNIT INTRODUCTION

In unit five we discussed tools and technologies that allowed us to communicate with suppliers, customers, service providers, and employees in real time or synchronously. In earlier units we talked about collaboration and other asynchronous techniques. In this Unit we will focus on other business information non-communication tools that are also critical to the sustenance and ongoing survivability of your business. Business continuity and disaster recovery are essential to today’s business environment. In order to be responsive, agile, and have quick access to new markets, companies cannot afford to be impacted by downtime and loss of data. Emerging technologies such as cloud computing, mobility, and social media are just some of the tools that companies are embracing to enhance productivity, improve visibility and business processes. In this unit we will explore some of these techniques.

UNIT OBJECTIVES

Entrepreneurs should be aware of enterprise level business information tools that they may need to embrace as they grow their business. The tools should include:

2. The use of the cloud and other offsite storage mechanism.
3. The use of backup and restore software.
4. The use of virus and internet security software.
5. The uses of file transfers and file sharing software.

UNIT READINGS

As you complete this unit you are required to read the following chapters/articles:

ASSIGMENTS AND ACTIVITIES

1. Create a Microsoft SkyDrive on your PC that will allow you to synchronize information locally with the cloud. You will require a Microsoft email account to do this.

2. Create a simple Microsoft Access database with two tables and link them together.
LESSON 6.1 – MICROSOFT ACCESS AND OTHER RELATIONAL DATABASE

LESSON INTRODUCTION
In Unit One we discussed the differences between a flat file database structure and a relational database structure. We identified Microsoft Excel as our flat file structure for business purposes. You will also recall that we said that a database was either proprietary, open source or embedded. In this lesson we will consider Microsoft Access as a proprietary relational database structure. Proprietary as it is written using a combination of Visual Basic (VB) and Structured Query Language (SQL) from Microsoft. The Microsoft Access application is available as one of the productivity tools in the suite of Microsoft Office products. In Unit 1, we saw where Excel allowed us to store and manipulate various data sets and generated reports. Excel however has certain limitations due to the “flat file” nature of its data structure. Access on the other hand, supports a relational data structures (dividing your data into related pieces).

LESSON OBJECTIVE
Upon completion of this Lesson you will be able to:

- Use Microsoft Access database templates for specific business tasks
- Create and maintain a Microsoft Access Database

DATABASE OVERVIEW
A database is a collection of information centrally organized so that various programs can have access to the same information set. Some people refer to the database as an electronic filing system. A special program called a Database Management System (DBMS) is used to access and manipulate information from the database. The terms database is often used as shorthand for DBMS.

A database is a critical tool for any business. It has the capability of storing huge sums data. The data can be organised separately in various tables and linking them together. Eg you can have a list or database of customers. Each customer is called a record and the information relating to a particular customer (name, sex, address) is known as attributes. Databases can be searched or queried to produce meaningful reports for your business. Databases can be organized as either a “flat file” (e.g. a grocery list) such as Microsoft Excel or as a relational database with two dimensional tables linking together.

MICROSOFT ACCESS
Access is a relational database that allows you to create and maintain databases for small to medium size corporations and other organizations. Unlike a “flat file” database, a relational database allows you divide your data into logical pieces and place each piece in a table. This logical separation of data makes it more powerful for further manipulation such as queries and reporting.
Microsoft suggests that the following scenarios as some instances when you should consider using Access:

1. When you need to be able to collect contact information accurately from large groups.
2. When you want a database that is easy for colleagues to explore your information without training.
3. When you need to run the same report daily, weekly, or monthly.
4. When you want to know who your most valuable customers are so you can target your marketing.

The list above is by no means exhaustive but in a nutshell you can see how valuable a business tool access is. Very few if any business activities can be executed efficiently and accurately without the use of some form of database.

In addition, Access provides various database templates for different types and size of businesses. To provide a clearer picture of the use of the access database Microsoft lists on its website (Fig 6.1) a number of templates and what they are best suited for.

<table>
<thead>
<tr>
<th>Templates</th>
<th>Best used for:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Assets template &gt;</td>
<td>Tracking the condition or status of assets or inventory.</td>
</tr>
<tr>
<td>Contacts template &gt;</td>
<td>Keeping track of your customers' key information, buying habits, and more.</td>
</tr>
<tr>
<td>Issues and tasks template &gt;</td>
<td>Tracking the progress of team activities.</td>
</tr>
<tr>
<td>Non-profit template &gt;</td>
<td>Managing events, donors, members, and donations.</td>
</tr>
<tr>
<td>Projects template &gt;</td>
<td>Keeping track of projects, tasks, and people assigned to them.</td>
</tr>
<tr>
<td>Services template &gt;</td>
<td>Managing quotes, create invoices, and run your business.</td>
</tr>
<tr>
<td>Goods template &gt;</td>
<td>Tracking inventory, create invoices, and run your business.</td>
</tr>
<tr>
<td>Price Compare template &gt;</td>
<td>Establishing your price and keeping track of your competition.</td>
</tr>
</tbody>
</table>

Fig 6.1: screen shot - Access Database Templates

**ACCESS FOR YOUR BUSINESS**

Access is a mature and well supported relational database. You will recall from Lesson 1.2 our discussion on flat file and relational data structures. Access is a relational structure that can support huge volumes of data for a variety of different industries. Access offers the standard database tools in the forms of queries, reports macros etc. As an entrepreneur or business operator you are interested in how this tool can be utilized to support your business, and assist in improving efficiencies, increase market share and realise profits.
Microsoft has tailored portions of the product specifically toward business operators such as you. In so doing, you can concentrate your effort on adopting and applying the software directly to your business needs.

The product is available in Office 2010 called and is referred to as “Access for your Business”. It is a web based data base (cloud service) and has three main featured components or templates

1. Turn your quotes into invoices
2. Manage your inventory and cut expenses
3. Target your customer marketing.

The following section seeks to expand on the features that are available in each of the components and how these can be useful to you as an entrepreneur.

**Turn your quotes into invoices with the services database template**

Running a services business then you can appreciate how important quotes and invoices are. The difficulty is that they are difficult to manage and keep track of. This web based database template in access allows you to do just that.

- Add data to your services database
- Track active quotes and invoices
- Manage all your quotes
- Manage all your invoices
- View and print reports
- Manage services, products employees and customers

For detailed instruction on how to access, download and use the template, refer to unit reading number 2.

**Manage inventory and ship effectively**

This ready-to-use-module allows you to use the goods web database template to manage your inventory, track orders and ship efficiently if you are running a business that sells goods. The following are some of the functionalities that are already set up and available directly from the template.

- Start the database
- Add existing products or goods to the database
- View orders and purchase status
- Manage products inventory and supplies
• Manage customer orders
• Restore your inventory
• View and print reports

For detailed instruction on how to access, download and use the template, refer to unit reading number 3

**Target your customer marketing**
This database template is an excellent way to manage your customer database by having the ability to manage essential contact information. For each contact you can now manage emails, address, phone numbers, add pictures and share documents. This detailed information on all your customers can be used to automate your email advertising campaign. This was discussed in Unit 3. The more you know about your customers the better you are able to serve them, thus enhancing the speed and efficiency of your organisation. We have spoken about using the template as a customer database but the same templates can be applied to an employee database, a suppliers data or any other list of stakeholders.

• Start the database for the first time
• Learn about using the Contacts database
• Ways to add new contacts
• View and edit contacts
• Search for a contact
• View and print reports
• View a report
• Print a report
• Publish the database to Access Services and share with your team

**CREATING A DATABASE:**
The Microsoft website gives detail information on how to create and manipulate the access database. For further information on this please refer to the website URL in unit reading 4.

The following section is taken from the website to give you a sense of the major database activities. These include:

1. To create a database by using a template
2. To create a database without using a template
3. To create a table in Design View
4. To copy data from another source into an access table
5. To Import, append, or link to data from another source

Create a Database by Using a Template

Access comes with a variety of templates that you can use as-is or as a starting point. A template is a ready-to-use database that contains all the tables, queries, forms, and reports needed to perform a specific task. For example, there are templates that you can use to track issues, manage contacts, or keep a record of expenses. Some templates contain a few sample records to help demonstrate their use.

If one of these templates fits your needs, using it is usually the fastest way to get a database started. However, if you have data in another program that you want to import into Access, you might decide it is better to create a database without using a template. Templates have a data structure already defined, and it might require a lot of work to adapt your existing data to the template's structure.

Create a database without using a template

If you are not interested in using a template, you can create a database by building your own tables, forms, reports, and other database objects. In most cases, this involves one or both of the following:

1. Entering, pasting, or importing data into the table that is created when you create a new database, and then repeating the process with new tables that you create by using the Table command on the Create tab.
2. Importing data from other sources and creating new tables in the process.

Access creates the database with an empty table named Table1, and then opens Table1 in Datasheet view. The cursor is placed in the first empty cell. Begin typing to add data, or you can paste data from another source.

Entering data in Datasheet view is designed to be very similar to working in an Excel worksheet. The table structure is created while you enter data. When you add a new column to the datasheet, a new field is defined in the table. Access automatically sets each field's data type, based on the data that you enter.

Create a table, starting in Design view

In Design view, you first create the table structure. You then switch to Datasheet view to enter data, or enter data by using some other method, such as pasting, or importing.

You can begin typing data in the table at any time by switching to Datasheet view and clicking in the first empty cell. You can also paste data from another source.
Set field properties in Design view  Regardless of how you created your table, it is a good idea to examine and set field properties. While some properties are available in Datasheet view, some properties can only be set in Design view. To switch to Design view, right-click the table in the Navigation Pane and then click Design View. To see a field’s properties, click the field in the design grid. The properties are displayed below the design grid, under Field Properties.

*Copy data from another source into an Access table*

If your data is currently stored in another program, such as Excel, you can copy and paste it into an Access table. In general, this works best if your data is already separated into columns, as they are in an Excel worksheet. If your data is in a word processing program, it is best to separate the columns of data by using tabs, or to convert the data into a table in the word processing program before you copy the data. If your data needs any editing or manipulation (for example, separating full names into first and last names), you might want to do this before you copy the data, especially if you are not familiar with Access.

When you paste data into an empty table, Access sets the data type of each field according to what kind of data it finds there. For example, if a pasted field contains nothing but date values, Access applies the Date/Time data type to that field. If the pasted field contains only the words "yes" and "no", Access applies the Yes/No data type to the field.

Access names the fields depending on what it finds in the first row of pasted data. If the first row of pasted data is similar in type to the rows that follow, Access determines that the first row is part of the data and assigns the fields generic names (F1, F2, etc.). If the first row of pasted data is not similar to the rows that follow, Access determines that the first row consists of field names. Access names the fields accordingly and does not include the first row in the data.

If Access assigns generic field names, you should rename the fields as soon as possible to avoid confusion.

*Import, append, or link to data from another source*

You might have data that is stored in another program, and you want to import that data into a new table or append it to an existing table in Access. Or you might work with people who keep their data in other programs, and you want to work with it in Access by linking to it. Either way, Access makes it easy to work with data from other sources. You can import data from an Excel worksheet, from a table in another Access database, from a SharePoint Foundation list, or from a variety of other sources.
Open an existing Access database

You can directly open a data file in an external file format, such as dBASE, Microsoft Exchange, or Excel. You can also directly open any ODBC data source, such as Microsoft SQL Server. Access automatically creates a new Access database in the same folder as the data file, and adds links to each table in the external database.
LESSON SUMMARY

Microsoft Access is a full-fledged well developed and supported database application that is more than capable of meeting the needs of small to medium business operations. Very few business tasks can be completed without the use of a structured database. Some will argue what about excel? In unit 1 we explained the limitations on Excel

In this lesson we introduced the concept of access web templates for business and highlighted the three templates that can support your business activities, whether you are selling goods or services. Namely how to:

- Turn your quotes into invoices
- Manage your inventory and cut expenses
- Target your customer marketing.

We also looked at the common database functions that you will be undertaking once you are engaged in the access database environment.

These are how to:

- Create a database by using a template
- Create a database without using a template
- Create a table in Design View
- Copy data from another source into an access table
- Import, append, or link to data from another source

A brief summary set of instructions on how to accomplish the above tasks were taken from the Microsoft website and presented.

As you work with databases in general and templates in particular, you may discover that you want to do more with them or better modify them to suit your needs. The how to page on the Microsoft website provides a complete step by step set of instructions on how to create and modify the access database.

Self-Reflection Question:

Are you currently using Excel in your business? If yes, is it meeting all your current database needs?
LESSON 6.2 - THE USE OF CLOUD AND OTHER OFFSITE MECHANISM

LESSON INTRODUCTION
This lesson will seek to explain what cloud services are and how small businesses and entrepreneurs can adopt cloud technologies to reduce cost, improve efficiencies and quality of service. Cloud computing allows users to access software and services over the internet from anywhere using almost any devices. This is an attractive alternative for small businesses who can now forgo expensive storage systems, servers and maintenance.

In this lesson, we will describe the move to cloud as an alternative to on premises back up and make the case as to why this can be considered a powerful business model for small, medium and large enterprise.

LESSON OBJECTIVE
Upon completion of this Lesson you will be able to:

1. Understand cloud computing
2. Be able to incorporate the use of cloud technologies in your business
3. Use cloud based services for backup and storage

CLOUD COMPUTING
Everyone is talking about cloud computing these days and for good reason. Cloud computing is revolutionising the way computing power is deployed and is here to stay. Instead of buying computing power and installing it on the premises companies rent the facilities from external vendors. The vendors are responsible for everything including administration and troubleshooting. The corporation connects into the cloud using any devices from anywhere with internet access and a secure log on. As such, the network connectivity becomes a critical component of the overall IT infrastructure. Simply put, you need to access and connectivity in order to access the service. With the cloud the owners do not have control over the data. The data resides in the data centre owned or operated by the vendor. A portal (secured login) is usually made available to the owners for connections to the cloud. The internet is the largest public cloud available. Private cloud (operated for a single organisation) can also be configured over the internet. The Cloud Service Provider (CSP) is responsible for the security and availability of your data.

As a business owner looking to make the move to the cloud, your computer need not be powerful and you do not need any special hardware or devices to do cloud computing. All that is required is a computer that can run an internet browser and a reliable connection to the internet. Cloud based architecture speaks of models and designs popularly known as the “as-a-service” model.
The following are cloud based services available as the popular “as a service” model. The concept for all the services is the same, the idea is that these computing resources or services are provided by the cloud services provider (CSP) and the organisation simply accesses them based on a particular pay-as-you-go pricing model.

1. **Software as a Service (SaaS)** – email, CRM, collaboration tools
2. **Infrastructure as a Service (IaaS)** – server, load balancer, network, storage
3. **Platform as a Service (PaaS)** – databases, webservers
4. **Security as a Service (SaaS)** – firewall etc.

**SOFTWARE AS A SERVICE (SaaS)**

Software as a service is one of the simpler cloud based models to access and use. Using the cloud allows members of a team in different locations to collaborate on documents without the need to email attachments and share calendars. Users can simply access the programs they use from wherever they are using whatever device they prefer once they sign up for the service. There is no need to download and install programs. You may be currently using some cloud based services like Gmail and Hotmail without recognizing. All the software applications including office productivity tools are made available from the cloud. The SaaS model allows the company to free itself from software acquisition, installation, maintenance, upgrades/and updates and replacements. This is an excellent starting point for companies wanting to incorporate cloud computing into the enterprise. Starting with SaaS allows you to run collaborate, use customer relationship management (CRM) and do social media monitoring. You can then measure or gauge the promised benefits. Did IT support cost go down? Did user satisfaction increase? If yes, then consider using cloud services for our additional computing needs. With SaaS both the backup application and the information resides offsite. This model allows the company to free itself of the hardware, software, infrastructure and personnel requirements. Depending on the type of application, some SaaS services are free for example Google enterprise applications and Microsoft Office 365. Besides that, the SaaS operates on a pay-as-you-go subscription basis as do all cloud based services. This allows you to better budget and plan your IT expenditure as your business scales and there is no need for ad hoc replacement due to failure, obsolescence or capacity. SaaS allows businesses to save time and money and free up valuable resources in order to secure maximum return on investments.
The following are some common advantages and disadvantages of cloud based services

**Advantages:**

The advantages that come with cloud computing can help you resolve some of the common challenges you might have while supporting and maintaining your business.

- **Cost** - You choose a subscription or, in some cases, a pay-as-you-go plan—whichever works best with your organization’s budget and business model.

- **Flexibility** - Scale your infrastructure to maximize investments. Cloud computing allows you to dynamically scale as demands fluctuate.

- **Accessibility** - Help make backup and restore publicly available without jeopardizing sensitive information. There is encryption during transmission (in flight) and encryption on landing. We will further examine storage and backup in a subsequent lesson.

**Disadvantages:**

Skeptics of cloud based services usually pose the following questions when making arguments against the cloud.

With all the data in the cloud:

- Who is protecting it?
- Where is it being stored?
- Who is managing it?
- What if there is a problem?
What if there is an outage?

These are valid questions and it is the responsibility of the client to seek meaningful answers from the CSP and ensure that they agree satisfactorily addressed. It will always be a trade-off and like most other things, there are risks involved. If security and control are extremely important then you may not want to consider cloud backup. Cloud computing can be a great fit for business but only if the provider is reliable and reputable. Always remember that you will be entrusting someone else with your data and as such you will need to understand what type of security they have in place.

CLOUD FOR BUSINESS

It is worth noting that there is a rapid migratory pattern towards the use of more cloud based resources in computing. Cloud based applications are no longer confined to email, online storage and back up applications. Most modern and common business applications are offered today with a cloud flavor.

Business Applications (apps) such as:

- Insurance buying
- International payments
- Pay per click search marketing
- Business matching services
- Payment processes
- Invoicing
- Contact Management System
- Customer Relationship Management (CRM)

Source: Open Insight Guide- running your business in the cloud

ONLINE STORAGE AND BACKUP

Online storage and backup is one of the cloud services available as part of the Infrastructure as a Service (IaaS) model. The cloud model will be discussed in more detail in the text lesson. However, please note that there is an abundance of credible and reputable cloud service providers. A quick search in your favourite search engine will return a host of leading providers such as Amazon, RackSpace, Microsoft, Citrix and VmWare. There will also be significant price differential depending on the reputation and quality of service being offered by the vendor. This evaluation will form part of the due diligence exercise that must be carried out by the potential client. Symantec is a well-known company offering a wide range of ICT services and is more popularly known
for its antivirus product. However, they too provide an excellent cloud based data protection solution through their Backup Exec.cloud product.

Key benefits:

1. Secure offsite protection and enterprise class data encryption
2. Reduce administrative burden and downtime for users
3. Protect and secure the data while in transit to offsite backup facility

The following are some of the cloud computing resources available online with emphasis on small businesses. This tips, whitepapers, blogs and cloud computing resources can help business to adapt quite easily, grow and improve efficiencies.

1. OPEN Forum (http://openforum.com)
4. Cloudbook (http://cloudbook.net)
5. Microsoft Business for Small and Midsize Companies (http://microsoftbusinesshub.com)
7. Saas Newswire (http://saasnewswire.com)
8. Small Business Labs (http://smallbizlabs.com)
LESSON SUMMARY

Cloud computing is a major step in the evolution of computing and will change the way we access and use computing resources. There are a lot of misconceptions about cloud computing for example that cloud computing is free and that you can run your business on netbooks. Cloud solutions are affordable, scalable and enable SMEs and entrepreneurs to benefit from the latest innovation in technology solution. This allows businesses to operate more efficiently increase productivity and enhance profits.

In this lesson we introduced the cloud as a virtual space within the internet where certain computing resources can be accessed on demand for a pay as you go fee. We explained that this frees up the organization or the individual from the capital and operational cost of hardware and software infrastructure. Cloud bases services are available in different flavours such as Software as a service (SaaS), Infrastructure as a service (IaaS) and Platform as a service (PaaS).

We discussed the advantages and disadvantages to using the cloud, highlighted the most common business applications that are now available as cloud based services and introduced the cloud as a mechanism for online offsite backup of data and other critical information. This will explored further in the next lesson that speaks specifically to the use of backup and restore software.

Self-Reflection Question:

With so many different configurations offered by multiple providers with different degree of risks and benefits how do you determine the best fit for your organization’s needs?
LESSON 6.3 - THE USE OF BACKUP AND RESTORE SOFTWARE

LESSON INTRODUCTION
Even the smallest of business today is generating considerable amount of data as our digital footprint expands. This data will continue to increase exponentially in volume as new businesses are created and existing one. The management of the data must be able to scale with its growth. If this happens then the data becomes unmanageable and can lead to data loss or compromise of the data integrity. Loss data or compromised data has no value to the organization and can result in huge financial loss and setback. Data can also be subjected to theft or disaster resulting in the same effect. In light of this, data storage backup and restore systems become critical business practices. The proliferation of cloud based services is making it easier and cheaper for businesses to use these facilities. Cloud services in particular provide excellent storage facilities at low cost low maintenance and anytime anywhere access. In this Lesson we will focus on three main types of storage and backup mechanism.

LESSON OBJECTIVE
Upon completion of this lesson you will be able to:

1. Use cloud backup as your online offsite storage
2. Make use of Backup Appliance
3. Onsite Backup

CLOUD BACKUP AND ONLINE STORAGE
Good disaster recovery procedure requires keeping business critical data offsite. Traditionally this was accomplished by way of using tapes to do backup and store the tapes offsite. The difficulty with this is that it is time consuming, costly and requires personnel and equipment. This also requires adherence to specific rules and procedures to ensure that the offsite back up is up to date, available and useable in the event of a disaster. Cloud based back up services removes these burdens.

As discussed in the previous lesson cloud technology can be used for backup services. Cloud based backup services are available for large, medium and small enterprises and provide the following key benefits:

1. Accessibility – Cloud backup are always accessible in the same way as local onsite disk tape backup are. As such, in the event of a disaster there is no need to call offsite to have the backup shipped to you
2. Reliability - backup in the cloud is stored and disk and will always be more reliable than tapes
3. **Cost** – There is no need to invest in tape backup software licensing fee tapes, offsite storage facilities rental. The pay as you go pricing model for cloud services makes it a more viable solution.

4. **Security** – Cloud based backup is usually encrypted thus making it secure and protected against unauthorised access.

5. **Scalability** – If your demand grows there is no need for commensurate rollout or acquisition of infrastructure and other resources. Cloud backup can scale from a few files to mega databases with relative ease.

Generally speaking online or cloud backup is perfect for businesses with:

1. **No local IT staff**—Smaller companies where IT is often overtaxed or where there is no on-site IT personnel.

2. **Smaller data sets**—Network bandwidth is a consideration when data sets are large.

3. **Small number of applications and databases on local servers**—a limited number of local applications or databases generally means you have less data or applications to recover.

4. **No hardware for backup**—Businesses who have no plans to invest in hardware, and no desire to own or manage it.

5. **Preference for SaaS**—More and more companies have adopted SaaS elsewhere in their business and prefer the benefits (agility, low initial price, pay-as-you-grow, etc.) over on-premise solutions.

6. **Remote offices**—Online backup helps to relieve remote offices of backup duties so they can focus on business operations.

Start-ups and small businesses can make use of public cloud storage without the need for data centre resources and file servers. Services such as DropBox (http://www.dropbox.com) and Microsoft’s SkyDrive offers free offsite online storage of data on their cloud platform. Individual users are usually given a quota say up to 10 gigabytes of free storage. If your needs exceeds the space quota, there may be a nominal fee. The idea is that all your data files can be backed up and stored online using these facilities. The software usually syncs with your local hard drive allowing you to have copies of the same information both locally and in the cloud. With Microsoft SkyDrive, the service is expanded further. The Microsoft office applications are also
available from the SkyDrive or cloud. This eliminates the need to have purchase software and install locally. All you need to get going with Microsoft SkyDrive is a free Microsoft email address. Addresses are available for free at Hotmail or outlook.com. Microsoft is now consolidating all its email offerings into a single platform at outlook.com so outlook would be the better option at this point. By installing the Microsoft SkyDrive, you will be able to synchronize your local data files on your machine with copies in the cloud. This cloud backup (SkyDrive) is now available from anywhere at anytime, especially if you are away from the office and needs to access files from the desktop.

**DATA RECOVERY**

In addition to scheduled backup, businesses must be prepared for the unintended or the unexpected. The ability to recover or retrieve data that has been lost due to human error or systems failure is as critical, or in some instances more important than scheduled backup and restore procedures. It is possible to lose data due to human error. A staff member may accidentally delete files or an administrator may inadvertently reformat or wipe a disk. Under these circumstances, there are products that can undo the action and restore files to their original configuration.

Data Recovery Products such as the following, available from LSoft Technologies http://www.lsoft.net/

1. **Unformat** - Restores formatted and deleted disk partitions
2. **Undelete** - Recovers deleted files and restore deleted partitions
3. **Uneraser** - Restore files from deleted and reformatted partitions
4. **Partition recovery** - Recovers deleted partition if non-system partition is lost

These are purpose built utilities created to carry out a particular function as described above. These utilities are available both commercially and as open source alternatives. A web search will generate a free open source or freely available alternative. As with most open source products, it may take some time and effort on the part of the user without any guaranteed service level. The critical thing to note is that these are real possibilities which should be given consideration within the framework of data retrieval and backup and disaster recovery planning. The rule of thumb is that the prevention is always better than the cure and as such considerable care should be taken when dealing with data and other critical information resources.
Backup Appliance

A Backup Appliance is a purpose-built all-in-one solution that integrates storage hardware and software and powerful backup software, providing a standardized backup solution for physical, virtual and cloud-based data protection for one or multiple offices. You can get further details on a backup appliance from Symantec at [http://www.symantec.com/backup-appliance](http://www.symantec.com/backup-appliance). Backup appliance is an easy to deploy turnkey solution for onsite or remote storage without the overhead or burden of a full blown data centre. This is an ideal solution for a small business that is hesitant about cloud services but still does not have the capital outlay to deploy extensive hardware infrastructure. The appliance still provides key benefits of ease of installation, scalability, flexibility and reliability.

On Site Backup

There is on site or on premises backup is the traditional way of storing data. It involves storage of data to tape, disk, storage server or some optical media. This activity is carried out by dedicated IT staff. It requires the business to invest in hardware infrastructure and backup and server software. The key advantage to this practice is that you know where the data is and who is in charge of it. Most individuals and companies will be more comfortable knowing that they are in control of their own data set.

Another form of onsite or local backup is the simple windows PC backup, assuming you are using a Microsoft windows operating system. Pc back up can be effective and save lots of valuable time, money and information. To do this, there is a software utility that runs on the windows operating system that allows the user to do scheduled backup of the system. The backup parameters are configurable. The system provides you with the option of backing up source data and user files to some external storage medium e.g. external hard disk or USB flash drive with sufficient disk space. This back up can then be stored at an offsite location and be available in the event of a system crash, failure or theft.
LESSON SUMMARY

Data security and availability is critical. Often times there is a tendency to ignore data backup as they see this as time consuming. Businesses rely heavily on data, whether a few PC files or a commercial database. In this lesson we focussed on online or cloud based data storage software. The cloud represents an excellent choice for offsite backup. We explained the advantages of cloud storage and listed the characteristics of organisations that would be suitable for cloud consideration. Data recovery techniques and procedures were highlighted to address issues, both natural and man-made, that would arise unexpectedly.

With all the hype about cloud computing being the wave of the future, there will always be hesitancy as some users will treat the risks as real concerns and opt for local backup. Within this context we discussed the back-up appliance as a local alternative to cloud based systems.

Based on all the backup and storage systems discussed here (offsite, cloud based, appliance of local disk drive) a careful assessment of your individual circumstances should inform your choice. These are usually based on available budgets, technical resources, company size, and available technologies among others. It is important to ensure that as solution is in place as the cost of not having one can be catastrophic.

In the next lesson we will discuss other threats that can affect the proper functioning of your system.

Self-Reflection Question:

How many of your critical data is currently backed up in a safe location and can be easily restored if you experience a complete system failure?
Lesson 6.4 - The Use of Antivirus and Internet Security Software

Lesson Introduction
In the previous lesson you learnt about a number of offsite and on premised data backup and recovery systems. Data backup is critical for redundancy and business continuity in the event of theft, disaster etc. These however are not the only risk that poses threat to your data. In this lesson we will explore how antivirus systems are used to secure your local computing device and also as a first step in protecting your local applications and data. We will also look at the vulnerability and protection of your data as it traverses data networks such as the internet.

Lesson Objective
Upon completion of this lesson you will be able to:

1. Secure your computer system with appropriate antivirus software.
2. Recognise the technologies available for Internet security [firewall, Intrusion Detection System (IDS)].

The explosion of the internet as a tool for business and other types of commercial activities has heightened the concern for security on the web. The rapid advances in web and internet technologies have empowered both legitimate users and those who would seek to exploit the environment by committing illegal acts and fraud. As such, internet security is one of the fastest growing specialisations on the web due to its increasing importance. Each day millions on transactions are completed on the web using international credit and debit cards. An array of tools and technologies are available to protect firms from intrusions. These include but not limited to antivirus, encryption tools, firewall and access control systems. In this section we will seek to highlight ways of making your computer and the internet safer.

Antivirus
Every user of a computer should have antivirus software installed in order to secure and protect the machine from malicious software or malware. Malware include a variety of threats such as computer viruses, worms and Trojan horses. A computer virus is destructive software program that attaches itself to other software programs or other data files usually to be executed at a later point without the knowledge or permission of the user. The impact of a virus can be devastating. Among other things it can cause programs to run improperly, delete data files, reformat a hard drive and clog computer memory. A virus can spread from machine to machine or user to user (hence the term virus) by the sharing of information e.g. through emails. Unlike a virus, a worm is self-sufficient. They can operate on their own without attaching themselves to other program, they can be more destructive than viruses as their reach extends to the disruption of the computer networks over which they travel.
A number of antivirus software is available on the market that can be downloaded and installed on your computer. A number of them e.g. AVG, Avast, Avira and Microsoft Essentials are available for free. Others such as Symantec and ESET are enterprise applications with licensing requirement. There is a middle grown where some products e.g. Kaspersky only start attracting a nominal fee above certain number of installations. Fig 6.3 below shows the global penetration of some of the leading antivirus security products available. The bar graph below shows that the free products as expected dominates the market and drives personal computer security due to their “no cost.” Although we classify Microsoft security essential as free, it does require a valid windows license in order to be installed. Far and away, more people starting using Security Essentials in the past year than any other suite. Worldwide it jumped from 7.27 percent in 2010-2011 to 10.08 percent in 2011-2012, while in North America it rocketed from 9.94 percent to 14.92 percent (source: OPSWAT).

Fig 6.3. Bar chart shows worldwide market share by percentage for security suites. (Credit: OPSWAT - a software development tool and data service company in San Francisco.)

INTERNET SECURITY

Firewall & Intrusion Detection System (IDS)
A firewall is a device that protects networked computers from external attack. A firewall can either be a dedicated hardware or software device running on a dedicated machine. The Firewall sits at the interface between the public and private or internal and external networks and protects the inside network from attacks originating from the outside. Fig 6.4 below shows a hardware firewall interfacing with the internet (public network) and the internal, local or private network. A firewall examines traffic sent between the networks and either allow or deny the traffic based on some pre-determined criteria set up by the network administrator.
In addition to firewall most companies are now offering intrusion detection systems (IDS) as part of the security toolkit. The IDS is simply a monitoring system placed on the network to detect anomalies in traffic pattern, suspicious activities, software scan and constant monitoring to detect unwanted attacks before any incidents of attacks. An important feature of the IDS is its ability to log and report incidents, for use by administrators and send alarms if system or security policies are violated.

**Encryption**

Encryption is a means of securing and protecting information transmitted over the internet. Encryption involves the scrambling and coding of the message for transmission. The corresponding process of decrypting or unencrypting the information at its destination is required in order to read the message.

Secure Socket Layer Protocol (SSL) is a common encryption scheme used to secure the transmission of information over the Internet. SSL certificates can also be purchased for your websites from commercial providers such as VeriSign (http://verisign.com).

**Authentication**

Authentication is the process of determining if a user is actually who he/she say they are. Authentication is critical in providing access. It helps to control the deployment of resources and to ensure that the right people have access to the right things. It is a mechanism of gaining access to computer systems and other resources. The access control policies are determined by the organization and setup by the systems administrator. Each user is given access by way of a login ID and a password. Each login/password combination is unique to each user to ensure that only that user can access the resources that has been setup and made available for him.
Users often forget passwords, share them or establish weak ones that are so easy to guess and thus compromise the security of the system. System Administrators must work closely with users to develop and implement strong security policies and practices in order for authentication to achieve the design goals. The proliferation of e-commerce websites and other web portals has resulted in a proliferation of passwords for a single user. In an attempt to control the growing number of passwords per individual, the individual often times default to a single password for all sites. This is never a good practice as a compromise of that password equals a compromise of all your online sites and systems. Users need to take greater care and control of how their passwords are controlled monitored and used.

For larger enterprise, password management and monitoring can be onerous and inefficient especially with the addition, modification or deletion of users. Under these circumstances, there are more sophisticated tools available to centrally manage the authentication process. The Lightweight Directory Access Protocols (LDAP) such as Microsoft’s Active Directory and Sun’s One Directory service are used to store authentication and authorization policies.

There are many online e-commerce payment sites that use technology to reduce the administrative burden of remembering passwords. PayPal (http://paypal.com) is a secure online payment system that allows the user to establish a single account with them and is given the convenience of using the account anytime for any online payment. This reduces the need for sending credit card information online per transaction.
LESSON SUMMARY

In this short lesson we focused on threats of a different nature other than data loss/theft or disaster. In a sense you can consider these “man made” disasters, primarily by unscrupulous individuals or groups with malicious intent.

The internet is now the most popular computing platform. Its range and capabilities are far reaching. Few if any can survive without it, as it is now the backbone of business and commerce. Yet it is an extremely dangerous place to “survive” let alone to do business. As such, security on the internet security has taken on a new dimension of importance due to the critical role it must play. The internet cannot survive without it. It is within this context, we also examined how your business can “survive” on the internet. In this lesson we discussed the use of firewall technology as a first point of defense for your connection to the internet. We also focussed on intrusion detection system (IDS) to monitor and detect anomalies or suspicious behaviour. We concluded with a look at user profile, security and access rights through the use of authentication and encryption as a means of data security and protection during transmission.

Self-Reflection Question:

If you are operating a business with an ecommerce facility online, what measures would you put in place to ensure that clients’ credit card and other personal information is safe from theft or fraud?
Lesson 6.5 – The use of File transfer and File Sharing Software

Lesson Introduction
In Lesson 6.4 we made mention of particular online file storage system. In this Lesson we will expand on these storage mechanisms as a way to share files and collaborate easily online. File sharing is a critical part of content management. As we also discussed in Unit 3, emails allows us to send files as attachments. Today, email is considered legacy with respect to the movement and management of data. With file sharing software you have the capability of storing all your files in a central repository online, in the same way you would store them locally on your hard drive. It gets better, not only can you store these files but you can now share them with other business partners or customers. In this lesson we discuss how file sharing and transfer techniques can enhance your business.

Lesson Objective
Upon completion of this lesson you will be able to:

1. Understand how to store and retrieve files in a central storage space online.
2. Share and collaborate online using online storage techniques.

Box Storage
As cloud technology intensifies, many vendors are developing products that allow you to work in the cloud and store your information there as opposed to keeping them locally on a desktop, server or laptop. As we discussed earlier, there are pros and cons to this approach and the nature of your business and the local circumstances should guide you in making the determination. The technologies are getting better faster and cheaper and these considerations are driving the adaption rate of online or cloud based computing. With respect to file storage and sharing, the concept of the box has emerged. The box seeks to deliver the best of both world i.e. the capability of having files stored locally and also backed up online simultaneously. The box or SkyDrive is simply a container or file storage space made available online where the user can upload files. The uploading of files is a little bit different here. Once you create files or make modifications on your local box drive or SkyDrive, the change is done and automatically reflected in the online version of the box or drive without any further manual or user intervention. In other words, the way to save or backup files online is simply to place them in your local box folder or SkyDrive on your PC. There is usually a color indicator (green) besides the files to notify that they are fully synced with the online version of the files /folders. The files can be accessed from anywhere using an internet browser. Again, the man benefit here is the ability to access your files anytime from anywhere using any device and the need to divest yourself of the burden of hardware and technology support.
Two very popular file storage/sharing software that we will introduce are the dropbox (http://dropbox.com) and the box (http://www.box.com). And of course there are others including SkyDrive that offers the same features. The box technology works with a desktop application software usually of the same name. The desktop application is installed locally on your PC. The purpose of it is to watch a folder on your desktop computer and syncs any changes to the web. The box website then allows you to access your files on any computer from a web browser. In addition to box, drop box and Microsoft’s SkyDrive there are other similar software offering the same or enhanced features. These include Onehub (http://onehub.com), Egnyte (http://egnyte.com) and Sharefile (http://sharefile.com). Sharefile markets its product as superior to dropbox and targets businesses. You can get further details on sharefile at http://sharefile.com.

**Collaboration**

It is not sufficient to be able to store files and retrieve them. The business that stays ahead of the curve is the one that has access to information and make information available i.e. the ability to collaborate and work in a real time collaborative space. In the past (lots of people still do) the way to get information out is to email it to multiple people including yourself and wait on the modified version to be returned via email. Version control and identity becomes critical as who is doing what to the document must be documented. Each person or team member needs to ensure that they are using the latest or version of a particular file or document. You can imagine how cumbersome and time consuming it must be to track and document the changes and movement of documents. The collaboration from a shared workspace allows us to overcome these challenges. A single copy of the document is maintained centrally while access or sharing is made available to authorised users. With this setup it is now easy to access, share and edit on the go.

**Microsoft SharePoint**

SharePoint is a collaborative environment that allows persons or teams to work together. It is designed to help everyone in the organisation share content and ideas, organise teams and projects. Strictly speaking it is not a business application but it provides the capabilities and tools to allow businesses to collaborate, share, publish reports and create business solutions. Share point allows you to Setup websites to share information or documents from SharePoint with others, track the people you’ve shared them with, manage documents from start to finish and publish reports so everyone can see and use them for decision making. Large volume of files and documents needs to be stored in a central repository. SharePoint can be used as a document library.

Document Library is a place to store, arrange and manage files that will be shared with your team. It is important to have proper document management system in place in order that team members can identify and locate the documents they need when they need it. This will require some form of naming convention and version control for each
file. One way of doing this is to assign departmental codes and have users from a particular department use the department code as part of the file’s name. Alternately you can ask everyone to include their initials and date as part of the filename.

The disadvantages with using SharePoint as an entrepreneur is that it requires specialised windows server software and SQL databases in order to work. A SharePoint solution requires investment in software infrastructure and personnel and as such the Total Cost of Ownership (TCO) and Return On Investment (ROI) must be determined prior to making the spend.

LESSON SUMMARY
Businesses can no longer operate in isolation. As the business grows, so does the need for information sharing and collaboration. It is no longer cost effective or efficient to email large and important files to every person who needs to see it and storing them by copying to yourself. There is a real need for sharing of documents databases, website information among others. This lesson examined online storage and sharing using popular drop box software. We also explained that the stored information must be able accessible to anyone from anywhere. A collaborative working environment allows persons in different locations to work on the same file at the same time while keeping track of the changes (who does what). Fileshare offers these capabilities which are easy use and to deploy for any start up, or small enterprise. Larger more established businesses may have a need for a more mature and well supported enterprise level solution. Microsoft SharePoint was introduced as a potential solution that is capable of meeting these needs.

Self-Reflection Question:

Do you have all your business data stored on your personal laptop between the office and home? If your laptop becomes lost or stolen, how would you retrieve your files to continue your business?
UNIT 6 - SUMMARY

ASSIGNMENT
<Insert assignment description and completion instructions>

SUMMARY
In this Unit we focused on technologies that can help you run your business more smoothly. We discussed the benefits of cloud computing as a form of online storage and retrieval system and more generally as a platform for the “as a service” model where software, platform and infrastructure platform can be accessed on demand as a service on a pay as you go basis. We also examined back up and retrieval tools. We also gave attention to the protection of Personal Computer (PC) systems from common attacks such as spams, malware, spyware and viruses. Internet security was brought into focus by concentrating on access protection tools such firewall and data transmission protection such as encryption. Authentication was discussed as an identity management tool to determine who accesses what. And finally we saw how files haring, file storage and collaboration can be accomplished using available software or enterprise level proprietary applications.

Meaningful application of these tools will allow you to do what you do best, run your business. These technologies will free up valuable time and save you money, hence enhancing the capacity for you to grow your business and realise profits.
FINAL ASSIGNMENT/MAJOR PROJECT

<Insert course final assignment/major project instructions. If the major project/final assignment is completed is part of a progressive set of unit assignments then provide a summary or final set of instructions on how to submit the final assignment.>
COURSE SUMMARY

LESSONS LEARNED

<Insert summary/lessons learned from course script>.

APPLICATION OF KNOWLEDGE AND SKILL

The course introduction to computers introduced you to the basic concept tools and terminologies of ICT. That introductory course gave you a basic understanding of how computer and information technology systems operate. This course builds on that foundation and exposed you to how the various ICT tools have been configured into technology tools and devices. These tools and devices, particularly web based tools can be applied to solving real world business challenges. It is hoped that after completion of this course you would have had the breadth of knowledge to be able to comfortably apply these tools in real world business life. As an entrepreneur, the application and adoption of ICT tools in your business life is inescapable. This course will prepare you for further studies in the Entrepreneurship Diploma programme.

COURSE EVALUATION

<Insert instructions on how to complete and submit a course evaluation. You should include a course evaluation form in the Appendices>  NOTE: This is institution specific. Leave blank.
COURSE APPENDICES

Insert separate appendices for the following when appropriate:

- Detailed assignment or activity instructions.
- Feedback pages for self-reflective questions.
- List of resources that the students are required to procure.
- Suggested follow on activities.
- Additional readings or references that are not part of the required readings.
- List of web sites or other resources that may be useful to the course graduate.

Appendices should be listed here.