



**KD TRAINING SOLUTIONS**

in partnership with the  
Chartered Management Institute



## The Diploma in First Line Management (Level 3)

Managing and Communicating Information  
(Unit 3004)

### Candidate Self-Study Guide

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## INTRODUCTION TO THE DIPLOMA IN FIRST LINE MANAGEMENT (LEVEL 3)

Welcome to The Chartered Management Institute Diploma in First Line Management (Level 3) that has been specifically designed to meet your needs as a junior manager whether you are currently in such a role or simply thinking of working in such a role. It provides you with an excellent opportunity to develop the effectiveness and efficiency of operations for which you are responsible by means of motivating and developing the people who work in your team or department, fostering effective communication and developing a sense of team/corporate identity.

This qualification was revised on 1 September 2008 and consists of the following core and optional units:

<b>Core Units:</b>	<b>Credit:</b>
3001 - Personal development as a first line manager	6
3002 - Resource planning	6
3003 - Meeting stakeholder needs	6
3004 - Managing and communicating information	6
3005 - Developing individuals and teams	6
<b>Optional Units:</b>	<b>Credit:</b>
3006 - Recruitment and selection	6
3007 - Maintaining quality standards	6
3008 - Improving team performance	7
3009 - Management communication	6

Please note that for your programme, you will need to complete the 5 core units plus Units 3007 and 3008.

Throughout this self-study guide there will be some basic information, followed by some questions. It should take you between 10-15 hours to work your way through each of the guides, depending on the topic and whether or not you attend the relevant workshop. You will then have to spend some time researching information, reading and completing your work. The total time required will also depend on your experience and should become less as you progress through your programme.

The dates that you are required to hand in your work are clearly marked on your programme so please make sure you become familiar with them and make every effort to stick to them. If you do have problems, however, please do not hesitate to contact us.

Having completed all core units and 2 optional units to the appropriate National Occupational Standard you will receive 43 credit points which means you will be awarded the Diploma in First Line Management (Level 3).

# MANAGING AND COMMUNICATING INFORMATION

## UNIT 3004

### Unit Aim

This unit is about gathering, analysing and communicating information.

### Level

3

### QCA Unit Number

D/501/5009

### Credit Value

6

### Learning Outcomes

Each topic has a set of learning outcomes that you will be able to achieve by the time you have worked your way through this self-study guide, attended the relevant workshop and carried out some research.

At the end of this Unit, you will have the knowledge and understanding of how to:

1. Gather and select data
2. Interpret data and information related to a work activity
3. Communicate the results of the information analysis

### Unit Contents

This Unit contains 5 parts:

- Part A - Systems and Methods
- Part B - Collecting, Selecting and Storing Information
- Part C - Using Information
- Part D - Unit Summary
- Part E – Preparing for Assessment

## MANAGING AND COMMUNICATING INFORMATION (UNIT 3004)

### Introduction

You have probably been gathering information and communicating most of your life so you already know quite a lot about it, so why should you study it further? Well, the way we communicate and the type of information we have available changes constantly as do the people we deal with.

One minute you are writing letters to others, the next e-mail comes along. On the other hand, you may have spent days trying to collate some important information and then up pops databases and computer programmes that do it for you automatically. New technology also brings with it the ability to gather and analyse more information and communicate easier and faster.

The role of a first line manager is, of course, to organise other people in order to transform ideas into reality and this process involves receiving, interpreting and giving instructions or passing information to someone else. This means that the more effective your ability to manage such information and communicate with people, the more effective you will be as a manager.

At the end of this guide, you will have learnt about managing information and communicating effectively, both of which will enhance your skills and abilities as a first line manager.

Let's start by looking at what information actually is.

## PART A – SYSTEMS AND METHODS

### Learning Outcome No 1 – Know how to gather and select data

#### Objectives:

At the end of Part A you will be able to:

- Recognise the difference between data and information
- Describe how information flows around your organisation
- Explain why effective information management is important
- Describe how quantitative and qualitative information is gathered and used
- Describe how information might be shared with work colleagues

#### Introduction

It is important that you understand what information is and why it is important in addition to having some idea about how it travels around your own organisation. You also need to be aware of the benefits that managing information effectively will bring you and to distinguish between different types of information. Finally, you need to look at the various ways in which information is shared with colleagues and establish which method best suits your own needs.

Let's first define what information is and why it is important.

#### What is information?

It is widely argued that poorly managed and maintained information can threaten the existence of an organisation, whereas, well managed information systems can provide a significant edge in the marketplace. It has also been claimed that information is a commodity and as such can have a monetary value, the level of which depends on its accuracy, its potential use and its particular intended use.

Before we discuss any of the key processes involved and gathering, recording, interpreting and storing information, let's be clear about what information actually is as people often confuse it with data:

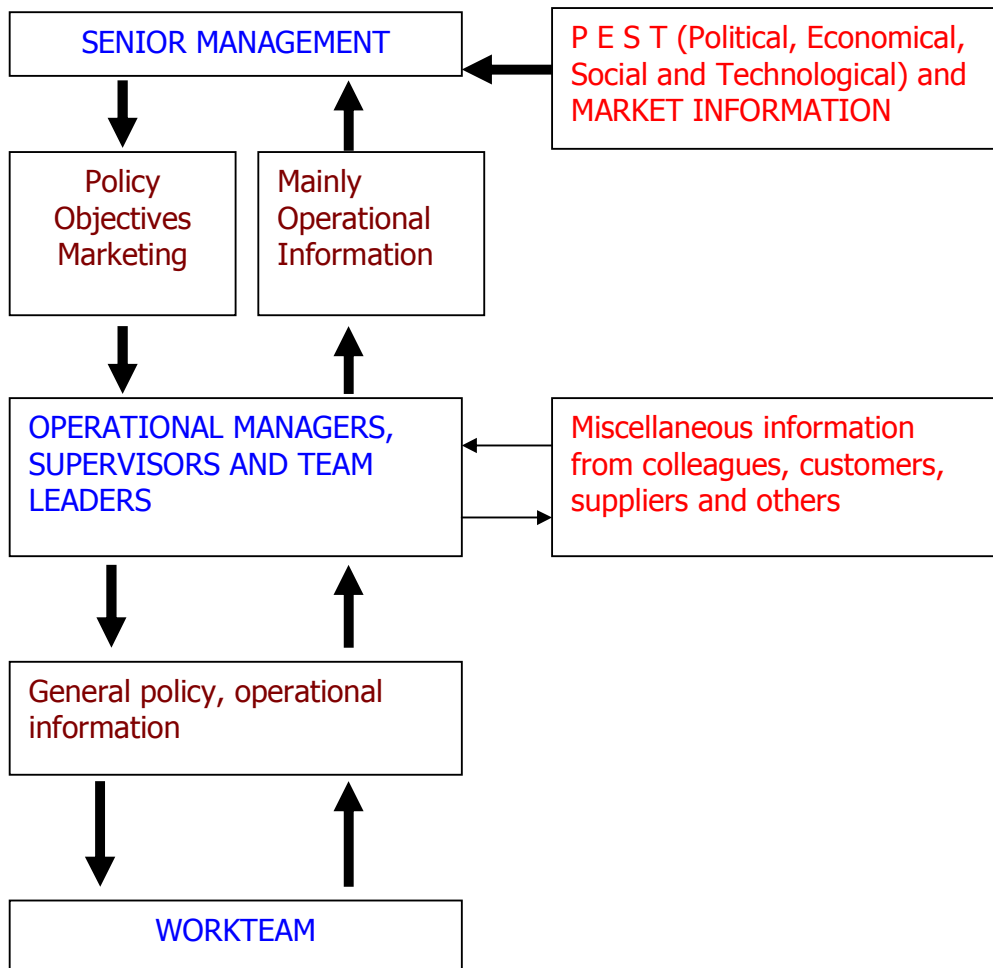
- Data is **raw facts and figures** such as a list of numbers showing how many students enrolled on management courses. This only provides an overall figure, which is of limited use by itself. It does not for example give any guide into income or profit and is of little value until processed with other data. Some definitions of data are:
  - Non-random symbols, numbers, values or words (e.g. 1 November)
  - Record of an event (Manchester United won 2-1)
  - Facts obtained from research or observation (8 people drink lager)
  - A measurement (i.e. 10 inches)

- **Information** on the other hand is the data that has been selected and processed for a specific purpose. For example, if our student numbers are now related to the level of each management programme and data is collated into different years, this is information. So data only becomes information when it:
  - Processed to be meaningful
  - Processed for a purpose
  - Understood by the recipient

Examples of information are a bank statement, sales predictions or a telephone directory.

The flow of information around an organisation

At all levels in an organisation people are responsible for certain aspects of the business and need information to make informed decisions. Below is an illustration of how information flows around a typical organisation.



## Why is information important to you as a first line manager?

The gathering of information is almost limitless thanks to the growth of IT and regardless of what industry you are in, it is the key to success for yourself as a manager and your organisation because:

- You can monitor progress against agreed targets
- It ensures you are kept up-to-date and, as a consequence, possibly gain a competitive advantage over your competitors
- It allows you to make better decisions and deal with actual and potential problems
- You can plan and allocate work more efficiently

## Types of information

There are basically 2 main types of information. Quantitative (hard) information is normally expressed in figures and asks questions like how much, how many, how frequently, how likely and how quickly, whilst qualitative (soft) information is normally based on information that cannot be expressed in figures and answers questions like what, why and how. Let's have a closer look at each one:

- **Quantitative or hard** – which is about gathering facts and figures from some type of measurement, for example sales and waste figures, time spent on manufacturing products, number of arrests made or the number of applications processed

There is a tendency to rely on quantitative information because it is seen as being hard fact that cannot be influenced and can be measured objectively. A lot of this type of information exists in organisations and some even employ specialist firms to gather such information for them.

To transform quantitative data into information, it is necessary to find patterns and trends by using statistical techniques. The main problem with this type of information is that it is objective and ignores the subjective, presuming that "figures never lie" yet research shows that quantitative information alone cannot provide the "absolute truth".

An example of this is that 1 and 1 is 2, but in management on a bad day it may only be 1½! Quantitative information can be used for things such as analysing numbers and forecasting. Let's begin by looking at some numbers on the next page:

Below is some data about a number of interviews that were carried out by staff during one week. In order to find out the average we add up the number of interviews each staff made and divide them by the number of days in a week. Please enter the averages of each member of staff in the appropriate column:

	Monday	Tuesday	Wednesday	Thursday	Friday	Average
Dave	4	5	5	5	6	
Sarah	3	5	14	4	4	
James	2	3	2	1	2	

If we take Sarah as an example, her average is 6 but this is distorted by the fact that she carried out 14 interviews on Thursday.

Now let's add some more data and turn this into information that can be used to make some kind of decision.

Each of the staff agreed a set number of interviews each day as follows:

Dave - 4                      Sarah - 4                      James - 2

With this new data we now calculate:

- The percentage of target performance which is worked out like this:

$$\frac{\text{Actual performance}}{\text{Target performance}} \times 100$$

Using the calculation above, find out what the percentage of target performance is for each member of staff:

	Monday	Tuesday	Wednesday	Thursday	Friday
<b>Dave</b>					
Actual	4	5	5	5	6
Target	4	4	4	4	4
% of Target					
<b>Sarah</b>					
Actual	3	5	15	3	4
Target	4	4	4	4	4
% of Target					
<b>James</b>					
Actual	2	3	2	1	2
Target	2	2	2	2	2
% of Target					

You should have calculated the following:

- Dave - Mon 100% Tue 125% Wed 125% Thu 125% Fri 150%
- Sarah - Mon 75% Tue 125% Wed 375% Thu 75% Fri 100%
- James - Mon 100% Tue 150% Wed 100% Thu 50% Fri 100%

We now have some useful information. We know the average interviews each person and the department are managing to complete and how each person is performing against the agreed targets. As a manager though, you will always be looking for deviations that are sufficient enough to cause concern.

### What 2 obvious points does this information reveal to you?

The 2 points are that on Wednesday, Sarah's performance was well above her other daily rates and James was doing a lot less interviews than the other two staff.

The explanations for these deviations are that Sarah had all her meetings cancelled on that day and was able to interview many more than expected whilst James is a new member of staff and a smaller target was agreed for him. If you were presenting this information to someone this additional information should be put on the table making it complete.

Now let's look at qualitative or soft information:

- **Qualitative or soft** – information is about quality, for example the experience of a customer in a taxi ride or cinema and tends to be subjective rather than objective. It is also quite difficult to gather and interpret. In your role you might use the following techniques to gather such information:
  - Observing a member of your team carrying out a task
  - Interviewing someone in a totally structured or semi-structured way
  - Using focus groups to get people's views

- Actually participating in what is going on. You may recall the Chief Executive of Sainsbury's worked as a checkout person to see exactly what the job was like

An example of qualitative information might be someone asking you how you feel about your Certificate in Management programme. Qualitative information might relate to what you think about the workshops, your view on the way the tutor delivers the material, the atmosphere and attitude of the other candidates. These are all subjective (in other words, a personal view).

Make a list of the quantitative and qualitative information that you use in your job:

### Accessing information

Now that you know what information actually is, how do you go about getting hold of it? Well, there are many ways, some of which are listed below:

- Company reports
- Company database systems
- Measuring work activities
- Meetings (with managers, customers, colleagues and other departments)
- Discussion with colleagues
- Communication with customers
- Information about competitors
- Line managers
- Emails
- Company magazines/leaflets
- Internet/Intranet systems
- Appraisal systems
- Complaints

### Summary of Part A - Quiz

Here are a few questions that should remind you of what you have learnt in this section:

- What are the differences between “data” and “information”?
- How does information normally flow around an organisation?
- What are some of the benefits to you as a first line manager of managing information properly?
- Why is “quantitative” information as important as “qualitative” information?
- Where can you access the information you need to carry out your job effectively and efficiently?

Go back over this section and check your answers!!!!

## PART B – COLLECTING, SELECTING AND STORING INFORMATION

### Learning Outcome No 2 – Understand how to interpret data and information related to a work activity

#### Objectives:

At the end of Part B you will be able to:

- Describe how to gather, record, store and retrieve information
- Assess how well you gather and store information
- Define the importance of keeping some information confidential

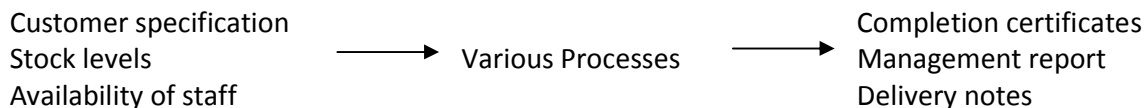
#### Introduction

We have already established how information flows up, down and sideways in an organisation and that there are two types of information, quantitative and qualitative so the next logical step is to work out how we can gather such information.

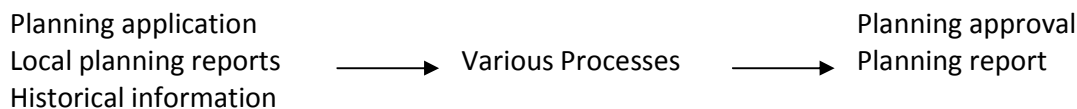
To ensure that the right information is collected you need to be aware of the sources of information and then work out what to do with when you have it so let's first look at collecting information.

#### Collecting information

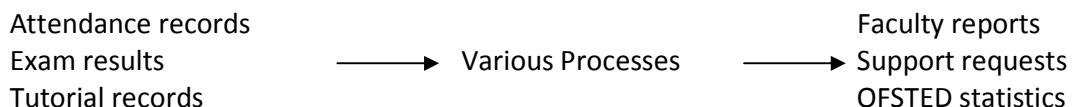
A prime source of information in every organisation is its suppliers and its customers (both internal and external). Information should be seen as a resource that you can use to provide your customers with what they want. Let's see how this might apply on a daily basis to a production supervisor:



Now let's apply it to a local council worker:



Now a head of subject at a school:



Make a list here of the sort of information that comes to you on a regular basis and what you pass on or make decisions about:

### Information Overload

As there is so much information available these days, it is highly likely that a lot of it is simply not needed and just drives you into overload. Have a look at some of these reasons why you might receive information you do not need:

- Email “spam” from organisations trying to market their products and services arrive on a daily basis. You can, of course get what is referred to as a “spam killer” and these will stop spam infiltrating your system
- Lengthy reports that people cannot be bothered to trim down and only provide you with the bits you need
- People who send you things because they think you “might” find them useful when they would be better off checking with you first. This often applies to people who like to “cover their back” and just send everything to everyone
- Sometimes you might no longer need some information but it keeps on arriving anyway because “it always has”

There is probably a lot of information that you do not know exists that would be very useful to you. It is, therefore, sensible for you to check with those you work with and find out exactly what information is around so you can choose which you need.

List here any information that you have recently discovered is available that you could have done with before now or some information that you keep getting that you do not need:

### Selecting information

Now that you understand you must collect information, let's have a look at how you can select that which is useful to you in order that it might be used properly. Here is a simple criterion you might use:

- **Relevant** – in that it only tells you what you want to know and not what you do not want to know:

I asked my secretary to find me some prices on accommodation for a large meeting that would consist of some 50 members of staff. The next day, being very efficient, several magazines were produced that had lovely pictures of hotels and seminar centres. It was amazing what facilities these places had these days, sauna, jacuzzi, gymnasium and they were situated in lovely gardens where people could take quiet strolls to relax. For one moment, I was drifting away, wondering where my gym kit was when I realised all I wanted was a room for 50 people so I could hold a meeting.

- **Current** – in that decisions made on old information are of no use to us as managers. Imagine giving prices to a customer from an out-of-date catalogue or giving them dates of courses that have changed?
- **Adequate** – in that it covers all of the criteria needed for you to make your decision. If you buying a house or car, what information would you need to make your decision?

- **Timely** – in that it is available when you need to make decisions and not at some future date. Often information is not readily available and there may be a cost to your decision because you have had to pay to get a decision when you want it, make your decision when some information is not available or even delay your decision until the correct information is available
- **Reliable** – in that it you need to be able to trust what information you have been given. In Darrell Huff's book called "How to Lie With Statistics" he drew attention to the many ways in which statistical data can give a misleading impression of reality

Go back to the type of information you get as part of your job. How does it fair to the above statements?

### Storing information

The only way to be certain of where to find information is to make sure you organise it properly and make sure that you have:

- A safe place to store it
- Sorted it into meaningful categories
- Put it in the right place both promptly and regularly
- Been consistent about its format

In most organisations there are a variety of methods used to record and store information and this could be in the form of databases, reports and filing systems. In any event, the way you record information will depend on:

- The main purpose of the information
- Your organisation's policy
- Any requirements by law, for example the Data Protection Act

Think about the various methods of storing information in your organisation. How often do you use them and do they help or hinder your job?

### Storage Systems

There seems to be 3 main reasons why we store information and they are:

- **Operational needs** – Customer records, training and development records, tracking customer orders etc
- **Financial needs** – Organisations need to know how much profit they are making, how much they are spending on resources and how much tax they might have to pay etc
- **For managers** – This allows comparison of actual performance against agreed targets, identification of trends in costs, revenue or productivity and predictions for future activities

You must now decide what type of storage system you are going to use in order that the information may be retrieved when you require it again, even if that is “file 13” (the waste bin!). There are many ways in which information may be stored for later retrieval such as:

- **Paper-based filing systems** – There was a time when offices were going to be declared “paperless” but this has not happened yet! A good paper-based filing system though requires several key features if it is to be effective and they are:
  - All incoming paper should be scanned for importance and urgency and placed in that order
  - Each piece of paper should only be handled once if possible. It should either be dealt with, passed onto someone else or thrown away
  - When replying to paper-based requests, only those who absolutely need to know should be on the addressee list
  - Only really important papers should be filed for future use
  - Files should be reviewed now and again – is there anything you can remove and destroy?
  
- **Electronic-based filing systems** – The main problems associated with electronic-based filing systems are viruses, sabotage and calamities such as fires. To avoid these issues all electronic-based filing systems should include:
  - Up-to-date **virus checkers** in order that your system cannot be sabotaged by anyone
  - Ensuring that you keep **files in an orderly manner** (i.e. having folders that relate to key topics and sub-folders that contain the detailed information) and that every now and again go through them and delete those that are unnecessary
  - Dealing with e-mails on a **regular basis** and ensuring that your mailbox never gets overcrowded. It is very simple to set up folders in your mailbox and transfer e-mails to them so that you have your electronic mail organised and easily accessible
  - Systems for **backing-up data** so that it can be retrieved if there is a major problem. There are many risks to both hardware and software that may cause electronic information to be lost or damaged. Listed below are some risks to hardware:
    - Fire
    - Dust or smoke
    - Strong magnetic fields
    - Electrical power surges

In larger organisations where computer systems may be networked with each other there tends to be some more sophisticated methods of protecting electronic systems and these include:

- Extensive use of passwords
- Restrictions on levels of access
- Auditing or tracking software

There are two other major methods used to store information and they are:

- **Database Systems** – which basically is a set of data that is organised in such way that it allows you to access when you need it in the format you require. Some databases also allow you to produce reports, again in the format you require, which saves you time and effort
- **ERM or Enterprise Relationship Management** – This type of database allows customers to contact you whenever they need to and the ideal medium for doing this is of course the Internet. It allow customers to look at the products and services you are offering, prices, availability, what to do in the event of a problem and helps foster good relationships

Write below the type of storage systems your organisation uses and indicate any problem areas:

## The law and data storage

During the early 1980's there was considerable concern about the increasing number of commercial organisations who were keeping details of people onto databases without their knowledge.

In 1984 the Data Protection Act was put on the statute book and amended in 1998. The Act makes new provision for the processing of information about individuals including the obtaining, holding use or disclosure of such information. If you wish to look at the full contents of the Data Protection Act 1998 try [www.hms.gov.uk/acts/acts1998/80029--a.htm#1](http://www.hms.gov.uk/acts/acts1998/80029--a.htm#1)

The law naturally leads us onto the issue of confidentiality and it is not only the law that requires this but also:

- Some information is of a personal nature so must be safeguarded
- Some information is produced beforehand but has a release date and, therefore, must be guarded until that date is due
- Other information could relate to sensitive issues and normally only available to certain people
- Finally, some information might need to be kept confidential in case it is obtained and used by competitors

### Summary of Part B - Quiz

Here are a few questions that should remind you of what you have learnt in this section:

- Why do you often receive information that you do not need i.e. information overload?
- What criteria would be the best to use when selecting information to make decisions?
- Why should information be stored properly?
- What information storage methods are available?
- What are the key requirements of the Data Protection Act (1998)?

Go back over this section and check your answers!!!!

## PART C – USING INFORMATION

### Learning Outcome No 3 – Know how to communicate the results of the information analysis

#### Objectives:

At the end of Part C you will be able to:

- Share information with colleagues
- Present information to others using words
- Describe how to present information using numbers

#### Introduction

In the first two parts of this unit, you have looked at what information is all about and how it might be stored and accessed for you to make decisions on what to do at work. Now that you have all this information, you need to share it with someone, whether it is colleagues, line managers, customers etc. Let's have a look at how you might share it and what methods you might find best.

#### Sharing information with colleagues

Having established what information is, how it flows around your organisation and how it can be quantitative or qualitative, it is now time to look at how you can share information with those people you work with. Research shows that organisations who share information are more often than not, those that succeed where others fail.

There is a mass of information available these days and it is important that everyone in an organisation is aware of the information that it likely to affect what they do. Let's look at the advantages and disadvantages of both the spoken and written word.

#### Spoken Methods

These are of communicating with other people that involves actually speaking and often supplies you with an immediate response. It is also possible that in some circumstances you can actually see the person you are talking to and judge their reaction by their body language. The most common methods of spoken communication and their advantages and disadvantages are:

- **The telephone** - there are some very simple and traditional methods of communicating and the telephone is one of them that most of us would be lost without. The main advantage is that you can talk to someone and get an answer straight away (provided they are in!). Sadly, the phone is often not used properly and gives a wrong or negative impression. You cannot see the person you are speaking to and thus cannot see their reaction when you say something. In fact, you cannot even determine if they are really listening at all. It is also fact that some people do not communicate too well on the phone, particularly if they when leaving a message on an answer phone!

- **Meetings** – We will discuss meetings in more detail in another Unit, but it is a fact that it is a good method of sharing information with colleagues. It enables lots of people to get the same information at the same time and allows them to join in any decision-making process. The problems associated with meetings range from bad planning, running over time, not being attended by those who needed to be there to arguments over issues and lack of subsequent action
- **Fact to face** – is undoubtedly the “richest” way of communicating information to people. It is one-to-one so you can get an immediate reaction and you can see whether the person is really listening by observing their body language. There is, of course, no permanent record so anything discussed in a corridor cannot be traced especially if one person denies it!
- **The grapevine** - has been around for a long time and is basically an informal way of communicating within the workplace. It can, though, be a very important tool for managers and can be used as a more “formal” way of getting things around very quickly. Although some conversations that employees hold are not work related, studies show that about 80% of the information that travels along the grapevine is in fact business-related. This means that some communication that arrives through the grapevine should not always be dismissed and it is a good way of managers learning about employees' concerns and views
- **Telephone Conferencing** - involves several people being on a telephone line at the same time and holding a discussion. It has certain advantages in that:
  - It may be cheaper than everyone meeting in person, especially if one of the parties has difficulty in travelling due to distance etc
  - It is reasonably efficient and if properly organised could be much better than an actual meeting
- **Video Conferencing** - is another modern method of communicating and involves face-to-face computer-mediated communication
- **Web Conferencing** – which requires an internet-linked computer, a digital camera and a microphone and can be used to look and discuss PowerPoint presentations. As more technological advances are made in “broadband”, this facility will probably become more widely spread

Which of these spoken methods of sharing information do you use and what do you find are the advantages and disadvantages?

### The written word

Just like the spoken word, there are many ways in which information can be communicated by using the written word. Here are some methods with their advantages and disadvantages:

- **Letters and memos** – provide a permanent record of information and exactly the same message can be transmitted to many people at the same time. It can also be planned and can be managed so that it goes only to those involved. The obvious disadvantage is that it is slow and those on the mailing list might not receive their copy for various reasons. It is also possible that you might not want some people to see it, yet they might get access to it
- **Intranets** – which are normally internal systems that are confined to a single organisation and contain things like:
  - Telephone contact numbers
  - Details of training events
  - Job vacancies
  - Ideas and suggestion schemes
  - Local news of interest to employees
  - A common “house-style” of information

The obvious advantage is the sharing aspect whilst one disadvantage is that it is assuming that everyone will always have the time or inclination to look at it.

- **E-Mail** – has revolutionised the communication of information and more and more people are using it these days mainly because it is cheaper and faster than using more traditional methods such as post. It is basically an electronic message that is sent from one computer to another and you can “attach” things like photographs or documents. In addition to cost, there are many other reasons why e-mail may be appropriate:

- It is less time-consuming than posting a letter and it arrives within minutes of you sending it
- You can produce a hard-copy or keep the message in a specific folder on your computer
- If someone else wants a copy, provided they have a computer, you can forward it to them
- Messages can be sent from virtually any destination

E-mail systems have their problems though and some people dread opening them for fear of what they may find! This could be as many times as first thing in the morning, just after lunch and maybe again just before you leave.

Which of these written methods of sharing information do you use and what do you find are the advantages and disadvantages?

## Using words

There is actually a book entitled “Keep It Simple Stupid” by William J Montgomery and although it relates to face-to-face selling, it is about the use of words. Some people refer to call it KISS or “Keep It Short and Simple” which is another way of saying:

- Make sure you stick to the point so that what you say cannot be mistaken for something else
- Use simple language and cut out all unnecessary jargon
- If your words are presented on paper, make them interesting to read by using boxes, diagrams and illustrations

See if you can find some written information you use at work and see how closely it complies with the e simple rules detailed above:

## Using numbers

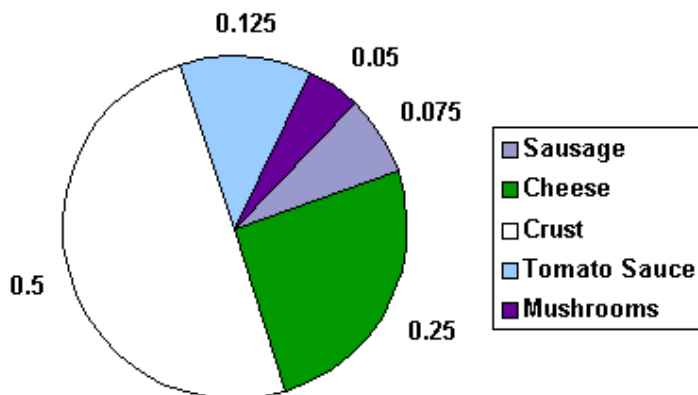
These day's numbers appear everywhere whether you are looking at production numbers, attendance hours, crime rates, examination results etc. The basic idea behind this topic is to give you some ideas about how numbers might be presented to make them more understandable. Here are some examples:

## Pie charts

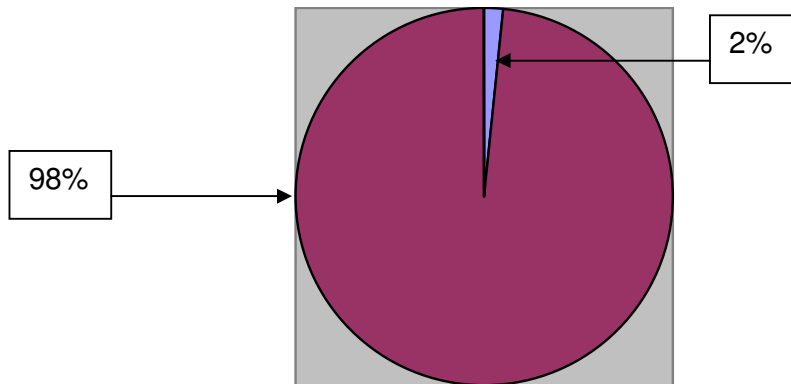
A pie chart is a circle graph divided into pieces, each displaying the size of some related piece of information. Pie charts are used to display the sizes of parts that make up some whole.



The pie chart below shows the ingredients used to make a sausage and mushroom pizza. The fraction of each ingredient by weight is shown in the pie chart below. We see that half of the pizza's weight comes from the crust. The mushrooms make up the smallest amount of the pizza by weight, since the slice corresponding to the mushrooms is smallest. Note that the sum of the decimal sizes of each slice is equal to 1 (the "whole" pizza).



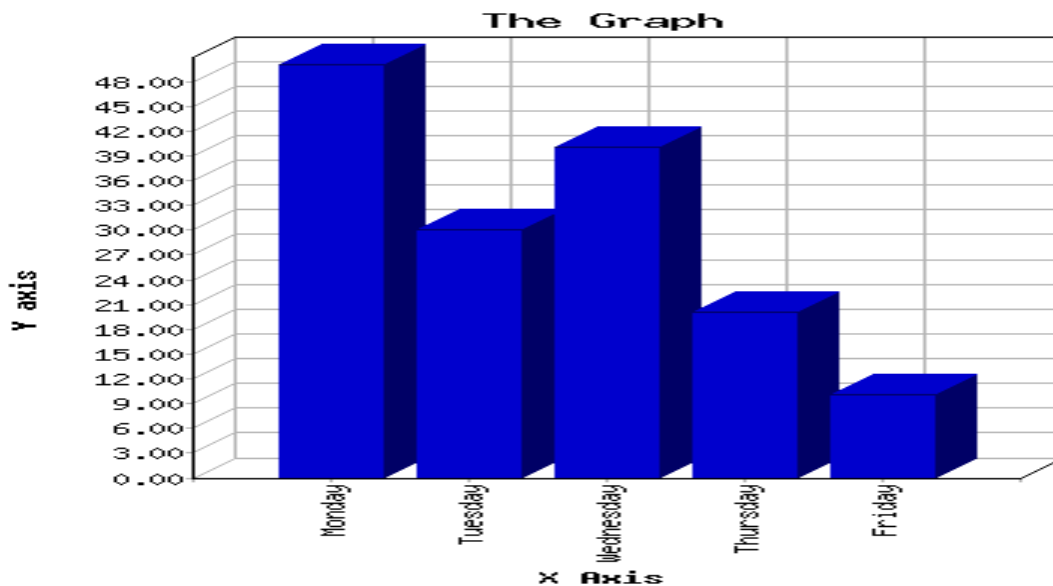
Another example could be that if you were told that 20 phone calls this week took over 2 minutes to answer, you would probably think that some kind of drastic action was required. If you look at it using a pie chart though, a different picture emerges:



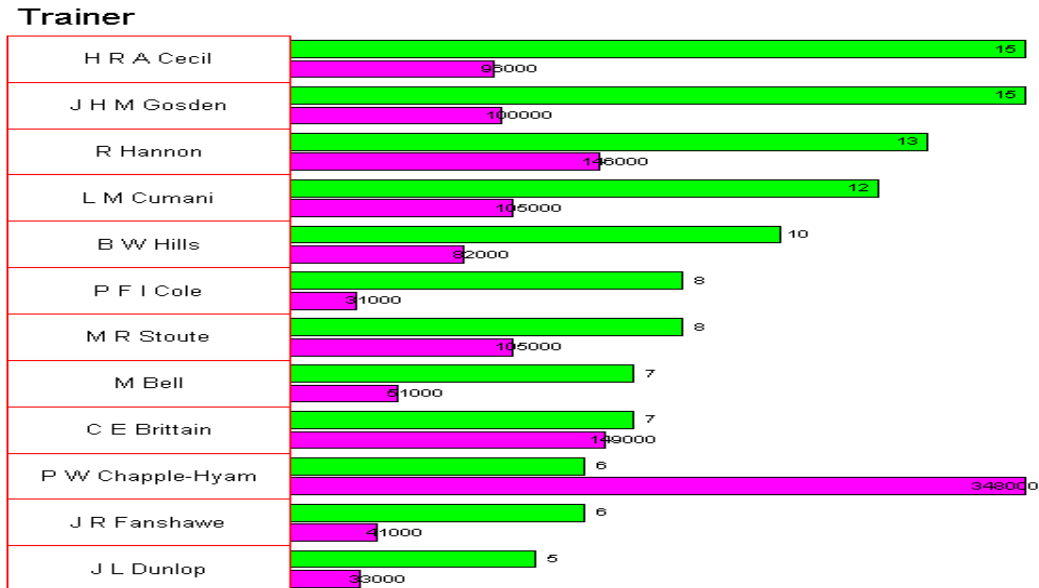
By using the pie chart, you have put the phone calls answered after a long time in relation to the total number of phone calls dealt with in one week. Here you can see that 98% of phone calls were answered appropriately.

### Bar charts and histograms

Bar charts normally represent information from one set of data. If you decided to include more than one set of data then the bar chart would become a histogram. Below is an example of a bar chart:



The chart below shows different sets of information so is, therefore, a histogram:



## Averages

The average of a set of numbers is the value which best represents it. There are three different types of averages:

- Mean** - this is also known as the arithmetic mean. It is found by dividing the sum of the set of numbers with the actual number of values.  
 For example: Find the mean of 1, 2, 3, 4, 5, 6, 7, 8, 9 and 10.  
 Sum of values:  $1 + 2 + 3 + 4 + 5 + 6 + 7 + 8 + 9 + 10 = 55$   
 Number of values = 10  
 Mean of values =  $55 / 10 = 5.5$

Finding out the mean is designed to “smooth numbers out” and could be used for sharing out work for example. If you have 4 team members and they have 2, 4, 6 and 4 jobs respectively, then the mean is 4. As you can see 1 person is well below average (2) and one is well above average (6). To even them out, you might consider taking 2 jobs from the 6-job person and giving them to the 2-job person, to even things out.

- Median** - The median of a set of numbers is the middle number when the numbers are put in order, from the lowest value to the highest value. The median can be thought of as the  $((\text{Number of Values}) + 1) / 2$  the value.  
 For example: Find the median of 2, 4, 8, 7, 4, 6, 10, 8, and 5.  
 In order: 2, 4, 4, 5, 6, 7, 8, 8, 10  
 Middle value =  $((9 + 1) / 2)^{\text{th}}$  value = 5<sup>th</sup> value  
 Middle value = 2, 4, 4, 5, 6, 7, 8, 8, 10  
 Median = 6

The purpose of the median is to find the "lower" and "higher" values of a population. A good example for this method is to look at various wages in a company. If the median is £20,000 and you want to be in the top half of the company, you need more than £20,000!!! Knowing the median test score is important to some people who want to think they are in the "better half of the population."

- **Mode** - The mode is the value which occurs most frequently in the set of values. The mode of the set of values is also known as the modal value.  
For example: Find the mode of 1, 2, 2, 3, 4, 4, 5, 5, 5, 5, 7, 8, 8 and 9.  
Modal value = 5

The mode, on the other hand, is designed to show the number which occurs the most i.e. the most popular. If you were running a shoe shop, you might be interested in the shoe size which appears to sell the most.

### Rounding off

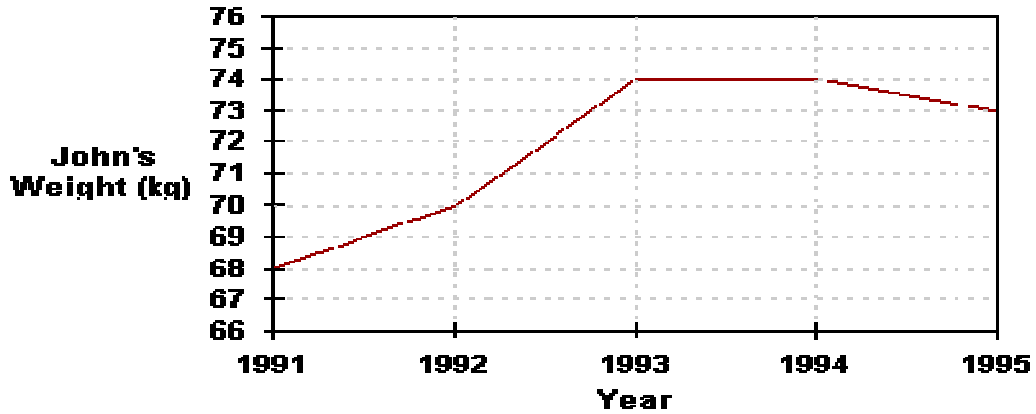
It may be that you work in an area where exact numbers are required e.g. finance, hospital or a place where the exact temperature is required in a process. Rounding off simply means expressing as a rounded number rather than an exact number and this is how it is done:

- **To round off decimals:**
  1. Find the place value you want (the "rounding digit") and look at the digit just to the right of it.
  2. If that digit is less than 5, do not change the rounding digit but drop all digits to the right of it
  3. If that digit is greater than or equal to five, add one to the rounding digit and drop all digits to the right of it
- **To round off whole numbers:**
  1. Find the place value you want (the "rounding digit") and look to the digit just to the right of it
  2. If that digit is less than 5, do not change the "rounding digit" but change all digits to the right of the "rounding digit" to zero
  3. If that digit is greater than or equal to 5, add one to the rounding digit and change all digits to the right of the rounding digit to zero

### Graphs

A graph will enable you to see trends and patterns over a period of time and there are many different types but the most common is a:

- **Line graph** -A line graph is a way to summarise how two pieces of information are related and how they vary depending on one another. The numbers along a side of the line graph are called the scale. There is an example of a line graph on the next page:



The graph above shows how John's weight varied from the beginning of 1991 to the beginning of 1995. The weight scale runs vertically, while the time scale is on the horizontal axis. Following the gridlines up from the beginning of the years, we see that John's weight was 68 kg in 1991, 70 kg in 1992, 74 kg in 1993, 74 kg in 1994, and 73 kg in 1995. Examining the graph also tells us that John's weight increased during 1991 and 1995, stayed the same during 1993, and fell during 1994.

### Tables

Probably the most common way of presenting information is by the use of tables because this can be done in many formats as shown below:

November	1456
December	1234
January	14354

This table could also be produced like this:

Month	November	December	January
Number	1456	1234	14354

### Summary of Part C - Quiz

Here are a few questions that should remind you of what you have learnt in this section:

- What are some typical methods of “spoken” communication and what are the advantages and disadvantages of each?
- What are some typical methods of “written” communication and what are the advantages and disadvantages of each?
- What is meant by the term “KISS”?
- What are the ways in which you can present information using numbers?

Go back over this section and check your answers!!!!

## PART D - UNIT SUMMARY

This self-study guide has been designed so that you may have a better understanding of:

- The difference between “data” and “information”
- How information flows around an organisation
- The different types of information i.e. quantitative and qualitative
- Where you can access information to help you do your job efficiently and effectively
- How you might collect and select the right information
- How information is stored and protected
- The advantages and disadvantages of the various ways in which you might share information with colleagues and customers
- Ways in which both words and numbers might be used to present information

Having completed this self-study guide, attended the appropriate workshop and carried some research you are now in a position to complete the Unit assessment.

Remember that there are very specific outcomes from this Unit and you must cover each one satisfactorily in your work so make sure you pay particular attention to your assessment brief and the guideline questions you have been given.

Just as a reminder, below are the learning outcomes for this unit:

1. Know how to gather and select data
2. Understand how to interpret data and information related to a work activity
3. Know how to communicate the results of the information analysis

## PART E - PREPARING FOR ASSESSMENT

By the time you have completed this self study guide, you will also have attended the relevant monthly workshop. Now you need to carry out some extra research and gather some more information on these topics which you can use for your assessment.

Remember that you can submit a draft of your assessment to the Centre and we will try and give you some form of feedback as quickly as possible.

When you have completed your assessment you need to bring it to the next monthly workshop and hand it in to the tutor. You should hand in the following:

- Your completed work
- Your work brief
- The marking sheet for this unit (after signing the front page and making a self-assessment in the first box on the first page)

These documents can be found by going to [www.kdtraining.co.uk](http://www.kdtraining.co.uk) and following the relevant links.

Once your work has been assessed, you will receive a copy of your feedback by email and we will attempt to do this about 2-3 weeks after you hand your work in. If you hand your work in late, you may go to the back of the queue so try to make sure you deliver on time.

After your work has been assessed, it may be selected to be internally moderated by another tutor. That means it will be checked to make sure all the relevant paperwork is there and that the assessment was rigorous and fair.

Your work will then be kept by the Centre and shown to the CMI External Verifier when he next visits.

At the end of your programme, all of your work will be presented to the CMI External Verifier and he will make the final decision regarding your qualification.

Good Luck!