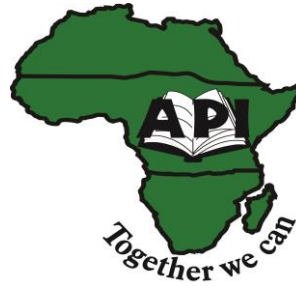


AFRICA POPULATION INSTITUTE (API)

**COMPREHENSIVE CERTIFICATE IN BUSINESS ADMINISTRATION
PROGRAM**



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Background introduction

Africa Population Institute (API) is an institution started by young professionals with compassionate desire for the transformation of Africa to achieve sustainable development. They decided to bring their experience, knowledge and skills together in order to build the capacity of others to enhance their work related performance. API is consolidating its activities in Uganda with a view to use this opportunity as a springboard to expand its operations within the rest of Africa. We are aiming at providing the present and long-term educational needs of our students, members and partners. We target all areas of concern especially NGOs, Public and Private sectors including hospitals, schools and also in local government administrations, must harness affordable capacity building. Our strategy is, where appropriate, incorporating both Capacity building expertise and Information Technology in whatever project undertaken to enhance the usefulness of the programs and project to the students, workers and the surrounding population in Africa.

Goal: To promote and strengthen the sustainability of capacity building programs that ensures people's performance and productivity in Africa.

Vision: To raise a generation that is knowledgeable and skillful for the transformation of Africa through Education and Sensitization.

Mission: To Insinuate and empower the population with the knowledge and skills to be self-reliance in the fight against poverty, ignorance and diseases.

Other Core programs:

- Capacity building program
- Research and evaluation program
- Health marketing/ health promotion program
- Organisational Development
- Information Technology

Strategic objectives:

To provide trainings aimed at capacity building for sustainable Africa Development

To provide community services including consultancies within and outside Africa

To engineer the development of health related researches

To make greater economic contribution to the communities of Africa

Strapline: Together we can transform generations!

Minimum Entry requirements to the course

- Uganda Advanced Certificate of Education with at least one principle pass or its equivalent
- Must be fluent in both written and spoken English language
- Work experience is an added advantage

Mode of Delivery/Instruction

Face to face lectures are conducted at the beginning and during the course of the semester and there is a new development in the mode of delivery through online resources, Learning materials are also provided through quality print modules/hand books. We are in the process of developing CDs, DVDs and VCDs.

Course Duration, Assessment and Grading System

The course takes three months. Assessment tests and course work are done in the middle of the term and contribute 40% towards the final grade. The final exam is done at the end of the months and contributes 60%, to the total marks which is 100%. The final grades are streamlined as follows.

Letter Grades	% Equivalent	Standard & Grade	Guideline Grade Descriptions
A	80 – 100	Exceptional 5.0	Work of distinguished quality which is based on a very extensive reading and which demonstrates an authoritative grasp of the concepts, methodology and content appropriate to the subject and to the assessed task. There is clear evidence of originality of thought and the ability to synthesize materials, think analytically and to synthesize material effectively.
B+	75-79	Excellent 4.5	Work which clearly demonstrates all the qualities of “B” but which reveals greater insight and more originality.
B	70-74	Very Good 4.0	Work which demonstrates and above average level of understanding of concepts, methodology and content appropriate of the subject and which draws on a wide range of referenced resources. There is clear evidence of critical judgment in selecting, ordering and analyzing content. Demonstrates some ability to synthesize material and to construct responses which reveal insight and may offer some occasional originality
B-	65-69	Good 3.5	Work which contains most of the qualities of a “B” grade but the critical judgment is less developed and there is less insight and originality.
C	60-64	Pass 3.0	Work with the qualities of a “C” grade but containing a greater degree of critical analysis and original insight
D	55-59	Satisfactory 2.5	Work derived from a good basis of reading and which demonstrates a grasp of relevant materials and key concepts and the ability to structure and organize arguments. The performance in assessment may be routine but the work will be articulate, clearly presented and written and include some critical analysis and a modest degree of original insight. There will be no serious omissions or irrelevancies
E	50-54	Marginal Pass 2.0	Work that demonstrates more of the qualities of a “E” grade but which contains less of critical analysis and little or original insights
F	Below 50	Fail 0.0 - 1.5	Work which fails in significant respects to meet the criteria. And here students are advised to re do the work on aspect of organization and presentation and show evidence for understanding some of the key concepts.

Attendance and assignments

Students must participate in online discussion, take tests and submit assignments at the specified times. Students are expected to log in on their accounts regularly, that is; at least three times a week for the duration of each course. Students who do not log in for one week will receive a mailed notification and warning. The consistence of absence from face to face lecture and online dialogue will constitute an automatic disqualification and discontinuation from the course.

Students who do not submit assignments for a course will not be permitted to take the course examination and will be expected to redo the course when it is next offered. Tutors are not obliged to accept coursework's submitted after the stipulated date nor to grant extensions. Late submission will automatically be subjected to reduction of one mark a day for the first 2 weeks of delay, for submission after a fortnight, an assignment will only receive 50% if it satisfies the examiner.

Examination Regulations

Some students who involve themselves in examination malpractices e.g. cheating, smuggling in notes, etc will be victimised. All students are strongly warned that cheating or attempting to cheat in Africa population institute Examinations may lead to dismissal from the Institute. Please note that **course works, research or project assignments** are also part of API Examinations. Copying or pirating other works (plagiarism), or hiring another person to do one's assignments is an Examination malpractice that may lead to dismissal from the institute.

The examination results of any student who has sat the examinations without being registered shall be nullified. Students are strongly warned against this. A student who has not attended up to 60% of the instruction time may be denied to sit period end examinations. Cases of impersonation, falsification of documents or giving false/incomplete information whenever discovered either at registration or afterwards, will lead to automatic cancellation of admission, revocation of awards where applicable and prosecution in the courts of laws.

API Online Library

API has secured open access books and journals to download or read online, all students enrolled for programs at API have 24/7 access to the content server and databases which provide thousands of materials related to the courses offered. Each student is given a username and passwords that enable them access such resources. There are also open education resources for universities and other tertiary institutions free online and accessible for our students such as emerald insights and Mendeley which are instrumental for virtual education.

CERTIFICATE IN BUSINESS ADMINISTRATION

Each course unit offered in this course has specific contact hours which are a measure used to indicate the relative weight given to an individual course in a relation to fulfilling the course. In order to complete the program of the study successful, students must achieve the required number of lecture hours (LH) just like one tutorial hour (TH) is equal to one contact hour and two practical hours (PH).

Period	Course Code	Course Name	Contact Hours
Term one	CBA 101	English Special Program	15
	CBA 102	Computer Applications	15
	CBA 103	Public Relations and Communication Skills	15
	CBA 104	Production and Operations Management	15
Term Two	CBA 201	Basic Business Calculus	10
	CBA 202	Company Law and Politics	10
	CBA 203	Commerce and Management	10
	CBA 204	Current Affairs	10
Term Three	CBA 301	Business Marketing and Sales Strategies	12
	CBA 302	Human Resource and Business Ethics	12
	CBA 303	Finance Management and Accounting	12
	CBA 304	Credit Management	12
Recess Term	CBA 401	Case Study: Livelihood and Small Scale Business	15

Term one
CBA 101 English Special Program

English Special Program

This is just for personal learning and language enhancement for both spoken and written fluency

Learn English with activities

You can learn English online with the British Council's free website for adult learners. The site contains hundreds of pages of audio, text and video content and over 2,000 interactive exercises. You can become a member and contribute to the site, interact with other users and download free resources.

http://learnenglish.britishcouncil.org/en/?_ga=2.31606650.518925968.1517387069-1720911659.1517387069

LearnEnglish website

Learn English with games

You can learn English while having fun with games and jokes. You can find games for all tastes to help you practise your English or just to have fun. There are also hundreds of illustrated jokes to help you play, enjoy and learn.

http://learnenglish.britishcouncil.org/en/study-break?_ga=2.94514904.518925968.1517387069-1720911659.1517387069

LearnEnglish website: Fun & Games

Learn English with audio and video

We have lots of audio and video materials for language practice. The materials include podcast stories, an audio soap opera, a series of English language teaching TV programmes produced with the BBC and videos that show how to say things correctly in very different situations. http://learnenglish.britishcouncil.org/en/listening-skills-practice?_ga=2.56706542.518925968.1517387069-1720911659.1517387069

http://learnenglish.britishcouncil.org/en/listening-skills-practice?_ga=2.56706542.518925968.1517387069-1720911659.1517387069

LearnEnglish website: Listen & Watch

Learn English for kids

LearnEnglish Kids is a fun, educational website for children aged 5–12 years who are learning English. There are online vocabulary and grammar games, songs, stories, videos and a range of activities which focus on developing literacy skills. LearnEnglish Kids is also for teachers and parents with hundreds of free printable resources and a support section for parents who want to help their children learn English outside of the classroom.

http://learnenglishkids.britishcouncil.org/en/?_ga=2.200502634.518925968.1517387069-1720911659.1517387069

LearnEnglish Kids website

Learn English for teens

Are you a teenager learning English or are your teenage children studying English? The LearnEnglish Teens website is designed especially for 13-to-17-year-olds. On the site they can find language practice, tips for exams and help with grammar and vocabulary, as well as fun activities, videos, games and puzzles.

http://learnenglishteens.britishcouncil.org/?_ga=2.199911914.518925968.1517387069-1720911659.1517387069

LearnEnglish Teens website

Business English

Do you already speak English but would like to improve your business English? Do you wonder if your business English is up to standard? Would you like to apply for international jobs where English is the language of work? We have the right resources to help you improve your business English. http://learnenglish.britishcouncil.org/en/business-and-work?_ga=2.199911914.518925968.1517387069-1720911659.1517387069

http://learnenglish.britishcouncil.org/en/business-and-work?_ga=2.199911914.518925968.1517387069-1720911659.1517387069

LearnEnglish website: Business & Work

Learn English with football

If you are learning English and are interested in football, Premier Skills English can help you improve your English while you learn about the Premier League clubs and players. You can also find out about the matches and the Premier League rules and play games and do quizzes. <https://premierkillsenglish.britishcouncil.org/>

Course Name	: Computer Theory
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Course Description

The Course deals with the introduction, background and significance of computers, computer hardware and software, networking and the internet, the various computer devices and their applications such as operating systems, input/output devices etc, to students. The Course explains some practical applications such as Ms Word, Ms excel, Power point and their presentation and browsing the internet. It provides prior knowledge to computer language program which can be helpful at further stages of Computer studies.

Course objectives

- To help students attain basic knowledge of the computer
- To help students to become familiar with the use of internet and browse the World Wide Web through routine practice.
- To enable students develop foundational skills for information technology.

Course content

Introduction to computers

- Information management
- Why were office systems less beneficial than computerized systems
- Why computers are better than people
- Limitations of computers
- Effects of office automation on business
- Definition of computers
- Characteristics of computers
- Types of computers

Hard ware concepts

- The processor and its elements
- Manual input devices that include keyboard, web camera, the monitor, mouse
- Automatic input devices that include modems, magnetic ink character recognition, optical mark reading, magnetic stripe cards
- Output devices that include VDU, speakers, printers,
- Storage devices that include; hard disks, floppy disks, Flash disks, tape storage

Networks and data communications

- Configurations that include; centralized, decentralized and distributed processing as well as key features of distributed processing
- Networks that include: Local Area Network(LANs), Wide Area Networks(WANs),Metropolitan Area Network(MAN), storage Area Networks
- Client-server computing
- Data communication that include; oral, paper and electronic data communication
- Data transmission equipment that include; coaxial cables, modems, multiplexers

Software Concepts

- Definition of software
- Operating system
- Functions of an operating system
- Windows, MS-DOS, features of windows 95, features of windows 98
- Application software and packages
- Examples of word processing programs
- Spread sheets
- Examples of spread sheets

Personal Information Managers (PIM)

- Importance of PIM

- Examples of PIMs
- Integrated packages
- Utility programs
- Viruses
- Types of viruses and how they are transmitted

Programming Languages

- Low level language i.e Machine code, assembly
- High level language
- Advantages of high-level languages over low-level language

Assessment

Course work 40%

Exams 60%

Total Mark 100%

CHAPTER ONE

1:0 ATTRIBUTES TO INFORMATION

Everything that we do, either in our personal life or as part of the activities of work depends on information. Therefore, information is a key resource for success of most of the companies and organisations.

Information refers to facts or knowledge about something, which could be important for decision-making.

1:1 INFORMATION MANAGEMENT

Like any other resource, i.e. machines, money, etc. Information must be controlled and organised. It should be managed (collected, organised and controlled). Information management is accomplished by the factors considered below:

i) Identifying current and future information needs

Information is always needed for current decisions e.g. current sales performance, and any likely future changes e.g. need for future expansion.

ii) Identifying Information Sources

In order to make good decisions, the information used must be collected from proper sources e.g. if the company sales are affected by weather, then reliable information about weather should be collected from Meteorological Department.

iii) Collecting the Information

Some information may easily be collected using any simple means, but other information may only be got after using wise tactics or a series of procedures e.g. a profit for the month, or year.

iv) Storing the Information

Information collected should always be stored securely and accessibly to enable future use and reference.

v) Ensuring that information is communicated to the right person who needs it

Always information should only be communicated to people who need it and kept away from those who don't deserve it.

1:2 DEFINITIONS

Data

These are the raw materials for information. Any thing that the computer can work with, either numbers of any kind, texts, facts, etc.

Information

This refers to processed data. Items that have been re-arranged so as to give the user a meaning, which could be vital for decision-making.

Qualities of good information

Good information has a number of specific qualities for which accurate is a useful mnemonic (symbol).

Accurate

Information should obviously be accurate because using incorrect information could have serious and damaging consequences.

Consistency

Especially in accountancy, information should always be consistent e.g. if the March report of slow paying students is prepared on the basis that slow paying students are those who have not paid within 60 days, but the August report considers students who have not paid within 30 days, then is not valid to compare the two reports.

Clarity

The information should always be clear to the user. If the user can't understand the information, then he certainly can't use it properly.

Reliability

Information must be trusted by the managers who are expected to use it. An information source may therefore play a great role here.

Communication

Information should always be communicated to the right person.

Channel of communication

Depending on the type of information being communicated and to person(s) for whom it is intended, a proper channel should always be used.

Volume and brevity

Information should be brief, so long as this does not mean that it is incomplete or inaccurate. Huge volumes of information may be hard to absorb even if all of it is relevant.

Timing

Information should always be delivered in time, as information delivered shortly after a decision is already taken is always useless however relevant and accurate it is.

Cost

The benefits to be achieved from the information should outweigh the costs involved in obtaining and communicating it to the people concerned. This may either be in the short or long run.

Question:

What is information? What are the main qualities of good information?

1:3 TECHNOLOGY FOR INFORMATION

Information handling and processing in offices has been made easy due to enormous development in office machines and computers.

However on the other hand the manual systems exist alongside computerised systems.

Why manual office systems are less beneficial than computerised systems.

- ◆ Labour productivity is usually lower, particularly in routine and operational applications.
- ◆ Processing is slower where large volumes of data need to be dealt with.
- ◆ Risks of errors are greater, especially in repetitive work like payroll calculations.
- ◆ Information is generally less accessible.
- ◆ It is difficult to make corrections or alterations.
- ◆ Quality of output is less consistent and not as high as well-designed computer output.

Why computers are better than people

- ◆ For storing information
- ◆ It's more accurate than humans
- ◆ It works faster than humans

- ◆ Its automatic i.e. carries out many operations without human input
- ◆ It is diligent i.e. works for long hours without getting tired
- ◆ It's used for entertainment
- ◆ It's used for communication e.g. email, Internet
- ◆ It's used for data base management i.e handling large volumes of information (data)
- ◆ It's used for computations

LIMITATIONS OF COMPUTERS

- ◆ Less flexible than humans
- ◆ Have to be explicitly "told" what to do
- ◆ If an unanticipated situation arises, PCs can produce erroneous results
- ◆ Have no potential to work out a solution

1:4 OFFICE AUTOMATION

This is majorly composed of word processing, spreadsheets, databases, telephone and fax (facsimile) and networks.

Effects of office automation on businesses

Office automation has an enormous effect on business in a variety of ways:

◆ Routine processing

The processing of routine data can be done in bigger volumes, at greater speed and with greater accuracy than with non-automated - manual system.

◆ The paperless office

There might be less paper in the office (but not necessarily so) with more data processing done by keyboard. Data storage done electronically other than using papers.

◆ Management information

This is likely to change both in nature and quality, as more information will easily be available and accessible, through information analysis done easily and so on.

◆ Organisation structure

This may change, as the PCs are likely to be locally controlled in an office or branch, creating a shift to decentralisation.

◆ Customer Service

This can improve especially if the customers can call an organisation and the feedback the staff give to callers is from the organisation's on-line data base.

1:5 HOME WORKING

Advances in communication technology have, for some tasks, reduced the need for the actual presence of an individual in the office. This is particularly true for tasks involving computers.

The advantages of home working for an organisation involve the following:

a) Cost saving on space

Rental charges are a little high and if some employees can do their work from home, then this will reduce on the space occupied and thus the rental fees.

b) A larger pool of labour

More applicants are expected especially for clerical positions, especially from people who are committed elsewhere and office time tables may collide.

c) Freelance employees

This category of employees will be good for the organisation as there will be no sick pay, holiday pays and salaries especially when there is no sufficient work.

The advantages to the individual

- ◆ No time wasted commuting to the office.
- ◆ The work can be organised flexibly around the individual's domestic commitments.
- ◆ Jobs that require concentration may sometimes be done better at home without the office disruptions.

Disadvantages

To the Organisation

The major disadvantages to the organisation are normally lack of control as managers will have no close supervision of the workers.

To the Individual

◆ Isolation

If just forced to work from home, this may cause barriers to social life experienced in offices.

◆ Intrusions

A home worker is vulnerable to home interruptions e.g. a kid or members of the family who may forget that the individual is home working.

◆ Adequate Space

It may not be always possible to obtain a quiet space at home in which to work.

- ◆ Freelance home workers normally have fewer rights compared to office stationed workers.

Question:

Today home working is booming in employment sector, what do you think has led to this and what advantages does the organisation get from this kind of trend?

1:6 IT AND ACCOUNTING (ACCOUNTING PACKAGES)

Years back, accounting records were only prepared manually, developments in information recording technology has however advanced and now the same accounting records can be made using computers e.g. ledgers, trial balances,

profit and loss accounts, balance sheets, etc. The only difference is that these various books of accounts have TO be count invisible and can only be called out.

The advantages of accounting packages compared with a manual system are as follows:

- ◆ Non-specialists can use the packages.
- ◆ A large amount of data can be processed very quickly.
- ◆ Computerised systems are more accurate than manual.
- ◆ Double entry is automatic

If you enter the details of an invoice the system automatically updates the sales account, the VAT account, the debtor's ledger control account and the memorandum of sales ledger account. There is no need to enter the information four times.

- ◆ Integration; all ledgers and records can be linked up.
- ◆ Easy information analysis in terms of trial balance or a debtors' schedule.

Disadvantages

The advantages of computerised accounting systems far out weight the disadvantages, particularly for large businesses. However, the following may be identified as possible disadvantages.

- ◆ The initial time and costs the system, training personnel and so on.
- ◆ The need for security checks to make sure that unauthorised personnel do not gain access to data files.
- ◆ The necessity to develop a system of coding and checking.

- ◆ Lack of audit trail. It is not always easy to see where a mistake has been made.
- ◆ Possible resistance on the part of staff to the introduction of the system.

Types of accounting packages

The most widely used packages are as follows:

Small business (1-10 people)

- ◆ Sage Line 100 or Line 50
- ◆ Quick books
- ◆ Tas books

Small to medium (10-30 people)

- ◆ Sage Sovereign
- ◆ Pegasus opera
- ◆ Exact
- ◆ Multisoft prestige

Medium - sized businesses (30-200 people)

- ◆ Sun-accounts
- ◆ Tetra chameleon
- ◆ Scala
- ◆ Dynamics

Large business (200 - 2000 people)

- ◆ Coda
- ◆ JBA

Very large businesses

- ◆ SAP
- ◆ Oracle
- ◆ Dun & Brad Street

CHAPTER TWO

HARD WARE CONCEPTS

2:0 INTRODUCTION

Under this chapter, we shall look at the following:

- ◆ Computer components
- ◆ Characteristics of a computer
- ◆ The Processor
- ◆ Other peripherals
- ◆ Manual input devices
- ◆ Automatic input devices
- ◆ Output devices

- ◆ Storage devices

2:1 COMPUTER COMPONENTS

Hardware – these are the physical parts of the computer e.g the mouse, monitor, and keyboard

Software – these are the invisible components of the computer. They are the programs and instructions, which run the computer

User- should be trained personnel

2:2 COMPUTERS

Definition:

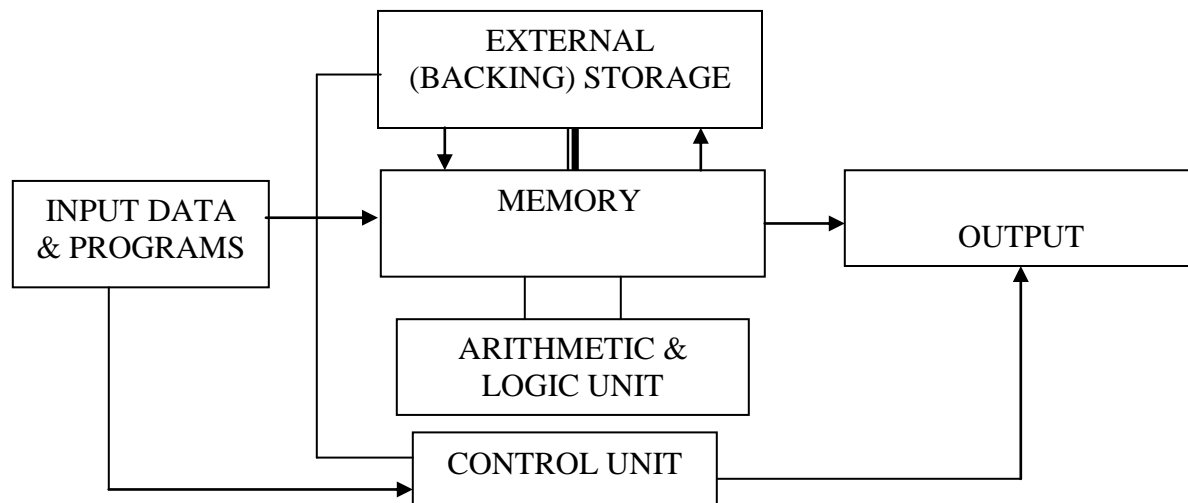
A computer is a device, which will accept input data, process it according to programmed logical and arithmetic rules, store and out put the results.

A computer is therefore a mixture of physical things like keyboards, mice, screens, circuits and cables (hard ware) and intangible arithmetic and logic (software).

Hardware means, the various physical components (tangible) as opposed to the non-tangible software elements.

CHARACTERISTICS OF COMPUTERS (Assignment)

- ◆ Machine
- ◆ Processing
- ◆ Versatile- performs multiple functions easily
- ◆ Electronic
- ◆ Automation
- ◆ Storage- stores a lot of information in a very small space
- ◆ Accuracy
- ◆ Compatibility
- ◆ Consistency



Types of Computers

These are categorised by size and output

By Output

- i) Digital
- ii) Analogue

By Size

- i) Super computers
- ii) Main frame computers (at times called enterprise servers)
- iii) Mini computers, now often called mid-range computers
- iv) Micro-computers, now commonly called PCs.

We shall group (iii) and (iv) as 'Small business computers'.

Super Computers

A super computer is used to process very large amounts of data very quickly. They are particularly useful for occasions where high volumes of calculations need to be performed, for example in meteorological or astronomical applications.

Main frames

A main frame computer system is one that has at its heart a very powerful central computer, linked by cable or telecommunications to hundreds or thousands of terminals, and capable of accepting simultaneous input from all of them.

- ◆ Other characteristics include:
- ◆ Has centralised service departments
- ◆ Handles multi-level output
- ◆ Very high processing speed
- ◆ Have disk drives like magnetic tapes
- ◆ Very large size therefore handles big tasks and can support many users
- ◆ Stores vast amount of data
- ◆ Industrial use
- ◆ Expensive but slightly smaller than super computers
- ◆ Support services for data preparation, control and programming

Medium and small business computers

Mini computers

A mini computer is a computer whose size, speed and capabilities lie some where between those of a main frame and a PC.

Characteristics

- ◆ Smaller than mainframe computers
- ◆ Have smaller storage capacity and are slower
- ◆ Linked to other computer workstations
- ◆ Handles multi-level output
- ◆ Are large in size
- ◆ Disk drives include tape drives
- ◆ Environmental control is not necessary
- ◆ Limited output and input peripherals

Personal Computers

The 'personal computers' (or 'micro computers') are the most common computers available in most of the businesses and even in homes.

Characteristics

- ◆ Small for personal use.
- ◆ Low output
- ◆ Operated in desks
- ◆ Most common computers in business
- ◆ Handles relatively big tasks
- ◆ Have fairly good processing speed
- ◆ Have limited input and output devices
- ◆ Compilers and interpreters are permanently stored in hardware as ROM
- ◆ They are often linked together in a network to enable sharing of information between users.

File servers

A file server is more powerful than the average desktop PC and it is dedicated to providing additional services for users of networked PCs.

A very big net work may use a 'main frame' as its server, and indeed main frames are beginning to be referred to as 'enterprise servers'.

Portables

The original portable computers were heavy, weighing around five kilograms, and could only run from the mains electricity supply. Subsequent developments allow true portability.

i) The Laptop. Powered either from the electricity supply or using a rechargeable battery. It uses 3½" disks, CD - ROMS, liquid crystal or gas plasma screen and is fully compatible with desktop PCs.

ii) The notebook is about the size of an A4 pad of paper. Some portables are now marketed as 'sub-note books'.

iii) The pocket computer or hand held, may or may not be compatible with a true PC.

Much as PCs (portables) may be very popular because of their easy way of transportation and occupation of smaller space in offices, they have some draw backs;

- i) Key board ergonomics
The keys are too small, or too close together for easy, quick typing.
- ii) Battery power
They normally don't last for long periods.

A typical PC specification may involve the following:

- ◆ Intel 233 mhz pentium 11 processor 33.6 kbps internal fax modem.
- ◆ 64 MB FAST EDO RAM (expandable to 512 MB)
- ◆ 6.4GB hard disk drive, 15" SVGA colour monitor LR, NI up to 1024 x 768 energy star compliant.

Advantages

- ◆ Easy to transport
- ◆ Occupy small spaces in offices

2:3 THE PROCESSOR

The processor is the 'brain' of the computer.

Definition

A processor is the collection of circuitry and registers that performs the processing in a particular computer and provides that computer with its specific characteristics.

The processor (sometimes referred to as central processing unit (or CPU) is divided into three areas.

- ◆ The Arithmetic and Logic Unit, (ALU)
- ◆ The Control Unit,
- ◆ The Main Store or Memory (RAM & ROM)

In modern computer systems the processing unit may have all its elements - arithmetic and logic unit, control unit and the input/output interfall on a single 'chip'.

Definition

A chip is a small piece of silicon upon which is etched an integrated circuit, which consists of transistors and their interconnecting patterns on an extremely small scale.

The chip is mounted on a carrier unit which is 'plugged' on to a circuit board called the mother board with other chips, each within their own functions such as sound (a 'sound card') and video (a 'video card').

Arithmetic and Logic Unit (ALU)

The ALU is the part of central processor where the arithmetic and logic operations are carried out. These include arithmetic (e.g. adding and multiplying) and logical functions such as comparison, movement of data, etc.

Control Unit

The control unit receives program instructions, one at a time, from the main store and decodes them.

- ◆ It then sends out control signals to the peripheral devices.
- ◆ Registers are paths that connect the ALU to the main memory
- ◆ Data buses are wires connecting the micro processor to the memory through which data flows
- ◆ An address is a pattern of channels that identify a unique storage location
- ◆ Toner is an electronically charged dry ink substance used in printers

Memory

The computer processing is normally much faster if the computer has the information it needs readily to hand.

The computer's memory is also known as main store, internal store or immediate access storage. The memory will hold the following.

- i) Programs, the control unit cuts on program instructions that are held in the store; these program instructions include the operating systems.
- ii) Some input data. A small area of internal store is needed to take in temporarily the data that will be processed next.
- iii) A working area. The computer will need an area of store to hold data that is currently being processed or is used for processing other data.
- iv) Some output data. A small area of store is needed to hold temporarily the data or information that is ready for output to an output device.

Each individual storage element in the computer's memory consists of a simple circuit which can be switched on or off. These two states can be conveniently expressed by the numbers 1 and 0 respectively.

Each 1 or 0 is a bit.

Bits are grouped together in groups of eight to form bytes.

A byte may be used to represent a character for example, a letter, a number, or any other symbol. The characters formed can be grouped together to form words or figures, etc.

Since a byte has 8 bits, there are 2^8 , or 256, different combinations of 1s and 0s, which is sufficient to cover numeric digits, upper and lower case alphabets, punctuation marks and other symbols.

The processing capacity of a computer is in part dictated by the capacity of its memory. Capacity is calculated in kilo bytes ($1\text{kb} = 2^{10}$ (1024)), (megabytes = 2^{20} bytes), and gigabytes (2^{30}) or Kb, Mb and Gb.

Port

This is a socket in the CPU into which peripherals can be connected

Expansion Slot

These are access slots to where computer cards can be fixed on a CPU during upgrading

Types of Memory

There are basically two types of memory i.e. RAM and ROM.

RAM: (Random Access Memory)

This is the memory that is directly available to the processing unit. It holds the data and programs in current use. Data can be written on to or read from Random Access Memory.

RAM is 'volatile'. This means that the contents of the memory are erased when the computer's power is switched off.

Memory Cache

Primary cache

This is a small capacity but extremely fast memory chip which save a second copy of the pieces of data most recently read from or written to main memory. When the cache is full, older entries are 'flushed out' to make room for new ones. Primary cache is often part of the same chip as the CPU.

Secondary cache

This is a larger, slower cache between the primary cache and the main memory.

The principal here is that if a piece of data is accessed once it is highly likely that it will be accessed again soon after words, and so keeping it readily to hand will speed up processing.

ROM (Read Only Memory)

This is a memory chip into which fixed data is written permanently at the time of its manufacture. New data cannot be written into the memory, and so the data on the memory is unchangeable and irremovable.

ROM is 'non-volatile' memory, which means that its contents do not disappear when the computer, power source is switched off.

A computer's start-up program, known as a 'boot strap' program, is always held in a form of a ROM. 'Booting up' means running this program.

When you turn on a PC you will usually see a reference to BIOS (Basic Input/Output System). This is part of the ROM chip containing all the programs needed to control the key board, screen disk drives and so on.

2:4 OTHER PERIPHERALS

◆ Uninterrupted Power Supply (UPS)

It stabilises the power thus enabling the user to save his/her work before the power supply is completely terminated. Hence it's called a stabiliser.

2:5 MANUAL INPUT DEVICES

These are input devices, which are quite labour - intensive. They include the following:

Keyboard

This is a board of keys, which includes the alphabet, numbers (0-9) and some basic punctuation, together with other keys. It is used to enter data into the computer's main memory. It resembles a typewriter except for some keys like the function keys (F1, F2 etc), control keys, alter keys, escape keys etc. It mainly has three parts:

- ◆ The alphabetical keypad – these include letter keys A-Z
- ◆ The functional keypad – (F1-F12)
- ◆ The numeric keypad - (0-9)

There are 2 types of keyboards:

Standard Keyboard	Enhanced Keyboard
◆ Older style	◆ Latest style and most common
◆ Has 10 function keys on the left hand side of the keyboard	◆ Has 12 function keys at the top of the keyboard
◆ Cursor keypad is on the right and is used for numeric entry	◆ Has shift, control and alt keys on both sides of the space bar

The Function Keys

- F1 – is used for help
- F2 – is used for page setup/programming
- F3 – is used for page break down or break up
- F4 – is used for moving a group of words from one position to the other
- F5 – is used for password
- F6 – is used to replace a word
- F7 – is used for exiting/closing the screen
- F8 – is used for sizing the appearance of the screen
- F9 – is used for envelope set up
- F11 – is used for highlighting the appearance of the screen

Other Keys

Caps lock- is used for writing capital letters

Shift keys- used to obtain the uppercase character of a button

Enter Key – used for creating spaces between lines. They also move the cursor to the next line. It also executes commands

Back space key – is used to erase letter by letter at any cursor point. A cursor is a blinking feature that indicates a point of insertion i.e the point where the next character will appear

Space bar – it creates space between words

Delete key – it deletes error at cursor point

Insert key – it is used to insert a missing letter in a group of words

Home keys – it is used to take the cursor back home

End key- it takes the cursor either at the end of the line or end of the document

Page up/down – takes the cursor at the upper or down page

Tab key – it is used for making paragraphs

Arrow keys – are used for moving through the document

/ Forward slash

\ Back slash

: Full colon

* Asterisk

. Period

; Semicolon

? Query

, comma

Web Camera

It enables the user to take photographs and view the other person online

The VDU (Visual Display Unit) – the Monitor

This can be used in conjunction with a keyboard to display text to allow the operator to carry out a visual check on what she has keyed in.

It can also be used to give messages to the operator, and the operator can respond to messages by keying in new instructions. The monitor gives a soft copy of the data held by the computer. It's both an input and output device.

Types of VDUs

- ◆ Coloured screens which display information in various colours
- ◆ Monochrome screens which display in black and white
- ◆ Graphic screens which display information in graphs

Mouse

This is often used in conjunction with a keyboard, particularly in windows - based systems. It may be used in place of a keyboard. It's used with windows programs to provide additional flexibility to the user

Even joysticks and track balls may also be used as the mice.

Parts of a mouse

- ◆ Left- for clicking
- ◆ Right- for popping
- ◆ Middle- moving up and down the document

2:6 AUTOMATIC INPUT DEVICES

These include the following:

Modems

When the modem converts analogue signals to digital signals during data transmission, is said to be an input device.

Magnetic ink character recognition (MICR)

MICR is the recognition by a machine of special formatted characters printed in magnetic ink. This is done using ink, which contains metallic powder and special typewriters.

Optical character recognition and scanners

OCR is a method of input involving a machine that is able to read characters by optical detection of the shape of those characters. Optical (or laser) scanners can read printed documents by recognising the characters, convert them into machine code and record them.

The advantage of OCR over MICR is that the OCR can read any ordinary typed or printed text provided the quality of the input document is satisfactory.

The disadvantage however, evolves around the distinction between O and 0, then 1 and I which is a bit hard.

Optical Mark Reading (OMR)

This is normally used for numeric characters. Values are denoted by a line or cross in an appropriate box, whose position represents a value, on a pre-printed source document (or card). The card or sheet is then read by a device which senses the mark in each box and translates it into machine code.

An example would be a multiple choice question paper.

Bar Coding and Electronic Point of Sale (EPOS)

A bar code reader is a device, which reads bar codes, which are groups of marks which, by their spacing and thickness, indicate specific codes or values. Normally used in super markets.

EPOS devices use bar coding and act both as cash registers and as terminals connected to a main computer.

This enables the computer to produce useful management information such as;

- ◆ Sales details and analysis
 - ◆ Stock control information
- And all this very quickly

Magnetic Stripe Cards

These can be used at the door entrances where the card is passed over the reader which senses the information to the computer to open the door if the holder of the card is supposed to enter. They are also used in banks by Automated Teller Machines (ATM).

Voice recognition

A computer software has been developed that can convert speech into computer sensible form. The input device needed here is Microphone. The available software currently require the user to speak very slowly, dictating one word at a time - but this all can at best be 90% accurate.

Question

- a) What is the major distinction between ROM and RAM.
- b) Briefly describe 8 (eight) input devices to computers.

2:7 OUTPUT DEVICES

These are devices that communicate the results of processing from the computer to the user. This could be a process or just an instruction. They include the following:

Visual Display Unit (VDU)

As output devices, these can usually be used where there is no requirement for a permanent output and when the volume of the output is small. E.g. in cases of a single enquiry or current balance on account.

Speakers

These tend to output audio stored information e.g. at the airport, the computer through loud speakers may pass announcements to passengers, or you can listen to your favourite music from the computer using its speakers, etc.

Modem

This acts as an output device when the digital signals are converted into analogue signals so as to be transmitted over a telephone line.

Printers

This is a device that prints texts, graphics or images on paper producing hard copy (hard copy refers to a document on the paper as distinct from that one of the screen).

Classification of Printers

Printers can be classified as:

- ◆ Impact printers
- ◆ Non- impact printers

IMPACT PRINTERS

These mechanically strike the paper during the printing. The print elements i.e. hammer, ribbon and ink strike the paper to deposit the characters on it after receiving signals from the computer's central processing unit. Impact printers are comparatively noisy and slow.

Examples include:

Dot matrix printer- the characters it prints consist of series of dots arranged in a pattern to form the characters.

Daisy wheel – The printing mechanism involves a wheel on which available characters are located. In the course of printing, the wheel rotates as it impacts the required characters onto the paper.

NON - IMPACT PRINTERS

Here with these printers, the paper is not mechanically struck, but the printing is quickly done with the print elements like laser beams, heat, ink to produce hard copies.

Examples of these include:

Laser printers, Inkjet printers, Epson printers etc.

Differences between impact and non impact printers

- ◆ Non-impact printers are fast compared to the slow impact printers.
- ◆ Impact printers use inked ribbons yet non-impact printers use thermo or electrostatic principles.
- ◆ Impact printers are cheap yet non-impact printers are expensive due to the technology used to make them.

- ◆ Impact printers are generally noisy while non-impact printers are quite quiet.

Another classification of printers would be based on single print output i.e., character, and line or page printers.

Character printers print character-by-character - hence comparatively slow.

Line printers print an entire line at a time - hence comparatively fast and more expensive than character printers but less costly than page printers.

Page printers print the whole page at a go thus the fastest and most expensive printers.

A character can be, a number, letter, symbol, etc.

Plotters

These are devices that produce hard copy of complex drawings such as graphs, engineering, drawings, maps, curves, etc.

2:8 STORAGE DEVICES

These are items/devices that can be used to store Data or Information for subsequent use. They include the following:-

Disks

This is a device that aids in reading and writing information to and from a secondary storage device. They are the predominant form of backing storage medium nowadays because they offer direct access to data, an extremely important feature.

Data is held on a number of circular, concentric tracks on the surfaces of the disk, and is read or written by rotating the disk past read/write heads, which can write data from the CPU's memory on to disk, or can read data from the disk for input to the CPU's memory. The mechanism that causes the disk to rotate is called a disk drive.

The Disk Drive

This is the media where computer programme files reside e.g. hard disk, floppy disk, CD-Roms, magnetic tapes etc

Hard disks

A modern business PC invariably has an internal storage medium, but external disks may be used too. Everything stored by a user on the computer is stored on the hard disk. Internal storage medium. Stores most computer applications. Capacity usually 100MB. Designed with letters – C to S

Hard disks are metallic storage device on which data and information are magnetically stored on round metallic platters. Hard disk of different storage capacities are available e.g. those of 40 MB, 2GB, 4GB, 10GB, etc.

There are also removable disk packs which can be used for back-ups, mass storage or for moving files between computers.

Examples include;

- ◆ IDE (Integrated Drive Electronics)
- ◆ Zip drive
- ◆ Jaz drive, etc.

Differences between floppy disks and hard disks

- ◆ Floppies are flexible yet hard disks are permanently fixed though a few of them (hard disks) can be moved.
- ◆ Floppies are plastic yet hard disks are metallic.
- ◆ Hard disks store more information than floppies
- ◆ Floppies have lower reading capacity than hard disks.

Compact Disk-Read Only Memory (CD-Rom) Drives

External storage medium. Storage capacity is more than the floppy disk, hard drive. Designed with letters D to E

Flash Disks

More storage capacity than CDs. Holds about 178 floppy disks or 120 MB. Has high data transfer speed and compatible to operating systems like Windows XP. 2000

Tape Storage

Tape cartridge is another but now less commonly used storage device. It is not any different from audio or video cassette tape except that some are larger than normal audio cassettes.

Like any audio or video cassette, data has to be recorded along the length of the computer tape and so it is more difficult to access. It is not usually possible to read from and then write on to a single piece of tape. Reading and writing are separate operations using separate heads and so two drives are necessary for the two operations. Tape store more data than floppies. Fast tapes which can be used to create a back-up file quickly are known as tape streamers.

File update on tape storage facility is in a such way that, the changes are made on the current tape and get recorded on a completely new tape. This means that every time a change or update is to be made a completely new tape is made from the previous tape containing the most recent updates. This is what we call the grandfather - father - son relationship.

Its main advantages as far as data back-up is concerned is that should the son get lost or messed up in any way, then the most recently updated tape, before the son, i.e. father is obtained and changes that occurred since the production of the son are done to the father to come up with another sons - replacing the lost one.

CD-ROMS (Compact Disk - Read Only Memory)

These are small silvery disks that are read by the CD-ROM drive using a laser. They are called read-only because you can't change the data on them. Your computer can only read and copy the data on them.

Most software these days are purchased on CD ROM, CD ROMs have massive libraries of data, vast collection of stereo sound chips, high colour graphics all of which take up a lot of storage space.

DVDs (Digital Video Disks) ROM

These are almost like CD-ROMs only that DVDs have more storage capacity (5 GB) with excellent access speeds, internet - based technologies which promise three - dimensional worlds, CD-quality sound and video.

Question

- a) Of what advantage are the external storage systems.

b) Briefly describe 4 (four) external devices you know.

CHAPTER THREE

NETWORKS AND DATA COMMUNICATIONS

3:0 Introduction

Under this Chapter we shall look at the following;

- ◆ Configuration
- ◆ LANS, WANS, MAN and client-server computing
- ◆ Data communication

3:1 CONFIGURATIONS

The term configuration refers to the way in which computers are linked together.

- ◆ At one extreme an organisation may have just a single 'stand-alone' computer that can only be used by one person at a time.
- ◆ At another extreme, an organisation may have hundreds or thousands of computers, all able to be used simultaneously and to communicate with each other.

Centralised Processing

Centralised processing means having all the data/information processing done in a central place such as a computer centre at head office. Data will be collected at 'remote' (i.e. geographically separate) offices and other locations and sent in to the central location.

At the central location there will be:

- ◆ A central computer, probably a large main frame
- ◆ Central files, containing all the files needed for the system.

Decentralised Processing

Decentralised processing means having the data/information processing carried out at several different locations, away from the 'centre' or 'head office'. Each region, department or office will have its own processing systems, and so:

- ◆ There will be several different and unconnected computers in the various offices;
- ◆ Each computer will operate with its own programs and its own files.

Multi-user and distributed systems

In practice, information systems do not have to be entirely centralised or entirely decentralised, and a suitable mixture of centralisation and decentralisation is now normally used.

i) Local offices can have their own local systems, perhaps on PC, and also input some data to a centralised processing system.

ii) Computer systems can be networked, and there might be:

- ◆ A multi-user system; or
- ◆ A 'distributed' data processing system

Multi-user Systems

With a multi-user system there is a central computer with a number of terminals connected to it. The terminals are dumb terminals, which means that they do not include a CPU and so cannot do independent data processing.

A dumb terminal is that terminal which has no capacity for data processing.

Note:

An intelligent terminal however, is that terminal that can carry out data processing on its own without relying on the central computer.

◆ The terminals in a multi-user system might be sited in the same room or building as the central computer, or may be geographically distant from the central computer, connected by an external data link.

Definition

Remote Access

This describes access to a central computer installation from a terminal, which is physically distant.

Remote Job Entry

This is used to describe a method of processing in which the computer user inputs his data to the computer from a remote terminal.

Distributed Processing

A distributed system is a combination of processing hardware located at a central place, e.g. a main frame computer with other, usually smaller computers located at various sites within the organisation.

The central and dispersed computers are linked by a communication network.

A typical system might consist of a mainframe computer, linked to local mini-computers, linked to desktop PCs as intelligent terminals (see NB above), and to a range of peripheral equipment.

Key features of distributed processing include:

- a) Computers distributed or spread over a wide geographical area.
- b) A computer can access the information files of other computers in the system.
- c) The ability for computers within the system to process data 'jointly' or 'interactively'.
- d) Processing is either carried out centrally, or at dispersed locations.
- e) Files are held either centrally, or at dispersed locations.
- f) Authority is decentralised as processing can be performed autonomously by local computers.
- g) End-users of computing facilities are given responsibility for, and control over their own data.

3:2 NET WORKS

A network is an interconnected collection of autonomous processors. With a network there is no single central computer.

There are two main types of network, a local area network (LAN) and a wide area network (WAN). The key idea of a network is that users need equal access to resources such as data, but they do not necessarily have to have equal computing power.

LANs, WANS and client-server computing.

LANs (Local Area Networks)

Definitions:

A LAN is a network of computers located in a single building or on a single site. The parts of the network are linked by computer cable rather than via telecommunications lines.

WANS (Wide Area Network)

These are networks on a number of sites, perhaps on a wide geographical scale.

WANS often use mini computers or main frames as the 'pump's that keep the data messages circulating; whereas shorter-distance LANs normally use PCs for this task.

Differences between WANs and LANs

1. A WAN covers a greater geographical area unlike a LAN usually limited to a single building or site.
2. WANs will send larger computers as file servers.

3. WANs will send data over telecommunication links while LAN will use a cable.
4. WANs are normally larger than LANs and have more terminals linked to the network.
5. A 'WAN' can link two or more LANs using gateways.

Metropolitan Area Network (MAN)

This connects computers in a municipality

Storage Area Network (SAN)

These are computers connected by use of unique characters e.g. passwords

Definition

A gateway is a device that is used to connect two networks of a similar type.

Client - server Computing

As the name suggests, client server computing describes the relationship between the devices in the network.

Client

A client is a machine which requests a service e.g. a PC running a Spreadsheet programme which it requests from a storage machine (the sever).

A server on the other hand, is a machine dedicated to providing a particular function or service requested by client. Servers include; files servers, print services e-mail and fax servers.

Types of file servers:

Low end file server

This is used in a network of about six people or users running a couple of software applications and a database.

Mid range file server

This might support 20 to 30 users.

High end file server

Is used in a large dependent network of about 50-100 users, handling transactions, processing and an accounting system.

Network Operating System

This is a set of programmes responsible for the smooth running of a network.

When computers and other devices are linked/connected to form a network, they won't have the characteristics of networked computers (like sharing of data) unless the network operating system is installed.

It has the following functions;

- ◆ It establishes the link between the nodes of the network.
- ◆ It monitors the operations of a network.
- ◆ It controls the recovery process when the system or part of it breaks down.

Examples of network operating systems include:-

Novell network, Windows NT, UNiX, etc.

Advantages of Client Server Computing

1. Greater resilience

Processing is spread over several computers. So client server systems are more resilient. Should one computer/server breakdown; other locations can carry on the processing.

2. Sharing programmes and data files

This can be shared by all the PCs on the network. With stand alone PCs, each will have its own data files and might be unnecessary duplication of data.

3. Sharing of data

Each PC in a network can do the same work, providing flexibility in sharing workloads. In a peak period, two or more people can share the work without having to leave their own desks.

4. Sharing peripherals

In some cases, say LAN, five PCs might share a single on-line printer where as if there were a stand alone PC, each might be given its own separate printer.

Computer sharing of peripherals is significantly of benefit especially where resources are scarce or expensive.

5. Compatibility

Client-server systems are more likely than centralised systems to have windows interfaces, making it easier to move information between applications e.g. spreadsheets and accounting programs.

Disadvantages of client-server computing

Main frames are better than client-server computing at dealing with large volumes of transactions.

It is easier to control and maintain a system centrally. Client-server computing does not favour data security compared to centralised systems.

Each location may need its own expert network administrator to keep things running smoothly. This creates unnecessary duplication of skills and over manning.

3:4 DATA COMMUNICATION

There are three methods of data communication:

1. Oral communication
2. Paper communication
3. Electronic data communication

Oral Communication

This may occur in a face-to-face situation or by telephone.

It may involve one calling the other on phone asking for particular information, which may be given verbally on the phone.

Paper Communication

Paper-based communication involves the use of internal memoranda, computer print outs and monthly accounting reports.

E.g. copies of despatch notes raised might be sent to the relevant department to be physically matched with customer's order, so that invoices can be raised.

This method means that there is a permanent 'hard copy' record of each transaction. This method may be cheaper than electronic communication, as data communications links do not need to be set up.

The disadvantages are that there may be delay in the delivery of information, particularly between sites. Also the necessity for data transcription increases the risk of error.

Electronic communication

Here information is exchanged via computers, enhancing the amount and quality of information communicated.

Details of despatches of goods from stock might be automatically passed to the sales ledger or accounting sub-system by the ware housing or stock control sub-system so that invoices can be processed.

Advantages of Electronic Communication

Speed is guaranteed since the transmission is almost instant.

Accuracy is always good since there is some kind of automation.

This method eliminates much of human processing.

Data Transmission Equipment

a) Coaxial Cables

A coaxial cable consists of one central conductor, which is surrounded with an insulator and then with the other conductor. In this way, the outer conductor prevents interference from reaching the inner coax cables are used for high-speed network data links. Also used for TV's signals e.g. Aerials.

b) Modems

For data transmission through the existing 'analogue' telephone network to be possible, there has to be a device at each end of the telephone line that can convert (Modulate) the data from digital form to analogue form, and (Demodulate) from analogue form to digital form, depending on whether the data is being sent out or received along the telephone line.

This conversion is done by devices called modems. There must be a modem at each end of the telephone line.

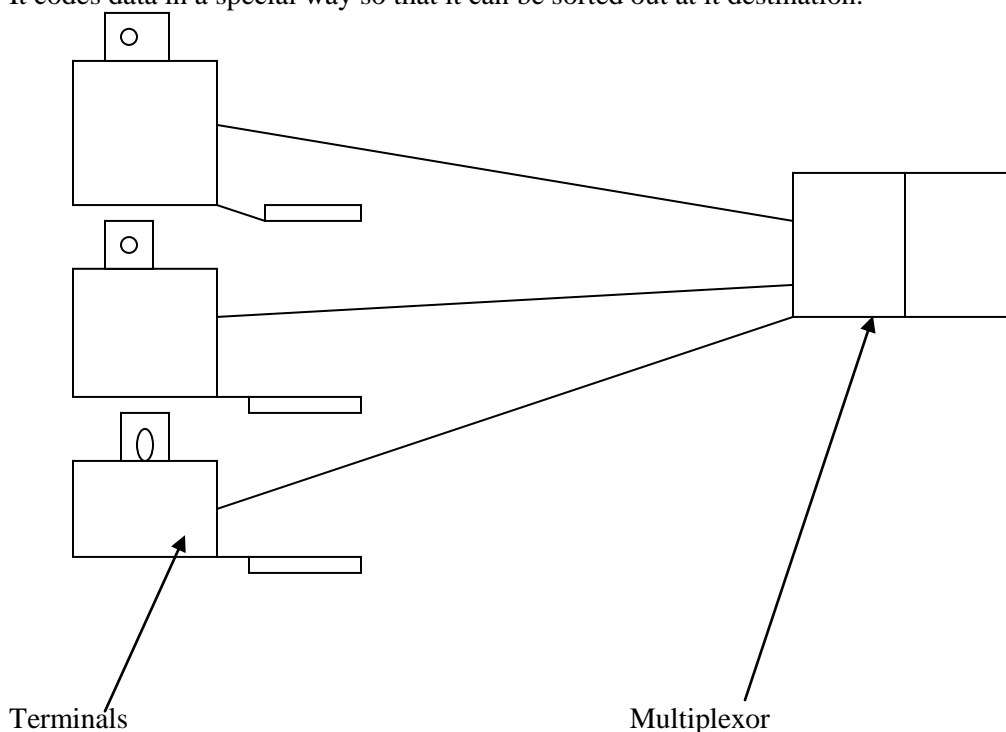
Digital means 'of digits or numbers'. And is in coded (binary) form.

c) Multiplexors (Concentrators)

These are devices, which are used to send data from several sources down a single line at the same time.

Multiplexing involves combining or merging signals. It accepts signals from several communicating devices and directs transmission to and from a computer along a single carrier channel.

It codes data in a special way so that it can be sorted out at its destination.



It saves line charges as only one telephone line will be required to connect several computers.

Terminology key terms

Band Width

The amount of data that can be sent down a telecommunications line is in part determined by the bandwidth.

Definition:

Bandwidth is the range of frequencies that the channel can carry.

Frequencies are measured in cycles per second, or in Hertz. The wider the band width, the greater the number of messages that a channel can carry at any particular time.

Band Rate

This is a measure of the speed of transmission and roughly equates to number of bits per second.

Interfaces

The point of interaction between the computer and the user, principally in terms of using a display screen for input and retrieval of information. The two principal forms of interface are often described as Graphical user interface.

Protocols

This is an agreed set of operational procedures governing the format of data being transferred, and the signals initiating, controlling and terminating the transfer.

This helps in cases of data transmission errors, which can get detected, and also take steps to recover the lost data.

Question;

1. a) What is a computer?
b) List and briefly describe the major components of a computer.

CHAPTER FOUR

SOFTWARE CONCEPTS

4:0 Introduction

Under this Chapter we shall look at the following:-

- ◆ Operating system
- ◆ Application programs
- ◆ Utility programs
- ◆ Programming languages

Definitions

Software refers to the programmes that tell the computer what to do. Software is by far the most valuable asset of a computer user.

A program is a set of instructions that a computer follows in order to produce the desired results or effects. There are 3 (three) categories of software (programs):

- i) The operating software;
- ii) The programming languages and language translators
- iii) The application software

4:1 OPERATING SYSTEM

Also referred to as the executive program

Definition:

This is a program or suite of programs, which provide the bridge between application software (such as word processing packages, spreadsheets or accounting packages) and the hardware.

An operating system controls the action of other programs, which are said to run under it - under its control. It looks after such actions as disk access.

NB: All application software is designed to run under a specific operating system.

Functions of an operating system

1. It checks the initial set up of the computer once it has booted - up or started via the BIOS.

(BIOS) Basic Input Output System is that module forming the part of an operating system, which controls the input and output of data to peripherals i.e., a disk, keyboard, monitor, mouse, etc. At times it can be stored on ROM.

2. It checks whether the hardware including peripheral devices i.e. printers, are functioning properly.
3. It calls up program files and data files from disk storage into memory.
4. Opening and closing of files, checking of file labels etc.
5. Maintenance of directories or folders in storage. A directory is a file storage.
6. Controlling input and output devices including interaction with the user information executed one by one.
7. Controlling system security e.g. monitoring the use of passwords. Ask for a password before anything is done.
8. Handling of interruptions e.g. machine failure and error reporting.
9. Managing multitasking

Multi tasking is an action which allows the computer to appear to be running several programs simultaneously e.g. sending a document you have completed for typing on a printer while working on another document and at the same time listening to your favourite tracks on CD.

Multitasking needs a suitable operating systems and sufficient memory to hold all programs and the data to be processed by each program. The main problem with multitasking is ensuring that programs don't interfere with each other. This is done by restricting the way the CPU gains access to programs.

PCs operating systems include, MS-DOS (Microsoft Disk Operating System), MS Windows 3.X, MS - Windows 95, 98, 2000, OS/2 by IBM Co., Windows NT, UNIX, Net-ware. These are all version of operating system.

4:2 WINDOWS

Early incarnations of windows, culminating in Windows 3.1 and Windows for Work groups 3.11, were not genuine operating systems in their own right, but were really an operating environment for an older Microsoft system called MS-DOS.

MS-DOS, very hostile to beginners, had all application programs run under it.

In 1993, Microsoft launched Windows N.T, a complete operating system for networks, then Windows 95, 98 and 2000.

Features of Windows 95

Features of Windows 95 include the following:-

- a) A 'desktop', from which everything in the system branches out. Disk drives, folders (directories) applications and files can be placed on the desktop.
- b) A 'task bar' which is always on top and which includes a start button and buttons representing every open application.
- c) Long file names are supported.
- d) There is a recycle bin for easy deletion of files.
- e) Easy integration with widely used networking software is possible.
- f) Multitasking is available (see definition above).

Windows '98

Features of Windows 98

a) It is easier to use

User interface enhancements include easier navigation, such as single-click launching of Applications, icon highlighting, forward/backward buttons, and an easy to customise start menu.

b) Greater reliability

More refinements and upgrades were made to Windows 95 and include;

- ◆ An internet-base resource site
- ◆ Testing user's hard disk and fixing problems automatic
- ◆ Enhanced back up and restore function

c) It is faster

The application loading, system start up, and shut down time are faster.

d) Web integration

There are a variety of features designed to enhance internet access and use of Internet facilities.

- e) It is more entertaining with its better graphics and video capabilities and better support for games, hard ware such as joysticks. Later versions can even allow people to use digital video disks (DVDs), digital television and even watch normal TV programs on their PCs.

4:3 APPLICATION SOFTWARE

This consists of programs, which carry out a task for the user as opposed to programs which control the workings of a computer.

Whenever a computer is being used, it will be under the control of an application program, e.g. controlling stock, word processing, preparing accounts, etc.

Application Packages

These are ready-made programs written to perform a particular job.

a) Off- the-shelf application packages

These are ready-made packages distributed or sold by software vendors or manufacturers.

b) Tailor made application packages

These are programs made at the customers' request encompassing customers' desires. The customer normally gives a programmer his specifications and what he wants the program to do. The programmer studies the specification compares them with the available off-the-shelf packages and if there is none that can satisfy the customer needs, then he can write a new program for the customer.

General Purpose Package

These are off-the-shelf programs that can be needed for processing of a general type though the computer user can employ the package to a variety of users of his own choice.

Spreadsheets and Word processors are examples.

Application Suites

An application suite or software suite is a collection of top-of-the-line application program from the same vendor.

A typical software suite will often include:-

- a) A Word processor - word processing program
- b) Spread sheet
- c) Data base
- d) Presentation graphics
- e) Personal information manager

Examples of application suites

- ◆ Microsoft office
- ◆ Lotus Smart Suite
- ◆ Novell Perfect office
- ◆ Corel Draw (for graphics)

Microsoft Office

1. Ms-Word
2. Ms- Excel
3. Access
4. Ms - Power Point
5. Ms - Outlook

Lotus Smart Suite

- Word Pro
- Lotus 1-2-3
- Approach
- Freelance graphics
- Lotus Organiser

Novell Perfect Office

- Word Perfect 6
- Presentation

Word Processors: (Word Processing Programs)

A word processor makes your writing efforts look good. Master pages of a novel, grocery lists, etc. With the right paper you can use a word processor to create file folders, labels, brochures, business cards, greeting cards, letter heads etc. all types of professional documents i.e. letters, memorandum, invoices, etc.

Examples of Word processing programs,

- ◆ Word perfect for Windows
- ◆ Ms-word
- ◆ Word Pro

- ◆ Word Star, etc.

Spread Sheets

A spreadsheet program is much like a bookkeeper ledger sheet with rows and columns. You can use spreadsheets programs for all kinds of instant calculations such as finding the amount of interest you will pay on a loan.

You can change and update information instantly, correct mistakes without erasing and even process charts or graphics showing statistics within no time.

You use a spreadsheet program where you want columns and rows of numbers, financial calculations etc.

Examples of Spreadsheet programs

- ◆ Lotus 1-2-3
- ◆ Microsoft Excel
- ◆ Quattro Pro
- ◆ Consolidation

Data Base Programs

These help in management of lists of data with great ease e.g. a list of clients' addresses, items in stock, etc.

Examples of Data base programs include:

- ◆ Dbase IV
- ◆ Paradox for Windows
- ◆ Ms - Access
- ◆ Ms - Fox Pro
- ◆ Approach
- ◆ Oracle etc.

Presentation Graphic Programs

These kind of programs can help to come up with quality drawings.

They can also enable you create printed reports; handouts or notes to be used while you are speaking.

Enable you to create a self-running slide show-cartoons, that can play on any computer.

Enable you to create slides for business presentation including texts, graphs or clip art images e.g. a company logo.

Examples of presentation graphic programs

- ◆ Ms- Power point
- ◆ Freelance graphics
- ◆ Presentations
- ◆ Havard graphics
- ◆ Adobe persuasion
- ◆ Corel presents

4:4 PERSONAL INFORMATION MANAGERS (PIM)

These help you keep track of appointments, to list things you have to do and information on your contacts.

PIMs can do the following:

- ◆ List all phone calls you need to make in a day
- ◆ Check co-workers schedules, conflicts and automatically set up meetings that every one can attend
- ◆ Prioritise your daily tasks so that the most important work gets done first
- ◆ Track completed work so that you can tell some one exactly when you finished a certain report
- ◆ Let you check your workload for a day, week or month at a glance

Examples of PIMs include:

- ◆ Ms-Outlook
- ◆ Lotus organiser
- ◆ Schedule +
- ◆ Act!, etc.

4:5 INTEGRATED PACKAGES

An integrated package is a single program that modules such things as word processing, spread sheets, graphics, data base management and communications.

Accounting programs usually comprise modules integrated to form a large compile system or program. There may be a module for each of the sales ledger system, the purchase ledger, nominal ledger, trial balance, etc.

Popular integrated packages include:

- ◆ Ms Works
- ◆ Claris works
- ◆ Geo work pro

4:6 UTILITY PROGRAMS

These are programs or set of programs that enhance the work of an operating system.

Utility programs i.e. Norton's utilities can recover data, manipulate files, re-organise data on disks, check for and fix errors on disks, etc.

Vaccines and a virus guards are also utility programs intended to protect virus infection.

VIRUSES

A virus is a piece of soft ware which infects programs and data and possibly damages them, and which replicates itself.

Viruses need an opportunity to spread. The programmers of viruses therefore place viruses in the kind of software, which is most likely to be copied. This includes;

- a) Free soft ware (e.g. from the internet)
- b) Pirated software (cheaper than original versions)
- c) Games software (wide appeal)

Types of Viruses**Trojans**

A Trojan is a program that while visibly performing one function, it secretly carries out another e.g. as you can play a game, it secretly destroys data or files. Trojans don't copy themselves on target disks.

Worms

This normally survives by copying and replicating itself inside the computer system it has entered without necessarily altering that system.

Bombs (Logic and time bombs)**Time bombs**

These are normally released at given dates in a year, say fools day, etc.

Logic bombs

These are normally triggered by certain events e.g. a disk utilised up to a certain percentage.

Identification of Viruses

Some viruses are detected before they do any damage while others are identified when they are activated.

Viruses may be controlled in the following ways;

1. Use of virus guards

These guard against virus infections. Unfortunately, new powerful viruses can attack and break through some virus guards.

2. Use of anti-virus software e.g. Doctor Solomon's tool kit.

These are programs used to clear viruses from a system. They must always be upgraded to deal with new virus.

3. Organisations must have procedures to guard against the introduction of unauthorised software to their system.

4. Organisations, as a matter of routine, should ensure that any disk received from outside is virus free before the data on the disk is downloaded.

5. Firewalls

6. Any irregularities in a widely used program must be rectified as they come to light.

Transmission of Viruses

Viruses are transmitted in a number of ways

- ◆ Using infected disks in non-infected computers.
- ◆ Buying software from non certified vendors can result in buying infected software.
- ◆ Buying software, which are not well tested-say from the Internet.
- ◆ Getting connected to an infected network.

4:7 PROGRAMMING LANGUAGES

Computer programs are normally manufactured/written using programming languages.

There are two recognised levels of programming languages.

- ◆ Low level language
- ◆ High-level language

a) Low Level Languages

(i) Machine Code (first generation language)

This program is as old as the computer itself. It was the 1st language used to Program Computers and indeed is the only language the computer recognises and understands.

Instructions in machine language are written or coded as Os and Is (Binary digits). Every program must be written in machine codes before the computer can do any thing with it. These languages are so hard to learn and complicated that is why the assembly language was subsequently developed.

(ii) Assembly Language (second generation language)

These are also machine specific, but the tasks of learning and writing the language is made easier than with machine language because they are written in 'symbolic' form.

Instead of using machine code, the programmer is able to use easily learned and understood operation mnemonics e.g. ADD, SUB and MULT.

b) High-level Languages

To over-come the low level language difficulty of machine dependency, high-Level languages were developed. Such programming languages, with an extensive vocabulary of words and symbols, are used to instruct a computer to carry out the necessary procedures, regardless of the type of machine being

used.

Advantages of high-level languages over low-level languages include:

- ◆ The productivity of programmers is improved as program writing can take place in a very short time compared with low-level language.
- ◆ The programs developed can be used on any types of computers without getting re-written.
- ◆ They speed up testing and error correction.
- ◆ High - level languages are easier to understand and use.

A) Third generation languages

These are problems oriented programming languages, which have been created to deal with particular types of data processing problems. They include:

- a) COBOL - is used for business data processing.
- b) BASIC - Beginner al purpose symbolic instruction code) - designed for beginners, particularly on microcomputers.
- c) FORTRAN is a scientific language
- d) Pascal suitable for structured programming.
- e) C- An advanced language originally used for programming in the UNIX, now also used to develop windows programs.

Other programming languages include C++, ALGOL, APL, PILOT, SNOBOL, etc.

Compilers and Interpreters

The high - level language program has to be translated into machine code before it can be used. This is done by **compiler programs**, by turning a source program into an object program.

An interpreter does the same sort of job as a compiler, but in a different way.

It takes a program written in a high level program language and executes it, statement by statement (i.e. instruction by instruction) directly during the running of the program.

B) Fourth Generation Language (4GL)

These are languages intended to help computer users or programmers develop their own application programs more quickly and cheaply.

- ◆ A 4GL requires fewer lines of code to write and develop a program than a 3 G Language.
 - ◆ A 4GL, by using a menu system for example, allows users to specify what they require, rather than describe the procedures by which these requirements are met.
- The detail is done by the 4GL software.

LIST OF ABBREVIATIONS

ABBREVIATION

ABBREVIATION IN FULL

4.GL	Fourth Generation Language
ALU	Arithmetic Logic Unit
AOL	America on Line
AS II	America National Standard Code for Inform date Interchange
ATM	Automated Teller Machine
BASIC	Beginners All Purpose Symbolic Codes
BIOS	Basic Input – Output System
BIT	Binary Digit
BTM	Business Teller Machine

CD	Compact Disk
CIS	Computer Information System
CLS	Clear Screen
COBOL	Common Business Oriented Language
CPU	Central Processing Unit
CU	Control Unit
DBMS	Database Management System
DDL	Data Definition Language
DEEP BLUE	Computers are modern computers that are an IBM computer programmed to play Chess with the world class champion, Garry Kasorok. Programmed to make 1 million moves in a second, which defected the world chess champion in the world.
DEL	Delete
Dir	Directory
Disk Drives	Media where computer programme files reside e.g., Hard disks, floppy Disks, CD-ROM, Magnetic tapes etc.
DML	Data Manipulation Language
DOS	Disk Operating System
DPC	Desktop Personal Computer
Drives	External storage medium storage capacity more than floppy and less then hard disk drive, designed with letters D...E.
DTP	Desk top Publishing
DVD	Digital Video Disk
E-mail	Electronic Mail
EMF	Electronic Magnetic Fields
EPOS	Electronic Point of Scale
EWN	Enterprise Wide Network – Any Private Network connects all of organization CPS no matter what they run or where they are located.
Expansion Slots	are access slots on the C.P.U where new computer cards can be fixed when upgrading (expanding) a computer. When adding another floppy drive, adding a CD ROM Drive a higher memory chip.
Floppy Disks Drives.	External storage medium, less storage capacity than Hard disks drive designed with letters
FORTAN	Formula Transaction
GB	Byte
GUI	Graphical User Interface - medium through user interacts with a CP
Hard Disk Drive	Internal Storage mechanism stores most computer applications. Capacity 100MB designed work letters
HLL	High Level Language
IBM	International Business Machine
ILL	Intermediate Level Language
INTERNET	International Network
IRR	Internal Rate of Return
ISP	Internet Service Provider – Provides Internet to users who register at 15 P using other dial to dedicated access.
IT	Information Technology
KB	Kilo Bytes
KIPS	Kilo Instructions Per Second - its Speed
KISS	Keep it small Simple
LAN	Local Area Network
LLL	Low Level Language
MAN	Metropolitan Area Net – Work
MB	Mega Byte
MICR	Magnetic Ink Character Recognition
MIPS	Millions Instructions per Second

MODEM	Modulation Demolecular
MS DOS	Micro Soft Disk Operating System
Ms Excel	Micro soft Excel
MULT	Multiply
NPV	Net Present Value
NT	Net Work
OCR	Optical character Recognition
OS	Operating System
OUR	Optical Work Reading
PC	Personal Computer
PIN	Personal Identification Number
Ports	Are connections (sockets) on the C.P.U which a computer components (Device) like a printer, mouse, modern etc. Can be connected.
RAM	Random Access Memory
ROM	Read only Memory
SAN	Storage Area Network
SDLC	System Development Life Cycle
SSDM	Special Standard System Development management maintenance
SSM	Special Standard System Management/maintenance
SQL	Structured Query Language
SUB	Subtract
TCP/IP	Transmission Control Protocol/internet Protocol system used to transfer information from one computer to another.
UPS	Uninterrupted Power Supply
URL	Uniform Resource Locater
VAN	Value Added Network
VDU	Visual Display Unit
W.W.W	World Wide Website
Web Server	Software that delivers web pages and contains of web sites.

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CBA 103 Public Relations and Communication Skills

Course Name	: Public Relations & Communication Skills
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Course Description

The Course defines different perspectives of communication, its types and overview of the process of communicating, issues involved in public relations, its methods and tactics, advertising and its forms, having strategic communication, and above all the importance of having organizational communication to enhance the business setting.

Course objectives

- To enable students acquire different communications skills relevant in the labor market/organizational setting.
- To assist students in developing competency in the fundamentals of business writing, reporting and research.
- To help them understand the most common barriers to communication as well as their remedies.

Course Content

Introduction

- Definition of Communication
- Overview of Communication
- Types of Communication
- Communication as an academic discipline

Public Relations

- Definition of Public relations
- Methods, tools and tactics of public relations
- Politics and civil society
- Media relations key elements of strategy-based media relations

Advertising

- Definition of advertising
- Forms of advertising
- Criticism of advertising
- Communication design

Strategic Communication

- Definition of strategic communication

- History of strategic Communication
- Application objectives
- Defence application
- Public administration application

Organizational Communication

- History of Organizational Communication
- Assumption underlying organizational communication
- Communication networks
- Direction of communication
- Organizational theory

Other related topics

- Easy ways to bring fun back to work
- How to ensure that your written message gets a reply
- How to respond to angry customers
- How to lose a customer in two steps or less
- Customer service skills that make a big difference

Mode of delivery Face to face lectures

Assessment

Coursework 40%

Exams 60%

Total Mark 100%

Introduction

Communication is the process of generation, transmission, or reception of messages to oneself or another [entity](#), usually via a mutually understood set of signs.

The following outline is provided as an overview of and Communication

Communication is a process of transferring information from one entity to another. Communication processes are sign-mediated interactions between at least two agents which share a repertoire of signs and semiotic rules. Communication is commonly defined as "the imparting or interchange of thoughts, opinions, or information by speech, writing, or signs". Although there is such a thing as one-way communication, communication can be perceived better as a two-way process in which there is an exchange and progression of thoughts, feelings or ideas (energy) towards a mutually accepted goal or direction (information).

Overview

Communication are a process whereby information is enclosed in a package and is discretized and imparted by sender to a receiver via a channel/medium. The receiver then decodes the message and gives the sender a feedback.

Communication requires that all parties have an area of communicative commonality. There are auditory means, such as speech, song, and tone of voice, and there are nonverbal means, such as body language, sign language, paralanguage, touch, eye contact, and writing.

Communication is thus a process by which we assign and convey meaning in an attempt to create shared understanding. This process requires a vast repertoire of skills in intrapersonal and interpersonal processing, listening, observing, speaking, questioning, analyzing, and evaluating. It is through communication that collaboration and cooperation occur.^[2]

There are also many common barriers to successful communication, two of which are **message overload** (when a person receives too many messages at the same time), and **message complex**. Communication is a continuous process.

Types of communication

There are three major parts in human face to face communication which are body language, voice tonality, and words. According to the research:

- 55% of impact is determined by body language—postures, gestures, and eye contact,
- 38% by the tone of voice, and
- 7% by the content or the words used in the communication process.

Although the exact percentage of influence may differ from variables such as the listener and the speaker, communication as a whole strives for the same goal and thus, in some cases, can be universal. System of signals, such as voice sounds, intonations or pitch, gestures or written symbols which communicate thoughts or feelings. If a

language is about communicating with signals, voice, sounds, gestures, or written symbols, can animal communications be considered as a language? Animals do not have a written form of a language, but use a language to communicate with each another. In that sense, an animal communication can be considered as a separate language. Human spoken and written languages can be described as a system of symbols (sometimes known as lexemes) and the grammars (rules) by which the symbols are manipulated. The word "language" is also used to refer to common properties of languages. Language learning is normal in human childhood. Most human languages use patterns of sound or gesture for symbols which enable communication with others around them. There are thousands of human languages, and these seem to share certain properties, even though many shared properties have exceptions. There is no defined line between a language and a dialect, but the linguist Max Weinreich is credited as saying that "a language is a dialect with an army and a navy". Constructed languages such as Esperanto, programming languages, and various mathematical formalisms are not necessarily restricted to the properties shared by human languages.

Nonverbal communication

Nonverbal communication is the process of communicating through sending and receiving wordless messages. Such messages can be communicated through gesture, body language or posture; facial expression and eye contact, object communication such as clothing, hairstyles or even architecture, or symbols and infographics, as well as through an aggregate of the above, such as behavioral communication. Nonverbal communication plays a key role in every person's day to day life, from employment to romantic engagements.

Speech may also contain nonverbal elements known as paralanguage, including voice quality, emotion and speaking style, as well as prosodic features such as rhythm, intonation and stress. Likewise, written texts have nonverbal elements such as handwriting style, spatial arrangement of words, or the use of emoticons. A portmanteau of the English words emotion (or emote) and icon, an emoticon is a symbol or combination of symbols used to convey emotional content in written or message form.

Other communication channels such as telegraphy fit into this category, whereby signals travel from person to person by an alternative means. These signals can in themselves be representative of words, objects or merely be state projections. Trials have shown that humans can communicate directly in this way without body language, voice tonality or words.

Categories and Features G. W. Porter divides non-verbal communication into four broad categories:

Physical. This is the personal type of communication. It includes facial expressions, tone of voice, sense of touch, sense of smell, and body motions.

Aesthetic. This is the type of communication that takes place through creative expressions: playing instrumental music, dancing, painting and sculpturing.

Signs. This is the mechanical type of communication, which includes the use of signal flags, the 21-gun salute, horns, and sirens.

Symbolic. This is the type of communication that makes use of religious, status, or ego-building symbols.

Static Features

Distance. The distance one stands from another frequently conveys a non-verbal message. In some cultures it is a sign of attraction, while in others it may reflect status or the intensity of the exchange.

Orientation. People may present themselves in various ways: face-to-face, side-to-side, or even back-to-back. For example, cooperating people are likely to sit side-by-side while competitors frequently face one another.

Posture. Obviously one can be lying down, seated, or standing. These are not the elements of posture that convey messages. Are we slouched or erect? Are our legs crossed or our arms folded? Such postures convey a degree of formality and the degree of relaxation in the communication exchange.

Physical Contact. Shaking hands, touching, holding, embracing, pushing, or patting on the back all convey messages. They reflect an element of intimacy or a feeling of (or lack of) attraction.

Dynamic Features

Facial Expressions. A smile, frown, raised eyebrow, yawn, and sneer all convey information. Facial expressions continually change during interaction and are monitored constantly by the recipient. There is evidence that the meaning of these expressions may be similar across cultures.

Gestures. One of the most frequently observed, but least understood, cues is a hand movement. Most people use hand movements regularly when talking. While some gestures (e.g., a clenched fist) have universal meanings, most of the others are individually learned and idiosyncratic.

Looking. A major feature of social communication is eye contact. It can convey emotion, signal when to talk or finish, or aversion. The frequency of contact may suggest either interest or boredom.

Visual communication

Visual communication as the name suggests is communication through visual aid. It is the conveyance of ideas and information in forms that can be read or looked upon. Primarily associated with two dimensional images, it includes: signs, typography, drawing, graphic design, illustration, color and electronic resources. It solely relies on vision. It is form of communication with visual effect. It explores the idea that a visual message with text has a greater power to inform, educate or persuade a person. It is communication by presenting information through visual form.

The evaluation of a good visual design is based on measuring comprehension by the audience, not on aesthetic or artistic preference. There are no universally agreed-upon principles of beauty and ugliness. There exists a variety of ways to present information visually, like gestures, body languages, video and TV. Here, focus is on the presentation of text, pictures, diagrams, photos, et cetera, integrated on a computer display. The term visual presentation is used to refer to the actual presentation of information. Recent research in the field has focused on web design and graphically oriented usability. Graphic designers use methods of visual communication in their professional .

Oral Communication

The first step in planning an oral presentation involves acknowledging two fundamental differences between oral and written communication. One essential goal of oral communication is to make personal contact with the audience, and to help connect them to the content. Reading a written report aloud is not usually an effective strategy for engaging with the audience. The needs/preferences of the audience play an even larger role in oral presentations than in writing. The content of presentations should be prepared with this goal in mind. Second, oral presentations are fleeting (or time-sensitive). If readers get lost or stop paying attention for a few minutes, they can always flip back a few pages.

Listeners, on the other hand, usually can't interrupt the speaker and ask that s/he start again and go back a few minutes. Once words are uttered, they vanish. Presenters can account for the fleeting nature of oral presentations by making sure that the presentation is well organized and by making structure explicit in the talk, so the audience can always know where they've been and where they're going

Communication modeling

Communication is usually described along a few major dimensions: Content (what type of things are communicated), source / sender / encoder (by whom), form (in which form), channel (through which medium), destination / receiver / target / decoder (to whom), and the purpose or pragmatic aspect. Between parties, communication includes acts that confer knowledge and experiences, give advice and commands, and ask questions. These acts may take many forms, in one of the various manners of communication. The form depends on the abilities of the group communicating.

Together, communication content and form make messages that are sent towards a destination. The target can be oneself, another person or being, another entity (such as a corporation or group of beings).

Communication can be seen as processes of information transmission governed by three levels of semiotic rules:

1. Syntactic (formal properties of signs and symbols),
2. Pragmatic (concerned with the relations between signs/expressions and their users) and
3. Semantic (study of relationships between signs and symbols and what they represent).

Therefore, communication is social interaction where at least two interacting agents share a common set of signs and a common set of semiotic rules. This commonly held rules in some sense ignores auto communication, including intrapersonal communication via diaries or self-talk, both secondary phenomena that followed the primary acquisition of communicative competences within social interactions.

In a simple model, information or content (e.g. a message in natural language) is sent in some form (as spoken language) from a sender/ encoder to a destination/ receiver/ decoder. In a slightly more complex form a sender and a receiver are linked reciprocally. A particular instance of communication is called a speech act. The sender's personal filters and the receiver's personal filters may vary depending upon different regional traditions, cultures, or gender; which may alter the intended meaning of message contents. In the presence of "communication noise" on the transmission channel (air, in this case), reception and decoding of content may be faulty, and thus the speech act may not achieve the desired effect. One problem with this encode-transmit-receive-decode model is that the processes of encoding and decoding imply that the sender and receiver each possess something that functions as a code book, and that these two code books are, at the very least, similar if not identical. Although something like code books is implied by the model, they are nowhere represented in the model, which creates many conceptual difficulties.

Theories of co regulation describe communication as a creative and dynamic continuous process, rather than a discrete exchange of information. Canadian media scholar Harold Innis had the theory that people use different types of media to communicate and which one they choose to use will offer different possibilities for the shape and durability of society (Wark, McKenzie 1997). His famous example of this is using ancient Egypt and looking at the ways they built themselves out of media with very different properties stone and papyrus. Papyrus is what he called '**Space Binding**'. it made possible the transmission of written orders across space, empires and enables the waging of distant military campaigns and colonial administration. The other is stone and '**Time Binding**', through the construction of temples and

the pyramids can sustain their authority generation to generation, through this media they can change and shape communication in their society (Wark, McKenzie 1997).

The Krishi Vigyan Kendra Kannur under Kerala Agricultural University has pioneered a new branch of agricultural communication called Creative Extension.

Communication as academic discipline

Communication as an academic discipline, sometimes called "communicology, relates to all the ways we communicate, so it embraces a large body of study and knowledge. The communication discipline includes both verbal and nonverbal messages. A body of scholarship all about communication is presented and explained in textbooks, electronic publications, and academic journals. In the journals, researchers report the results of studies that are the basis for an ever-expanding understanding of how we all communicate.

Communication happens at many levels (even for one single action), in many different ways, and for most beings, as well as certain machines. Several, if not all, fields of study dedicate a portion of attention to communication, so when speaking about communication it is very important to be sure about what aspects of communication one is speaking about. Definitions of communication range widely, some recognizing that animals can communicate with each other as well as human beings, and some are more narrow, only including human beings within the parameters of human symbolic interaction.

Public relations

Public relations (PR) is the practice of managing the communication between an [organization](#) and its [publics](#). Public relations gains an organization or individual [exposure](#) to their [audiences](#) using topics of [public](#) interest and [news](#) items that do not require direct [payment](#). Because public relations places exposure in credible third-party outlets, it offers a third-party [legitimacy](#) that [advertising](#) does not have. Common activities include speaking at conferences, working with the press, and employee communication. It is something that is not tangible and this is what sets it apart from Advertising.

PR can be used to build rapport with employees, customers, investors, voters, or the general public. Almost any organization that has a stake in how it is portrayed in the public arena employs some level of public relations. There are number of related sister disciplines all falling under the banner of Corporate Communications, such as [Analyst relations](#), Media Relations, Investor Relations, Internal Communications or Labor Relations.

Definition

The Public Relations Society of America (PRSA) claimed:¹"According to the PRSA, the essential functions of public relations include research, planning, communications dialogue, action and evaluation.

[Edward Louis Bernays](#), who is considered the founding father of modern public relations along with [Ivy Lee](#), in the early 1900s defined public relations as a "management function which tabulates public attitudes, defines the policies, procedures and interests of an organization... followed by executing a program of action to earn public understanding and acceptance" (see [history of public relations](#)).

Today, "Public Relations is a set of management, supervisory, and technical functions that foster an organization's ability to strategically listen to, appreciate, and respond to those persons whose mutually beneficial relationships with the organization are necessary if it is to achieve its missions and values. Essentially it is a management function that focuses on two-way communication and fostering of mutually beneficial relationships between an organization and its publics.

Building and managing relationships with those who influence an organization or individual's audiences has a central role in public relations.

Methods, tools and tactics

Public relations and [publicity](#) are not synonymous but many PR campaigns include provisions for publicity. Publicity is the spreading of information to gain public awareness for a product, person, service, cause or organization, and can be seen as a result of effective PR planning.

Publics targeting

A fundamental technique used in public relations is to identify the target audience, and to tailor every message to appeal to that audience. It can be a general, nationwide or worldwide audience, but it is more often a segment of a population. Marketers often refer to economy-driven "[demographics](#)," such as "black males 18-49," but in public relations an audience is more fluid, being whoever someone wants to reach. For example, recent political audiences include "[soccer moms](#)" and "[NASCAR dads](#)." There is also a psychographic grouping based on fitness level, eating preferences.

In addition to audiences, there are usually [stakeholders](#), literally people who have a "stake" in a given issue. All audiences are stakeholders (or presumptive stakeholders), but not all stakeholders are audiences. For example, a charity

commissions a PR agency to create an advertising campaign to raise money to find a cure for a disease. The charity and the people with the disease are stakeholders, but the audience is anyone who is likely to donate money. Sometimes the interests of differing audiences and stakeholders common to a PR effort necessitate the creation of several distinct but still complementary messages. This is not always easy to do, and sometimes – especially in politics – a spokesperson or client says something to one audience that angers another audience or group of stakeholders.

Lobby groups

Lobby groups are established to influence government policy, corporate policy, or public opinion. An example of this is the American Israel Public Affairs Committee, AIPAC, which influences American foreign policy. Such groups claim to represent a particular interest and in fact are dedicated to doing so. When a lobby group hides its true purpose and support base it is known as a front group. Moreover, governments may also lobby public relations firms in order to sway public opinion. A well illustrated example of this is the way civil war in Yugoslavia was portrayed. Governments of newly succeeded republics of Croatia and Bosnia invested heavily with American PR firms, so that the PR firms would give them a positive war image in the US.

Spin

In public relations, "spin" is sometimes a [pejorative](#) term signifying a heavily biased portrayal in one's own favor of an event or situation. While traditional public relations may also rely on creative presentation of the facts, "[spin](#)" often, though not always, implies disingenuous, deceptive and/or highly manipulative tactics. Politicians are often accused of spin by commentators and political opponents, when they produce a counter argument or position.

The techniques of "spin"s include selectively presenting facts and quotes that support one's position ([cherry picking](#)), the so-called "[non-denial](#)," phrasing in a way that assumes unproven truths, [euphemisms](#) for drawing attention away from items considered distasteful, and ambiguity in public statements. Another spin technique involves careful choice of timing in the release of certain news so it can take advantage of prominent events in the news. A famous reference to this practice occurred when British Government press officer [Jo Moore](#) used the phrase *It's now a very good day to get out anything we want to bury*, (widely [paraphrased](#) or misquoted as "It's a good day to bury bad news"), in an email sent on September 11, [2001](#). The furor caused when this email was reported in the press eventually caused her to resign.

Spin doctor

Skilled practitioners of spin are sometimes called "spin doctors," despite the negative connotation associated with the term. It is the PR equivalent of calling a writer a "[hack](#)." Perhaps the most well-known person in the UK often described as a "spin doctor" is [Alastair Campbell](#), who was involved with [Tony Blair](#)'s public relations between 1994 and 2003, and also played a controversial role as press relations officer to the [British and Irish Lions rugby union](#) side during their [2005 tour of New Zealand](#).

State-run [media](#) in many countries also engage in spin by selectively allowing news stories that are favorable to the government while censoring anything that could be considered critical. They may also use [propaganda](#) to [indoctrinate](#) or actively influence citizens' opinions. Privately run media also uses the same techniques of 'issue' versus 'non-issue' to spin its particular political viewpoints.

Meet and Greet

Many businesses and organizations will use a Meet and Greet as a method of introducing two or more parties to each other in a comfortable setting. These will generally involve some sort of incentive, usually food catered from restaurants, to encourage employees or members to participate.

There are opposing schools of thought as to how the specific mechanics of a Meet and Greet operate. The [Gardiner](#) school of thought states that unless specified as an informal event, all parties should arrive promptly at the time at which the event is scheduled to start. The [Kolanowski](#) school of thought, however, states that parties may arrive at any time after the event begins, in order to provide a more relaxed interaction environment.

Politics and civil society

Defining the opponent

A tactic used in political campaigns is known as "defining one's opponent." Opponents can be candidates, organizations and other groups of people.

In the 2004 US presidential campaign, [Howard Dean](#) defined [John Kerry](#) as a "flip-flopper," which was widely reported and repeated by the media, particularly the conservative media. Similarly, George H.W. Bush characterized [Michael Dukakis](#) as weak on crime (the [Willie Horton](#) ad) and hopelessly liberal ("a card-carrying member of the ACLU"). In 1996, President [Bill Clinton](#) seized upon opponent [Bob Dole](#)'s promise to take America back to a simpler time, promising in contrast to "build a bridge to the 21st century." This painted Dole as a person who was somehow opposed to progress.

In the debate over [abortion](#), self-titled [pro-choice](#) groups, by virtue of their name, defined their opponents as "anti-choice", while self-titled pro-life groups refer to their opponents as "pro-abortion" or "anti-life".

Managing language

If a politician or organization can use an apt phrase in relation to an issue, such as in interviews or news releases, the news media will often repeat it verbatim, without questioning the aptness of the phrase. This perpetuates both the message and whatever preconceptions might underlie it. Often, something innocuous sounding can stand in for something greater; a "[culture of life](#)" sounds like general goodwill to most people, but will evoke opposition to abortion for many pro-life advocates. The phrase "[States' rights](#)" was used as a code for anti-civil rights legislation in the United States in the 1960s, and, allegedly, the 70s, and 80s.

Conveying the message

The method of communication can be as important as a message. Direct mail, [advertising](#) and [public speaking](#) are used depending upon the intended audience and the message that is conveyed. Press releases are also used, but since many newspapers are folding, they have become a less reliable way of communicating, and other methods have become more popular.

Arts organizations have begun to rely more on their own websites and have developed a variety of unique approaches to publicity and public relations, on and off the web.

Front groups

One of the most controversial practices in public relations is the use of front groups – organizations that purport to serve a public cause while actually serving the interests of a client whose sponsorship may be obscured or concealed. Critics of the public relations industry, such as [PR Watch](#), have contended that Public Relations involves a "multi-billion dollar propaganda-for-hire industry" that "concoct[s] and spin[s] the news, organize[s] phony 'grassroots' front groups, spy on citizens, and conspire[s] with lobbyists and politicians to thwart democracy."

Instances of the use of front groups as a PR technique have been documented in many industries. Coal mining corporations have created environmental groups that contend that increased CO2 emissions and [global warming](#) will contribute to plant growth and will be beneficial, trade groups for bars have created and funded citizens' groups to attack anti-alcohol groups, tobacco companies have created and funded citizens' groups to advocate for [tort reform](#) and to attack personal injury lawyers, while trial lawyers have created "consumer advocacy" front groups to oppose tort reform.

Media relations

Media relations involves working with various media for the purpose of informing the public of an organization's mission, policies and practices in a positive, consistent and credible manner. Typically, this means coordinating directly with the people responsible for producing the news and features in the mass media. The goal of media relations is to maximize positive coverage in the mass media without paying for it directly through advertising.

Many people use the terms *public relations* and *media relations* interchangeably; however, doing so is incorrect. Media relations refer to the relationship that a company or organization develops with journalists, while public relations extend that relationship beyond the media to the general public.

Dealing with the media presents unique challenges in that the news media cannot be controlled — they have ultimate control over whether stories pitched to them are of interest to their audiences. Because of this, ongoing relationships between an organization and the news media is vital. One way to ensure a positive working relationship with media personnel is to become deeply familiar with their "beats" and areas of interests. Media relations and public relations practitioners should read as many magazines, journals, newspapers, and blogs as possible, as they relate to one's practice.

Working with the media on the behalf of an organization allows for awareness of the entity to be raised as well as the ability to create an impact with a chosen audience. It allows access to both large and small target audiences and helps build public support and mobilizing public opinion for an organization This is all done through a wide range of media and can be used to encourage two-way communication.

Key elements of strategy-based media relations

- The media strategy is documented and implemented according to principles agreed to by public affairs and senior management.
- A media policy is drawn up with responsibilities, profiles and positioning.
- Media activity is planned to reach target audiences in direct support of your organizational mission and goals.
- Media contact is broadly divided into proactive and reactive activities.
- Systematic use of consistent messages is made (e.g., about organizational performance, issues, use of new technologies and corporate behavior including environmental policy, corporate governance and corporate social responsibility).

- Spokespersons' roles are documented, communicated and supported.
- There are clear triggers for engagement as part of the issues management – stakeholder relations process.
- Decisions are agreed to beforehand with respect to follow-up activities after media coverage



Advertising is a form of communication used to influence individuals to purchase products or services or support political candidates or ideas. Frequently it communicates a message that includes the name of the product or service and how that product or service could potentially benefit the consumer. Advertising often attempts to persuade potential customers to purchase or to consume a particular brand of product or service. Modern advertising developed with the rise of mass production in the late 19th and early 20th centuries.

Commercial advertisers often seek to generate increased consumption of their products or services through branding, which involves the repetition of an image or product name in an effort to associate related qualities with the brand in the minds of consumers. Different types of media can be used to deliver these messages, including traditional media such as newspapers, magazines, television, radio, billboards or direct mail. Advertising may be placed by an advertising agency on behalf of a company or other organization.

Organizations that spend money on advertising promoting items other than a consumer product or service include political parties, interest groups, religious organizations and governmental agencies. Non-profit organizations may rely on free modes of persuasion, such as a public service announcement.

Money spent on advertising has increased in recent years. In 2007, spending on advertising was estimated at more than \$150 billion in the United States and \$385 billion worldwide, and the latter to exceed \$450 billion by 2010.

Advertising is communication used to influence individuals to purchase products or services or support political candidates or ideas. Advertising can be displaced on billboards, newspapers, T.V., websites, movies and more.

Public service advertising

The same advertising techniques used to promote commercial goods and services can be used to inform, educate and motivate the public about non-commercial issues, such as HIV/AIDS, political ideology, energy conservation and deforestation.

Advertising, in its non-commercial guise, is a powerful educational tool capable of reaching and motivating large audiences. "Advertising justifies its existence when used in the public interest - it is much too powerful a tool to use solely for commercial purposes." - Attributed to Howard Gossage by David Ogilvy.

Public service advertising, non-commercial advertising, public interest advertising, cause marketing, and social marketing are different terms for (or aspects of) the use of sophisticated advertising and marketing communications techniques (generally associated with commercial enterprise) on behalf of non-commercial, public interest issues and initiatives.

In the United States, the granting of television and radio licenses by the FCC is contingent upon the station broadcasting a certain amount of public service advertising. To meet these requirements, many broadcast stations in America air the bulk of their required public service announcements during the late night or early morning when the smallest percentage of viewers are watching, leaving more day and prime time commercial slots available for high-paying advertisers.

Public service advertising reached its height during World Wars I and II under the direction of several governments.

Radio advertising

Radio advertising is a form of advertising via the medium of radio.

Radio advertisements are broadcasted as radio waves to the air from a transmitter to an antenna and a thus to a receiving device. Airtime is purchased from a station or network in exchange for airing the commercials. While radio has the obvious limitation of being restricted to sound, proponents of radio advertising often cite this as an advantage

Print advertising

Print advertising describes advertising in a printed medium such as a newspaper, magazine, or trade journal. This encompasses everything from media with a very broad readership base, such as a major national newspaper or magazine, to more narrowly targeted media such as local newspapers and trade journals on very specialized topics. A form of print advertising is classified advertising, which allows private individuals or companies to purchase a small, narrowly targeted ad for a low fee advertising a product or service.

Online advertising

Online advertising is a form of promotion that uses the Internet and World Wide Web for the expressed purpose of delivering marketing messages to attract customers. Examples of online advertising include contextual ads on search engine results pages, banner ads, Rich Media Ads, Social network advertising, online classified advertising, advertising networks and e-mail marketing, including e-mail spam.

Billboard advertising

Billboards are large structures located in public places which display advertisements to passing pedestrians and motorists. Most often, they are located on main roads with a large amount of passing motor and pedestrian traffic; however, they can be placed in any location with large amounts of viewers, such as on mass transit vehicles and in stations, in shopping malls or office buildings, and in stadiums.

In-store advertising

In-store advertising is any advertisement placed in a retail store. It includes placement of a product in visible locations in a store, such as at eye level, at the ends of aisles and near checkout counters, eye-catching displays promoting a specific product, and advertisements in such places as shopping carts and in-store video displays.

Criticism of advertising

While advertising can be seen as necessary for economic growth, it is not without social costs. Unsolicited Commercial Email and other forms of spam have become so prevalent as to have become a major nuisance to users of these services, as well as being a financial burden on internet service providers. Advertising is increasingly invading public spaces, such as schools, which some critics argue is a form of child exploitation. In addition, advertising frequently uses psychological pressure (for example, appealing to feelings of inadequacy) on the intended consumer, which may be harmful.

Advertising and constitutional rights

Advertising is equated with constitutionally guaranteed freedom of opinion and speech. Therefore criticizing advertising or any attempt to restrict or ban advertising is almost always considered to be an attack on fundamental rights (First Amendment in the USA) and meets the combined and concentrated resistance of the business and especially the advertising community.

The price of attention and hidden costs

Advertising has developed into a billion-dollar business on which many depend. In 2006 391 billion US dollars were spent worldwide for advertising. In Germany, for example, the advertising industry contributes 1.5% of the gross national income; the figures for other developed countries are similar. Thus, advertising and growth are directly and causally linked. As far as a growth based economy can be blamed for the harmful human lifestyle (affluent society) advertising has to be considered in this aspect concerning its negative impact, because its main purpose is to raise consumption. "The industry is accused of being one of the engines powering a convoluted economic mass production system which promotes consumption.

Children and adolescents as target groups

The children's market, where resistance to advertising is weakest, is the "pioneer for ad creep" "Kids are among the most sophisticated observers of ads. They can sing the jingles and identify the logos, and they often have strong feelings about products. What they generally don't understand, however, are the issues that underlie how advertising works. Mass media are used not only to sell goods but also ideas: how we should behave, what rules are important, who we should respect and what we should value. Youth is increasingly reduced to the role of a consumer. Not only the makers of toys, sweets, ice cream, breakfast food and sport articles prefer to aim their promotion at children and adolescents. For example, an ad for a breakfast cereal on a channel aimed at adults will have music that is a soft ballad, whereas on a channel aimed at children, the same ad will use a catchy rock jingle of the same song to aim at kids. Advertising for other products preferably uses media with which they can also reach the next generation of consumers. "Key advertising messages exploit the emerging independence of young people". Cigarettes, for example, "are used as a fashion accessory and appeal to young women. Other influences on young people include the linking of sporting heroes and smoking through sports sponsorship, the use of cigarettes by popular characters in television programmes and cigarette promotions. Research suggests that young people are aware of the most heavily advertised cigarette brands."

"Product placements show up everywhere, and children aren't exempt. Far from it. The animated film, Foodfight, had 'thousands of products and character icons from the familiar (items) in a grocery store.' Children's books also feature branded items and characters, and millions of them have snack foods as lead characters. Business is interested in children and adolescents because of their buying power and because of their influence on the shopping habits of their parents. As they are easier to influence they are especially targeted by the advertising business. "The marketing industry is facing increased pressure over claimed links between exposure to food advertising and a range of social problems, especially growing obesity levels."

d 15% in magazines. In 2002 there were 360.000 people employed in the advertising business. The internet revenues for advertising doubled to almost 1 billion Euros from 2006 to 2007, giving it the highest growth rates

Communication design

Communication design is a mixed discipline between design and information-development which is concerned with how media intermission such as printed, crafted, electronic media or presentations communicate with people. A communication design approach is not only concerned with developing the message aside from the aesthetics in media, but also with creating new media channels to ensure the message reaches the target audience.

Communication design seeks to attract, inspire, create desires and motivate the people to respond to messages, with a view to making a favorable impact to the bottom line of the commissioning body, which can be either to build a brand, move sales, or for humanitarian purposes. Its process involves strategic business thinking, utilizing market research, creativity, and problem-solving.

The term communication design is often used interchangeably with visual communication and more specifically visual design, but has an alternate broader meaning that includes auditory, vocal, touch and smell. Examples of Communication Design include information architecture, editing, typography, illustration, web design, animation, advertising, ambient media, visual identity design, performing arts, copywriting and professional writing skills applied in the creative industries.

Visual design

Visual Design is the design working in any media or support of visual communication. This is a correct terminology to cover all types of design applied in communication that uses visual channel for transmission of messages, precisely because this term relate to the concept of visual language of some media and not limited to support a particular form of production, as do the terms graphic design (graphic) or Interface design (electronic media).

Internal communications

Internal communications is a generic expression for all [communication](#) (formal and informal) that an [organisation](#) undertakes with its close [stakeholders](#) — i.e. those people with whom it has a relationship that requires support, principally direct/indirect [employees](#) and/or members. The main purpose of formal internal communications is to inform employees or members of the direction and performance of the organisation (and/or team) to which they belong.

The profession of internal communications builds on fundamental principles of other disciplines like [human resources](#) (HR), [marketing](#), [project management](#) and [media planning](#). As a result it often gets adopted in organisations under different labels: employee communications, [employee engagement](#), [internal marketing](#), company communications, staff communication, etc. Responsibility can also reside within different functions: marketing, [corporate communications](#), transformation, HR, CEO office, etc.

In common with other communication professions, there are different areas of specialism within internal communications: channel management, speech-writing, change communications, HR communications, project communications, event management, [social media](#), [intranets](#), etc.

Internal communication in practice

Why does internal communication matter?

- **Clear Line of Sight**
At the most basic level internal communication helps make a difference to organisations by providing clarity of purpose that help people do their jobs.
- **Employee Engagement**
Effective internal communications is one of the key drivers of employee engagement which has been widely researched and proven to add significant value to organisations on all metrics from productivity to customer research.
- **External reputation**
Market researchers MOR have highlighted the strength of employee advocacy in shaping an organisation's external reputation. [Joep Cornelissen](#) in his book *Corporate Communications* touches on the relationship between reputation and internal conversation.
- **Change management**
Communication is also a critical success factor for change or transformation programmes. ([John Kotter](#) says: "When the environment constantly changes, the organization must innovate to adapt to or control that environment. When your external environment changes, your internal environment should adjust as well, and internal communication is vital during these times.")
- **Regulation and compliance**
There is also in many countries a legal requirement that certain communications take place. For example within the [EU](#), employers are expected to hold consultations with their staff on business decisions that affect

them, like [redundancy](#). Effective communications is essential for ensuring compliance with companies' policies on corporate governance, [occupational safety and health](#), environment and [quality assurance](#).

Internal communication strategy

There are two sides to strategy in internal communications. In the first instance there is the organisation's strategy — what it hopes to achieve and how it plans to go about achieving it. That strategy will be supported and, to some extent, delivered through effective internal communications.

In this context internal communication can help on several different levels:

- **Tell:** simply informing people of the direction, non-negotiable
- **Sell:** anticipating some form of backlash, requiring some persuasion
- **Consult:** seeking specific areas of input to the decision-making process
- **Involve:** seeking varying degrees of involvement and co-creation

Secondly, and more importantly, internal communications needs a strategy of its own. It should be positioned more than a simple plan of tactical interventions in support of business activities. The strategy should consider the following:

- **Market:** What does the organisation know about its audiences' needs? How should its audiences be segmented?
- **Message:** What is the organisation's message trying to achieve? In what tone should it be conveyed?
- **Media:** Which channels work best for the different audience segments? How will it maximise reach and cut-through? Are there clear editorial guidelines for each?
- **Measurement:** Are there clearly defined success criteria? What are the leading and lagging measures? As well as informing all of the other three M's, it should be used to demonstrate value and measures of performance ([ROI](#), message penetration, hit rates, quality of feedback, etc)

The strategy will inform the best way to organize effective communications.

Internal communications functions

Internal communications functions can require several skills, eg: writing, marketing, event organisation, web channels, facilitation, [advertising](#), stakeholder management, [corporate social responsibility](#), [branding](#) and communications training.

Internal communicators are a broad church of professionals with both general and specialist skills. Generalist communicators often take on the role of internal communications business partners or consultants, drawing on the support from internal communications specialists who have one or more of the technical skills required to deliver channels (writing, planning, measurement). In practice, the delineation between these two roles is often blurred but it does highlight the diverse skills required.

Internal communication channels

The internal communications department should be responsible for developing and maintaining a number of 'channels' that allow effective communication to take place across the business. A communications channel refers to the medium used to convey information from sender to receiver - in this case from organisation to employee. The range and quality of channels differs between organisations, depending on their size and technical infrastructure.

The American political scientist and communication theorist [Harold Lasswell](#) popularised the concept of the communication channel in his 1948 paper *The Communication of Ideas*¹ where he proposed a simple five-stage model based around the following question(s):

- Who
- Say what
- In which channel
- To whom
- With what effect?

In reality internal communications is not a linear system and informal channels exist outside the internal pipework of formal communications channels. This is important for those practitioners that (wrongly) believe that internal communications is simply about controlling the message.

Formal channels

Formal channels typically fall into one of four broad categories:

- **Electronic:** - Communications that are delivered and/or accessed electronically, either by computer, telephone, television or other devices. Examples include [email](#), intranet, video and [webcasts](#), electronic [newsletters](#), [podcasts](#), [blogs](#), [Wikis](#), [voicemail](#), conference calls, [SMS](#) text messaging, screensaver messaging, desktop alert messages, desktop news feeds and internal social media tools (eg: internal [Twitter](#)-style sites such as [Yammer](#))
- **Print:** - Paper-based communications. Examples include [magazines](#), newsletters, brochures, postcards and other desk drops, posters, memos, communication packs for line managers, etc.

- **Face-to-face:** - One-to-one and one-to-many forums where people are physically present. Examples include team meetings or briefings, conferences, site visits, 'back to the floor', consultation forums, 'brown bag' lunches, round-table discussions, 'town meetings', etc.
- **Workspace:** - the working environment. Examples include notice boards, plasma and LCD screens, accessories (eg: mousemats), window decals, etc.

Informal channels

These channels reflect the non-linear dynamics of a [social network](#) and can be as, if not more, influential than more formal channels. Often informal internal communications is more likely to stimulate and create [discussion](#) and [dialogue](#). The channels often manifest themselves via the rumor-mill, water-cooler conversations, social networking, spoof newsletters, etc.

Selecting channels

One of the key challenges any internal communicator will face is how to select the right channels - and the right mix of channels - for both the audience and the message. The main considerations are:

- **Availability:** what channels either already exist within the organization or can be introduced effectively?
- **Audience:** who are they, where are they based, how do they prefer to access information and how effective will the proposed channel be in reaching them and engaging them?
- **Objectives:** what does the organization want people to learn, think, feel or do as a result of the message?
- **Content:** what is the context and substance of the message? (For example, sensitive messages may need to be communicated face-to-face, rather than by, say, SMS text message.)

Internal communication audiences

Audience segmentation

An internal audience is rarely homogeneous. Audiences differ according to the core business or activity of an organization. For example, a manufacturing company may have four main groups:

- **Management:** (*see Line managers section below*)
- **Executives and specialists:** This group is generally office-based and regularly, if not constantly, online. For example, they spend a lot of time creating and sharing information/knowledge both in meetings and online. They interact with their line managers on a regular basis, even if this is virtually by telephone conference, and also give significant credibility to online news and social media.
- **Technical experts and engineers:** This group is often out at customer sites, spending a significant amount of time on manual tasks. For example, they have an office base which they may visit daily or weekly. They are likely to have a laptop and email account but the key difference is they may only check-in to online information sources at specific times. A lot of their direct communication is by telephone. They make good use of physical notice-boards back at base and printed materials such as newsletters.
- **Factory workers:** Even though production lines are highly automated, factory-based employees still spend most of their time on the factory floor, often working a changing shift pattern. They have limited access to generic online channels, perhaps sharing a computer station to log on to emails and check the intranet. Literacy levels can be low in this audience group which means more emphasis on face-to-face communication and story-telling.

Line managers

Employee communication is an important skill for all line managers, irrespective of their seniority. Like any skill it requires training and development. Often, organisations do not invest the appropriate amount of time and effort in developing managers' communications skills. Too often this leads to managers abdicating responsibility for communications to their 'internal communications department' and a lack of confidence in facilitating discussion in their teams. This raises debate around the following issues:

- The nature of supervisory relationships and organizational communication
- The potency of managers as a channel of official communications
- How best to support managers in their roles

Managers as official channels

Although local leaders are undoubtedly a potent force in communications for the reasons explored below – there is little evidence that they hold a supreme position above all other channels of internal communications.

Research findings suggest that employees like to hear from their line manager on subjects in which the manager or supervisor is expert. So, for example employees like their manager to explain how the corporate strategy will affect our team but they don't expect them to be the best source on the detailed analysis behind the strategy. Employees might not naturally look to managers for advice on the workings of the pension scheme.

Managers as animated notice boards

Sending information down the line to local supervisors, expecting them to deliver it without any corruption, interpretation or deviation has long been the main focus of 'cascaded' internal communications (for example, UK guidance from The Industrial Society, now the [Work Foundation](#), focused on giving managers very clear instructions about what to say and how to say it). However, in recent years thinking has evolved and literature now concentrates on empowering managers to facilitate discussion rather than cascade management of messages which will have little authority or impact. **Arrow approach** – Communications are carefully constructed and aimed at a target audience. It assumes the more accurate the message, the clearer the understanding of the recipient. Problems arise when it is taken for granted that information is mostly transmitted by words and that recipients are passive receptors.

- **Circuit approach** – Communications are achieved with positive relationships and job satisfaction of employees through understanding and discussion. It assumes that communicating is grounded in mutual understanding. Problems arise because of the myopic view that understanding will lead to agreement and that this understanding should be the sole goal of communications.
- **Dance approach** – Communications are achieved through an intricate combination of the practice, understanding, and intuition. It believes that the communication involves the coordination of meanings, the understanding of common rules, and the recognition of patterns between two or more people.

Communication theory

There is much discussion in the academic world of communication as to what actually constitutes communication. Currently, many definitions of communication are used in order to conceptualize the processes by which people navigate and assign meaning. Communication is also understood as the exchanging of understanding. Additionally the biocommunication theory investigates communicative processes within and among non-humans such as bacteria, animals, fungi and plants.

We might say that communication consists of transmitting information from one person to another. In fact, many scholars of communication take this as a working definition, and use Lasswell's maxim, "who says what to whom in what channel with what effect," as a means of circumscribing the field of **communication theory**.

A simple communication model with a sender transferring a message containing information to a receiver.

Other commentators suggest that a ritual process of communication exists, one not artificially divorceable from a particular historical and social context.

Communication stands so deeply rooted in human behaviors and the structures of society that scholars have difficulty thinking of it while excluding social or behavioral events. Because communication theory remains a relatively young field of inquiry and integrates itself with other disciplines such as philosophy, psychology, and sociology, one probably cannot yet expect a consensus conceptualization of communication across disciplines.

Currently, there is no paradigm from which communication scholars may work. One of the issues facing scholars is the possibility that establishing a communication metatheory will negate their research and stifle the broad body of knowledge in which communication functions.

he Latin verb *informare*, to give form to, to form an idea of. Furthermore, Latin itself already contained the word *informatio* meaning concept or idea, but the extent to which this may have influenced the development of the word *information* in English is unclear.

As a final note, the ancient Greek word for *form* was "μορφή" (morf -> morphe, Morph) and also *εἶδος* *eidōs* (kind, idea, shape, set), the latter word was famously used in a technical philosophical sense by Plato (and later Aristotle) to denote the ideal identity or essence of something (see Theory of forms). "Eidos" can also be associated with thought, proposition or even concept.

Strategic Communication

Strategic Communication can mean either communicating a concept, a process, or data that satisfies a long term strategic goal of an organization by allowing facilitation of advanced planning, or communicating over long distances usually using international telecommunications or dedicated global network assets to coordinate actions and activities of operationally significant commercial, non-commercial and military business or combat and logistic subunits. It can also mean the related function within organisations that takes care of internal and external communication processes.

History of strategic communication

Strategic communication at its nascent ancient application begun with the first attempts to transmit knowledge through writing either to the following generations, or to locations remote to its origin. The need to increase the distance and speed of transmission may have been one of the factors behind the domestication of the horse which remained the primary mode of communication until the invention of the semaphore, and later the telegraph. The business management reference for Strategic Communication may be the concept of Integrated Management Communication.

Definition of strategic communication

Strategic communication management could be defined as the systematic planning and realization of information flow, communication, media development and image care in a long-term horizon. It conveys deliberate message(s) through the most suitable media to the designated audience(s) at the appropriate time to contribute to and achieve the desired long-term effect. Communication management is process creation. It has to bring three factors into balance: the message(s), the media channel(s) and the audience(s).^[1] Current multinational concept development and experimentation defines Strategic Communication as "a function to integrate an organisation's information activities in order to advance its interests and objectives, and to promote the coherence of the organisation". (See Peter E. Westenkirchner: Framework Concept "Strategic Communication in Support of Multinational Coalition Operations within a Comprehensive Approach")

Application objectives

Strategic Communication (SC) provides a conceptual umbrella that enables organizations to integrate their disparate messaging efforts. It allows them to create and distribute communications that, while different in style and purpose, have an inner coherence. This consistency can, in some instances, foster an echo chamber that reinforces the organizational message and brand. At minimum, it prevents contradictory, confusing messaging to different groups across all media platforms.

Defence application

The recently approved NATO Policy on Strategic Communication defines Strategic Communication as "the coordinated and appropriate use of NATO communications activities and capabilities – Public Diplomacy, Military Public Affairs, Information Operations and Psychological Operations, as appropriate – in support of Alliance policies, operations and activities, and in order to advance NATO's aims" (SG(2009)0794). "It is important to underline that Strategic Communication is first and foremost a process that supports and underpins all efforts to achieve the Alliance's objectives; an enabler that guides and informs our decisions, and not an organization in itself. It is for this reason that Strategic Communication considerations should be integrated into the earliest planning phases - communication activities being a consequence of that planning" (MCM-0164-2009).

Commercial application

Strategic Communications in Commercial Environment is the non-military application of strategic communication principles and techniques are a new way for organizations to respond to a changed business landscape that results from today's networked communication environment. Back in the day, organizations could segment publics and audiences and target unique messages to each one. Employees, investors, partners, citizens of local communities, potential buyers and consumers could each receive messages that were not widely known or shared by the other groups. Now, all potential publics and audiences can access information about the organization. Providing dissimilar, even contradictory information is no longer possible and may even be problematic. Consumers see information targeted to investors and partners, employees see messages sent to members of the community. In short, with little effort, almost everyone can see almost everything.

Within organizations, the need to integrate communication efforts is moving the authority for creating messages from silos (media relations, investor relations, public relations, advertising, sales and promotion, community relations, corporate training) into corporate headquarters. When organizations adopt strategic communication processes, the message-originating departments -- although they were never fully autonomous -- must report to corporate communications units that issue guidelines for all organizational communication programs and efforts.

The term "strategic communication" means more than just getting the right message to the right people...and so on. It also means ensuring that communication programs meet the objectives of the organization. In order to meet those objectives and to obtain sufficient evidence to suggest that a program can or will meet them, SC is typically supported by a detailed research plan. Once the objectives are clarified, research to define audiences, to measure current attitudes, and to test ways to change those attitudes must be undertaken. Once the coordinating unit develops concepts, there will be focus groups and/or surveys to identify the most effective concepts. Final messages are also tested. The early research that shapes the message is called "formative evaluation." After implementation of the communication program, "summative evaluation" takes place. This research answers the questions: Did the program reach its goals? What effects did the campaign have? What remains to be done?

Research support for communication programs has long been a facet of advertising and, more broadly, marketing campaigns. In the commercial marketplace, sales are often the measurement for success and failure. In PR, the metric has generally been "clip files," the number of mentions in the editorial press: the more clips and the more influential the publications, the better. The underlying assumptions of strategic communication begin by rejecting these silos and adopting more robust measurements at all stages of program development, implementation, and post-campaign evaluation.

Public administration application

Educational institutions are responding to the perceived need for new ways of planning, developing, and implementing communication programs. In the last two years, a growing number of educational institutions offer programs in strategic communication, usually at the master's level. Prospective students can search the Internet for available programs.

Organizational communication

History of Organizational Communication

The field traces its lineage through business information, business communication, and early mass communication studies published in the 1930s through the 1950s. Until then, organizational communication as a discipline consisted of a few professors within speech departments who had a particular interest in speaking and writing in business settings. The current field is well established with its own theories and empirical concerns distinct from other communication subfields and other approaches to organizations.

Several seminal publications stand out as works broadening the scope and recognizing the importance of communication in the organizing process, and in using the term "organizational communication". Nobel Laureate Herbert Simon wrote in 1947 about "organization communications systems", saying communication is "absolutely essential to organizations".^[1]

In the 1950s, organizational communication focused largely on the role of communication in improving organizational life and organizational output. In the 1980s, the field turned away from a business-oriented approach to communication and became concerned more with the constitutive role of communication in organizing. In the 1990s, critical theory influence on the field was felt as organizational communication scholars focused more on communication's possibilities to oppress and liberate organizational members.

Assumptions underlying organizational communication

Some of the main assumptions underlying much of the early organizational communication research were:

- Humans act rationally. Sane people behave in rational ways, they generally have access to all of the information needed to make rational decisions they could articulate, and therefore will make rational decisions, unless there is some breakdown in the communication process.
- Formal logic and empirically verifiable data ought to be the foundation upon which any theory should rest. All we really need to understand communication in organizations is (a) observable and replicable behaviors that can be transformed into variables by some form of measurement, and (b) formally replicable syllogisms that can extend theory from observed data to other groups and settings
- Communication is primarily a mechanical process, in which a message is constructed and encoded by a sender, transmitted through some channel, then received and decoded by a receiver. Distortion, represented as any differences between the original and the received messages, can and ought to be identified and reduced or eliminated.
- Organizations are mechanical things, in which the parts (including employees functioning in defined roles) are interchangeable. What works in one organization will work in another similar organization. Individual differences can be minimized or even eliminated with careful management techniques.
- Organizations function as a container within which communication takes place. Any differences in form or function of communication between that occurring in an organization and in another setting can be identified and studied as factors affecting the communicative activity.

Herbert Simon introduced the concept of **bounded rationality** which challenged assumptions about the perfect rationality of communication participants. He maintained that people making decisions in organizations seldom had complete information, and that even if more information was available, they tended to pick the first acceptable option, rather than exploring further to pick the optimal solution.

Through the 1960s, 1970s and 1980s the field expanded greatly in parallel with several other academic disciplines, looking at communication as more than an intentional act designed to transfer an idea. Research expanded beyond the issue of "how to make people understand what I am saying" to tackle questions such as "how does the act of communicating change, or even define, who I am?", "why do organizations that seem to be saying similar things achieve very different results?" and "to what extent are my relationships with others affected by our various organizational contexts?"

In the early 1990s Peter Senge developed a new theories on Organizational Communication. This theories were learning organization and systems thinking. These have been well received and are now a mainstay in current beliefs toward organizational communications.

Communications networks

Networks are another aspect of direction and flow of communication. Bavelas has shown that communication patterns, or networks, influence groups in several important ways. Communication networks may affect the group's completion

of the assigned task on time, the position of the de facto leader in the group, or they may affect the group members' satisfaction from occupying certain positions in the network. Although these findings are based on laboratory experiments, they have important implications for the dynamics of communication in formal organizations.

There are several patterns of communication:

- "Chain",
- "Wheel",
- "Star",
- "All-Channel" network,
- "Circle"

The Chain can readily be seen to represent the hierarchical pattern that characterizes strictly formal information flow, "from the top down," in military and some types of business organizations. The Wheel can be compared with a typical autocratic organization, meaning one-man rule and limited employee participation. The Star is similar to the basic formal structure of many organizations. The All-Channel network, which is an elaboration of Bavelas's Circle used by Guetzkow, is analogous to the free-flow of communication in a group that encourages all of its members to become involved in group decision processes. The All-Channel network may also be compared to some of the informal communication networks.

If it's assumed that messages may move in both directions between stations in the networks, it is easy to see that some individuals occupy key positions with regard to the number of messages they handle and the degree to which they exercise control over the flow of information. For example, the person represented by the central dot in the "Star" handles all messages in the group. In contrast, individuals who occupy stations at the edges of the pattern handle fewer messages and have little or no control over the flow of information. These "peripheral" individuals can communicate with only one or two other persons and must depend entirely on others to relay their messages if they wish to extend their range.

In reporting the results of experiments involving the Circle, Wheel, and Star configurations, Bavelas came to the following tentative conclusions. In patterns with positions located centrally, such as the Wheel and the Star, an organization quickly develops around the people occupying these central positions. In such patterns, the organization is more stable and errors in performance are lower than in patterns having a lower degree of centrality, such as the Circle. However, he also found that the morale of members in high centrality patterns is relatively low. Bavelas speculated that this lower morale could, in the long run, lower the accuracy and speed of such networks.

In problem solving requiring the pooling of data and judgments, or "insight," Bavelas suggested that the ability to evaluate partial results, to look at alternatives, and to restructure problems fell off rapidly when one person was able to assume a more central (that is, more controlling) position in the information flow. For example, insight into a problem requiring change would be less in the Wheel and the Star than in the Circle or the Chain because of the "bottlenecking" effect of data control by central members.

It may be concluded from these laboratory results that the structure of communications within an organization will have a significant influence on the accuracy of decisions, the speed with which they can be reached, and the satisfaction of the people involved. Consequently, in networks in which the responsibility for initiating and passing along messages is shared more evenly among the members, the better the group's morale in the long run.

Direction of communication

If it's considered formal communications as they occur in traditional military organizations, messages have a "one-way" directional characteristic. In the military organization, the formal communication proceeds from superior to subordinate, and its content is presumably clear because it originates at a higher level of expertise and experience. Military communications also carry the additional assumption that the superior is responsible for making his communication clear and understandable to his subordinates. This type of organization assumes that there is little need for two-way exchanges between organizational levels except as they are initiated by a higher level. Because messages from superiors are considered to be more important than those from subordinates, the implicit rule is that communication channels, except for prescribed information flows, should not be cluttered by messages from subordinates but should remain open and free for messages moving down the chain of command. "Juniors should be seen and not heard," is still an unwritten, if not explicit, law of military protocol.

Vestiges of one-way flows of communication still exist in many formal organizations outside the military, and for many of the same reasons as described above. Although management recognizes that prescribed information must flow both downward and upward, managers may not always be convinced that two-way ness should be encouraged. For example, to what extent is a subordinate free to communicate to his superior that he understands or does not understand a message? Is it possible for him to question the superior, ask for clarification, suggest modifications to instructions he has received, or transmit unsolicited messages to his superior, which are not prescribed by the rules? To what extent

does the one-way rule of direction affect the efficiency of communication in the organization, in addition to the morale and motivation of subordinates?

These are not merely procedural matters but include questions about the organizational climate, or psychological atmosphere in which communication takes place. Harold Leavitt has suggested a simple experiment that helps answer some of these questions. A group is assigned the task of re-creating on paper a set of rectangular figures, first as they are described by the leader under one-way conditions, and second as they are described by the leader under two-way conditions. (A different configuration of rectangles is used in the second trial.) In the one-way trial, the leader's back is turned to the group. He describes the rectangles as he sees them. No one in the group is allowed to ask questions and no one may indicate by any audible or visible sign his understanding or his frustration as he attempts to follow the leader's directions. In the two-way trial, the leader faces the group. In this case, the group may ask for clarifications on his description of the rectangles and he can not only see but also can feel and respond to the emotional reactions of group members as they try to re-create his instructions on paper.

On the basis of a number of experimental trials similar to the one described above, Leavitt formed these conclusions:

1. One-way communication is faster than two-way communication.
2. Two-way communication is more accurate than one-way communication.
3. Receivers are more sure of themselves and make more correct judgments of how right or wrong they are in the two-way system.
4. The sender feels psychologically under attack in the two-way system, because his receivers pick up his mistakes and oversights and point them out to him.
5. The two-way method is relatively noisier and looks more disorderly. The one-way method, on the other hand, appears neat and efficient to an outside observer.^[3]

Thus, if speed is necessary, if a businesslike appearance is important, if a manager does not want his mistakes recognized, and if he wants to protect his power, then one-way communication seems preferable. In contrast, if the manager wants to get his message across, or if he is concerned about his receivers' feeling that they are participating and are making a contribution, the two-way system is better.

Interpersonal communication

: Interpersonal communication

Another facet of communication in the organization is the process of face-to-face, **interpersonal communication**, between individuals. Such communication may take several forms. Messages may be verbal (that is, expressed in words), or they may not involve words at all but consist of gestures, facial expressions, and certain postures ("body language"). Nonverbal messages may even stem from silence.

Ideally, the meanings sent are the meanings received. This is most often the case when the messages concern something that can be verified objectively. For example, "This piece of pipe fits the threads on the coupling." In this case, the receiver of the message can check the sender's words by actual trial, if necessary. However, when the sender's words describe a feeling or an opinion about something that cannot be checked objectively, meanings can be very unclear. "This work is too hard" or "Watergate was politically justified" are examples of opinions or feelings that cannot be verified. Thus they are subject to interpretation and hence to distorted meanings. The receiver's background of experience and learning may differ enough from that of the sender to cause significantly different perceptions and evaluations of the topic under discussion. As we shall see later, such differences form a basic barrier to communication.

Nonverbal content always accompanies the verbal content of messages. This is reasonably clear in the case of face-to-face communication. As Virginia Satir has pointed out, people cannot help but communicate symbolically (for example, through their clothing or possessions) or through some form of body language. In messages that are conveyed by the telephone, a messenger, or a letter, the situation or context in which the message is sent becomes part of its non-verbal content. For example, if the company has been losing money, and in a letter to the production division, the front office orders a reorganization of the shipping and receiving departments, this could be construed to mean that some people were going to lose their jobs — unless it were made explicitly clear that this would not occur.

A number of variables influence the effectiveness of communication. Some are found in the environment in which communication takes place, some in the personalities of the sender and the receiver, and some in the relationship that exists between sender and receiver. These different variables suggest some of the difficulties of communicating with understanding between two people. The sender wants to formulate an idea and communicate it to the receiver. This desire to communicate may arise from his thoughts or feelings or it may have been triggered by something in the environment. The communication may also be influenced or distorted by the relationship between the sender and the receiver, such as status differences, a staff-line relationship, or a learner-teacher relationship.

Whatever its origin, information travels through a series of filters, both in the sender and in the receiver, before the idea can be transmitted and re-created in the receiver's mind. Physical capacities to see, hear, smell, taste, and touch vary between people, so that the image of reality may be distorted even before the mind goes to work. In addition to physical or sense filters, cognitive filters, or the way in which an individual's mind interprets the world around him, will influence his assumptions and feelings. These filters will determine what the sender of a message says, how he says it, and with what purpose. Filters are present also in the receiver, creating a double complexity that once led Robert Louis Stevenson to say that human communication is "doubly relative". It takes one person to say something and another to decide what he said.

Physical and cognitive, including semantic filters (which decide the meaning of words) combine to form a part of our memory system that helps us respond to reality. In this sense, March and Simon compare a person to a data processing system. Behavior results from an interaction between a person's internal state and environmental stimuli. What we have learned through past experience becomes an inventory, or data bank, consisting of values or goals, sets of expectations and preconceptions about the consequences of acting one way or another, and a variety of possible ways of responding to the situation. This memory system determines what things we will notice and respond to in the environment. At the same time, stimuli in the environment help to determine what parts of the memory system will be activated. Hence, the memory and the environment form an interactive system that causes our behavior. As this interactive system responds to new experiences, new learnings occur which feed back into memory and gradually change its content. This process is how people adapt to a changing world.

Communication Approaches in an Organization

Informal and Formal Communication are used in an organization. Informal communication: Informal communication, generally associated with interpersonal, horizontal communication, was primarily seen as a potential hindrance to effective organizational performance. This is no longer the case. Informal communication has become more important to ensuring the effective conduct of work in modern organizations.

Top-down approach: This is also known as downward communication. This approach is used by the Top Level Management to communicate to the lower levels. This is used to implement policies, guidelines, etc. In this type of organizational communication, distortion of the actual information occurs. This could be made effective by feedbacks.

HOW TO ENSURE THAT YOUR WRITTEN MESSAGE GETS A REPLY

Funny thing about voicemail. We love it when it's our own - we hate it when it belongs to someone else.

I don't know about you, but when someone doesn't return my messages, I imagine they are gloating behind my back, laughing demonically as they push the delete button to send me to oblivion.

Actually, I doubt if most people are this cold. But what's so frustrating about voicemail is it gives the decision-maker the opportunity to reject you before you even get a chance to talk to them! If you're starting to feel like a failure because people won't return your messages, here's what to do.

I believe most messages do not get returned because people are overwhelmed. Many of us move through our workday in a state that ranges from mild panic to deep despair.

To get returned, a message must be so compelling that it wins out over the 23 other urgent things vying for the recipient's attention. Yet, many messages do not even come close to addressing the specific needs, desires, wants, and concerns of the person being called.

There's the sales rep who leaves a message saying she would like to stop by and talk with you about advertising in her paper. Yeah right. Like you've got nothing better to do. The copier company calling to sell you toner. Toner? There are six boxes stacked in the closet. Or the person you've never heard of asking you to call him back.

You don't mean to be rude but apparently these people assume you're just sitting around with nothing else to do!

On a busy day, something's got to give and lame, ineffective messages are the first to go.

To help solve this problem, I asked successful friends and sales people to share their best voice-mail techniques. I cannot guarantee that any of these methods will give you a 100% call back ratio, but they will definitely help improve your odds. Test them out and you'll quickly discover the ones that work best for you.

1. Be brief

Try leaving messages with nothing more than your name and number. Do not say why you are calling. Curiosity is a powerful motivator. My sales staff found that this one simple technique increased their call back ratio by 40%! Busy people calling in for messages from the road will also appreciate the fact that your message is brief.

2. The "pains" technique

This is an excellent technique to use as a follow up to a sales presentation. In your initial meeting with the prospect ask probing questions to determine where it "hurts". Make a list of these "pains" and how your product or service can provide specific relief for each concern. Each time you leave a follow up message, mention one of your prospect's "pains" and hint at how you can provide relief. Refer to a different problem each time you call. For example:

- **Message #1:**>"Ms. Jones, this is Susan Berkley from Berkley Productions at 201-541-8595. I'm calling to offer some solutions as to how our voice recording services can give you a more professional sounding voice mail system and get rid of that annoying recorded voice that was bothering the company president. My number again is 201-541-8595."
- **Message #2:**>"Ms. Jones, this is Susan Berkley from Berkley Productions at 201-541-8595. I'm calling with a few solutions to help you reduce those customer complaints about getting lost in your voice mail system that you spoke about in our last meeting. My number again is 201-541-8595."
- **Message #3:**"Ms. Jones, this is Susan Berkley from Berkley Productions at 201-541-8595. I'm calling with an easy, cost effective way to help you provide information to your Spanish and Vietnamese speaking customers. You seemed concerned about this in our last meeting and I wanted to discuss some of the ways we help our customers meet this challenge. My number again is 201-541-8595."

3. Tell them you are calling from corporate headquarters

It adds credibility, especially if you are a small or home based business!

"Hello, this is Susan Berkley with Berkley Productions corporate headquarters. The reason for the call is..."

4. Leave your first and last name

Using only your first name creates confusion- "Steve who? I know five guys named Steve!" It also brings to mind service and repair people, delivery drivers, and heavy breathing obscene phone callers.

5. Eliminate the word "just" or other minimizers from your speech.

Examples:

- *"I'm just calling to follow up on yesterday's meeting."*
- *"Nothing important. Just a follow up call to yesterday's meeting."*
- *"Just a little reminder about how our widget can help build your business."*

6. Don't sell anything in the message

Because we are constantly bombarded with advertising, most people have developed a strong sales resistance. The people you are calling will reject you unless you happen to catch them at a moment when they have a passionate desire or need for your product.

7. Make the benefits contingent on speaking with you

"This is Susan Berkley from XYZ distributors. We have just purchased a number of widgets from a company that went out of business and have priced the stock at a deep discount for fast liquidation. To determine if they are the right size and color for your needs, we need to talk. Call me at 201-541-8595."

8. Speak more slowly and clearly than normal

Don't slur or run your words together. The person you are calling is not as familiar with the material as you are and will quickly become annoyed if you make them replay the message because they did not understand it.

9. Spell your name if it is difficult, unusual or of foreign origin

Sometimes unusual names are easier to remember than names that are more common. The listener has to work harder to understand it and is more likely to remember you because he made that extra effort. Reinforce this phenomenon by saying your name clearly and spelling it slowly when you leave your first message. An unusual name can make you stand out from the crowd and invites ice-breaking chit chat about the name's origin.

10. Sound like a winner by speaking with energy, enthusiasm and confidence

Sit up straight or stand when you leave the message. Smile as you speak. Visualize yourself as confident and strong. Use hand gestures and powerful body language. If possible, check your energy level by listening back to your message before sending it.

11. Leave your phone number twice: once at the beginning of your message and once at the end

If the person you are calling missed your number at the beginning they will not have to listen through to the entire message again to get it.

12. Call again and offer some useful information

"I've been thinking about your situation and have a solution that might work. I'd like to share it with you. Please call me at ..."

Do not leave the solution in the message. Use it as bait to get them to call you back.

Caution: do not use this technique unless you actually have something useful to share with the prospect when they call!

13. Fax your prospect a giant message slip

Take a standard "While you were out" phone message slip, fill it out with your message, enlarge it on the copier and fax it to your prospect. *"While You Were Out ... Melissa Smith called Re: A few ideas to help you save big on your taxes."*

14. When all else fails, politely threaten to "close their file"

Making sure there is nothing hostile or impatient in your tone of voice, leave a polite message that goes something like this:

"Mr. Smith, I've been attempting to reach you for several weeks now regarding the proposal you asked us to send on January 24th, but I have not received a call back. I don't want to bug you or clog your voice mail with unwanted messages, so would you please call me back and let me know if you would like me to close your file?"

It is almost humorous how quickly this message has gotten people to call us back. People like to leave their options open and nobody likes to be "terminated".

15. Make sure YOUR outgoing voicemail message sounds as professional as possible

When people call your voicemail do you sound welcoming, honest, energetic and sincere or do you sound angry, bored or half asleep? Here are several steps to follow to put your "best voice" forward.

- **Script your message.** Writing it out will help you say exactly what you need to say: nothing more, nothing less. You'll also be less likely to flub when reading from a script. And you'll find it easier to control your pacing and tone when you've got something written to practice.
- **Practice your message before you record it.** Say it over and over again out loud to make yourself familiar with the words.
- **Stand while recording your message.** This will add energy and vitality to your voice.
- **Smile while recording your message.** A smile makes your voice sound warm and friendly.
- **Get feedback from at least 3 friends or colleagues.** Does your message sound as good as it could? If not, re-record!
- **Don't leave flubs on your outgoing message.** I am amazed at how many people leave flubs and stumbles on their outgoing message, especially when re-recording is so easy to do!
- **Customize your message daily.** If possible, let people know if you are in or out of the office and when you will be likely to call them back.
- **Include your USP in your message.** Your USP is your unique selling proposition, a phrase that articulates a key benefit to your customer. Boil it down to a brief phrase and use it in your outgoing message. For example: *"Thank you for calling XYZ language school. We guarantee that you'll start speaking the language of your choice in 30 days or less or your money back. Leave your name and number at the tone and we'll get back to you as soon as we get your message."*

How to Respond to Angry Customers

1. Assume that the customer has a right to be angry

Nobody makes mistakes on purpose, but they do happen. If you are working in a call center, behind a counter or in any capacity that directly interfaces with customers, then you are going to encounter an irate customer at some time. The most common response is to evaluate the merit of the complaint while you are listening to it. Try to curb that common response and replace it with the assumption that the customer has a right to be angry, even before you know the details.

Perhaps the customer feels betrayed because the product or services did not meet expectations. The customer may be angry because he or she made incorrect assumptions that led to improper expectations. The customer may be angry because of previous experiences, previous contacts with your company or simply because the problem occurred at a very inconvenient time in the customer schedule.

Regardless of the circumstances, acknowledge the customer has the privilege to be irate. Listen carefully to how the anger is expressed so you can find the root cause of the emotion.

2. Listen to emotion without emotion

Listen to the inflections and emphasis that the customer places on specific topics to identify the emotional catalyst. Listen to the emotion as well as the words. This will help you to identify the specific item or items that need primary attention.

Resolving a technical issue may be only partially effective if it does not also address the customer emotional concerns. It may not be possible to completely resolve the emotional distress, but it is appropriate to acknowledge it.

Imagine that a customer experienced a technical malfunction when downloading digital images of a special event, wedding or family vacation. The technical issue may be related to hardware or software, but the emotional distress is related to the risk of losing precious memories.

While it is necessary to correct the technical issue, it is also appropriate to acknowledge the risks that create the emotional response. Try to preserve the precious memories or at least explain why they can not be retrieved, but do not ignore the emotional catalyst.

Do not respond with emotion. Remember that the customer anger is not directed at you personally, even if the customer language is directed at you.

If the customer language is attacking and borderline abusive, it is because the customer is looking for acknowledgement and response to the emotional distress as well as the technical or administrative issues. It may be necessary to repeatedly acknowledge the customer emotion to diffuse the situation and reassure the customer that you are attentive to the importance of the emotional distress as well as the technical issue.

3. Be patient

Customer conversations come in waves. When the customer is at the peak of expressing anger, sorrow or distress, be patient and listen. It is not effective to interrupt the customer when he or she is venting combustible sentiments. It is like pouring gasoline on a raging fire. Rather, wait for the waves of emotion to recede and then use that opportunity to interject with reassuring comments.

Sometime the customer anger will erupt and return like another set of waves. When that happens, be patient and wait for the customer to run out of gas before you approach the fire again. Reiterate your compassion, acknowledge the customer right to be angry and the catalyst for the emotional distress. Takes quiet deep breaths and wait patiently for your turn to speak.

4. Speak softly

If you encounter a loud and abusive customer, respond by speaking softly and with a very steady tone. If you try to shout over the customer or interrupt, then the customer will concentrate on the verbal battle for attention and will not pay attention to the importance of your message.

If you want your message to be heard, wait for a pause in the customer tirade. Silence is your golden cue that it is time to speak your important message in a soft voice. Eventually the customer will have to lower his or her voice to hear what you are saying.

Even though it may seem that the customer does not care about what you have to say at first, remember that the customer approached you for resolution. The customer may have built up a considerable amount of emotion before reaching you, but ultimately the customer does want your advice and assistance to resolve the problem. Once the customer remembers why he or she contacted you, the customer will be receptive to your soft spoken conversation.

5. Reiterate

Make sure that you are addressing the technical, administrative and emotional aspects of the customer concerns. After you have listened carefully to the customer, reiterate the priorities that you believe that you heard from the customer perspective. This will assure that you are focused on the appropriate issues and reassure the customer that you are concentrating on the proper priorities.

Use a soft, firm and inquisitive voice. Ask the customer to confirm that you have restated the facts and priorities accurately, then write them down.

6. Own the problem

It does not matter who created the problem or what transpired before the customer got to you. Tell the customer that you own the problem and will apply your personal effort to achieve results.

Sometimes it may be tempting to distance yourself from the problem by stating that you are not responsible for it, that another department will need to handle it, or that you are just a messenger. Put that temptation in a can and put a lid on it.

Expressing that you do not have ownership of the problem or the potential resolution gives the customer a feeling of being adrift and powerless. If the customer senses that he or she is communicating with someone who is powerless, it will create yet another reason to be frustrated and angry.

Even if you do need to work with other departments, get manager approval or coordinate some other type of response, inform the customer that you will personally take the matter into your own hands and follow-up on the issues. The customer does not know your company, your policies or your procedures. The customer will never be able to navigate the requirements, restrictions or resolution with the same knowledge and experience as you.

Reassure the customer that you will use your knowledge and experience to coordinate the best possible resolution, even if you need to get the assistance of other parties to achieve it.

7. Place the customer first, problem second

In most cases there are two conflicting issues that occur simultaneously when dealing with irate customers. The first issue is the customer emotional distress. The second is the technical or administrative issue that caused the emotional distress. While it may seem logical to focus first on the technical or administrative issue that cause the emotional distress, it is important to acknowledge the customer anger first and the technical issue second.

Resolving the technical issue may or may not fully resolve the root cause of the customer distress. Acknowledge the customer concerns first and try to calm down the customer enough to help you concentrate on the technical or administrative problems.

Sometimes the technical problem may require much more attention because it may impact other customers.

Acknowledge the individual customer emotion first, resolve the specific customer technical issue second and reserve addressing any bigger issues as independent activity.

8. Triage

Once you have an opportunity to focus on technical and administrative issues, triage the root cause of the problems to determine what went wrong. Analyze the problem and provide corrective measures or detailed information in an effort to avoid duplicating the problem with other customers. It may be necessary to obtain some additional information from your customer to accurately analyze the root cause of the problem.

9. Correct the issue

Correct the issue for the specific customer and also look for long term corrective measures. It may not be feasible to give your customer a guarantee that the correction will resolve all problems permanently, but it may be appropriate to reassure the customer that you will be available to assist in the event that another different problem should occur again. Demonstrate your confidence that this specific problem is resolved and is not expected to reoccur. Demonstrate your attention to the specific customer by reiterating original concerns and actions that you took to correct the issue.

10. Follow up

When possible, follow-up with the customer after sufficient time has elapsed to demonstrate that the corrective action has been effective. A phone call or a personalized postcard demonstrates individual attention and acknowledgement. Demonstrating compassion and attentiveness thirty days after a problem has been resolved is a powerful message to show that you really do care about the individual customer. This follow-up after the anger has subsided and the corrective action has been demonstrated as effective may be enough to retain loyal customers and earn a few new ones.

How soon is "as soon as possible"?

Somewhere on what seems like page 666 you will find the following:

"We recommend that you check the popular topics below prior to contacting Technical Support. If you could not find your desired answer, please contact our Technical Support team and we will do our best to help you as soon as possible."

Finally! But no, not yet. Now we had to find sales receipts and enter a bunch of information to prove we'd purchased the product.

Now before I give the zinger, allow me to call your attention again to their wording, *"We will do our best to help you as soon as possible."*

Are you ready? "As soon as possible" for our urgent situation was seven days.

Seven Days.

I don't know about you, but I don't have time to read page after page of tech-speak trying to find an answer to my question. Besides, if I had wanted to become an expert in AVG, I would have gone to school for it.

But apparently I made a mistake. It seems I'm not only supposed to be an expert in my own profession, I now have to read up and become an expert in anti-virus software, too.

How long would I stay in business?

In considering this lunacy, I wondered what it would look like if I did customer service the same way as these companies do.

Let's say a software company buys my online learning modules for "the Manager as Trainer." Someone has a question about how to apply the material. They go to my website but find no phone number, only page after page of text describing hundreds of scenarios in which the training might apply. At the top of each page it says,

"We recommend that you check the FAQ section prior to contacting Training Support, as you will often find that your question has already been addressed."

After spending hours sifting through my well-thought out scenarios, they finally give up and send an e-mail. About a week later, I send them a generic message saying I've received their inquiry, and I'll get back to them soon.

How long do you think I'd stay in business?

Exactly.

So why do we keep tolerating this low level of service from others? Well, like I said, no longer will I do so. From this point forward, if I cannot reach a vendor or supplier by phone, or if I do not get a solutions-focused, actually helpful response within one business day, I will find another company for that product or service and I will do business with them instead.

It is high time we stop tolerating such poor customer service and start The Great Boycott of e-mail-only customer service.

Ways to Prevent

Customer From Hell Experiences

While customers present the issues and challenges, it is most often the way we respond to these issues and challenges that causes customers to become "difficult." This is good news and bad news.

As much as we'd like to point a finger at our customers, the fingers often end up pointing back at us

The bad news is that, as much as we would like to point our fingers at our customers, the fingers often end up pointing back at us. The good news is that it means a lot, if not most, customer conflict is avoidable.

Here are three things you can do to prevent situations from escalating into conflict:

1. Set expectations

Gerard King and Gus Geursen, in their research (*A System Dynamics Investigation Of The Linkage Between Customer Satisfaction And Firm Profitability*), illustrated how important it is to manage the expectations of your customers. They found that managing and meeting customers' expectations is more important to customer satisfaction than the actual quantity and quality we deliver.

This means, for example, that you shouldn't say to a customer, "I'll get this done right away," because your customer and you may have different expectations of what 'right away' means.

Instead, set your customer's expectations by being specific; ie: "I'll have this done for you by the end of the day." Then make sure you deliver!

2. Listen

A couple of issues ago, *Winning at Work* focused on "The Art of Listening." Nowhere is this more important than when trying to prevent conflict.

A huge hot button for customers is when they perceive they aren't being listened to.

3. Communicate how important they are

One of the most common triggers for conflict is when a customer begins to believe that you just don't care about them. It's important that you verbalize how important they are with statements such as, "I want to get this right for you," "You're an important customer for us," "Let's figure out how to make this work," etc.

There are, of course, many other conflict prevention strategies available to us, but these are three of the most powerful. Good luck with them!

How to lose a customer in two Steps or less

It's a universal given that when we shop somewhere we'd like to be treated with respect. When our shopping experience is negative, statistics show it takes only two such incidents and we're likely to shop elsewhere.

The real question is how many customers have you lost due to customer service blunders?

In a survey of more than 2,000 consumers in the U.S and the U.K., nearly half (49 percent) said poor service led them to change service providers in at least one industry over the past year. This according to 2005 survey results appearing in CRM Today.

If the experiences listed below seem familiar, you can see why people make changes.

Poor customer service: case

The dry cleaner near my house advertises that if you bring your clothes in by 9:00 AM they can have them ready for you by 5:00 PM that same day. But when I arrive at 8:30 in the morning and ask for my clothes to be ready that evening, I'm often the recipient of a prolonged sigh, followed by an obligatory "okay."

Heck, if same day service is such a burden, don't advertise it.

Poor customer service: case

A well-known bulk-discount chain store offers special buys on clothing and electronics and stocks large-size containers of food for bargain prices. You have to pay to become a member. A friend of mine says the person signing up new members is friendly enough, but after you're a member, 95% of the employees appear burdened to have to serve you.

Poor customer service: case

A colleague tells about visiting a computer / peripheral equipment store, and that when he's made purchases there (always spending more than \$200 per visit), the help behind the counter acts like it's a huge chore to take his money and put his purchases in a bag—if they even bother to offer to bag his purchase at all.

During one visit he even commented: "Hey, I just spent \$260 here, could you at least show a little appreciation?"

The result of these experiences? I now drive two miles out of my way to a different dry cleaner, my friend never renewed her membership at that club store, and my colleague has found a different place to shop for computer and printer needs.

Each place of business was given at least two chances, but repeated failures in the customer service arena resulted in losing us as customers.

The fed-up consumer

In another survey, this one conducted in the U.S. by am docs, a provider of customer relationship software, 1,000 U.S. consumers were asked about shopping experiences across a wide variety of industries. Results indicate that consumers "will not take it anymore" when it comes to receiving poor service:

- More than 75 percent said they would hang up after waiting on hold for longer than five minutes.
- More than 80 percent would rather visit the dentist, pay their taxes, or sit in a traffic jam than deal with an unhelpful representative.
- 75 percent said that they tell friends and family about their negative experiences.
- 85 percent reported that negative customer service experiences drive them to switch providers.

With stats like this, it's crucial that anyone having contact with customers (and this goes for internal customers, too) be trained to bathe their patrons with good service and an attitude of appreciation.

Furthermore, treating customers adequately may no longer be enough. Recent research appearing in the *California Management Review* indicates that satisfied customers will return to do business with you 28 percent of the time—but that delighted customers will return 85 percent of the time.

With those numbers, it only makes sense to provide outstanding customer service!

Step 1 for losing a customer

The first step toward losing customers is placing people in customer service positions without providing much in the way of training. These people represent your company! If they don't do it well, whatever money you think you're saving by not training them is being lost many times over with dissatisfied customers slipping away—and taking their money with them.

To prevent losing customers, train service reps on listening to customers and identifying needs as well as acceptable solutions. Think how frustrating it is to deal with a customer service rep who knows very little about the products or service he or she is representing, let alone display an attitude that they don't care about your problem.

Step 2 for losing a customer

Another way to lose customers is provide no feedback to employees on how they're perceived by customers.

One way to raise awareness of good (or bad) customer service in your company is by using a "mystery shopper." The trick here is not to rely on face-to-face shopping. These days, good mystery shopper programs can also evaluate customer service provided on phone calls and through email.

Bottom line: Poor service can quickly lead to lost business. Raising awareness of good customer service among all employees helps keep the customers coming back.

What to do when you can't say yes

As much as you want to please your customers, there will be occasions when it's just not possible - or practical - to accede to their requests. But just as saying "yes" won't always, of itself, keep your clients happy, a refusal doesn't have to mean that they're lost to your business either. It all depends on your creativity and flexibility.

One of the most negative situations one can create with a customer is to say "no." In general, people hate to be told "no." It starts when we are little kids and our parents constantly scream "NO!" at us.

But sometimes saying "no" is unavoidable. In Karen Leland & Keith Bailey's excellent book, *Customer Service for Dummies*, they cover a number of reasons you would have to say "no."

Let's cover some major reasons why we would have to say "no," and what we can or cannot do about them.

It is the law

Sometimes you are asked to do something and agreeing to do it would break a law. This one is simple. Most customers should be comfortable with the reason.

It is company policy

I hate being told someone can't do something because of "company policy."

One Saturday evening my wife and I ventured to a restaurant known for great food at reasonable prices. I decided to try the pork special, which included potatoes and vegetables. I asked what the vegetables were. The waitress told me string beans and corn. Well, I love corn, but hate string beans, and I asked if I could have extra corn instead of the string beans. The waitress said they do not substitute.

So, I asked her just to leave the string beans off. She told me she couldn't do that either. I asked why. She said it was their policy. I told her that at McDonalds if I don't want a pickle, they leave off the pickle.

She looked at me like I was nuts! The dinner came with the string beans and we never went back.

We're out of it!

A company can be out of a part. The book store can be out of a best selling book. A movie theater can be sold out of seats. It is all the same. You have to tell the customer you don't have any more.

So, what do we do? Let's take a lesson from Nordstrom's.

Legend has it that a customer wanted something that Nordstrom's was out of. The employee asked the customer to come back in fifteen minutes. Meanwhile the employee ran to another store in the mall, paid retail for the item and brought it back to Nordstrom's where it was sold to the customer as if Nordstrom's had the item all along.

Great solution when you can do it, but sometimes it is not that easy. One of my retail clients will actually send the customer to the competition, but not before they call the store and have it held in their customers name.

Most of the time the customers are appreciative, seeing that the store is more interested in taking care of the customer than making sale. In the long term, the store gains the customer's loyalty and trust.

Sometimes you just have to resort to telling the customer when the item will be back in stock. Just make sure you honor your promise. If you say it will be in next Tuesday, it had better be in.

It just can't be done!

Sometimes a customer wants something that just can't be done or is impossible to get. It is that simple.

Your goal should be to educate the customer why you can't get them what they want. However, if you are really good, you could try to help find it somewhere else, or maybe find a replacement.

Yes isn't good enough...

Sometimes giving the customer what he/she wants doesn't ensure the customer will be happy with you.

I remember pulling into a parking lot which had some open spaces I could see from the street only to be told they were full. I argued that I saw open spots. The attendant argued that there weren't any. He refused to look, even though I told them exactly where they were.

After five minutes of arguing, he finally agreed to look. Sure enough he saw the spaces I had seen from the street.

He angrily waved me in. Even though I got my parking space, I was mad. He "gave in", but he did it too late.

Saying "no isn't so bad..."

No, it *might* not be so bad. One day I went into one of my favorite places, Baskin Robbins, the well known ice cream parlor. I was excited to order my favorite flavor, Quarterback Crunch. To my disappointment, they were out of that flavor.

The girl dishing out the ice cream told me what her favorite flavor was and asked if I wanted to try it. I did and guess what? I now have a new favorite flavor!

Substitution is a viable alternative to many situations. Sometimes it may be obvious, while other times you may have to take a creative approach. With the right attitude, you may find that saying "no" is an opportunity to show how good you are.

So the next time you are forced to say "no" to a customer or client, think of the above. Delivering great service and creating Moments of Magic have always included common sense thinking and flexibility.

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Course Name	: Production & Operations Management
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Course Description

The Course specifies stock management after the production level, stock derivatives & price fluctuations, types of stock, store management, factors that influence the nature, location & layout of store houses, as well as supply chain management.

Course Objective

- To equip students with skills of handling stock in business and how to keep it valuable on the market.
- To help them understand the chain links between the supplier and buyer and how to maintain a productive relationship amongst them.
- To provide them with knowledge of different levels of production and how these have an impact on the quality of goods produced.

Course Content

Introduction

- Stock management
- Sequences of stock management
- Business models of inventory management
- Types of stock
- Stock derivatives
- Stock price fluctuations
- Stock valuation

Storage and Handling of Materials

- General stores objectives
- Fundamental influences in store management
- The inverted 'T' warehouse flow
- Characteristics of the 'T' warehouse flow
- Factors that influence the nature, location and layout of stores/warehouses

Material Handling

- Objectives of Materials-handling
- Requirements of material-handling equipments
- Removal of waste materials
- Sources of waste materials
- Methods of removing waste materials

Supply Chain Management

- Definition of SCM
- Supplier relationships
- Strategic importance of supplier relationship
- Different types of buyer-supplier relationship models
- Methods of improving buyer-supplier relationship
- Suppliers cooperative Association
- Increased interest in supplier's relationship
- Factors that determine the nature of relationship with suppliers
- The Kraljic purchasing approach (matrix)

Summary of Supply Strategies

- Strategic Commodities (strategic partnership)
- Leverage commodities
- Ways through which strategic sourcing can be done
- How to improve buyer/supplier relationship

Partnering

- Definition of partnership
- Objectives of partnership in attempt to achieve improvement
- Critical success factors or variables to sustain partnerships
- Why partnerships fail

Mode of delivery Face to face lectures

Assessment

Coursework 40%

Exams 60%

Total Mark 100%

PRODUCTION AND INVENTORY MANAGEMENT

Stock management

Stock management is the function of understanding the stock mix of a company and the different demands on that stock. The demands are influenced by both external and internal factors and are balanced by the creation of Purchase order requests to keep supplies at a reasonable or prescribed level.

Retail supply chain

Stock management in the retail supply chain follows the following sequence:

1. Request for new stock from stores to head office
2. Head office issues purchase orders to the vendor
3. Vendor ships the goods
4. Warehouse receives the goods
5. Warehouse stocks and distributes to the stores
6. Stores receive the goods
7. Goods are sold to customers at the stores

The management of the inventory in the supply chain involves managing the physical quantities as well as the costing of the goods as it flows through the supply chain.

In managing the cost prices of the goods throughout the supply chain, several costing methods are employed:

1. Retail method
2. Weighted Average Price method
3. FIFO (First In First Out) method
4. LIFO (Last In First Out) method
5. LPP (Last Purchase Price) method
6. BNM (Bottle neck method)

Weighted Average Price Method

The calculation can be done for different periods. If the calculation is done on a monthly basis, then it is referred to the periodic method. In this method, the available stock is calculated by:

ADD Stock at beginning of period

ADD Stock purchased during the period

AVERAGE total cost by total qty to arrive at the Average Cost of Goods for the period.

This Average Cost Price is applied to all movements and adjustments in that period.

Ending stock in qty is arrived at by Applying all the changes in qty to the Available balance.

Multiplying the stock balance in qty by the Average cost gives the Stock cost at the end of the period.

Using the perpetual method, the calculation is done upon every purchase transaction.

Thus, the calculation is the same based on the periodic calculation whether by period (periodic) or by transaction (perpetual).

The only difference is the 'periodicity' or scope of the calculation. - Periodic is done monthly - Perpetual is done for the duration of the purchase until the next purchase

In practice, the daily averaging has been used to closely approximate the perpetual method. 6. Bottle neck method (depends on proper planning support)

Software applications

The implementation of inventory management applications has become a valuable tool for organizations looking to more efficiently manage stock. While the capabilities of applications vary, most inventory management applications

give organizations a structured method of accounting for all incoming and outgoing inventory within their facilities. Organizations save a significant amount in costs associated with manual inventory counts, administrative errors and reductions in inventory stock-outs.

Business models

Just-in-time Inventory (JIT), Vendor Managed Inventory (VMI) and Customer Managed Inventory (CMI) are a few of the popular models being employed by organizations looking to have greater stock management control.

JIT is a model which attempts to replenish inventory for organizations when the inventory is required. The model attempts to avoid excess inventory and its associated costs. As a result, companies receive inventory only when the need for more stock is approaching.

VMI and CMI are two business models that adhere to the JIT inventory principles. VMI gives the vendor in a vendor/customer relationship the ability to monitor, plan and control inventory for their customers. Customers relinquish the order making responsibilities in exchange for timely inventory replenishment that increases organizational efficiency.

CMI allows the customer to order and control their inventory from their vendors/suppliers. Both VMI and CMI benefit the vendor as well as the customer. Vendors see a significant increase in sales due to increased inventory turns and cost savings realized by their customers, while customers realize similar benefits.

Stock control is used to evaluate how much stock is used. It is also used to know what is needed to be ordered. Stock control can only happen if a stock take has taken place. Stock rotation must be put into use with stock control by using the oldest products before the newer products.

Stock rotation

Stock rotation is the practice, used in hospitality and retail, especially in food stores such as restaurants and supermarkets, of moving products with an earlier sell-by date to the front of a shelf (or in the cooler if the item is on repack so they get worked out before the new product), so they get picked up and sold first, and of moving products with a later sell-by date to the back.

Description

Most, if not all, packaged perishable food products, will have either a sell by date on them or a *display until date*; in practice, these are exactly the same thing. After this date, it is either illegal for the store to sell them (this is the case in the United Kingdom) or the quality will have deteriorated to the point at which nobody will buy them. In either case, they cannot be sold.

If a product is still on shelves after its sell by date, it will have to be thrown away (recorded as wastage), which is both costly and wasteful to the store (suppliers must be paid even if stock is not sold). Therefore, it is imperative that sell by dates are strictly adhered to, and that products which will perish earlier be sold as quickly as possible.

Shoppers, on the most part, will simply walk up to a shelf and take the frontmost box of the product they are looking for; this is especially true if they are in a hurry. They will generally also, unless they are specifically looking for a product that will last longer, not pay much attention to sell by/use by dates. If products with an early sell by date are at the front, and later ones at the back, they will be sold first. If things are organised the other way round, or stock is improperly rotated, newer stock will be sold first, leaving out of date stock sitting on the shelves which will have to be thrown away.

Rotation also applies to loose products; in this case, there is usually no set sell by date, and produce must merely look fit to eat. Older stock is merely placed on top of newer stock to rotate it.

problems

Some customers are fully aware of the practice of rotation, and will reach towards the back of the shelf in order to get newer (and therefore slightly better) produce. Also, when applied to large amounts of produce, rotation can be difficult if not impossible. It only takes one careless worker to disrupt rotation and create problems.

Other methods of getting rid of stock

If a stock is nearing its sell by date, stock may be *reduced*, that is its price lowered so as to sell off certain stock quicker. This is usually combined with rotation, so that reduced stock is at the front and so more noticeable to customers.

Stock

The **stock** or **capital stock** of a business entity represents the original capital paid or invested into the business by its founders. It serves as a security for the creditors of a business since it cannot be withdrawn to the detriment of the creditors. Stock is distinct from the property and the assets of a business which may fluctuate in quantity and value.

The stock of a business is divided into shares, the total of which must be stated at the time of business formation.

Given the total amount of money invested into the business, a share has a certain declared face value, commonly known as the par value of a share. The par value is the *de minimis* (minimum) amount of money that a business may

issue and sell shares for in many jurisdictions and it is the value represented as capital in the accounting of the business. In other jurisdictions, however, shares may not have an associated par value at all. Such stock is often called non-par stock. Shares represent a fraction of ownership in a business. A business may declare different types (*classes*) of shares, each having distinctive ownership rules, privileges, or share values.

Ownership of shares is documented by issuance of a stock certificate. A stock certificate is a legal document that specifies the amount of shares owned by the shareholder, and other specifics of the shares, such as the par value, if any, or the class of the shares.

Used in the plural, *stocks* is often used as a synonym for *shares*.^[1] Traditionalist demands that the plural *stocks* be used only when referring to stock of more than one company are rarely heard nowadays.

In the United Kingdom, South Africa, and Australia, *stock* can also refer to completely different financial instruments such as government bonds or, less commonly, to all kinds of marketable securities.^[2]

Types of stock

Stock typically takes the form of shares of either common stock or preferred stock. As a unit of ownership, common stock typically carries voting rights that can be exercised in corporate decisions. Preferred stock differs from common stock in that it typically does not carry voting rights but is legally entitled to receive a certain level of dividend payments before any dividends can be issued to other shareholders.^{[3][4]} Convertible preferred stock is preferred stock that includes an option for the holder to convert the preferred shares into a fixed number of common shares, usually anytime after a predetermined date. Shares of such stock are called "convertible preferred shares" (or "convertible preference shares" in the UK)

New equity issues may have specific legal clauses attached that differentiate them from previous issues of the issuer. Some shares of common stock may be issued without the typical voting rights, for instance, or some shares may have special rights unique to them and issued only to certain parties. Often, new issues that have not been registered with a securities governing body may be restricted from resale for certain periods of time.

Preferred stock may be hybrid by having the qualities of bonds of fixed returns and common stock voting rights. They also have preference in the payment of dividends over preferred stock and also have been given preference at the time of liquidation over common stock. They have other features of accumulation in dividend.

Stock derivatives

For more details on this topic, see equity derivative.

A stock derivative is any financial instrument which has a value that is dependent on the price of the underlying stock. Futures and options are the main types of derivatives on stocks. The underlying security may be a stock index or an individual firm's stock, e.g. single-stock futures.

Stock futures are contracts where the buyer is long, i.e., takes on the obligation to buy on the contract maturity date, and the seller is short, i.e., takes on the obligation to sell. Stock index futures are generally not delivered in the usual manner, but by cash settlement.

A stock option is a class of option. Specifically, a call option is the right (*not* obligation) to buy stock in the future at a fixed price and a put option is the right (*not* obligation) to sell stock in the future at a fixed price. Thus, the value of a stock option changes in reaction to the underlying stock of which it is a derivative. The most popular method of valuing stock options is the Black Scholes model.^[5] Apart from call options granted to employees, most stock options are transferable.

During Roman times, the empire contracted out many of its services to private groups called publicani. Shares in publicani were called "socii" (for large cooperatives) and "particulae" which were analogous to today's Over-The-Counter shares of small companies. Though the records available for this time are incomplete, Edward Chancellor states in his book *Devil Take the Hindmost* that there is some evidence that a speculation in these shares became increasingly widespread and that perhaps the first ever speculative bubble in "stocks" occurred.

The first company to issue shares of stock after the Middle Ages was the Dutch East India Company in 1606. The innovation of joint ownership made a great deal of Europe's economic growth possible following the Middle Ages. The technique of pooling capital to finance the building of ships, for example, made the Netherlands a maritime superpower. Before adoption of the joint-stock corporation, an expensive venture such as the building of a merchant ship could be undertaken only by governments or by very wealthy individuals or families.

Economic historians find the Dutch stock market of the 1600s particularly interesting: there is clear documentation of the use of stock futures, stock options, short selling, the use of credit to purchase shares, a speculative bubble that crashed in 1695, and a change in fashion that unfolded and reverted in time with the market (in this case it was headdresses instead of hemlines). Dr. Edward Stringham also noted that the uses of practices such as short selling continued to occur during this time despite the government passing laws against it. This is unusual because it shows individual parties fulfilling contracts that were not legally enforceable and where the parties involved could incur a

loss. Stringham argues that this shows that contracts can be created and enforced without state sanction or, in this case, in spite of laws to the contrary.^{[6][7]}

Shareholder

A **shareholder** (or *stockholder*) is an individual or company (including a corporation) that legally owns one or more shares of stock in a joint stock company. Both private and public traded companies have shareholders. Companies listed at the stock market are expected to strive to enhance shareholder value.

Shareholders are granted special privileges depending on the class of stock, including the right to vote on matters such as elections to the board of directors, the right to share in distributions of the company's income, the right to purchase new shares issued by the company, and the right to a company's assets during a liquidation of the company. However, shareholder's rights to a company's assets are subordinate to the rights of the company's creditors.

Shareholders are considered by some to be a partial subset of stakeholders, which may include anyone who has a direct or indirect equity interest in the business entity or someone with even a non-pecuniary interest in a non-profit organization. Thus it might be common to call volunteer contributors to an association stakeholders, even though they are not shareholders.

Although directors and officers of a company are bound by fiduciary duties to act in the best interest of the shareholders, the shareholders themselves normally do not have such duties towards each other.

However, in a few unusual cases, some courts have been willing to imply such a duty between shareholders. For example, in California, USA, majority shareholders of closely held corporations have a duty to not destroy the value of the shares held by minority shareholders.

The largest shareholders (in terms of percentages of companies owned) are often mutual funds, and, especially, passively managed exchange-traded funds.

Application

The owners of a company may want additional capital to invest in new projects within the company. They may also simply wish to reduce their holding, freeing up capital for their own private use.

By selling shares they can sell part or all of the company to many part-owners. The purchase of one share entitles the owner of that share to literally share in the ownership of the company, a fraction of the decision-making power, and potentially a fraction of the profits, which the company may issue as dividends.

In the common case of a publicly traded corporation, where there may be thousands of shareholders, it is impractical to have all of them making the daily decisions required to run a company. Thus, the shareholders will use their shares as votes in the election of members of the board of directors of the company.

In a typical case, each share constitutes one vote. Corporations may, however, issue different classes of shares, which may have different voting rights. Owning the majority of the shares allows other shareholders to be out-voted - effective control rests with the majority shareholder (or shareholders acting in concert). In this way the original owners of the company often still have control of the company.

Shareholder rights

Although ownership of 50% of shares does result in 50% ownership of a company, it does not give the shareholder the right to use a company's building, equipment, materials, or other property. This is because the company is considered a legal person, thus it owns all its assets itself. This is important in areas such as insurance, which must be in the name of the company and not the main shareholder.

In most countries, boards of directors and company managers have a fiduciary responsibility to run the company in the interests of its stockholders. Nonetheless, as Martin Whitman writes:

...it can safely be stated that there does not exist any publicly traded company where management works exclusively in the best interests of OPMI [Outside Passive Minority Investor] stockholders. Instead, there are both "communities of interest" and "conflicts of interest" between stockholders (principal) and management (agent). This conflict is referred to as the principal/agent problem. It would be naive to think that any management would forgo management compensation, and management entrenchment, just because some of these management privileges might be perceived as giving rise to a conflict of interest with OPMIs.^[10]

Even though the board of directors runs the company, the shareholder has some impact on the company's policy, as the shareholders elect the board of directors. Each shareholder typically has a percentage of votes equal to the percentage of shares he or she owns. So as long as the shareholders agree that the management (agent) are performing poorly they can elect a new board of directors which can then hire a new management team. In practice, however, genuinely contested board elections are rare. Board candidates are usually nominated by insiders or by the board of the directors themselves, and a considerable amount of stock is held and voted by insiders.

Owning shares does not mean responsibility for liabilities. If a company goes broke and has to default on loans, the shareholders are not liable in any way. However, all money obtained by converting assets into cash will be used to

repay loans and other debts first, so that shareholders cannot receive any money unless and until creditors have been paid (most often the shareholders end up with nothing).

Means of financing

Financing a company through the sale of stock in a company is known as equity financing. Alternatively, debt financing (for example issuing bonds) can be done to avoid giving up shares of ownership of the company. Unofficial financing known as trade financing usually provides the major part of a company's working capital (day-to-day operational needs).

The shares of a company may in general be transferred from shareholders to other parties by sale or other mechanisms, unless prohibited. Most jurisdictions have established laws and regulations governing such transfers, particularly if the issuer is a publicly-traded entity.

The desire of stockholders to trade their shares has led to the establishment of stock exchanges. A stock exchange is an organization that provides a marketplace for trading shares and other derivatives and financial products. Today, investors are usually represented by stock brokers who buy and sell shares of a wide range of companies on the exchanges. A company may list its shares on an exchange by meeting and maintaining the listing requirements of a particular stock exchange. In the United States, through the inter-market quotation system, stocks listed on one exchange can also be traded on other participating exchanges, including the Electronic Communication Networks (ECNs), such as Archipelago or Instinet.

Many large non-U.S. companies choose to list on a U.S. exchange as well as an exchange in their home country in order to broaden their investor base. These companies must maintain a block of shares at a bank in the US, typically a certain percentage of their capital. On this basis, the holding bank establishes American Depositary Shares and issues an American Depositary Receipt (ADR) for each share a trader acquires. Likewise, many large U.S. companies list their shares at foreign exchanges to raise capital abroad.

Small companies that do not qualify and cannot meet the listing requirements of the major exchanges may be traded over the counter (OTC) by an off-exchange mechanism in which trading occurs directly between parties. The major OTC markets in the United States are the electronic quotation systems OTC Bulletin Board (OTCBB) and the Pink OTC Markets (*Pink Sheets*) where individual retail investors are also represented by a brokerage firm and the quotation service's requirements for a company to be listed are minimal. Shares of companies in bankruptcy proceeding are usually listed by these quotation services after the stock is delisted from an exchange.

Share price determination

At any given moment, an equity's price is strictly a result of supply and demand. The supply is the number of shares offered for sale at any one moment. The demand is the number of shares investors wish to buy at exactly that same time. The price of the stock moves in order to achieve and maintain equilibrium.

When prospective buyers outnumber sellers, the price rises. Eventually, sellers attracted to the high selling price enter the market and/or buyers leave, achieving equilibrium between buyers and sellers. When sellers outnumber buyers, the price falls. Eventually buyers enter and/or sellers leave, again achieving equilibrium.

Thus, the value of a share of a company at any given moment is determined by all investors voting with their money. If more investors want a stock and are willing to pay more, the price will go up. If more investors are selling a stock and there aren't enough buyers, the price will go down.

- Note: "For Nasdaq-listed stocks, the price quote includes information on the bid and ask prices for the stock." Of course, that does not explain how people decide the maximum price at which they are willing to buy or the minimum at which they are willing to sell. In professional investment circles the efficient market hypothesis (EMH) continues to be popular, although this theory is widely discredited in academic and professional circles. Briefly, EMH says that investing is overall (weighted by a Stdev) rational; that the price of a stock at any given moment represents a rational evaluation of the known information that might bear on the future value of the company; and that share prices of equities are priced *efficiently*, which is to say that they represent accurately the expected value of the stock, as best it can be known at a given moment. In other words, prices are the result of discounting expected future cash flows. The EMH model, if true, has at least two interesting consequences. First, because financial risk is presumed to require at least a small premium on expected value, the return on equity can be expected to be slightly greater than that available from non-equity investments: if not, the same rational calculations would lead equity investors to shift to these safer non-equity investments that could be expected to give the same or better return at lower risk. Second, because the price of a share at every given moment is an "efficient" reflection of expected value, then—relative to the curve of expected return—prices will tend to follow a random walk, determined by the emergence of information (randomly) over time. Professional equity investors therefore immerse themselves in the flow of fundamental information, seeking to gain an advantage over their competitors (mainly other professional investors) by more intelligently interpreting the emerging flow of information (news).

The EMH model does not seem to give a complete description of the process of equity price determination. For example, stock markets are more volatile than EMH would imply. In recent years it has come to be accepted that the share markets are not perfectly efficient, perhaps especially in emerging markets or other markets that are not dominated by well-informed professional investors.

Another theory of share price determination comes from the field of Behavioral Finance. According to Behavioral Finance, humans often make irrational decisions—particularly, related to the buying and selling of securities—based upon fears and misperceptions of outcomes. The irrational trading of securities can often create securities prices which vary from rational, fundamental price valuations. For instance, during the technology bubble of the late 1990s (which was followed by the dot-com bust of 2000-2002), technology companies were often bid beyond any rational fundamental value because of what is commonly known as the "greater fool theory". The "greater fool theory" holds that, because the predominant method of realizing returns in equity is from the sale to another investor, one should select securities that they believe that someone else will value at a higher level at some point in the future, without regard to the basis for that other party's willingness to pay a higher price. Thus, even a rational investor may bank on others' irrationality.

Arbitrage trading

When companies raise capital by offering stock on more than one exchange, the potential exists for discrepancies in the valuation of shares on different exchanges. A keen investor with access to information about such discrepancies may invest in expectation of their eventual convergence, known as arbitrage trading. Electronic trading has resulted in extensive price transparency (efficient market hypothesis) and these discrepancies, if they exist, are short-lived and quickly equilibrated.

Stock valuation

In financial markets, there are several methods used to calculate theoretical values of companies and their stocks. The main use of these methods is to predict future market prices, or more generally **potential market prices**, and thus to profit from price movement – stocks that are judged undervalued (with respect to their theoretical value) are bought, while stocks that are judged overvalued are sold, in the expectation that undervalued stocks will, on the whole, rise in value, while overvalued stocks will, on the whole, fall.

In the view of fundamental analysis, stock valuation based on fundamentals aims to give an estimate of their intrinsic value of the stock, based on predictions of the future cash flows and profitability of the business. Fundamental analysis may be replaced or augmented by market criteria – what the market will pay for the stock, without any necessary notion of intrinsic value. These can be combined as "predictions of future cash flows/profits (fundamental)", together with "what will the market pay for these profits?". These can be seen as "supply and demand" sides – what underlies the supply (of stock), and what drives the (market) demand for stock?

In the view of others, such as John Maynard Keynes, stock valuation is not a *prediction* but a convention, which serves to facilitate investment and ensure that stock are liquid, despite being underpinned by an illiquid business and its illiquid investments, such as factories.

Fundamental criteria (fair value)

The most theoretically sound **stock valuation method**, called income valuation or the discounted cash flow (DCF) method, involves **discounting of the profits** (dividends, earnings, or cash flows) the stock will bring to the stockholder in the foreseeable future, and a final value on disposition.^[1] The discounted rate normally includes a risk premium which is commonly based on the capital asset pricing model.

On-line valuation calculators

- InValueAble.net: Free stock valuation site using full financial statement approach to calculate intrinsic value. Sign-in required.
- <http://www.moneychimp.com/articles/valuation/dcf.htm>: Discounted Cash Flows Calculator that assumes that a higher growth can be sustained for a limited number of years.
- <http://intelligentinvesting.googlepages.com/DCF.xls>: A DCF spreadsheet that allows different growth rates to be specified for years 1, 2 to 4, 5 to 7 and 8 to 10.
- Baseline evaluation: Automatically fetches baseline data for popular stocks. Allows valuation with different assumptions like variable excess return period.
- Public Company Valuations: Free discounted cash flow (DCF) valuation tool for major listed companies.
- Behavioral stock pricer.

Stock and flow

Economics, business, accounting, and related fields often distinguish between quantities which are **stocks** and those which are **flows**; these differ in their units of measurement. A *stock* variable is measured at one specific time, and

represents a quantity existing at that point in time, which may have been accumulated in the past. A *flow* variable is measured over an interval of time. Therefore a flow would be measured *per unit of time*.

For example, U.S. nominal gross domestic product refers to a total number of dollars spent during a specific time period, such as a year. Therefore it is a flow variable, and has units of dollars/year. In contrast, the U.S. nominal capital stock is the total value, in dollars, of equipment, buildings, inventories, and other real assets in the U.S. economy, and has units of dollars. The diagram provides an intuitive illustration of how the *stock* of capital currently available is increased by the *flow* of new investment and depleted by the *flow* of depreciation.

Stocks and flows in accounting

Thus, a stock refers to the value of an asset at a balance date (or point in time), while a flow refers to the total value of transactions (sales or purchases, incomes or expenditures) during an accounting period. If the flow value of an economic activity is divided by the average stock value during an accounting period, we obtain a measure of the number of turnovers (or rotations) of a stock in that accounting period. Some accounting entries are normally always represented as a flow (e.g. profit or income), while others may be represented both as a stock or as a flow (e.g. capital). A person or country might have stocks of money, financial assets, liabilities, wealth, real means of production, capital, and human capital (or labor power). Flow magnitudes besides those shown in the diagram include income, spending, saving, debt repayment, labor, or stocks averaged over a unit of time, such as the money in circulation per year.

Comparing stocks and flows

Stocks and flows have different units and are thus not *commensurable* – they cannot be meaningfully *compared*, *equated*, *added*, or *subtracted*. However, one may meaningfully take *ratios* of stocks and flows, or multiply or divide them. This is a point of some confusion in economics, as some confuse taking ratios (valid) with comparing (invalid). The ratio of a stock over a flow has units of (units)/(units/time) = time. For example, the debt to GDP ratio has units of years (as GDP is generally GDP per year), which yields the interpretation of the debt to GDP ratio as "number of years to pay off all debt, assuming all GDP devoted to debt repayment".

A confusing point is that fixing a standard increment of time allows one to convert a flow to a stock, by multiplying by (time); in calculus terms, integrating over time. For example, the total US GDP in 2000 has units of dollars. Thus in ratios of stocks to flows, the time dimension is often eliminated and the ratio expressed as a percentage (a dimensionless quantity).

More general uses

Stocks and flows also have natural meanings in many contexts outside of business and its related fields. Thus stocks and flows are the basic building blocks of system dynamics models. Jay Forrester originally referred to them as "levels" (for stocks) and "rates" (for flows).

A **stock** (or "level variable") in this broader sense is some entity that is accumulated over time by inflows and/or depleted by outflows. Stocks can only be changed via flows. Mathematically a stock can be seen as an accumulation or integration of flows over time - with outflows subtracting from the stock. Stocks typically have a certain value at each moment of time - e.g. the number of population at a certain moment.

A **flow** (or "rate") changes a stock over time. Usually we can clearly distinguish inflows (adding to the stock) and outflows (subtracting from the stock). Flows typically are measured over a certain interval of time - eg. the number of births over a day or month.

Factors for the location and layout of stores/warehouse:

- (i) Consider the nature of materials to be stored i.e. are they raw materials, finished goods or hazardous materials.
- (ii) The quantity of materials to be used. The more the quantity, the larger the stores.
- (iii) Utilization of floor and airspace. The floor space and airspace should be utilized maximumly both horizontal and vertical.
- (iv) Possibility of future expansion. In case the need to expand arises there should be enough space to avoid shifting stores from one place to another or alteration of the layout.
- (v) Accessibility: The place in which to locate stores must be convenient to reach without difficulty, suppliers and other customers should be able to locate the stores with ease.
- (vi) The type of storage equipment to be used. The layout should take into consideration the type of aisles, bins and racks so as to minimize on the instances of accidents.
- (vii) Use of handling devices: Consideration should be given to how far the various equipment can be advantageously used to save labor and time in handling materials. E.g. in a finished goods store, pallets and conventional racks can be advantageously used.

- (viii) Security: Stores should be located in a place with adequate security i.e. they should not be located near walls to avoid instances of robbery, theft among other evils.
- (ix) Climatic conditions e.g. drainage of the area depending on the nature of materials stored.
- (x) Economic factors in terms of roads, utilities etc.

Materials – Handling:

Materials handling is a fairly high cost element, while it makes no contribution whatsoever to the value of the product. Since it cannot be avoided, enterprises strive to keep it to a minimum. It involves the transfer of goods to various storage places in the store and from there to the point of use (production process) between the stages in the production process and from the production process to the warehouse. It can therefore be regarded as the movement of goods over short distances.

Objectives of Materials – handling:

- Cost: Minimizing costs as much as possible by acquiring handling equipment with more uses. This is because the more uses a specific piece of equipment have the lower the cost of material handling.
- Capacity utilization: The equipment used in materials handling should be able to utilize space optimally i.e. length, width and height.
- Minimum handling: Limiting as far as possible the number of times goods have to be handled because this will reduce costs.
- Safety: eliminating repetitive and or manual handling of heavy goods and preventing damage to materials, ensuring safety of workers so as to ensure favorable working conditions.
- Service: Reacting or adopting quickly to changes in the production schedule and responding to the needs of customers as fast as possible.

Materials-handling equipments:

These include that which moves on the floor and that which moves overhead. Equipment that moves freely on the floor includes:

- Hand-driven equipment – which is used to transport small or light articles, e.g. trolleys.
- Tractors and trailers – which can transport heavier articles but require relatively large turning space.
- Forklifts – Can perform a variety of actions at a relatively low cost, one operator can work with a forklift to store or move around pallets where necessary.
- Conveyor belts – i.e. they are both gravity type where items are moved by mass and the power driven type.

Overhead materials – handling equipment include:

- Mobile crane – ideal for handling heavy materials in relatively high stores.
- Rails – designed to reach different areas. Containers normally hang from the rail which may be used for both incoming and outgoing movement.
- Lifts often electrically powered and may be planned for specific routes.

Removal of Waste Materials:

Scrap, waste or surplus materials are often seen in an extremely negative light because they are regarded as a sign of poor management. They are cost item for the enterprise because they increase the price of the final product which then places the enterprises competitiveness under threat. Waste or scrap or surplus materials cannot be avoided, however, although effort should be made to keep them to a minimum.

Sources of waste Materials:

In order to manage waste materials properly. It is essential to identify all possible sources thereof. The following general sources of waste materials can be identified.

(i) Scrap in the production Process:

This includes leftovers in the production process e.g. Small sizes or quantities of raw materials which are too little or small for any talk project or production process.

(ii) Unusable or damaged supplies :

These could be materials or components that are needed in the production process but do not meet the specifications or are below standard as far as quality is concerned. Breakages and obsolescence are additional source of unusable inventory.

(iii) Purchasing excess inventory:

This could be as a result of poor planning, incorrectly forecasting the demand for the products, economic reasons or because this is the company's policy. This may result in surpluses that have to be resold because of the danger of obsolescence, operating capital tied up in them.

iv) Obsolete equipment:

All equipment at a certain time becomes technologically obsolete or worn out and needs to be replaced.

(v) Packaging Material

Packaging material should be removed because it often takes up fairly large areas of storage space. However, suppliers are usually prepared to take back packaging material for remuneration.

Methods of removing Waste Materials:

Waste materials and equipment can be removed in different ways depending on the income or benefit that can be derived from the specific method. The following methods can be applied.

a. Use within the enterprise :

A list of surplus materials can be circulated in the enterprise and among its subsidiaries. Computer equipment is an example of old equipment that can easily be used in another place in the enterprise where the latest technology is not all that important.

b. Processing within the enterprise:

If the enterprise can process by-products more profitably and generate another more saleable product profitably, this is another alternative to removing surplus materials.

c. Returning Surplus materials to the supplier:

Surplus materials can also be returned to the supplier although this is done at a fee for the inconvenience caused.

d. Selling to other users:

Selling surplus to other users is often more profitable than selling to scrap dealers. The prices obtained will depend on the conditions of the materials and the availability of other sources.

e. Selling to employees of the organization:

Surplus materials that are in a good condition can be sold to employees if the policy of the organization allows this. However this may cause unhappiness among other staff members and the processing of such transactions may be a major administrative burden.

f. Donations to educational Institutions:

This is common with equipment such as computers, sewing machines, typewriters, etc.

Costs involved in removing waste materials:

- Transport costs
- Internal handling e.g. sorting apart and loading scrap.
- **Processing costs:** if the best alternative is to process the waste oneself.
- Direct labor e.g. operators for cranes and other equipment.
- Managers and supervisors involved in the removal of waste.

These cost elements should be weighed up against the possible revenue that can be generated from the scrap. If it can not be removed 'profitably', then alternative methods should be sought or an effort should be made to reduce the amount of future waste.

Reducing surplus materials:

Even surplus materials and waste appear to have been removed at a profit. It is better to keep them to a minimum because there will always be indirect costs that are not always taken into consideration e.g. the effect on the price of the product. There are a number of methods that can be used to reduce waste or surplus materials.

- Buy other or substitute materials including packaging that are easier to remove e.g. less dangerous substances or materials for which there is a market in recycling.
- Other methods of materials handling, maintenance and collection of waste can reduce surplus and waste or the cost of removal.
- Instead of removing technologically obsolete processes and equipment, modifications could possibly be made to satisfy new requirements and expectations.

SUPPLY CHAIN MANAGEMENT

The supply chain is not a chain of businesses with one to one business to business relationships, but a network of multiple businesses and relationships. Supply chain Management offers the opportunity to capture the synergy of intra- and inter-company integration and management. This is in a sense that SCM deal with total business process excellence and with other members of the supply chain. However, successful SCM requires cross functional integration and all management functions must play a critical role.

Definitions and concepts.

Supply chain (SC):

This refers to the network of activities required to get an item from raw material state where it is ready for consumption – in the hands of the final customers/consumers. Different items have different supply chains depending on the nature of operations of the firms where they pass.

Supply Chain Management (SCM):

This refers to the integration of the activities involved in the supply chain. It emphasizes a change from the traditional transactional management of organizations to a modern way of working together with suppliers, the suppliers of suppliers, customers as well as the customers of customers.

Supply Chain Management requires organizations to work together through sharing benefits as well as risks. This can only optimize combined value for all the firms rather than some gaining at the expense of others.

a) The Through flow warehouse

In the through flow warehouse, goods inwards and outwards are on opposite sides of the building. All items must therefore travel the full length of the store. The layout also requires separate goods in and dispatch management with dual yard access and doubles the internal bay areas. The layout is useful where the goods in and out vehicle requirement is different such as in their platform height or the nature of the unit load warrants the separation of the two facilities.

However, this type of layout limits future extensions of the building.
From the above.

- The focus of traditional procurement /purchasing was between the focal company and the first tier suppliers (materials management).
- The interface between the focal company and the first tier customers is referred to as physical distribution.
- Materials management focuses on the focal company and all related functions that interact with materials. In other words materials management focuses on the internal supply chain (purchasing, stores, production, marketing and distribution).

As the chain continues further away from the focal company towards the end customers (one who buys for non commercial use). It is said to be moving down stream.

And as the chain continues further away from the focal company towards initial suppliers. It is said to be moving down stream.

The interface that covers the whole chain from initial suppliers to the final consumer is the focus of supply chain management.

Note: The ultimate source of revenue for every firm in the supply is the end/final consumer.

Of all 1st tier customers, 1 is the most important because he supplies to more 2nd tier customers. The implication is that he may require more attention than for example the first tier customer 2.

It is not advisable for 1st tier customer 1 to supply to the end customers because it creates competition between him and his customers. It is like a wholesaler selling to consumers yet he sells to retailers. Retailers would not be comfortable competing with the wholesaler, e.g. a company delivering its products directly to final consumers making it to compete with retailers.

All firms across the chain must release information to the chain for effective decision making.

Get the supply chain management processes and include them here.

SUPPLIER RELATIONSHIPS:

Relationships between buyer and seller are of significant importance that attention now focuses on achieving and monitoring the right relationship rather than simple performance measures.

Strategic Importance of supplier relationship:

The strategic importance of suppliers' relationships has got benefits such as:

- Cost reduction
- Access to technological development.
- Joint innovations
- Reduction in duplications
- Reduction in duplication of efforts (i.e. administration, quality checks).

- Waste reduction.
- Short lead times and a more focused supply chain.
- Partnership cooperation in which mutually profitable long term relationships between suppliers and their customers are sought based on openness and trust.

Different types of buyer – supplier relationship models.

Value	Importance	Category of relationship
Low	low	commodity purchasing
High	low preferred	preferred supplier
Low	High	preferred
High	High	partnership

The type of relationship with suppliers depends on the degree to which the competences of the suppliers and purchasers are complementary. Where they are complementary, the type of relationship is described as quest or vertical integration and it will be exercised by joint ventures or single sourcing or using a number of suppliers on a preferred basis.

Methods of improving buyer – supplier relationship:

There are several mechanisms for increasing supplier’s relationships. These include:

- Suppliers cooperative Association
- Cross transfer of staff
- One to one development
- Parallel sourcing

Suppliers cooperative Association:

It is based on trust, and sharing of business strategies. E.g. in engineering and cost information. They also require organizational change. A general definition is:

A mutually benefiting group of a company’s most important suppliers brought together on a regular basis, for the purpose of coordination and cooperation as well to assist the members to benefit. Or a group of companies linked together on a regular basis to share knowledge and experience in an open and cooperative manner.

Cross transfer of staff:

This can be permanent or temporary for cementing relationship between the buyers’ ad suppliers’ organizations e.g. to understand what exactly the buyer wants – system and relationship.

One to one development:

This involves working together to strengthen relationship with the emphasis on joint problem solving and mutual gain. This can be in the form of onsite training of suppliers, employees, individual suggestion directly to the sup[pliers and technical assistance.

Parallel sourcing

This is where two suppliers are selected to manufacture a part, and although the relationship of both is close, the threat of competition is ever resulting into good quality and better service delivery.

How to start improving suppliers/buyer relationship

- Examine your own motivation orientation
- Focus heavily on relationship issue.
- Conduct a carefully negotiations analysis before interacting with suppliers.
- Design procedure for pre-post negotiation interaction.

Supply chain management is not about minimizing the effectiveness and profitability of the individual units, whether factories/warehouses or transport flight, but optimizing the whole to achieve better service at lower cost with less industry. This can be done through commercial relationship. Until the early 1980's, the focus of purchasing/procurement tended to be very much on the transaction aspect of the deal.

Suppliers were generally seen as adversaries. But more recently, organizations have begun to think of suppliers not as above but as potential partners and the supplier base as a source of competitive advantage advantages from which benefits could be harvested if the right relationships were established.

As organizations continue to downsize and concentrate on their core business or mission, external supplier inevitably has become more important and central to the achievement of corporate objectives.

Increased interest in suppliers' relationship:

The reasons for increased interest by organizations in suppliers' relationship include the following:

- Efforts to integrate supply chain to reduce costs.
- Realization of hidden costs as a result of poor relationship
- Growth of outsourcing practices.
- New types of relationship models in the commercial market.
- E-commerce and ICT changes in the relationship landscape.
- Higher value of trust in relationship
- Environment (green) issues and ethical relation.
- Government procurement changes.

a. Realization of hidden costs associated with poor relationship:

This arises in the absence of a trusting relationship. Both supplier and buyer try to hide information after long and arduous negotiations. Both parties will need to check order invoices and indeed the quality of goods received. This means extra costs for both parties in the relationship.

b. Efforts to integrate supply chain to reduce cost:

The supply chain management concept emphasizes that all organizations in the supply chain network stand to gain from cooperating or reducing costs and improving quality so that the final consumer is satisfied. In order to reduce waste in the supply chain, it is necessary for supply chain members to work more closely together to identify areas where there is duplication, excess inventory or supply bottlenecks. Closer integration i.e. often facilitated by information Communication Technology (ICT) solution and in order for ICT solutions too work effectively, all members of the supply chain must agree on some common standard for the benefit of all e.g.

- Reducing waste and non-value adding activities such as handling or excess inventory.
- Improving supply chain communication especially with regard to forecasting.
- Reducing the tie for new product development
- Coordinating better the efforts of all components, links in the supply chain.

c. Growth of out-sourcing Practices:

As organizations in both public and private sector continue to outsource more and more activities, managers will see their role change from being functional or departmental to being a contract or external resource manager.

d. New types of relationships in the commercial world:

The world over, competitors are forming alliances e.g. airline businesses are cooperating with the former competitors to have information, cut marketing and tracing costs and offer their customers a better and integrated service.

e. E-commerce and ICT changes:

New ICT tools and in particular the establishment of online industry, market places, trading exchanges means that closer cooperation is possible with suppliers contractors and even competitors.

f. Higher value of trust in relationship:

In the knowledge economy where intellectual and not physical property is the source of most wealth, trust becomes even more important between commercial parties.

g. Environmental (green) issues and ethical pressure:

It is impossible to make a chain for your organization to be green if your suppliers are not green. And ethical sourcing motives require cooperation with suppliers' partners.

More suppliers but fewer good ones:

Good suppliers are becoming hard to find in many sectors and smart buyers are seeking longer term relationships with those that are regarded /perceived to be world class.

h. Government procurement changes:

This is intended to ensure that public sector buyers concentrate more on developing close and mutual, beneficial relationships with suppliers.

Note: Good relationship requires among other things:

- Commitment – doing what you said will do
- Empathy
- Honesty
- Communication

Building such relationship takes time and effort.

Factors that determine the nature of relationship with suppliers:

(i) ABC Analysis: One simple way of determining which type of relationship to establish with a supplier is by looking at the ABC – analysis. This analysis is a technique whereby products/services (items) are divided into A, B and C categories. This technique differentiates between supplies on the basis of cost (money) and forms the input for supply strategy differentiation (how to deal with the different products/services purchased).

In other words, more attention should be given to a-category items than to those in the C-category. Each purchaser should be familiar with this model and use it as a starting point for any purchasing action and even for purchasing strategy.

(iii) The Kraljic purchasing portfolio approach (matrix).

An organization has certain needs with regard to external supply. Different products, services and items are purchased from the external market. Not one single product or service is the same, not one supplier is the same as another. It implies that we need to differentiate and this calls for product positioning depending on two factors. Spend and criticality of an item.

Relationship with suppliers is likely to differ depending upon which box the supplier or commodity purchase is placed. This is presented in a 2 by 2 matrix by Kraljic. Kraljic (1983), introduced the first comprehensive portfolio approach for the determination of a set of differentiated purchasing strategies.

The Kraljic purchasing portfolio matrix is a purchasing approach to manage supplier relationships. Its general idea is to minimize supply risk and make the most buying power. From this, the purchaser can consider how best to develop the relationship with the supplier.

Kraljic's approach includes the construction of a portfolio matrix that classifies products on the basis of two dimensions profit impact and supply risk ("low" and "high").

The Kraljic Matrix/Supply positioning model

High	<p>Leverage products</p> <ul style="list-style-type: none"> -High impact of profits -No supply market constraints -Standard specifications 	<p>Strategic Products</p> <ul style="list-style-type: none"> Your key purchases High volume Cost is vital Quality and availability is critical 	Expenditure /Relative cost	
Low	<p>Routine Products</p> <ul style="list-style-type: none"> Low value items Many alternatives Routine purchases Majority of items are non essential products. 	<p>Bottleneck products</p> <ul style="list-style-type: none"> Vulnerability high Delivery is fragile Need risk management Good planning is required Highly specialized. 		
	Low	Supply risk	High	

The strength of the instrument is that it enables the purchaser to differentiate between the various supplier relations and strategies that are appropriate for each category. These are:

- Leverage items: hard bargaining, induce services
- Routine items: Reduce handling/overheads costs, try to cluster into leverage contracts.
- Strategic items: go for partnerships
- Bottleneck items: ensure supply.

Kraljic's matrix categorizes the outcomes under four headings.

a. Strategic products:

These account for a high monetary value and also suffer supply risk, perhaps because of the small numbers of potential suppliers. These products are seen as being important over the long term to the organization and will require long-term solutions and analysis such as a closer and more collaborative approach between organizations. Strategic products are core to the organization.

Strategic products are likely to be fundamental to differentiating the company's products or to achieve a cost advantage and can therefore be key contributors to profitability.

Examples can include components on which an end product depends, a key equipment based on new technology and designed on individual basis. Any deviation from required performance could affect the efficiency and effectiveness of the whole process.

b. Bottleneck products:

These are products identified as being crucial to maintain operations. These purchases may represent a relatively small proportion of total purchasing spend however, their non-availability can result into a very high risk. For example a spare part of a machine operations in the manufacturing plant. The role of purchasing is to secure continuity of supply and develop the business relationship accordingly. These products should be handled by volume insurance, vendor control and security of inventories and back up plans.

c. Routine /Non-critical products:

Such as lubricants, stationery can increasingly be handled by contracting out management of the day-to-day supply activates to specialist organization (outsourcing). After the initial contract is drawn up, the role of purchasing becomes one of monitoring and managing the contract. These products require efficient processing, product standardization, order volume and inventory optimization.

d. Leverage products:

These are also valuable in monetary terms but their supply risk is low reason being there are many suppliers in the market. They are similar to routine products only that they involve high expenditure compared to routine products. These items allow the buying company to fully exploit its full purchasing power through tendering, target pricing, product substitution etc.

This category is a natural target for a competitive bidding approach and the main deciding factor is likely to be purchase price.

Leverage products (where the purchaser has ‘leverage’ over the supplier) will often lead to an adversarial approach where the purchaser is looking for the best possible price while considering delivery quality and other issues as secondary. This approach does not lead to long-term thinking but is designed to secure the required product that meets the specification at the most competitive price.

Organizations will use a matrix of relationships applicable to those identified in the Kraljic matrix. These different approaches allow the purchasing team to maximize their effectiveness by having the right approach to suppliers in the circumstances. However, the matrix requires regular monitoring and updating to ensure that the correct approach continues to be used.

Summary of supply Strategies:

Kraljic’s strategies recommendations for the four portfolio categories are usually summarized into simple concepts like “efficient processing”, “exploit power”, “strategic partnership “, and “volume insurance”.

a. Strategic Commodities (strategic partnership)

Achieving total value through strategic sourcing/supply chain management can be possible through:

- Being supplied from one supplier
- Getting access to supplier’s technology and expertise.
- Joint development: unique specifications
- Product differentiation (competitive edge).
- Multi-disciplinary competence teams
- Medium/long term detailed contracts (3-5 years)

Leverage commodities (exploit power):

Accruing returns through analysis can be possible through:

-Optimizing purchasing power – drive profit
Managing supply market capacity – drive profit
Purchasing for price reductions
Standardizing specification – limited differentiation
Stock holding at suppliers – use VMI (Vendor Managed inventory technique)
Short/medium term contracts
Maintain flexibility – consider multiple sourcing.

b. Bottleneck commodities (secure supply)

Strategic sourcing can be done by:

- Having a second source do not depend/rely on one supplier
- Ensuring supply so as to remove/minimize risks
- Using buyer's specification- seek substitutes
- Standardizing – reduce number of products
- Considering keeping stocks
- Carrying out normal negotiations – price is a lower priority
- Seeking alternative sources- encourage competition
- Preparing a contingency plan

c. Routine commodities (Efficient processing)

- ensure lean supply – minimize acquisition costs
- use industry standard specifications (catalogues)
- reduce supplier base –volume consolidation
- minimize attention – supplier does everything for the buyer
- automation – E-procurement
- negotiate discounts (on price lists)
- Consider outsourcing provision of these products.

How to start improving buyer /supplier relationship

Setting up of the buyer/supplier relationship on the first place is the first obstacle on the road towards sustainable relationship. This can be especially difficult if the purchasing and suppliers staff have been used to adversarial methods of negotiation.

The four key considerations for successful negotiations

1. Examine your own motivation orientation

Neither a cooperative nor a competitive orientation is appropriate for complex negotiation. Enlightened self interest is the orientation that develops quality agreement through its focus on interests, merits and results- know what you want from the negotiation.

2. Focus heavily on relationship issues

The traditional focus on substance and right based market must be complimented with – focus relationship issues when negotiating cooperative relationship. Many buyers focus on short-term financial /gain and thereby miss the opportunity to exploit long-term mutual gain through collaboration with suppliers.

3. Conduct a careful negotiation analysis before interacting with the supplier:

Establishing a cooperative relation tailored to the exchange needed and to the characteristics of partners requires the following analysis:

- (i) Examination of interests and issues
- (ii) The generation of options – what to give and what to take
 - Examine interests and issues
 - Coming up with options
 - Explore means of turning options into specific agreements
 - Evacuate alternatives to the agreement
- (iii) Design procedures for pre-negotiation and interaction. Given the potential complexity and predictability of cooperative supplier relationship, a buyer should:
 - Carefully consider the timing of interaction with potential suppliers.
 - Use well established negotiation procedure
 - Design procedures for handling future conflicts

Partnering:

A partnership is the most advanced form of relationship in management. Broersma (1991) defined it as: “the building of long-term relationships with a limited number of suppliers based on mutual trust”. Here the purchaser, supplier and other organizations involved in the supply chain work together to reduce total cost and improve the quality of the product or service. The aim is to adhere world-class standards so as to achieve both short and long-term goals.

Hendrick et al (1993), defined a ‘partner’ as a firm with whom your company has an ongoing buyer – seller relationship, involving a commitment over an extended time-period, a mutual sharing of information, risks and rewards resulting from the relationship.

“Partnership is the result of the buyers’ continuous effort to improve results in the relationship with suppliers, rather than a technique which can be adapted and applied in a short time.

The objective of this type of co-operation is to achieve improvements in:

- Cost
- Logistics
- Quality
- Product development

Critical success factors or variables required to sustain partnerships.

Critical success factors or variables that when properly sustained, maintained or managed will have a direct impact on one’s partnership and hence one’s shared vision. They affect the overall partnership and they include:

- Commitment - which is determined by the buying and sellers’ organization top management.
- Communication – what exactly is needed in the relationship by looking at the service level agreement?
- Coordination of all transactions
- Motivation e.g. through sharing benefits and rewards
- Conflict management – how to resolve conflicts when they arise.
- Culture change – being adaptive to each other’s culture.
- Participation among buyers and suppliers.

Why partnerships fail:

- Poor communication

- Low level of top management commitment
- Lack of TQ commitment by suppliers
- Lack of shared goals – these are derived from objectives of the relationship.
- Lack of benefit – risk sharing
- Ineffective mechanism of conflict resolution.

Conclusion:

Supplier – buyer relationship can be compared to a marriage relationship which involves long-term relationship.

- Developing a partnership with suppliers takes time. The road is long and difficult, there are no easy ways or short cuts to success.
- Cooperation with suppliers requires internal team work between all disciplines and yet companies still operate in a functional manner.

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1. Lysons (2000), Purchasing and Supply Chain Management.
2. Carter et al (2007), Purchasing and Supply Chain Management.
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5. Lysons et al (2003), Purchasing and Supply Chain Management.
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7. Hugo et al (2002), Purchasing and Supply Chain Management 4th edition
8. The journal of Public Procurement, volume six, nos. 1 and 2 2006.

**API COMPREHENSIVE CERTIFICATE IN BUSINESS MANAGEMENT
Year I Term I CWs**

CBA 101 *English Special Program*

Qn 1. In not less than 3000 Words, Write a story and end with a statement “...when I wake up and found that it was a dream I was relieved.

Qn 2. To save, to invest and to insure, is to behave as if God does not care, as believer discuss.

CBA 102 *Computer Applications*

1. a) Discuss the merits and demerits of using computer systems.
c) Discuss the features of good information.
2. a) Discuss different components of a computer.
b) Discuss some of the forms of data communication.
c) Explain the good qualities good data communication.
5. a) With examples explain different types of net working.
b) Discuss the functions of operating systems.
c) Discuss different types of net works you know.

CBA103 *Public Relations and Communication Skills*

1. a) How can communication be effective?
b) Mention and discuss the different type of communication you know?

2. a) Explain the different skills that used in communication process
b) Discuss the advantages and disadvantages of advertising?
3. a) With examples explain what is meant by the communication design
b) Show the ways of responding to angry customers.

CBA 104 ***Production and Operations Management***

1. a) What major factors influence the location and layout of stores/ warehouse?
b) Give 5 reasons that make material handling a necessary exercise.
2. a) Describe the steps in the retail supply chain in their chronological order.
b) Explain the different material handling equipment.
3. a) Clearly explain the term partnering as used in business management.
b) What factors are critical for the success of meaningful partnership?
c) Show why partnerships fail in the business world.