IMC 401
FOUNDATION OF INFORMATION COMMUNICATION TECHNOLOGY

CHAPTER 1 : INTRODUCTION TO ICT

CONCLUSION

- The advancement of ICT have changed human life in various aspects.
- It does help for better improvement of human daily activities and enhance the process of decision making
- On top of that, ICT technology also helps to improve the quality of work and life
- However, all the changes needs to be managed and the society must be literate enough to ensure that they are able to make full use of the technology.

EVOLUTION OF COMMUNICATION

- Communication has improved and evolved to facilitate our daily activities.
- In the 21st century, everything related to communication utilizes technology to ‘send out’ or disseminate information to a wider audience.
- Information can be ‘sent out’ in many ways.
- The inventions of cellular phones, television and other electronic devices are important in enhancing communication.

WHAT IS ICT?

- ICT is the technology required for information processing, in particular, the use of electronic computers, communication devices and software applications to convert, store, protect, process, transmit and retrieve information from anywhere, anytime

INFORMATION

- Information refers to the knowledge obtained from reading, investigation, study or research.
- The tools to transmit information are the telephone, television and radio.
- We need information to make decisions and to predict the future. For example, scientists can detect the formation of a tsunami using the latest technology and warn the public to avoid disasters in the affected areas.
- Information is knowledge and helps us to fulfill our daily tasks. For example, forecasting the stock exchange market.

COMMUNICATION

- Communication is an act of transmitting messages.
- It is a process whereby information is exchanged between individuals using symbols, signs or verbal interactions.
- Previously, people communicated through sign or symbols, performing drama and poetry.
- With the advent of technology, these ‘older’ forms of communication are less utilized as compared to the use of the Internet, e-mail or video conferencing.
- Communication is important in order to gain knowledge. With knowledge, we are more confident in expressing our thoughts and ideas.

TECHNOLOGY

- Technology is the use of scientific knowledge, experience and resources to create processes and products that fulfill human needs.
- Technology is vital in communication.

WHAT IS DIGITAL LITERACY?

- **Digital Literacy** is a relatively new concept that emerged in the 1990s during the era of the Internet revolution. Before that, people talked more about "computer literacy." But in 1997, Paul Gilster, a historian and educator first coined the term "digital literacy," arguing that digital literacy went beyond just skills in using technology.

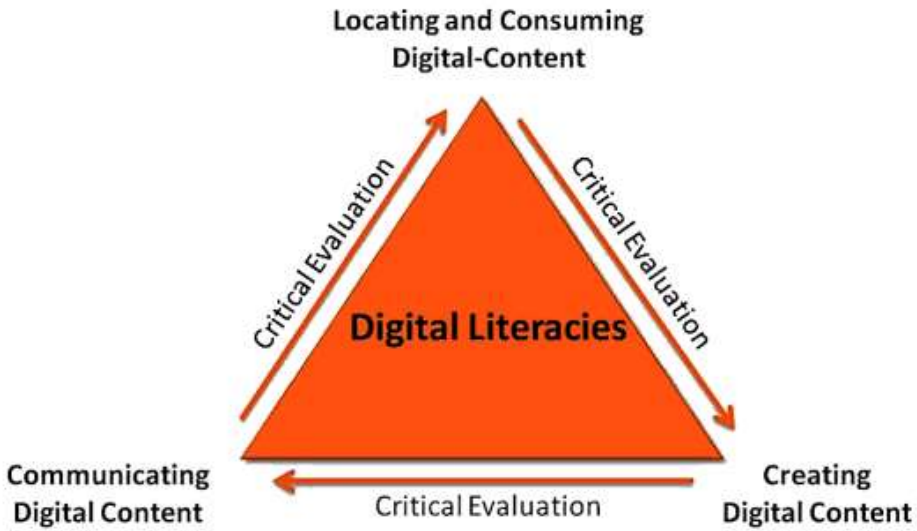
- It is the ability to understand and use information in multiple formats from a wide range of sources when it is presented via computers.

- Digital literacy involves any number of digital reading and writing techniques across multiple media forms, including: words, texts, visual displays, motion graphics, audio, video, and multimodal forms.

CATEGORIES OF DIGITAL LITERACY

Spires and Bartlett (2012) have divided the various intellectual processes associated with digital literacy into three categories:

(a) locating and consuming digital content,
(b) creating digital content
(c) communicating digital content



CATEGORIES OF DIGITAL LITERACY

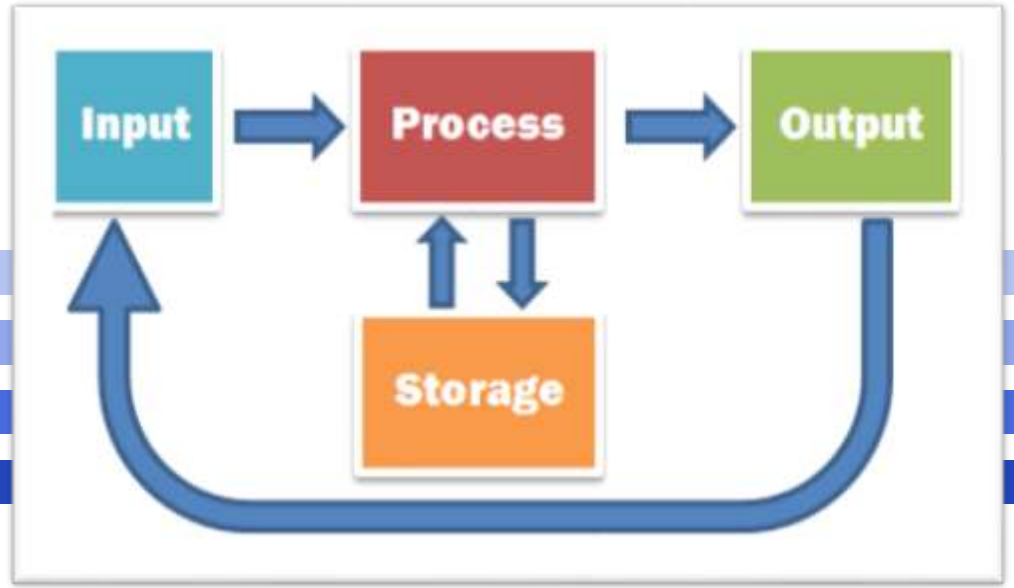
1. **Locating and Consuming Digital Content**
   - It is essential to develop the skills to locate, comprehend and consume digital content on the Web.
   - There is consensus that effective Web search skills must be developed for a digital society, and instruments checklist being developed to ensure that they have the necessary prerequisite Web search skills

2. **Creating Content**
   - The implementation of digital content may be an important and effective method to embrace the 21st century skills that are expected to master.

3. **Communicating Digital Content**
   - Digital content must be communicated effectively in order to be a useful
   - Using social networking sites like Facebook, Twitter, and Instagram requires users to understand and manipulate information in multiple formats.
   - Web 2.0 tools are social, participatory, collaborative, easy to use, and facilitate the creation of online communities which enable to communicate digital content using mobile devices such as cellphones and tablets that provides convenience and immediacy to the communication process for everyone.

WHAT IS COMPUTER?

- ✓ A **computer** is an electronic device, operating under the control of instructions stored in its own memory.
- ✓ A **computer** accept data , process the data accordingly, produce information and store it for future use.



ADVANTAGES OF COMPUTER

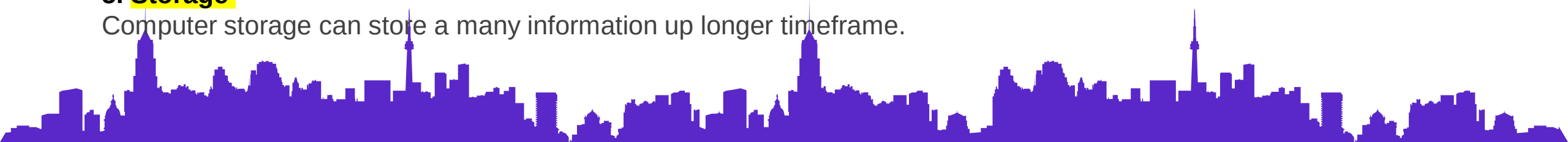
1. Speed
Computer offering the speed of carrying out the given instruction logically and numerically

2. Accuracy
Computer calculates very accurately and computer never does mistake although we often hear about the false results of computers. This may be due to the error in data entry or due to poorly designed program.

3.Versatility
Previously, the computer was thought as only a calculating machine, but a computer cans also carryout logical operations. Any job can be computerized with the help of appropriate software.

4. Reliability
The information stored in computer is in digital forms. The information can be stored for long time and have long life. If maintained properly, at least data processing and storage components are guaranteed for several years

5. Storage
Computer storage can store a many information up longer timeframe.



ADVANTAGES OF COMPUTER

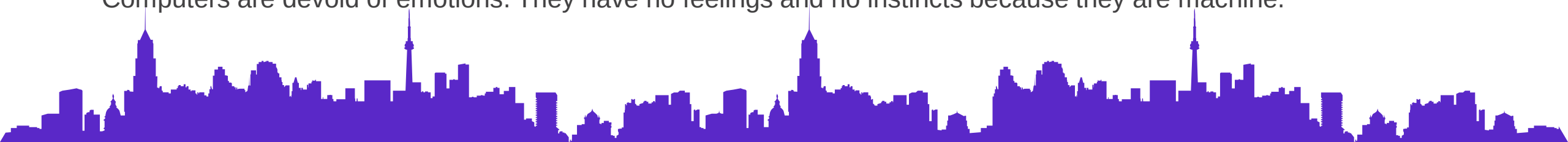
6. Automatically
A computer performs automatically in user friendly and menu driven program

7. Compactness
Nowadays, the size of the computer has reduced drastically. The modern computers are laptop and tabletop computers. They do not occupy more space and provide mobility to the computer.

8. Repetitiveness
Computer can be used repetitively to process information. It does not feel mental fatigue as in case of human being.

9. Diligence
A computer is an electronics device. It does not suffer from the human traits of lack of concentration. So, the results will be continuously of the same standard.

10. No Feelings
Computers are devoid of emotions. They have no feelings and no instincts because they are machine.



MAIN ADVANTAGES OF USING COMPUTER

Speed	data, instructions, and information flow along electronic circuits in a computer at incredibly fast speeds.
Reliability	dependable and reliable because they rarely break or fail.
Consistency	produce the same results — consistently, generate error-free results
Storage	store enormous amounts of data and make this data available for processing anytime it is needed.
Communications	computers can communicate with other computers, often wirelessly, and allow users to communicate with one another.

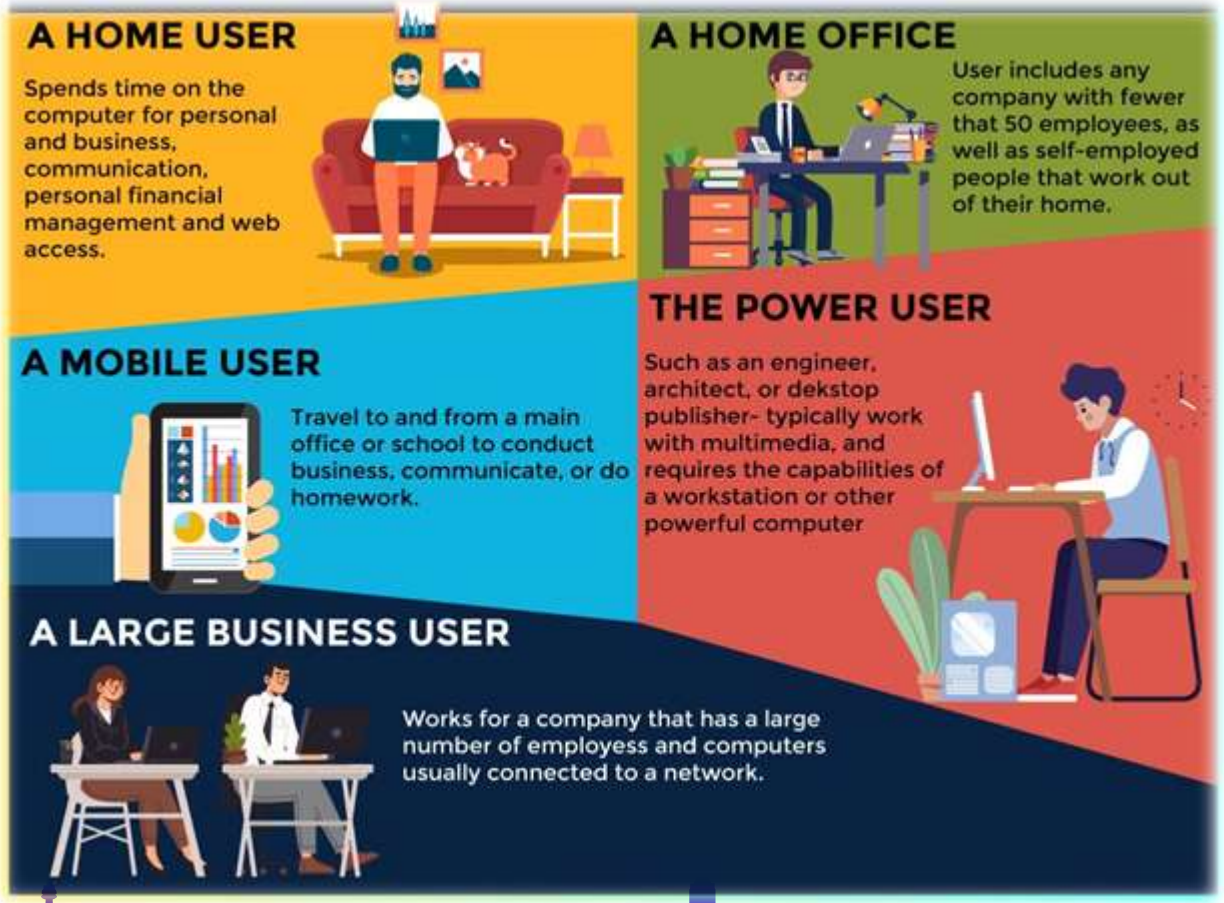
DISADVANTAGES OF COMPUTER

- Violation of privacy
- Public safety
- Impact on labour force
- Impact on environment

On top of that, computer also provide health risks to its users such as:

- Carpal tunnel syndromes
- Vision problems
- Backache
- Headache

COMPUTER USERS



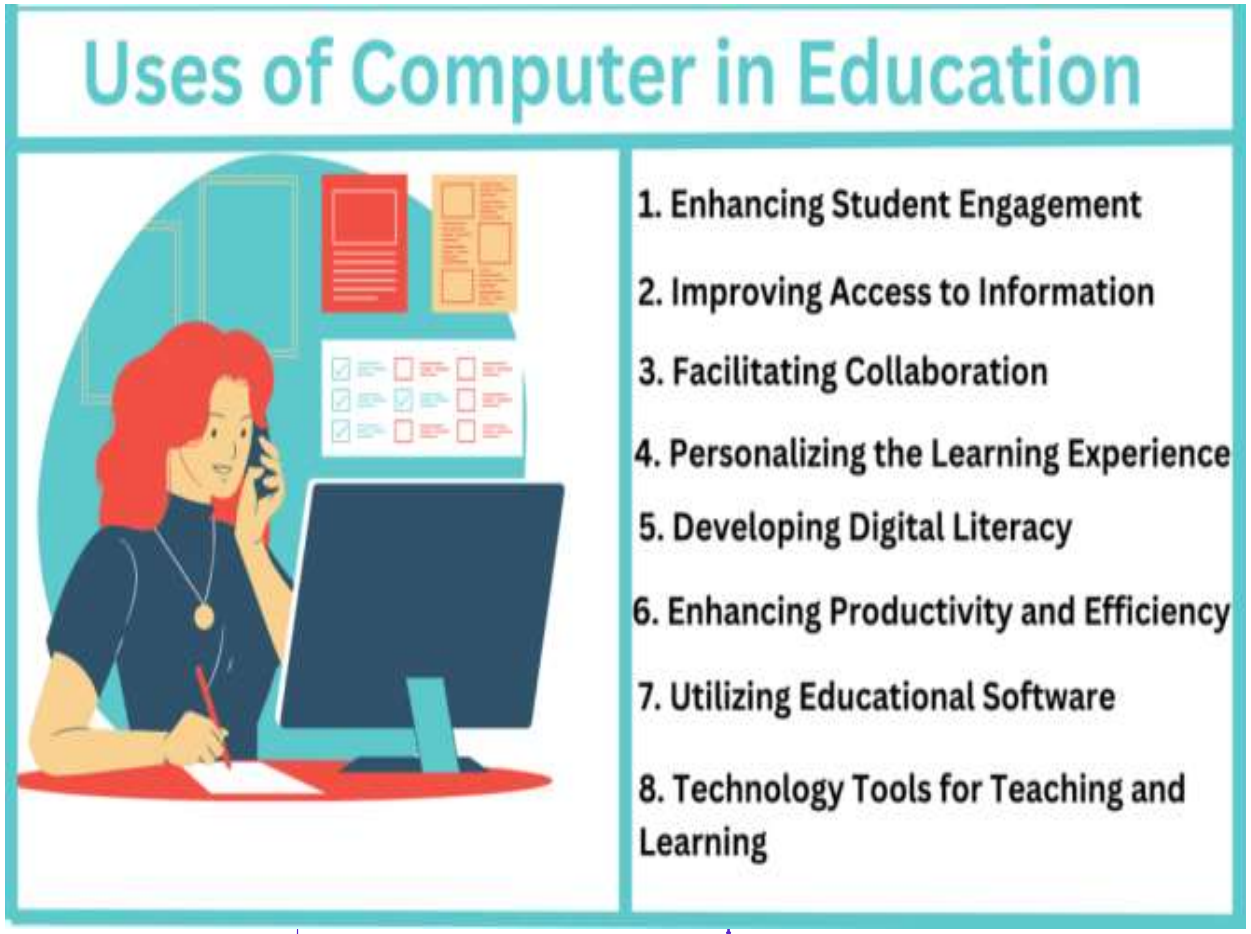
COMPUTER APPLICATION IN THE SOCIETY

- Education
- Government
- Finance
- Retail
- Entertainment
- Health Care
- Science
- Travel
- Publishing
- Manufacturing
- Agriculture

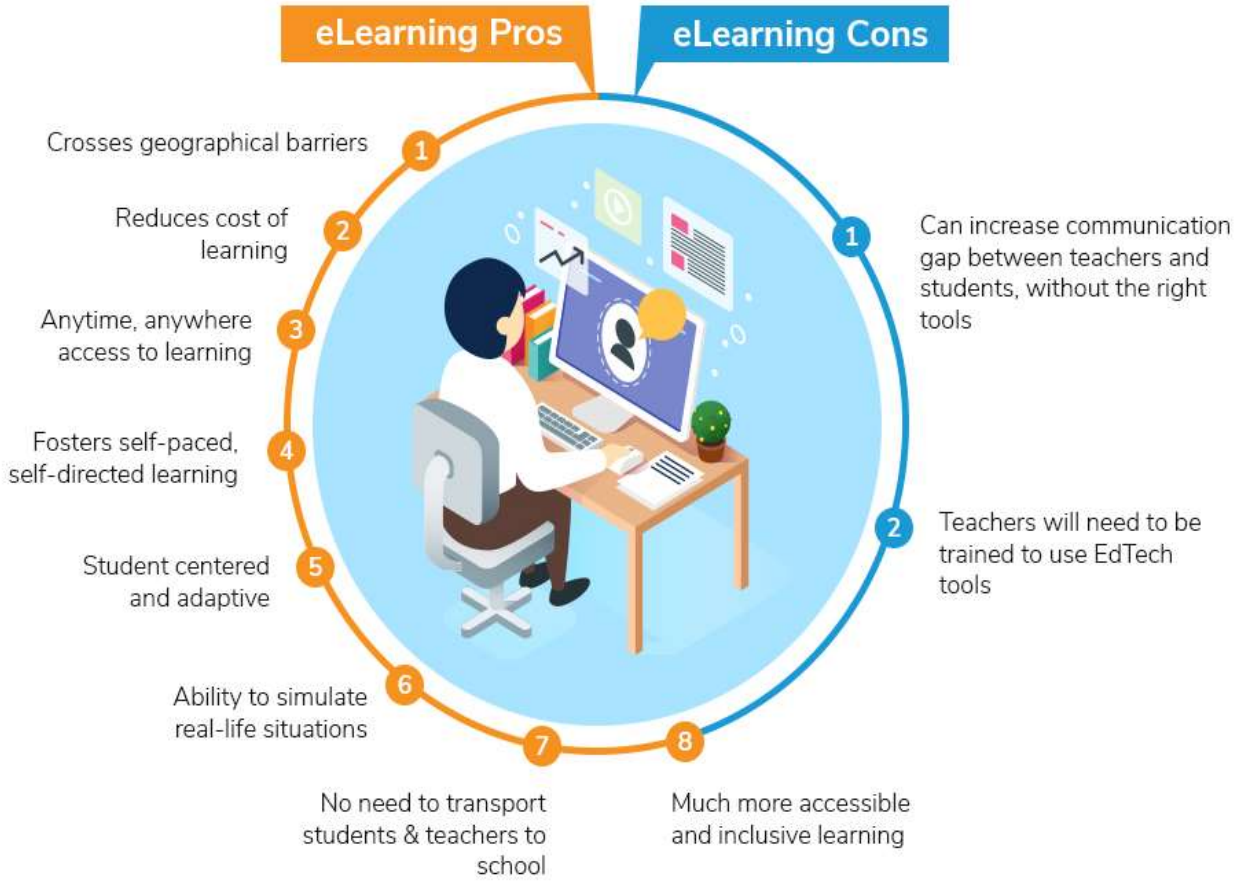
COMPUTER FOR EDUCATION

1. Computers are excellent tools for helping students learn specific skills, such as how to properly research online, create online content, and use digital tools for collaboration.

2. Computers can also be used to provide students with real-world experience that helps them to explore and apply their skills.



COMPUTER FOR EDUCATION

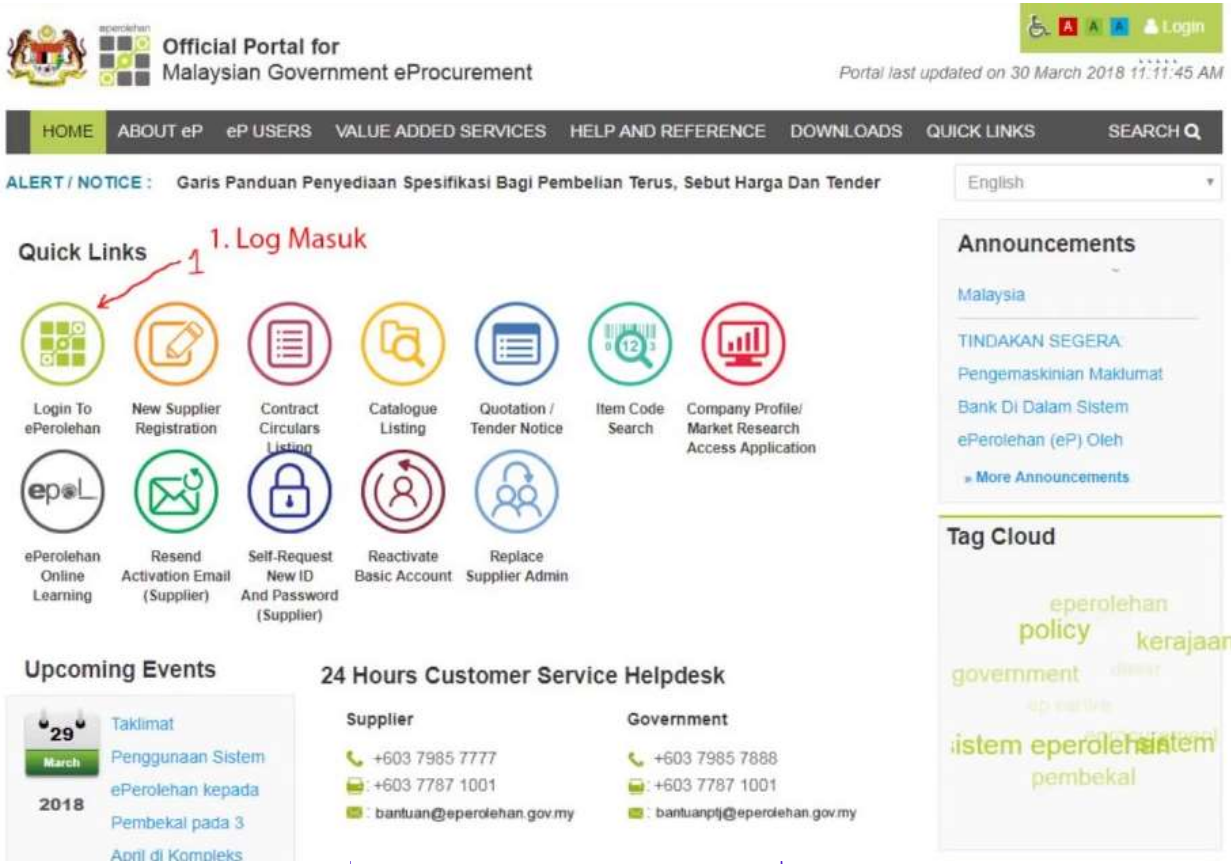


COMPUTER FOR GOVERNMENT

Computers play an important roles in government. Some major fields in this category are:

- Budgets
- Sales tax department
- Income tax department
- Male/Female ratio
- Computerization of voters lists
- Computerization of driving licensing system
- Weather forecasting

COMPUTER FOR GOVERNMENT

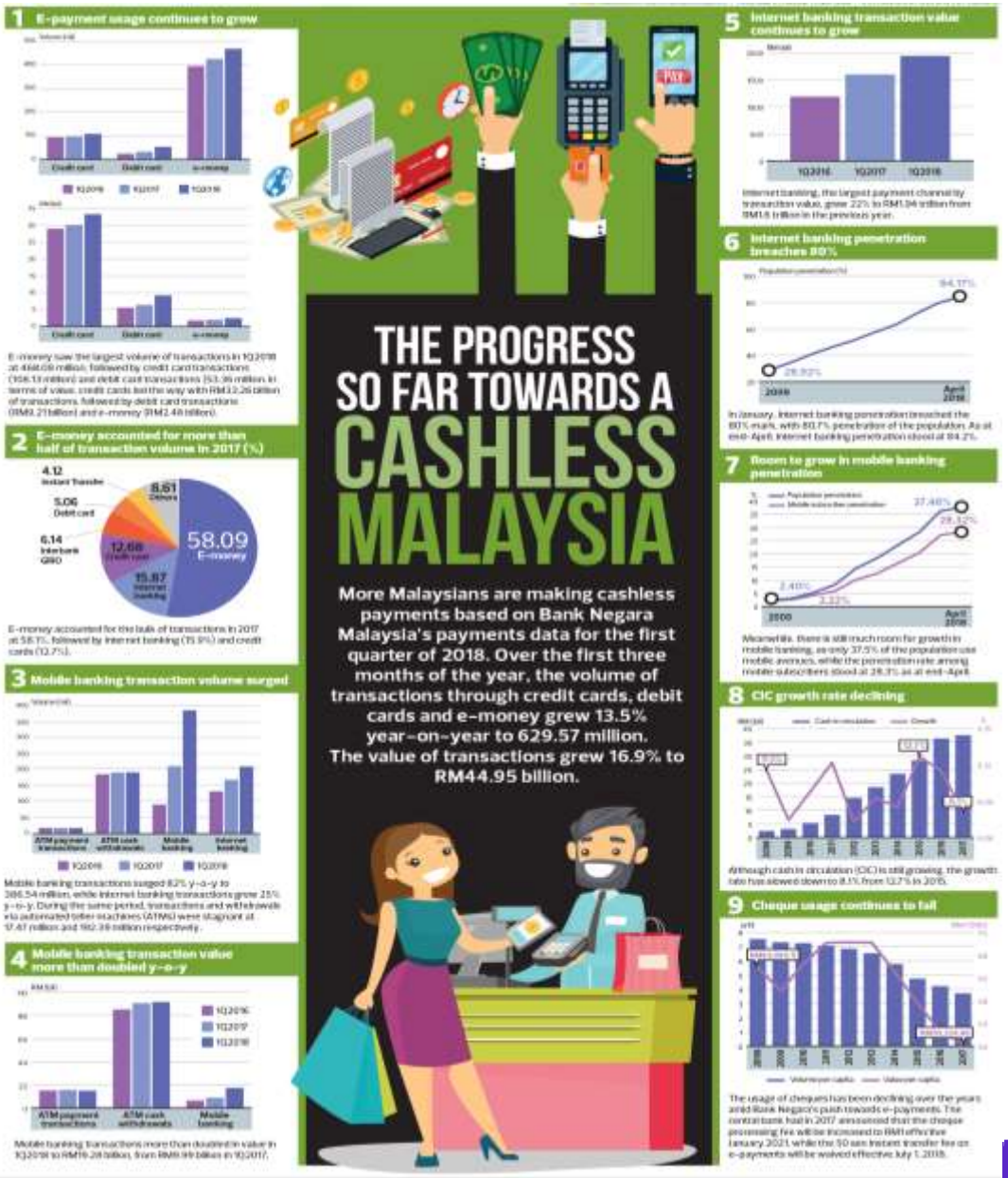


COMPUTER FOR FINANCE

1. Computer is now mostly used in offices as one of the equipment in financial institutions. And this computer performs many functions apart from calculating function.

2. It also performs different functions as **data analysis, prediction, the identification of trend and even the creation of new approaches and ideas**.

COMPUTER FOR FINANCE



COMPUTER FOR RETAIL

1. Computers can be used to **buy and sell products online** – this enables sellers to reach a wider market with low overheads, and buyers to compare prices, read reviews, and choose delivery preferences.

2. **It offers a global address and makes it easy for both businesses and customers to deal with each other**.

COMPUTER FOR RETAIL

COMPUTER FOR ENTERTAINMENT

1. Computers are also playing very important role for the entertainment of human beings
2. Nowadays, computer can be used to watch television programs on the Internet
3. People can also watch movies, listen music, and play games on the computer.
4. Many computer games and other entertainment materials of different kinds are available on the Internet.

COMPUTER FOR HEALTHCARE

1. Every area of the medical field uses computers such as laboratories, research offices, scanning, monitoring, pharmacy etc. which are helping the doctors to diagnose diseases and many other purposes e.g.
    - Maintain patient history and other records
    - ICU (Intensive Care Unit)
    - Operation Theater
    - Recovery Room
    - Medical Ward
    - ECG
    - Diagnosis of Diseases
    - Telemedicine
    - Computer-aided surgery

COMPUTER FOR HEALTHCARE

Benefit	Comments
Improved quality of care	Order entry, data handling, billing, documentation, monitoring, dispensing, testing, imaging, alerting, reporting
Decreased costs	Linking to electronic records, reducing work times, improving communication, organizing schedules
Uniformity	Integration of health care systems, referencing, databases, updating, use of terminology
Patient knowledge	Involving patients in care, offering visual images, education, answering questions
Internet capability	Telemedicine, telepharmacy, use of sensory and input devices in emergencies
Patient accessibility	Social networking, daily health monitoring, patient–provider interactions

COMPUTER FOR SCIENCE

1. One of the most important advantages of computers is in the field of science for research and development
2. The computers have played a major role in most of what we know about ourselves and the universe
3. The satellites, the telescope and almost all research tool make use of computers in some or the other way.
4. The huge calculations required for space science, safe communication between scientist, storage of all gathered information are some of the computers uses in science and technology.

COMPUTER FOR TRAVEL

1. Online travel agencies such as expedia.com, are a large contribution to how the travel and tourism industries have changed due to technology.

2. These online agencies **help users plan and book trips and provide comparisons of hotels, flights, vacation packages, prices and more, all in one place**.

COMPUTER FOR TRAVEL

SNAPSHOT OF HOW TECHNOLOGY HAS TRANSFORMED THE TRAVEL AND HOSPITALITY INDUSTRY

Technology is a Part of How We Travel

49%
of travelers will use social media more if they have free WiFi while traveling.

88%
of respondents take mobile devices with WiFi or 3G capabilities while on

68%
of travelers globally use mobile devices to connect with friends and family; 22% use them to do work-related tasks.

OVER 50%
of travelers will "pack" travel apps on their devices before going on

OVER 1/3
of travelers will share vacation-related online content if they think friends or family will

COMPUTER FOR PUBLISHING

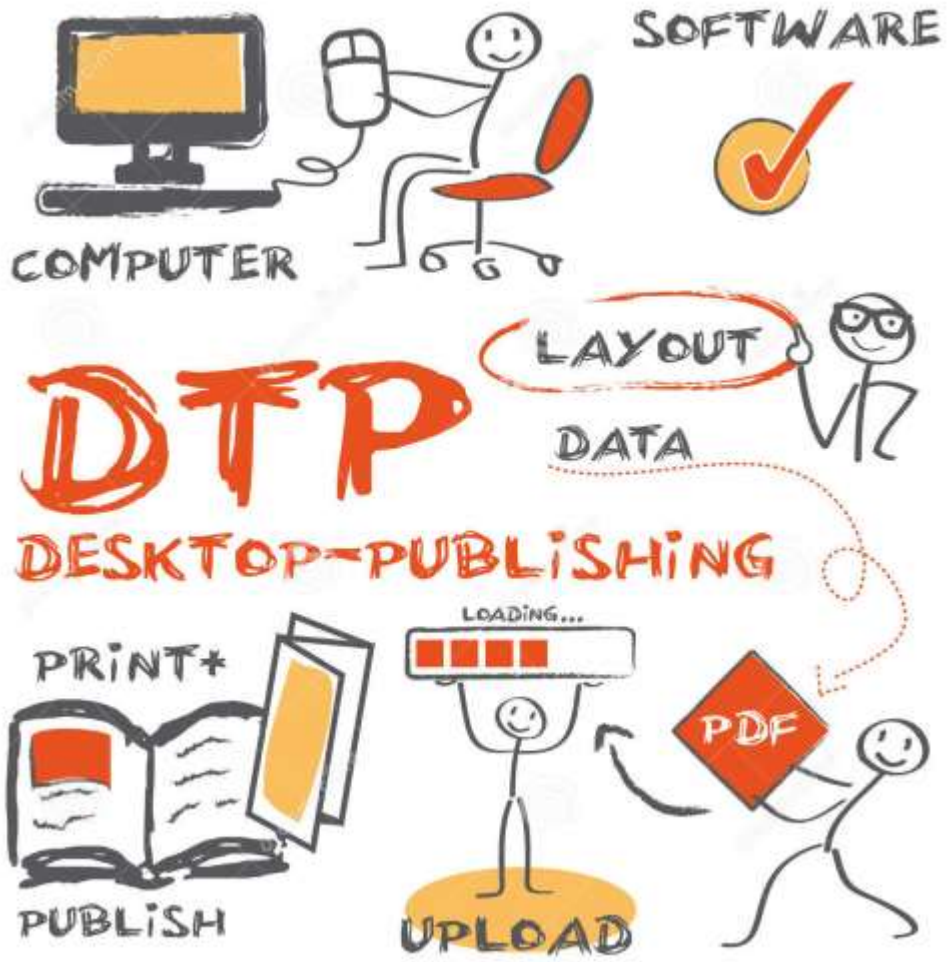
1. Publishers use computers **to design and produce hard-copy books and e-books, market books to readers and track sales**. Readers download books and magazines to their phones, laptops and tablets to read wherever they go.

2. Reporters use the Internet to gather research

3. Many newspaper produce Web versions

4. Textbook was produced entirely on computer workstation

COMPUTER FOR PUBLISHING



1. Desktop publishing is the production of printed matter by means of a printer linked to a desktop computer, with special software.

2. The system enables reports, advertising matter, etc., to be produced cheaply with a layout and print quality similar to that of typeset books.

3. For example, desktop publishing is utilized to create printed material, such as book covers, brochures, catalogs, flyers, magazines, and posters.

COMPUTER FOR MANUFACTURING

1. The role of computer in manufacturing may be broadly classified into two groups :
    - Computer monitoring and control of the manufacturing process
    - Manufacturing support applications, which deal essentially with the preparations for actual manufacturing and post-manufacture operations

2. **Embedded computers** are extensively used in many manufacturing applications, especially for the control of production processes.

COMPUTER FOR MANUFACTURING