

IT and GIS

Dr. Md. Akhtar Hossain

Professor

Department of Fisheries, University of Rajshahi

Information

- Message or data in the form of table, map or report in decision making process
- It can be collected, stored, analysed or presented through manual work or computer based program
- It is believed “ Information is power” and thus information availability and it’s analysis is considered one of the important factors for development
- Organizations taking part in the development process consider information as a resource

IT (Information technology) industry

It is a fusion of numerous business sectors:

- computer equipment and software;
- information systems;
- system integration;
- telecommunication and system network;
- publications;
- entertainment;
- consumer electronics and others;

IT has already penetrated to the core of our personal and professional lives

Contribution of GIS in IT revolution

- It is both a cause and effect of globalization
- The ability of successful operation worldwide by the multinational businesses is the direct result of IT such as
 1. Financial services;
 2. Manufacturing;
 3. Transportation;
 4. Retailing; and
 5. Communication.
- Sharing business locally and internationally is found very much easier through IT like
 1. Electronic mail (email);
 2. Electronic journal;
 3. Discussion list;
 4. Computer bulletin etc.
- Based on IT process, distance learning techniques make it possible to hold interactive classes and workshops simultaneously at distant locations

- Governments too are more and more dependent on globalised IT for many of their activities including:
 1. Defence;
 2. Diplomacy; and
 3. Trade
- GIS is one of the many information technologies that have transformed the ways geographers conduct research and contribute to society
- In the past two decades, these ITs have had tremendous effects on research techniques specific to the discipline as well as on the general ways in which the geographers communicate and collaborate
- Statistical analysis and modelling of the spatial patterns and processes have long relied on computer technology
- Advances in IT have made these techniques more widely accessible and have allowed models to expand in complexity and scale to provide more accurate depictions of real world processes.

Relationship between IT and GIS

(IT and GIS: move hand in hand)

- The advances in the application of IT in geography began several decades ago and will continue to expand their effects in future
- Scholars divide the technological innovation process into four phases:
 1. **Initiation:** An innovation first becomes available
 2. **Contagion:** Experimentation follows to see how the innovation can be adapted to meet a wide variety of research and commercial needs. Some but not necessarily all these experiments will work
 3. **Coordination:** The most promising applications of the innovation gradually gain acceptances and are developed collaboratively
 4. **Integration:** An innovation becomes accepted and integrated into routine research tasks.
- In the context of these innovations, GIS have served an important role as an integrating technology
- GIS has always taken advantages of the technology previously developed
- GIS have emerged as very powerful technologies because it allow to integrate the data and methods in ways that support traditional forms of geographic analysis such as map overlay analysis and modelling that are beyond the capability of manual methods
- With GIS, it is possible to map, model, query and analyse large quantities of data held together within a single database.
- Therefore, it can be concluded that IT and GIS move hand in hand.