

Unit VIII: Legal and Ethical Issues - Management Information System

Ethical and Social Issues:

Ethics refers to the principles of right and wrong that individuals acting as free moral agents use to make choices to guide their behaviors.

Information system raise new ethical question for both individuals and societies because they create opportunities for intense social changes as well as threats to the existing distribution of power, money, rights and obligations.

Like other technologies, Information Technology can be used to achieve social process but it can also be used to commit crimes and to threaten cherished social values. The development of information technology will produce benefits for many and cost for others.

Ethical issues in information system have been given a new emergency by the rise of the internet and e-commerce. Firms are using information technologies for collecting, processing and distributing information about customer, suppliers, distributors and business partners and these technologies can be used to access that information illegally.



The introduction of new information technology has a ripple effect, raising new ethical, social and political levels. Ethical, social and political issues are closely related to each other. The ethical dilemma that we may face as a manager of the information system is typically reflected in social and political debate.

When individuals are confronted with new situations, often not covered by old rules, then social institutes cannot respond to that situation overnight. It may take years to develop an adequate and efficient rule to avoid such a situation. Political institutions also require time before developing new laws and implementing those laws properly.

Ethics and Moral Dimensions:

The major ethical, social and political issues raised by information system includes the following moral dimensions:

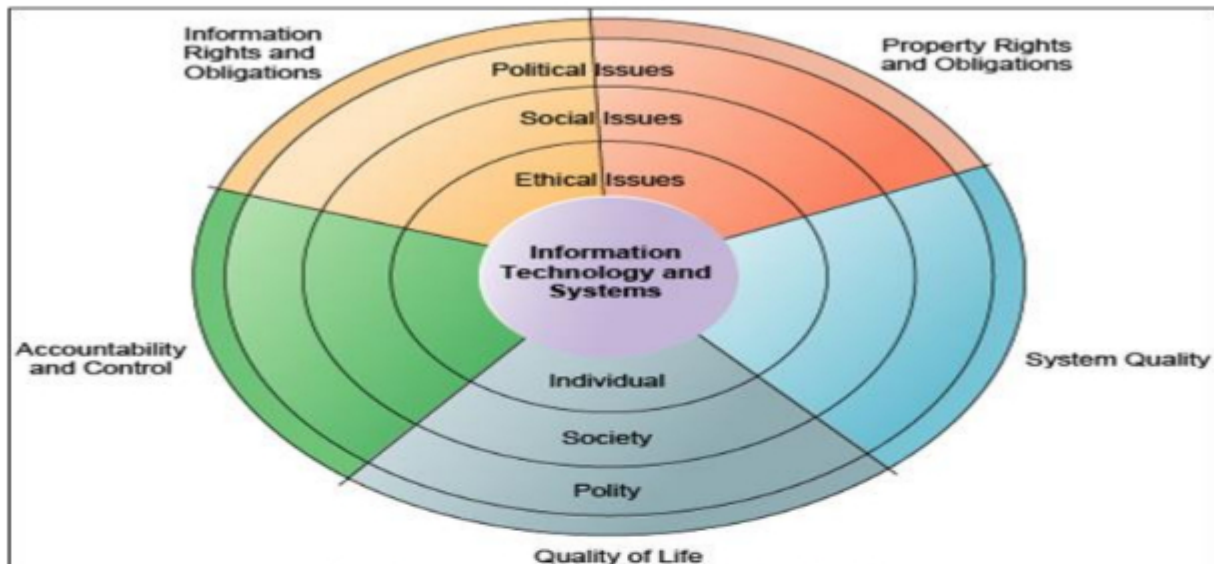


Fig: Five Moral Dimension of information Age

1. Information Rights and Obligations (Privacy and Freedom):

What information rights do individual and organizations process with respect to themselves? What can they protect? What obligations do individuals and organizations have concerning this information?

Privacy is the claim of the individual to be left alone free from surveillance or organization including the state. Information Technology and Information System threatens individuals claim to privacy by making it possible to access data from anywhere.

Internet technology has posed new challenges for the protection of individual privacy. Information sends over the internet may pass through different computing devices before it reaches its final destination. Each of these devices are capable of monitoring, capturing and storing communication that passes through them.

2. Property Rights and Obligations:

How will intellectual property rights be protected in a digital society, in which tracing and accounting for ownership is difficult and ignoring such property rights is so easy?

Intellectual property is considered as intangible property created by individuals or organization. It has made it difficult to protect intellectual properties because computerized information can be easily copied and distributed on the network.

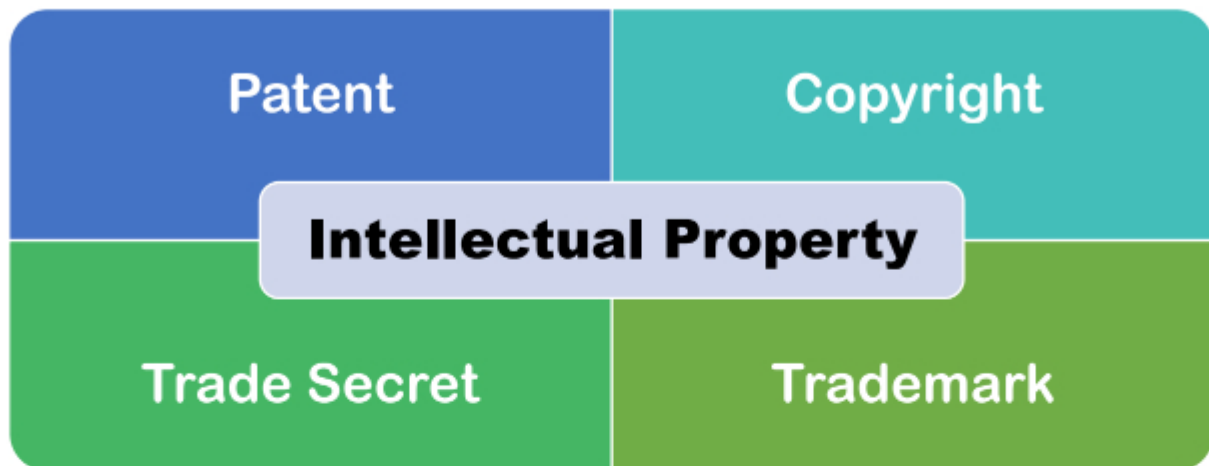


Fig: Intellectual Property

The major protection of intellectual property has four legal traditions as:

a. Patent:

A patent grants the owner an exclusive monopoly on the idea behind an invention for 20 years.

b. Copyright:

Copyright is a grant that protect the creator of intellectual property from having their work copied by others for any purpose during the life of the author plus an additional 70 years after the author death. For corporate-owned works, copyright protection remains for 95 years after their initial creation.

c. Trademark:

A trademark of any company must not use by another person or company. A trademark must be registered to prevent the use of trademark by others.

d. Trade Secret:

Any intellectual work product like a formula device, pattern or compilation of data, used for business purpose can be classified as a trade secret. Trade secret laws protect the actual ideas in a work product.

3.Accountability, Liability and Control:

Who can and will be held accountable and liable for the harm, done to individuals and collective information and property rights?

Along with privacy and property laws new information technologies are challenging existing liability law and social practices for holding individuals and institutions accountable.

Computer-related liability problem are very difficult to handle. The identification of the liable party is not so easy to determine.

4.System Quality:

What standards of data and system quality should we demand to protect individual rights and safety of society?

What is an acceptable, technologically feasible level of system quality? At what point should the system manager say to stop system testing. A system must be all most error-free and the results provided by the system must meet some quality standards.

Three principle sources of poor system performance are:

- a. System Error
- b. Hardware or Facility Failure Due To Natural Disaster or Some Other Reason.
- c. Poor Input Data Quality

It is all most impossible to develop 100% bug-free software because the software industry has not arrived at testing standards for producing software of perfect performance.

5.Quality of Life:

What values should be preserved in an information and knowledgebase society? Which institutions should we protect from violation? Which cultural values and practices are supported by new information technology?

The negative social cost of introducing new information technology is increasing along with the power of technology.

These negative consequences can be extremely harmful to individuals, society and political institutions computers and IT potentially can destroy valuable elements of our culture and society even while they bring us benefits.

If there is a balance of good and bad consequences of using IT, who will be responsible for the bad consequences. Some of the negative social consequences of the information system are:

- a. Balancing power
- b. Rapidity of change
- c. Maintaining boundaries
- d. Dependencies and unsafe
- e. Employment risk
- f. Inequality in access and use
- g. Health risk

Management Challenges while using Information Technology and Information System:

1. New Technology:

Technology advances rapidly and shows up in media on all sides. This means users, managers at all levels and even competitors pressure IT staff to implement this new technology just because it is new.

The real challenge is deciding which of these new technologies will work to the best interest of advancing the organization and which is better to avoid for now.

Organizational priorities and long-term goals tend to remain relatively static. Technology has become much more fluid and changes more rapidly. IT management must evaluate the organizational value each technology offers to determine when and if it is a good fit.

New technologies such as cloud, big data, virtualization and mobility all become tools for experienced IT managers who understand their organization's priorities. Since every organization is different, the IT value of each new technology will vary with the organization's strategic goals.

To Address This Issue:

To make the most of any new technology, an IT manager needs a solid understanding of the organization and the challenges its users and markets face. Prior to jumping into a new trend in technology, IT managers must ask one question: "How does this help us address our current challenges or meet our strategic goals?"

2. Cloud:

Many organizations have yet to make cloud plans. They choose to keep their data and applications in-house and manage everything themselves.

With the advances of cloud offerings and to future-proof the network, preparing the organization for a potential future cloud move is simple common sense.

For example, what happens when organizational management decides to set up an internal cloud solution? Maybe that is a step toward moving applications and data off-site.

The main point: We must create portable applications today that won't hold our company back in the future, whatever that may hold.

To Address This Issue:

This comes down to software and hardware architecture. New applications must be built using an open architecture that lets them run on any platform or with any database. Doing so means the organization's applications will run on the in-house servers, an in-house cloud or in an external cloud. The extra benefit is that any move to a cloud-based solution can be completed without new applications.

3. Big Data Analytics:

Data is projected to grow by 800 percent in the next five years. The big challenge is that more than 80 percent of it unstructured.

Unstructured data varies in its formats, including plain text, email, blog, formatted document, standard and non-standard image, video, voice, animation, sensor input and web search logs.

Unstructured data is growing faster than structured data. As a relatively new and untapped source of organizational insight, unstructured data analytics has the potential to reveal more important information interrelationships that were previously very difficult or impossible to determine.

Part of that unstructured data includes data from communities, groups and social networks outside the organization known as "the collective". Data mining the collective is a great way to understand the organization's market and customers.

To Address This Issue:

To provide the best value to the organization, big data analytics requires new approaches to capturing, storing and analyzing data. The massive amount and growth of unstructured data rapidly outpaces traditional solutions and calls for new volume handling.

Big data is collected from new sources. Traditional data management processes fall short in coping with the variable nature of big data. New analytics offer methods to process the variety.

Data is generated in real-time and the demands call for usable information to be ready as needed. Solutions like 100 GB Ethernet, parallel- processing and SSDs (Solid State Drives) offer good response times.

4.Virtualization:

Virtualization continues to expand from desktops to servers to switches, routers and firewalls. Virtualization will provide a much higher level of control of these devices rather than saving money.

In fact, the organization's infrastructure will require larger servers, more VM licenses, and emulation software in addition to the continuing cost of desktop licenses.

A virtualized data center requires many of the same management tasks that also must be performed in the physical server environment. These tasks need to be extended into the virtualized environment as well as also integrated with the existing workflow and management processes.

One example is that IT organizations must be able to automatically discover both the physical and the virtual environment and have an integrated view of both environments available for monitoring and managing.

That view of the combined virtual and physical server resources needs to stay current as VMs move from one host to another. The view must also be able to indicate which resources are involved in the case of fault or performance issues.

To Address This Issue:

The Distributed Management Task Force (DMTF) set its Virtualization Management (VMAN) standard. That includes a set of specifications to address the management lifecycle of a virtual environment.

VMAN's Open Virtualization Format (OVF) specification provides a standard for describing virtual machines and applications for deployment across various virtualization platforms.

VMAN's profiles now standardize many aspects of the operational management of a mixed vendor virtualized environment.

5.Shadow IT:

IT continues to have a poor image inside organizations. Whether it be slow response times, dictatorial actions, or software challenges, many IT departments are facing users' preference of going to intra-department super users for help.

Add the easily available cloud software and services, organizations see users and groups head toward bypassing the IT department altogether. They find and purchase third party SaaS (Software as a Service) packages to meet their needs.

Other departments like sales, marketing, accounting, etc. are considering independent arrangements with outside IT service providers.

To Address This Issue:

When end-users and managers are less satisfied with the service and support they receive from IT, they begin to look for other options. The solution is less about controlling an emerging Shadow IT. It's really about training the IT department to better communicate with and support the needs of the organization.

6. Boomers:

Starting in this year, about 10,000 baby boomers will become eligible to retire every day for the next 15 to 20 years in North America. A lot of those potential retirees are IT people who have years of both IT and organization-specific knowledge and experience.

The entry-level people coming into the workforce are much more loyal to themselves, what they know and in some cases, to their peers than to the organization. They arrive with different skill sets and new ways of looking at and using technology.

To Address This Issue:

To deal with retirements and the possibility that younger workers may stay less time, there are two basic alternatives.

One choice is a mentoring program so those people who need to be replaced can share their knowledge with their potential replacement insufficient time to complete the exchange smoothly before retirement.

Another solution is giving newer IT workers projects outside of their comfort zone, more training and other opportunities to learn something different and as a result, become less vertically focused. As they complete these projects they move to other new areas and projects.

7. Interoperability:

Users and customers are more demanding of the products on their desktops and mobile devices. It all comes down to communicating with each other. Systems need to send and receive data that will be compatible on all user platforms.

Open applications and systems built on open standards are the way of the future. Development efforts must focus on the system or application itself as well as how that system/application works with others.

To Address This Issue:

At the most basic level, developers must avoid proprietary architecture and use only open architecture and frameworks that communicate easily with other systems.

8. User Systems:

Desktops, laptops, notebooks, tablets and smartphones are already an integral part of many users' lives. In some cases, it has become increasingly difficult to draw the line between them. Will tablets replace laptops and notebooks? Will desktops go the way of the dinosaurs?

Tablets and smartphones already perform many tasks previously completed by desktops. That means organizations must adapt to multiple user systems. These days, internal users and customers may access organizational data and applications via many different methods depending on their current location.

To Address This Issue:

IT managers must develop applications that adjust to the device the users have available. Some will turn to responsive design that creates a more fluid display to adjust to the screen size variations. Others use the adaptive approach that designs the display to match the desired screen size.

9. Energy Efficiency:

According to most estimates, a 25,000 square foot data center will use about \$4 million in energy this year.

At that rate, a savings of just a few percent can make a big difference to an IT budget. With an increasing trend of expanding green initiatives and alternate sources of energy, organizations are working on ways to improve energy monitoring and efficiency.

There's an emerging market of tools for energy monitoring and efficiency. More than 25 vendors have entered this market. These tools monitor consumption at the device level and, in some cases, at the application level.

To Address This Issue:

Resources and tools are readily available to help IT and data center managers benchmark energy use, monitor ongoing trends, identify any savings opportunities, and adopt the most energy-efficient practices.

Projects funded by the U.S. Department of Energy's (DOE's) Advanced Manufacturing Office (AMO) can strongly improve energy efficiency in both IT and telecommunications.

10. Creating Value:

This is a recurring IT issue. It's now a priority. IT departments must focus on improving service to the organizational user and to the organization's departmental needs. To do so, IT managers must remove any non-essential activities that are in the way.

That means a different way of outsourcing non-core activities to keep the focus on value creation. This outsourcing means moving as many services to the cloud as possible. Why own or maintain software or hardware? Small or mid-sized firms can easily rely on the cloud for standardized services.

To Address This Issue:

This is relatively simple. Ask, "Does this task/activity improve our organization's core priorities?" If not, figure out how to eliminate that function and focus on the mission-critical tasks.

11. Social Networks:

Customers, suppliers and others are currently talking about every organization on some form of social media. This may include Twitter, Facebook, Foursquare, LinkedIn and YouTube.

At a minimum, the IT and marketing departments need to monitor and participate in those conversations. Semantic analysis tools can help companies mine that social dialogue to shape new product and upgrades, improve customer service, sales and marketing initiatives.

To Address This Issue:

Establish a social presence and determine what is being shared. The biggest challenge here is the struggle with shifting from providing a platform to sell products and services to delivering strong customer solutions.



Fig: Management Challenges while using Information Technology and Information System

