



# Department of Information Technology Central University of Kashmir

Tullmulla, Ganderbal, J&K-191131

[www.cukashmir.ac.in](http://www.cukashmir.ac.in)

## BT CS 611: E-COMMERCE



### Sub Topic(s):

Credit Card E-Commerce Transactions: Working, Credit Card Enablers, Limitations of Online payment systems-Digital Payment Systems : Digital Wallets, Digital Cash, Smart Cards as stored value systems- B2B Payment Systems : Electronic Billing presentment and payment. Ethical, Social and Political Issues in E-Commerce : Responsibility, Accountability and Liability.- Privacy and Information Rights : Privacy and Legal Protections, Private industry self-regulation, Privacy Advocacy groups.- Intellectual Property Rights : Types, Copyright and Patent.

**Course Title**      ECOMMERCE  
**Course Code:**    BTCS 611  
**Unit:**                3  
**Department:**    Department of IT  
**Year:**                2020

**Compiled by:** Aabiroo Bader  
**Email:** baderabiro@gmail.com  
**Contact:** 6005655573  
**Designation:** Teaching Assistant  
**Department:** Department of IT

## **[1] E-commerce payment systems**

When you purchase goods and services online, you pay for them using an electronic medium. This mode of payment, without using cash or cheque, is called an e-commerce payment system and is also known as online or electronic payment systems. The growing use of internet-based banking and shopping has seen the growth of various e-commerce payment systems and technology has been developed to increase, improve and provide secure e-payment transactions. Paperless e-commerce payments have revolutionized the payment processing by reducing paper work, transaction costs, and personnel cost. The systems are user-friendly and consume less time than manual processing and help businesses extend their market reach.

**The different types of e-commerce payments in use today are:**

### **Credit Card**

The most popular form of payment for e-commerce transactions is through credit cards. It is simple to use; the customer has to just enter their credit card number and date of expiry in the appropriate area on the seller's web page. To improve the security system, increased security measures, such as the use of a card verification number (CVN), have been introduced to on-line credit card payments. The CVN system helps detect fraud by comparing the CVN number with the cardholder's information.

### **Debit Card**

Debit cards are the second largest e-commerce payment medium in India. Customers who want to spend online within their financial limits prefer to pay with their Debit cards. With the debit card, the customer can only pay for purchased goods with the money that is already there in his/her bank account as opposed to the credit card where the amounts that the buyer spends are billed to him/her and payments are made at the end of the billing period.

### **Smart Card**

It is a plastic card embedded with a microprocessor that has the customer's personal information stored in it and can be loaded with funds to make online transactions and instant payment of bills. The money that is loaded in the smart card reduces as per the usage by the customer and has to be reloaded from his/her bank account.

### **E-Wallet**

E-Wallet is a prepaid account that allows the customer to store multiple credit cards, debit card and bank account numbers in a secure environment. This eliminates the need to key in account information every time while making payments. Once the customer has registered and created E-Wallet profile, he/she can make payments faster.

### **Netbanking**

This is another popular way of making e-commerce payments. It is a simple way of paying for online purchases directly from the customer's bank. It uses a similar method to the debit card of paying money that is already there in the customer's bank. Net banking does not require the user to have a card for payment purposes but the user needs to register with his/her bank for the net banking facility. While completing the purchase the customer just needs to put in their net banking id and pin.

### **Mobile Payment**

One of the latest ways of making online payments are through mobile phones. Instead of using a credit card or cash, all the customer has to do is send a payment request to his/her service provider via text message; the customer's mobile account or credit card is charged for the purchase. To set up the mobile payment system, the customer just has to download a software from his/her service provider's website and then link the credit card or mobile billing information to the software.

### **Amazon Pay**

Another convenient, secure and quick way to pay for online purchases is through Amazon Pay. Use your information which is already stored in your Amazon account credentials to log in and pay at leading merchant websites and apps. Your payment information is safely stored with Amazon and accessible on thousands of websites and apps where you love to shop.

## **[2] Digital wallet**

A digital wallet (or e-wallet) is a software-based system that securely stores users' payment information and passwords for numerous payment methods and websites. By using a digital wallet, users can complete purchases easily and quickly with near-field communications technology. They can also create stronger passwords without worrying about whether they will be able to remember them later. Digital wallets can be used in conjunction with mobile payment systems, which allow customers to pay for purchases with their smartphones. A digital wallet can also be used to store loyalty card information and digital coupons. Digital wallets are financial accounts that allow users to store funds, make transactions, and track payment histories by computer. These pieces of software may be included in a bank's mobile app, or as a payments platform like PayPal or Alipay. Digital wallets are also the main interface for using cryptocurrencies such as Bitcoin. Digital wallets do not require a bank account with a physical firm or branch, often allowing those in more rural areas to connect. Cryptocurrencies rely solely on digital wallets to maintain balances and make transactions, for instance with Bitcoin or other digital currencies.

### **Working of digital wallets:**

Digital wallet software is traditionally housed through a mobile app on a smartphone, but can also be used in a variety of other formats such as a physical device or on your personal computer. The smartphone app version of the digital wallet is by far the most popular today due to its flexibility and mobility. These digital wallets typically require you to download a digital wallet app on your smartphone. These can be created by your bank of choice or a trusted third party. Make sure you do your research and confirm the company's trustworthiness before providing your financial information to an app. Typically, you must find a point of sale (POS) system terminal that is compatible with your digital wallet in order to use it. Usually, you will be able to identify this through the contactless symbol displayed at checkout. Some POS systems also allow you to pay using Magnetic Secure Transmission technology. While contactless payments can be more difficult to find, many modern POS systems can support Magnetic Secure Transmission payments. Once you find a POS system that is compatible with your digital wallet app, you can simply hold your smartphone up near the sales terminal to pay. Sometimes you can even pay directly through your app. This rule can also apply to some ATMs, where you can withdraw cash from the app when in close proximity to a compatible ATM.

## **Different Types of Digital Wallets**

### **Paypal One Touch:-**

Paypal is one of the oldest major digital payment companies, so if you're looking for a tried-and-true, trustworthy company. Paypal One Touch is an extension of Paypal's usual services. The app allows you to transfer money or make payments much faster than usual, having you skip the login screen and the tedious process of entering your password. This experience can also be had across your desktop, tablet, or laptop.

### **Apple Pay:-**

Apple (AAPL) Pay is a clean, streamlined digital wallet app that is exclusively for iPhone or Apple Watch users. It allows you to take part in transactions both in-store and online. In-store, you simply need to verify your identity using your smartphone's pin number or FaceID, then hold your device near a compatible POS system to complete the transaction. One of the main advantages of Apple Pay is the ease of experience, allowing you to make payments seamlessly and securely.

### **Samsung Pay:-**

Samsung Pay is one of the most well-established digital wallet apps available. They have been in operation since 2011. Though it's only for Samsung (SSNLF) users, it's incredibly versatile. It allows you to pay in person, on the app, or online -- with the potential to earn special rewards at

major retailers and cash back along the way. This creates a powerful combo that is difficult to resist.

### **Debit/Credit Card:-**

Stating the obvious, the facility of debit/credit card has revolutionized the mode of transactions conducted across the globe and is by far the most widespread form of cashless payment. The scope of its utilization extends to digital payment apps, PoS (Point of Sales) machines, online transactions, physical purchase, and so on and so forth.

### **UPI (United Payment Interface):-**

UPI is a system wherein any customer may link one/more bank accounts through a UPI based app and seamlessly initiate fund transfers and make collection requests on a round-the-clock basis. India's major players in this segment include the likes of Paytm, BHIM, MobKwik, Airtel Payments Bank, Google Pay, etc.

### **Internet Banking:-**

The facility that has pervaded almost the entire banking sphere enables users to transfer funds, open a fixed/recurring deposit, close an account, apply for new credit/debit cards, view account statements, request for loans, request for cheque books, and a host of other banking functions Etc.

## **Payment using a digital wallet**

Digital wallets may act as either (or both):

- A storage mechanism payment details (e.g. credit or debit card details, bank details)
- A storage mechanism for actual funds
- Paying using stored payment details
- If a customer makes a purchase using a digital wallet that they're only storing their payment details for another payment method in, the process is nearly identical to a standard payment made with that method.
- If it's credit or debit card details they're storing, they could effectively make a standard card payment . The only difference is that the digital wallet provider may be providing the merchant the facilities of a payment service provider.
- If it's bank details they're storing, they could effectively set up a standard Direct Debit mandate, provided the mandate form is provided to them electronically.

In both these instances, the digital wallet is simply acting as an information store - like a digital brain with stored funds

- An alternative scenario is when the customer has funds stored within the digital wallet. These funds are usually transferred into the digital wallet via a variety of other online payment methods - e.g. bank transfers, credit or debit card payments, or transfers from other digital wallets.
- When a customer wishes to make a purchase using these stored funds, the merchant must typically receive them into their own digital wallet from the same provider. Behind the scenes, no funds are really moved - the digital wallet provider simply applies a virtual debit to the customer's wallet and the relevant credit to the merchant's.
- If a merchant wants to transfer these funds from their digital wallet to their bank account, the process would be almost identical to a standard bank transfer, with the digital wallet provider transferring the requested amount to the merchant's nominated bank account.

### **Are Digital Wallets Safe**

While you should always be concerned about your personal information, major digital wallet apps are widely considered to be safe. In fact, they are likely more safe than carrying your financial information and other sensitive documents in a physical wallet. Additionally, all reliable digital wallet apps heavily encrypt their user's payment information, making it difficult to compromise when the information is being transferred from the application to the payment system. This can actually help protect your information if a retailer or company you purchase from has an information leak or hack.

### **Advantages of a Digital Wallet**

#### **Convenience:-**

Rather than digging your card out of your likely bulging wallet, you can simply hold your smartphone up to a terminal at checkout and be ready to go. Online transaction processes are also streamlined, allowing you to shop online quickly.

#### **Organization:-**

Most apps allow you to easily organize all of your information in an easy-to-access way, saving you time shuffling through your wallet for the items you need.

#### **More Security:-**

Physical wallets can easily be lost or stolen. A digital wallet negates these problems. Even if you lose your phone, the person would need to break your password on your phone, then any passwords or Face IDs used to protect your digital wallet app.

### **Additional Bonuses and Rewards:-**

Many digital wallet apps give their users access to numerous benefits and rewards that can give you a little more "bang for your buck" on certain purchases. These benefits can be layered on top of cash back and special rewards offered by your credit cards, allowing you to maximize your free bonuses on purchases.

### **Disadvantages of a digital wallet**

- It is not fully available worldwide

The number of retailers which accept payments from an electronic wallet depend. In December 2016, just 36% of retailers accepted Apple Pay. 34% of retailers accepted PayPal as a form of payments on the actual wallet you choose

- It still requires you to carry something

Although an electronic wallet offers more convenience for many consumers, it doesn't fully eliminate the requirement of carrying something with you. If you don't have your mobile device on your person, then you have no way to complete a transaction. Because these wallets don't store your identification and other needed items, you're still forced to carry a traditional wallet or purse with you as well.

- It requires your device to have a charge.

There's also the disadvantage that an electronic wallet requires you to have a charged device to have it operate. If you're carrying a traditional wallet, you won't need to worry about how much battery life is left on your phone.

- It doesn't eliminate your security risks.

The security of your smartphone or mobile device is dependent on the settings you use. If you don't have your device protected with some type of password, then someone could steal your device and potentially access the funds in your bank account or credit cards. There are definite security advantages to consider which make an e-wallet a beneficial technology, though it requires responsible.

- It could encourage reckless spending.

When money is electronically-based instead of a physical item, some people struggle with their spending habits. The money doesn't feel real, so proper budgeting doesn't take place. If you are already struggling to maintain a budget with a traditional wallet, then an electronic wallet might make that issue even worse.

### **[3] Smart card**

A Smart card is a plastic card about the size of a credit card, with an embedded microchip that can be loaded with data, used for telephone calling, cash payments, and other applications, and then periodically refreshed for additional use. Useful for storing and transacting data; data is associated with either value, information, or both.

- Memory-only chips
- Microprocessor chips

A smart card resembles a credit card in size and shape, but inside it is completely different. First of all, it has an inside -- a normal credit card is a simple piece of plastic. The inside of a smart card usually contains an embedded microprocessor. The microprocessor is under a gold contact pad on one side of the card. Think of the microprocessor as replacing the usual magnetic stripe on a credit card or debit card.

Smart cards are much more popular in Europe than in the United States. In Europe, the health insurance and banking industries use smart cards extensively. Every German citizen has a smart card for health insurance. Even though smart cards have been around in their modern form for at least a decade, they are just starting to take off in the United States.

Smart cards may have up to 8 kilobytes of RAM, 346 kilobytes of ROM, 256 kilobytes of programmable ROM, and a 16-bit microprocessor. The smart card uses a serial interface and receives its power from external sources like a card reader. The processor uses a limited instruction set for applications such as cryptography.

#### **Applications:**

- Credit cards
- Electronic cash
- Computer security systems
- Wireless communication
- Loyalty systems (like frequent flyer points)

#### **Current Applications**

##### Payphones

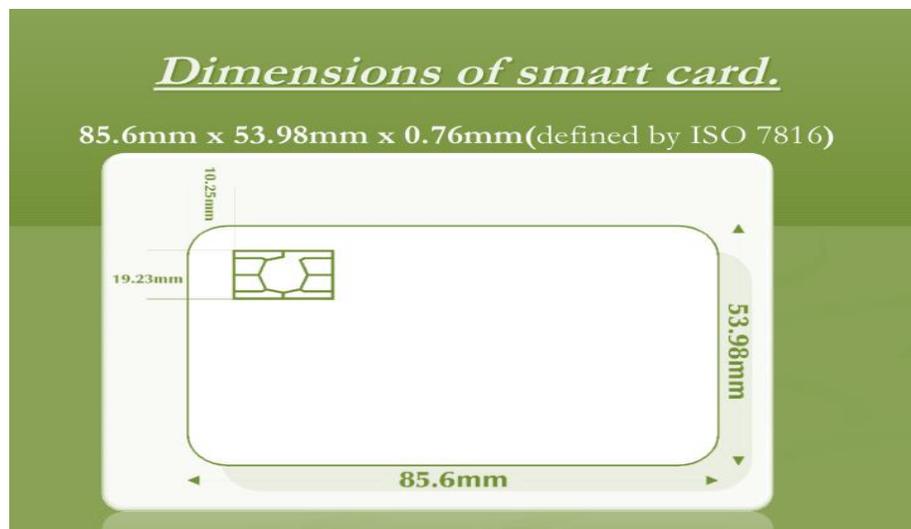
- Mobile Communications
- Banking & Retail

- Electronic Purse
- Health Care
- ID Verification and Access Control

In the U.S., consumers have been using chip cards for everything from visiting libraries to buying groceries to attending movies, firmly integrating them into our everyday lives. Several U.S. states have chip card programs in progress for government applications ranging from the Department of Motor Vehicles to Electronic Benefit Transfers (EBTs). Many industries have implemented the power of smart cards in their products, such as the **GSM** digital cellular phones as well as TV-satellite decoders.

### **Why Smart Cards/ Need**

Smart cards improve the convenience and security of any transaction. They provide tamper-proof storage of user and account identity. Smart card systems have proven to be more reliable than other machine-readable cards, like magnetic stripe and barcode, with many studies showing card read life and reader life improvements demonstrating much lower cost of system maintenance. Smart cards also provide vital components of system security for the exchange of data throughout virtually any type of network. They protect against a full range of security threats, from careless storage of user passwords to sophisticated system hacks. The costs to manage password resets for an organization or enterprise are very high, thus making smart cards a cost-effective solution in these environments. Multifunction cards can also be used to manage network system access and store value and other data. Worldwide, people are now using smart cards for a wide variety of daily tasks, which include:



## Advantages

- Security: Data and codes on the card are encrypted by the chip maker. The Smart Card's circuit chip almost impossible to forge.
- Faster and smarter
- Flexibility (no need to carry separate ATM, Debit, credit card or pan card etc)
- Highly security (deactivates on illegal use).
- Trust: Minimal human interaction.
- Portability.
- Less Paper work: Eco-Friendly

## Disadvantages

- Easily Lost
- Possible Risk of Identify Theft
- High probability for damage of card.
- EXPENSIVE

## **[4]DIGITAL CASH**

Digital cash was invented by David Chaum in 1988. Digital cash is a system of purchasing cash credits in relatively small amounts storing the credits in your computer, and then spending them when making electronic purchases over the internet. A payment message bearing a digital signature which functions as a medium of exchange or store of value. Needs to be backed by a trusted third party usually the government and the banking industry. Examples: e-coins, E-wallet, transfer money.

## **HOLDING ELECTRONIC CASH: ONLINE AND OFFLINE CASH**

Two approaches to holding cash: online storage and offline storage. Online cash storage means that an online bank is involved in all transfers of electronic cash. Offline cash storage is the virtual equivalent of money you keep in your wallet. However, it must prevent double or fraudulent spending.

## **Properties of Digital Cash:**

- Monetary value
- Interoperability
- Retrivable
- Security
- Portable
- Two-way

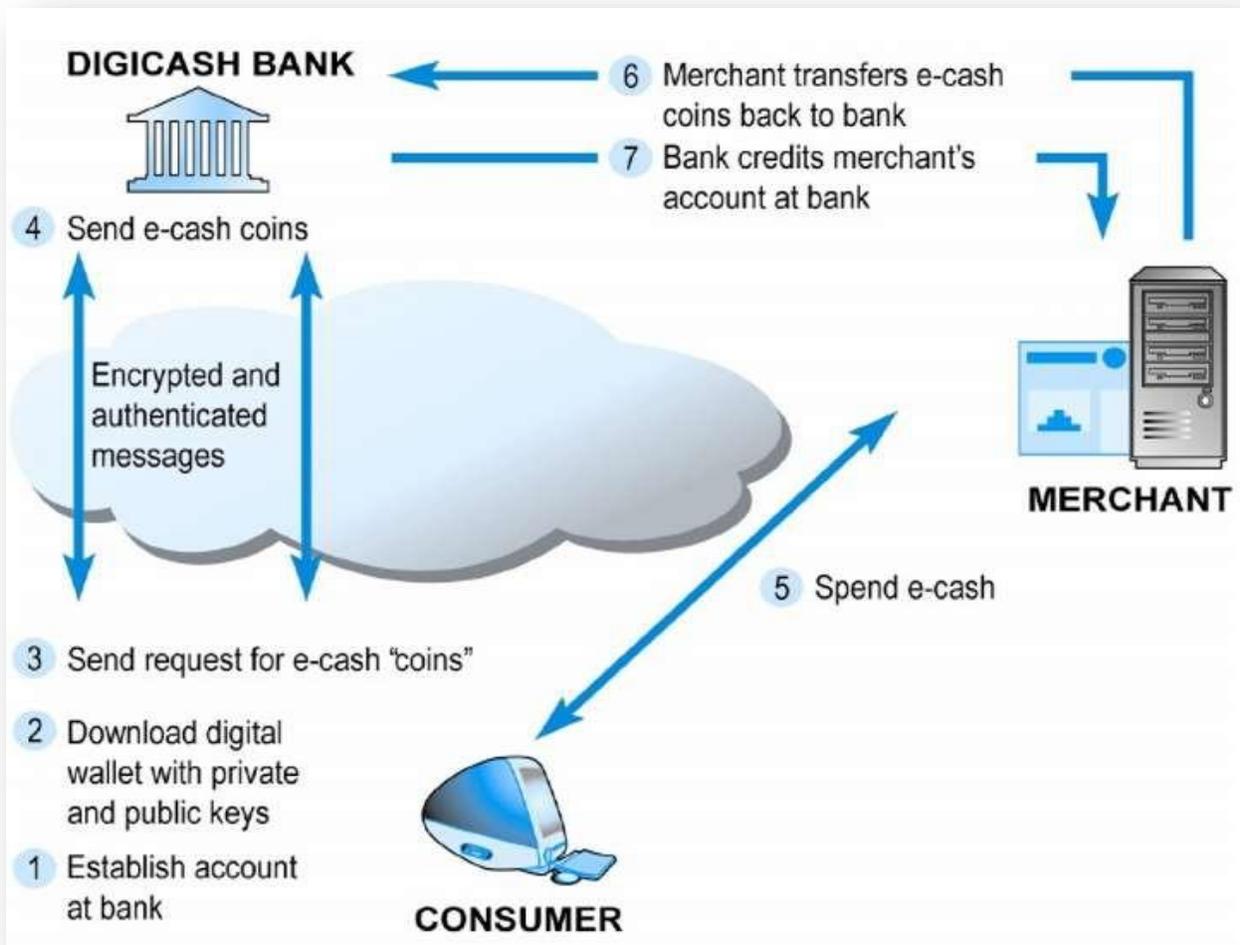
## ADVANTAGES OF ELECTRONIC CASH

- Electronic cash transactions are more efficient and less costly than other methods.
- The distance that an electronic transaction must travel does not affect cost.
- The fixed cost of hardware to handle electronic cash is nearly zero.
- Electronic cash does not require that one party have any special authorization

## DISADVANTAGES OF ELECTRONIC CASH

- Electronic cash provides no audit trail.
- Because true electronic cash is not traceable, money laundering is a problem.
- Electronic cash is susceptible to forgery.
- So far, electronic cash is a commercial flop.

## WORKING:



## **[5] Electronic Bill Payment & Presentment (EBPP)**

Electronic bill payment and presentment (EBPP) is a process that companies use to collect payments electronically through systems like the Internet, direct-dial access, and Automated Teller Machines ( ATM's). It has become a core component of online banking at many financial institutions today. Other industries including insurance providers, telecommunications companies, and utilities depend on EBPP services as well.

### **EBPPs come in two types:-**

- 1) Biller-direct
- 2) Bank-aggregator.

#### **Biller Direct**

Biller-direct is electronic billing, which is offered by the company providing the good or service. The company gives customers the option to pay bills directly on their web site and might alert them when a payment is due via email. The customer then logs into the site via a secure connection, reviews the billing information, and enters payment amount.

#### **Biller Aggregator**

The bank-aggregator or bill-consolidator model allows customers to pay bills to many different companies through one portal. That is, the service collects different payments from customers and distributes each payment to the appropriate company. A bank, for instance, might offer online users the option to make many different payments like credit cards, utility bills, and insurance premiums. Standalone sites also exist that allow people to view and pay all of their bills. These are called consumer consolidator models.

Some newer EBPP products include features like secure email delivery, stored payment data, and auto pay. For example, a healthcare insurance company looking to streamline its customer billing system may decide to switch to EBPP and allow customers to pay directly on their website or to have premiums automatically deducted each month. Doing so saves customers the hassle of filing paperwork and can save the organization on document delivery and processing costs.

Some providers allow the development of EBPP systems by building new payment sites for their customers. These might include features to authorize transactions, capture payments, or allow for refunds. These systems typically accept major credit cards and can sometimes save an enterprise money on transaction processing costs, increasing their revenue and profit overall.

### **EBPP and Online Banking**

Many large banks offer electronic bill payment and presentment services as a part of their online banking system. In general, online banking, which is sometimes called "Internet banking" or "web banking," allows users to execute financial transactions via the Internet. Specifically, an online bank offers customers the ability to make deposits , withdrawals, transfers between accounts, and other traditional services, as well as online bill payments, such as EBPP.

Convenience is obviously a major advantage of online banking because transactions can take place 24 hours-a-day, seven days a week. On the downside, accounts can be vulnerable to hacking (although banking security is continually improving). For that reason, when using online banking, consumers are advised to use their data plans, rather than public Wi-Fi networks, to help prevent unauthorized access.

## **[6] ETHICAL, SOCIAL, AND POLITICAL ISSUES IN ECOMMERCE**

Defining the rights of people to express their ideas and the property rights of copyright owners are just two of many ethical, social, and political issues raised by the rapid evolution of e-commerce.

The ethical, social, and political issues raised in e-commerce, provide a framework for organizing the issues, and make recommendations for managers who are given the responsibility of operating e-commerce companies within commonly accepted standards of appropriateness. Understanding Ethical, Social, And Political Issues in E-Commerce Internet and its use in e-commerce have raised pervasive ethical, social and political issues on a scale unprecedented for computer technology.

We live in an "information society," where power and wealth increasingly depend on information and knowledge as central assets. Controversies over information are often in fact disagreements over power, wealth, influence, and other things thought to be valuable. Like other technologies such as steam, electricity, telephones, and television, the Internet and ecommerce can be used to achieve social progress, and for the most part, this has occurred. However, the same technologies can be used to commit crimes, despoil the environment, and threaten

cherished social values. Before automobiles, there was very little interstate crime and very little federal jurisdiction over crime. Likewise with the Internet: Before the Internet, there was very little “cyber crime.”

Many business firms and individuals are benefiting from the commercial development of the Internet, but this development also exacts a price from individuals, organizations, and societies. These costs and benefits must be carefully considered by those seeking to make ethical and socially responsible decisions in this new environment.

### **Public Policy Issues in E commerce**

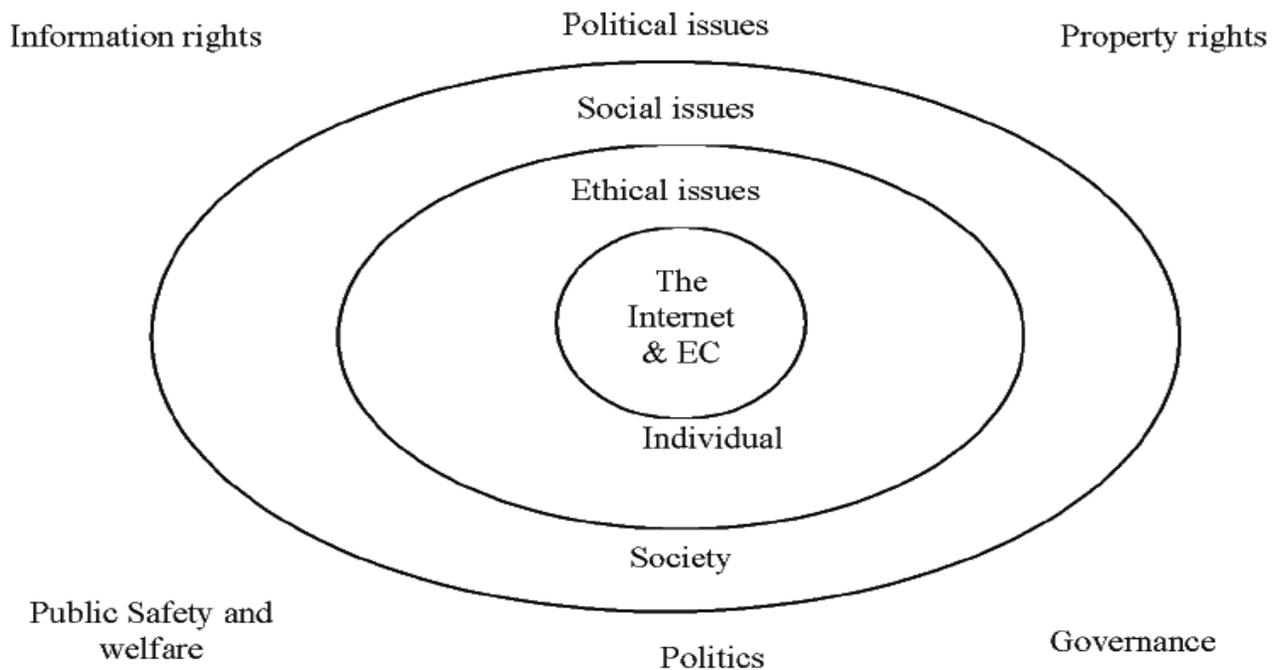
The major ethical, social, and political issues that have developed around e commerce over the past seven to eight years can be loosely categorized into four major dimensions: **information rights, property rights, governance, and public safety and welfare** . Some of the ethical, social, and political issues raised in each of these areas include the following:

**Information rights:** What rights to their own personal information do individuals have in a public marketplace, or in their private homes, when Internet technology make information collection so pervasive and efficient? What rights do individuals have to access information about business firms and other organizations?

**Property rights:** How can traditional intellectual property rights be enforced in an internet world where perfect copies of protected works can be made and easily distributed worldwide in seconds?

**Governance:** Should the Internet and e-commerce be subject to public laws? And if so, what law-making bodies have jurisdiction - state, federal, and/or international?

**Public safety and welfare:** What efforts should be undertaken to ensure equitable access to the Internet and ecommerce channels? Should governments be responsible for ensuring that schools and colleges have access to the Internet? Is certain online content and activities - such as pornography and gambling - a threat to public safety and welfare? Should mobile commerce be allowed from moving vehicles?



### Basic Ethical Concepts: Responsibility Accountability, and Liability

Ethics is at the heart of social and political debates about the Internet. Ethics is the study of principles that individuals and organizations can use to determine right and wrong courses of action. It is assumed in ethics that individuals are free moral agents who are in a position to make choices.

Extending ethics from individuals *to* business firms and even entire societies can be difficult, but it is not impossible. As long as there is a decision-making body or individual (such as a Board of Directors or CEO in a business firm or a governmental body in a society), their decisions can be judged against a variety of ethical principles. If you understand some basic ethical principles, your ability *to* reason about larger social *and* political debates will be improved. In western culture, there are ability and liability principles that all ethical schools of thought share: responsibility, account- liability.

Responsibility means that as free moral agents, individuals, organizations and societies are responsible for the actions they take. Accountability means that individuals, organizations, and societies should be held accountable *to* others for the consequences of their actions. The third principle -liability - extends the concepts of responsibility and accountability *to* the area of law. Liability is a feature of political systems in which a body of law is in place that permits individuals *to* recover the damages done *to* them by other actors, systems, or organizations. Due process is a feature of law-governed societies and refers *to* a process in which laws are known

and understood and there is an ability *to appeal to* higher authorities to ensure that the laws have been applied correctly.

### **Analysing Ethical Dilemmas**

Ethical, social, and political controversies usually present themselves as dilemmas. A dilemma is a situation in which there are at least two diametrically opposed actions, each of which supports a desirable outcome. When confronted with a situation that seems to present ethical dilemmas, how can you analyse and reason about the situation? The following is a five step process that should help.

**Identify and describe clearly the facts.** Find out who did what to whom, and where, when, and how. In many instances, you will be surprised at the errors in the initially reported facts, and often you will find that simply getting the facts straight helps define the solution. It also helps to get the opposing parties involved in an ethical dilemma to agree on the facts.

**Define the conflict or dilemma and identify the higher order value involved.** Ethical, social, and political issues always reference higher values. Otherwise, there would be no debate. The parties to a dispute all claim to be pursuing higher values (e.g., freedom, privacy, protection of property, and the -enterprise system). For example, Double Click and its supporters argue that their tracking of consumer movements on the Web increases market efficiency and the wealth of the entire society. Opponents argue this claimed efficiency comes at the expense of individual privacy, and Double Click should cease its or offer Web users the option of not participating in such tracking.

**Identify the stakeholders.** Every ethical, social, and political issue has stakeholders: players in the game who have an interest in the outcome, who have its vested in the situation, and usually who have vocal opinions. Find out the identity of these groups and what they want. This will be useful later when designing a solution.

**Identify the options that you can reasonably take.** You may find that none of the options satisfies all the interests involved, but that some options do a better job than others. Sometimes, arriving at a “good” or ethical solution may not, always be a balancing of consequences to stakeholders.

**Identify the potential consequences of your options.** Some options may be ethically correct, but disastrous from other points of view. Other options may work in this one instance, but not in other similar instances. Always ask yourself, “what if I choose this option consistently over time?” Once your analysis is complete, you can refer to the following well established ethical principle to help decide the matter.

### **[7] Privacy and Information Rights**

The Internet and the Web provide an ideal environment for invading the personal privacy of millions of users on a scale unprecedented in history. Perhaps no other recent issue has raised as much widespread social and political concern as protecting the privacy of over 160 million Web users in the United States alone.

The major ethical issues related to ecommerce and privacy includes the following: Under what conditions should we invade the privacy of others?

What legitimates intruding into others' lives through unobtrusive surveillance, market research, or other means?

The major social issues related to e-commerce and privacy concern the development of "exception of privacy" or privacy norms, as well as public attitudes. In what areas of should we as a society encourage people to think they are in "private territory" as opposed to public view? The major political issues related to ecommerce and privacy concern the development of statutes that govern the relations between record keepers and individuals.

### **The Concept of Privacy**

Privacy is the moral right of individuals to be left alone, free from surveillance or interference from other individuals or organizations, including the state. Privacy is a girder supporting freedom: Without the privacy required to think, write, plan, and associate independently and without fear, social and political freedom is weakened, and perhaps destroyed. Information privacy is a subset of privacy. The right to information privacy includes both the claim that certain information should not be collected at all by governments or business firms, and the claim of individuals to control over personal of whatever information that is collected about them. Individual control over personal information is at the core of the privacy concept. Due process also plays an important role in defining privacy. The best statement of due process in record keeping is given by the Fair Information Practices doctrine developed in the early 1970s and extended to the online privacy debate in the late 1990s .

### **Legal Protections**

In the United States, Canada, and Germany, rights to privacy are explicitly granted in or can be derived from, founding documents such as constitutions, as well as in specific statutes. In England and the United States, there is also protection of privacy in the common law, a body of court decisions involving torts or personal injuries. For instance, in the United States, four privacy-related torts have been defined in court decisions involving claims of injury to individuals caused by other private parties intrusion on solitude, public disclosure of private facts, publicity placing a person in a false light, and appropriation of a person's name or likeness (mostly concerning celebrities) for a commercial purpose. In the United States, the claim to privacy against government intrusion is protected primarily by the First Amendment guarantees of freedom of speech and association and the Fourth: Amendment protections against

unreasonable search and seizure of one's personal documents or home, and the Fourteenth Amendment's guarantee of due process. In addition to common law and the Constitution, there are both federal laws and state laws that protect individuals against government intrusion and in some cases define privacy rights vis-à-vis private organizations such as financial, education, and media institutions.

## **[8] E-commerce Security tools**

1. Digital certificates.
2. Public key infrastructure.
3. Encryption software.
4. Digital signatures.
5. Biometric scan.
6. Passwords.
7. Firewall

- **Digital certificates:** An attachment to an electronic message used for security purposes. The most common use of a digital certificate is to verify that a user sending a message is who he or she claims to be, and to provide the receiver with the means to encode a reply.

- **Encryption:** Encryption is the most effective way to achieve data security. To read an encrypted file, you must have access to a secret key or password that enables you to decrypt it. Unencrypted data is called plain text ;encrypted data is referred to as cipher text.

- **Firewall:** Firewalls can be either hardware or software but the ideal firewall configuration will consist of both. In addition to limiting access to your computer and network, a firewall is also useful for allowing remote access to a private network through secure authentication certificates and logins.

- **Digital signature:** A digital certificate, an electronic document that contains the digital signature of the certificate-issuing authority, binds together a public key with an identity and can be used to verify a public key belongs to a particular person or entity.

- **Biometric scanner:** In computer security, biometrics refers to authentication techniques that rely on measurable physical characteristics that can be automatically checked. There are several types of biometric identification schemes: face: the analysis of facial characteristics.

- **Password:** A password is a word or string of characters used for user authentication to prove identity or access approval to gain access to a resource, which should be kept secret from those not allowed access. The use of passwords is known to be ancient.

## **[9]INDUSTRY SELF-REGULATION**

Self-regulation concerns groups of firms in a particular industry or entire industry sectors that agree to act in prescribed ways, according to a set of rules or principles. Participation by firms in the groups is often voluntary, but could also be legally required.

The groups can be wholly responsible for developing the self-regulatory instruments, monitoring compliance and ensuring enforcement, or they can work with government entities and other stakeholders in these areas, in a co-regulatory capacity. Co-regulation can be seen as being part of the continuum between self-regulation and government regulation. Self-regulatory schemes entailing some degree of government involvement are common; the level of involvement, however, can vary significantly among schemes.

### **How and why is self-regulation used in the field of consumer policy?**

self-regulation has been used to support consumer policy and has been pursued principally through the development of codes and standards. The measures reviewed, however, all have a multidimensional character. The multi-dimensional character of the measures is due in part to the overlap and complementarities in some instruments; codes of conduct.

Why self-regulation is pursued can be linked to a number of factors. Governments may be interested in encouraging such regulation when they may, because of legal constraints, be limited in their ability to address certain issues. This is sometimes the case with respect to issues related to information disclosure, where, in some cases, governments may not be able to regulate the way businesses advertise due to rights of free expression. Moreover, governments may find it more cost-effective to pursue ISR options.

Businesses can also have interests in self-regulation:

**Reputation:** Self-regulatory efforts can help those businesses involved to be seen in a more favourable light by consumers and/or governments. Participants may see benefits in collectively promoting their trading standards to differentiate themselves from others in the industry, or to

improve or enhance confidence in the industry as a whole. Consumers who are aware of a self-regulatory scheme and understand the benefits it may provide to them may be willing to change their purchasing behavior in favour of participation in the scheme.

**Competition:** Self-regulatory arrangements can be used to develop and maintain common standards, providing level playing fields that facilitate the entry of newcomers and promote competition. On the other hand, those arrangements which favour incumbents, while beneficial to those concerned, can act to limit competition.

**Regulation:** Self-regulatory schemes have frequently been initiated in response to the threat of government regulation, which can be more costly and less flexible than ISR schemes. In this regard, self-regulation gives firms greater scope to influence the standards set and a bigger influence on how they are monitored and enforced, which can be beneficial. This, in turn, may allow industry participants to accumulate practical experience in designing and complying with new standards over time.

**Other:** ISR agreements can also provide benefits to industry, to the extent that they include training and other resources that would prove useful in implementing an ISR.

Industry self-regulation can be an advantageous complement to government policies, but it also poses a number of challenges. At the same time, ISR can potentially provide important benefits to both industry and consumers; their success in doing so depends on a number of factors, including:

- i) The strength of the commitments made by participants.
- ii) The industry coverage of the ISR.
- iii) The extent to which participants adhere to the commitments.
- iv) The consequences of not adhering to the commitments.

### **Advantages of ISR:**

Governments, businesses and consumers can all benefit from ISR. Governments may be interested when ISR covers issues where they have limited authority, which can be the case when advertising issues are concerned; ISR could also be more cost-effective for governments, to the extent that enforcement and monitoring burdens are lightened and/or shifted to business. The case studies identify a series of potential benefits for consumers and business.

Consumers can potentially benefit from:

**Improved information:** Advertising codes can reduce the risk that consumers encounter misleading and fraudulent advertisements. Trustmark's can help consumers identify products that meet certain standards, or companies that have subscribed to important commercial principles. Rating schemes can help consumers identify products that meet desired criteria.

**More effective dispute resolution:** ISR that provides specialised, independent, low-cost dispute resolution mechanisms can facilitate problem-solving and increase consumer confidence.

**Combatting unfair or abusive practices:** ISR can provide mechanisms through which businesses can tackle specific problems. This was done successfully in the case of spam. As ISR dealing with telemarketing and charges telecommunications indicates, its effectiveness depends on subscription by a sufficient number of firms, and their commitment to the prescribed actions.

**Enhanced consumer rights:** Some ISR agreements contain provisions which provide consumers with stronger protection and rights. In addition to improved dispute handling (described above), this could include additional product guarantees and more favourable return policies.

Potential benefits of ISR to industry include:

**Enhancing consumer confidence/improving the image of businesses:** Most of the ISR agreements reviewed indicate the value that the instruments have played in building consumer confidence by helping to ensure product quality and good commercial practices. The value of trust-marks in improving the image of ISR members was noted in this regard.

**Disciplining businesses that fail to meet commitments:** Many of the ISR agreements mention the importance of the instruments in helping to maintain a level playing field. Provisions that impose a cost on those businesses that do not adhere to the ISR can play an important role in discouraging violations.

**Improving complaint handling:** Participants in ISR agreements have noted the efficiency and effectiveness of external dispute resolution mechanisms in addressing complaints, and the positive responses from consumers using low-cost, independent authorities for addressing issues.

**Pre-empting formal government regulation:** In a number of instances, ISR agreements were developed with a view toward avoiding more direct intervention by government. The ISR was viewed as a more flexible instrument that could be adapted more easily to deal with changing conditions.

**Providing instructional resources:** Well established ISR agreements can provide centralised services for members, providing, for example, opportunities for training and information sharing.

### **Challenges of ISR:**

At the same time, ISR poses challenges which include:

**Strength of instruments:** Instruments might have to be watered down to achieve industry support and therefore might not be sufficiently strong.

**Compliance and oversight:** In the absence of effective enforcement and monitoring, participants might have little incentive to adhere fully to the scheme.

**Risk of regulatory capture:** This could occur when a self-regulatory body is overly “close” to the businesses that it oversees.

**Free-riders:** Businesses that do not participate in an ISR are not bound by its provisions and avoid the cost of compliance; they may benefit significantly from the avoidance of formal government regulation that might otherwise apply.

**Market coverage:** Low participation rates by businesses in an ISR could render it ineffective.

**Favoritism:** If a small number of actors dominate the governance of a scheme, it might result in the scheme favoring those actors.

**Distortions in competition:** Self-regulation can create barriers to entry or otherwise distort competition through, for example, licensing or accreditation bodies that discriminate against certain businesses.

**Accountability:** Some self-regulatory schemes might lack mechanisms for review and evaluation, and resources may not be available if the schemes do not fulfil their objectives.

**Costs:** The cost of establishing and operating an ISR might be high and could be passed on to consumers.

## **[10]      LEGAL PROTECTION IN E-COMMERCE**

To protect consumers from online fraud, the Ministry of Consumer Affairs has introduced draft Consumer Protection (E-Commerce) Rules, 2019 (Rules) to regulate e-commerce platforms operating in India. The Ministry published the draft Rules to obtain stakeholder feedback with the aim of notifying them under the amended Consumer Protection Act, 2019.

The Rules propose to regulate price manipulation and quality control by e-commerce entities, *inter alia* requiring them to adhere to a strict set of guidelines to enable consumers to make informed decisions on purchases, prevent fraudulent transactions and unfair and deceptive trade practices, control sale of counterfeits.

### **Some of the highlights of the Rules include:**

- i. E-Commerce entities ("Entities") entitled to conduct e-commerce business in India must:
  - Be registered under Indian laws and must certify compliance with the proposed Rules;
  - Not be promoted or managed by (which includes all key members of the management team) anyone convicted of a criminal offense carrying a punishment of 5 years by any Court of competent jurisdiction. This applies globally and is not restricted to India
  - Comply with the provisions of IT(Intermediaries Guidelines) Rules, 2011
  - Must confirm to Reserve Bank of India (RBI) guidelines for payment facilities.
- ii. **Entities** must ensure a level playing field by refraining from influencing the price of goods/services sold through their portals. This provision aims to maintain some parity between brick and mortar stores and e-commerce platforms whilst also ensuring that

smaller players are not adversely affected through predatory pricing and deep discounting.

- iii. **They** may not adopt unfair or deceptive practises to influence consumer decisions, which includes false or exaggerated consumer reviews, product features, etc.
- iv. **Entities** must provide details in a clear and transparent manner about sellers on their platforms, including their legal name, principle geographic address, contact details, name of their website, products sold, etc.
- v. **In addition**, Entities must display the terms of the contract with the seller relating to return, refund, exchange, warranty, guarantee, delivery, shipment, mode of payments, grievance redressal mechanism, etc. to enable consumers to make informed decisions.
  - **Entities also have to ensure:**
    - There is no false or misleading advertising regarding product characteristics.
    - Other relevant details including health and safety information, payment methods and security of the methods, shelf life of the product, breakup of price including all charges is clearly mentioned;
    - Personally identifiable information of consumers is protected and stored/used in compliance with Indian law.
- vi. Entities must unconditionally accept return of goods that are delivered late or in a defective condition, which includes counterfeit and wrongly advertised products, providing refunds within 14 days.
- vii. They must act against counterfeit products sold on their platforms, taking down listings that they believe to be fake.
- viii. Entities must set up a grievance redressal mechanism to redress consumer complaints within one month.

**To ensure enhanced protection the Rules also require Sellers on e-commerce platforms to independently comply with certain requirements such as:**

- i. Entering into a written contract with Entities before soliciting sales on their platforms.
- ii. Ensuring all legally mandated information relating to sales such as unit price, taxes, fees, delivery charges, display requirements under Legal Metrology Rules, etc. are provided.
- iii. Providing fair and reasonable delivery terms.
- iv. Being responsible for warranty obligations of the products/services sold.