E-COMMERCE

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Abstract

E-commerce is simply the sale and purchase of services and goods over an electronic medium, like the internet. This paper deals with about how e-commerce differs from the traditional commerce, benefits to various persons, their risks and controls, types, impact on market and retailers, customers, employees, government regulations, global trends and various e-commerce websites

E-Commerce

Meaning

Sale / Purchase of goods / services through electronic mode is e-commerce. This could include the use of technology in the form of Computers, Desktops, Mobile Applications, etc.

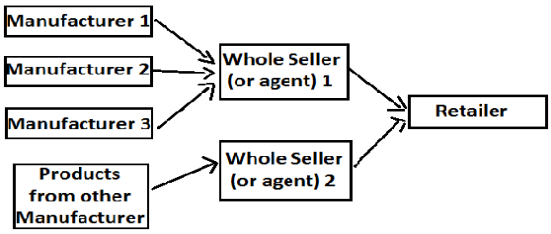
E-commerce is the process of doing business electronically. It refers to the use of technology to enhance the processing of commercial transactions between a company, its customers and its business partners. It involves the automation of a variety of Business-To-Business (B2B) transactions through reliable and secure connections.

Traditional Commerce and E-Commerce

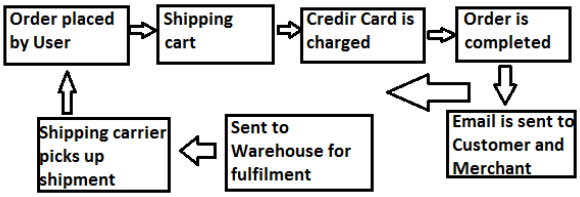
The greatest change due to technology innovations in last five years has been the way users perform their daily chores / activity of life.

Example of how Technology has entered every aspect of human life

S. No	Activity	Then	Now
1	Wake up	Alarm docks with snooze buttons.	Mobile alarms, multiple types. Some forcing you to solve mathematical quiz before you snooze them. Ensuring you wake up.
2	Office Admin	All jobs to be done by assigned service provider. For example: Courier's need to be sent to courier agency.	Now you book through online APP, the courier agency picks up POST at designated time and place.



Old Model



New Model of E-Commerce

Difference between Traditional Commerce and E-Commerce

Basis for Comparison	Traditional Commerce	E-Commerce
Definition	Traditional commerce includes all those activities which encourage exchange, in some way or the other of goods/services which are manual and non-electronic	E-Commerce means carrying out commercial transactions or exchange of information, electronically on the internet
Transaction Processing	Manual	Electronically
Availability for commercial transactions	For limited time. This time may be defined by law. Like special stores which may run 24 hours, but in general available for limited time.	24*7*365
Nature of purchase	Goods can be inspected physically before purchase	Goods cannot be inspected physically before purchase
Customer interaction	Face-to-face	Screen-to-face
Business scope	Limited to particular area	Worldwide reach
Resource focus	Supply side	Demand side
Payment	Cash, cheque, credit card, etc.	Credit card, fund transfer, Cash in Delivery, Payment Wallets, etc.

Benefits of E-Business

Benefits to Customer/Individual/User

- Convenience: Every product at the tip of individual's fingerprints on internet.
- Time savings: Number of operations that can be performed both by potential buyers and sellers increase.
- Easy to find reviews: There are often reviews about a particular site or product from the previous customers which provides valuable feedback.
- Anytime Access: Even midnight access to the e-commerce platforms is available which brings in customer suitability.

Benefits to Business/Sellers

- Increased Customer Base: Since the number of people getting online is increasing, which are creating not only new customers but also retain the old ones.

- Recurring payments made easy: Each business has number of operations being homogeneous. Brings in uniformity of scaled operations.
- Creation of New markets: This is done through the ability to easily and cheaply reach potential customers.
- Elimination of Time Delay: Faster time to market as business processes are linked, thus enabling seamless processing and eliminating time delay

Benefits to Government

- Instrument to fight corruption: In line with Government's vision. E-commerce provides a pivotal hand to fight corruption.
- Reduction in use of ecologically damaging materials through electronic coordination of activities and the movement of information rather than physical objects.

Components for E-Commerce

1. User: This may be individual/organisation or anybody using the e-commerce platforms. As e-commerce, has made procurement easy and simple, just on a click of button e-commerce vendors needs to ensure that their products are not delivered to wrong users.
2. E-Commerce Vendors: This is the organisation/entity providing the user, goods/services asked for. They have the following such as Suppliers and Supply chain management, Warehouse operation, Shipping and returns, Marketing and loyalty programs, Showroom and offline purchase.
3. Technology Infrastructure: The computers, servers, database, mobile apps, digital libraries enabling the e-commerce transactions.
4. Internet/Network: This is the key to success of e-commerce transaction. The faster net connectivity leads to better e-commerce. The success of e-commerce trade depends upon the internet capability of organisation.
5. Web portal: It is the application through which user interacts with the e-commerce vendor. E-commerce vendors put a lot of money and effort in this aspect.
6. Payment Gateway: It represents the way e-commerce vendors collects their payments. Presently numerous methods of payments by buyers to sellers are being used, including Credit / Debit Card Payments, Online bank payments, Vendors own payment wallet, Third party payment wallets, like SBI BUDDY or PAYTM, Cash on Delivery and Unified Payments Interface(UPI).

Architecture of Networked Systems

In e-commerce, it denotes the way network architectures are build. E-commerce runs through network-connected systems. Networked systems can have two types of architecture:

- Two tier
- Three tier

Two Tier Client Server

In a Two-tier network, client (user) sends request to Server and the Server responds to the request by fetching the data from it. Two-tier architecture is divided into two-tiers

1. Presentation Tier (Client Application/Client Tier): User can login to an e-commerce vendor through this tier. This application also connects to database tier and displays the various products/prices to customers.

2. Database Tier (Data Tier): The product data / price data / customer data and other related data are kept here. User has not access to data at this level.

Advantages

1. The system performance is higher because business logic and database are physically close.
2. By having simple structure, it is easy to setup and maintain entire system smoothly

Disadvantages

1. Performance deteriorates if number of users' increase
2. There is restricted flexibility and choice of DBMS, since data language used in server is proprietary to each vendor.

Three Tire Client Server

It is a software design pattern and well-established software architecture. In three tier architecture three layers like Client, Server and Database are involved. Its Three Tiers are

1. Presentation Tier: Occupies the top level and displays information related to services available on a website. This tier communicates with other tiers by sending results to the browser and other tiers in the network.
2. Application Tier: Also called as the Middle Tier. It controls application functionality by performing detailed processing.
3. Database Tier: This tier houses the database servers where information is stored and retrieved. Data in this tier is kept independent of application servers or business logic.

Advantages

- Clear separation of user-interface-control and data presentation from application
- Dynamic lead balancing
- Change management

Disadvantages

- It creates an increased need for network traffic management, server lead balancing, and fault tolerance.
- Current tools are relatively immature and are more complex.

Risks and Controls

Risk

Risk is the possibility of loss. The same may be the result of intentional or un-intentional action by individuals. These includes delay in goods and hidden costs, needs access to internet and lack of personal touch, security and credit card issues, lack of authenticity of transactions, attack from hackers, lack of audit trails.

Control

It is defined in accounting and auditing, is a process for assuring achievement of an organisation effectiveness and efficiency, reliable financial reporting, and compliance with laws, regulations and policies. Controls are necessary for all persons in the chain, including users, sellers, buyers, merchants, government, payment gateways.

Guidelines and Laws Governing E-Commerce

Guidelines for e-commerce

1. Billing: The issues are-
    - Format of bill
    - The details to be shared in bills
    - Applicable GST

2. Product guarantee / warranty: Proper display of product guarantee / warranty online as well as document sent along with products.
3. Shipping: The shipping time, frequency of shipping, the pacing at time of shipping, all these needs to be put in policy documents.
4. Delivery: Policy needs to be defined for, Which mode of delivery to be chosen? Which deliveries to be made? Where deliveries to be made?
5. Return: Policy for return of goods need to be put in place defining, Which goods to be accepted in return? The number of days within which returns can be accepted, the time within which buyer shall be paid the amount back for goods returned.
6. Payment: Policy guidelines need to be created for the following payment related issues, Mode of payment, for which products, specific payment mode shall be there.

Commercial laws governing E-commerce

All e-commerce transactions are commercial business transactions. All these transactions are covered under multiple laws, including commercial laws, such as Income Tax Act, 1961,Companies Act, 2013, The Factories Act, 1948, The Customs Act, 1962,The Goods and Services Tax Act, 2017 (GST), Indian Contract Act, 1872, Consumer Protection Act, 1986.

Special Laws governing E-Commerce

E-commerce are covered under few other laws as these transaction are done electronically.

- Information Technology Act, 2000 (As amended 2008)
- Reserve Bank of India, 1932.

Digital Payments

Digital Payment is a way of payment which is made through digital modes. In digital payments, payer and payee both use digital modes to send and receive money. It is also called electronic payment. No hard cash is involved in the digital payments.

Different types of Digital Payments

From traditional digital payments methods, India is moving towards newer methods of digital payments

New Methods of Digital payment

- UPI (Unified Payment Interface) Apps
- Immediate Payment Service (IMPS)
- Mobile Apps – BHIM (Bharat Interface for Money)
- Mobile wallets
- Aadhar Enabled Payment Services (AEPS)
- Unstructured Supplementary Service Data (USSD)

Traditional Methods of Digital Payment

- E-Wallet
- Cards (Credit and Debit cards)
- Net Banking

Advantages of Digital Payments

- Easy and convenient
- Pay or send money from anywhere

- Discounts from taxes
- Written record
- Less risk

Drawbacks of Digital Payments

- Difficult for a Non-technical person
- The risk of data theft
- Overspending.

Types of E-Commerce

There are six general classes of e-commerce applications:

1. Business-to-Business (B2B) e-commerce
2. Business-to-Consumer (B2C) e-commerce
3. Consumer-to-Business (C2B) e-commerce
4. Consumer-to-Consumer (C2C) e-commerce
5. Business-to-Government (B2G) e-commerce
6. Business-to-Employee (B2E) e-commerce

Business-to-Business (B2B) e-commerce

B2B refers to the exchange of services, information and/or products from one business to another. B2B electronic commerce typically takes the form of automated processes between trading partners and is performed in much higher volumes than Business-to-Consumer (B2C) applications. B2B can also encompass marketing activities between businesses, and not just the final transactions that result from marketing.

Business-to-Consumer (B2C) e-commerce

It is defined as the exchange of services, information and/or products from a business to a consumer. Typically, a B2C e-commerce business has a virtual store for consumers to purchase goods and services eliminating the need to physically view or pick up the merchandise. This minimizes internal costs created by inefficient and ineffective supply chains and creates reduces end price for the customers. There are advantages such as it can be faster, call centres can be integrated with the website offerings and prices can change instantaneously, etc.

Consumer-to-Business (C2B) e-commerce

In C2C e-commerce model, consumers directly contact with business vendors by posing their project work online so that the needy companies review it and contact the consumer directly with bid. The consumer reviews all the bids and selects the company for further processing. Come examples are guru.com, rentacoder.com.

Consumer-to-Consumer (C2C) e-commerce

C2C e-commerce is an Internet-facilitated form of commerce that has existed for the span of history in the form of barter, flea markets, swap meets, yard sales and the like. C2C e-commerce sites provides a virtual environment in which consumer can sell to one another through a third-party intermediary.

Business-to-Government (B2G) e-commerce

B2G e-commerce, also known as e-Government, refers to the use of information and communication technologies to build and strengthen relationships between government and employees, citizens, businesses, non-profit organisations, and other government agencies.

Business-to-Employee (B2E) e-commerce

B2E e-commerce from an intra-organisational perspective, has provided the means for a business to offer online products and services to its employees.

Key aspects to be considered in implementing e-commerce

Successful implementation of e-commerce requires involvement of key stakeholders and should ideally include representatives from: accounting/finance, internal audit, IT security, telecommunications, end users, system analysts, and legal. Further, key trading partners, brokers, and other third-party services should also be involved to obtain valuable insight into the design and deployment of the e-commerce solution. Other key aspects to be considered are as follows:

- Implementing appropriate policies, standards and guidelines
- Performing cost benefit analysis and risk assessment to ensure value delivery
- Implementing the right level of security across all layers and processes
- Integration of e-commerce with the business
- Providing adequate user training.

Impact on markets and retailers

E-commerce markets are growing at noticeable rates. The online market is expected to grow by 56% in 2015-2020. Traditional markets are only expected 2% growth during the same time. E-commerce allows customers to overcome geographical barriers and allow them to purchase products anytime and from anywhere. There are two ways for marketers to conduct business through e-commerce: fully online or online along with a brick and mortar store. Online marketers can offer lower prices, greater product selection, and high efficiency rates. Many customers prefer online markets if the products can be delivered quickly at relatively low price. However, online retailers cannot offer the physical experience that traditional retailers can. It can be difficult to judge the quality of a product without the physical experience.

Impact on Employment

E-commerce helps create new job opportunities due to information related services, software pp and digital products. It also causes job losses. The areas with the greatest predicted job-loss are retail, postal, and travel agencies. E-commerce requires sufficient stacks that could be delivered to customers in time, the warehouse becomes an important element. Warehousing needs more staff to manage, supervise and organize, thus condition of warehouse environment will be concerned by employees.

Impact on Customers

E-commerce brings convenience for customers as they do not have to leave home and only need to browse website online, especially for buying the products which are not sold in nearby shops. It could help customers buy wider range of products and save customers' time. They are able to research products and compare prices among retailers. Also, online shopping often provides sales promotion or discounts code, thus it is more price effective for customers. However, e-commerce lacks human interaction for customers, especially who prefer face-to-face connection.

Government regulation

In India, the Information Technology Act 2000 governs the basic applicability of e-commerce. In the United States, certain electronic commerce activities are regulated by the Federal Trade Commission (FTC). The CAN-SPAM Act of 2003 establishes national standards for direct marketing over e-mail. Internationally there is the International Consumer Protection and Enforcement

Network (ICPEN), which was formed in 1991 from an informal network of government customer fair trade organisations. From this came Econsumer.gov, an ICPEN initiative since April 2001. It is a portal to report complaints about online and related transactions with foreign companies. There is also Asia Pacific Economic Cooperation (APEC) was established in 1989 with the vision of achieving stability, security and prosperity for the region through free and open trade and investment. In Australia, Trade is covered under Australian Treasury Guidelines for electronic commerce and the Australian Competition and Consumer Commission regulates and offers advice on how to deal with businesses online, and offers specific advice on what happens if things go wrong. In China, the telecommunications Regulations of the People's Republic of China (promulgated on 25 September 2000), stipulated the Ministry of Industry and Information Technology (MIIT) as the government department regulating all telecommunications related activities.

Global Trends

As of 2013, the Czech Republic was the European country where e-commerce delivers the biggest contribution to the enterprises' total revenue. Almost a quarter (24%) of the country's total turnover is generated via the online channel. China's e-commerce presence continues to every year, with 668 million internet users. China's online shopping sales reached $253 billion in the first half of 2015, accounting for 10% of total Chinese consumer retail sales in that period. By 2016, e-marketer expected retail e-commerce sales in Brazil to reach $17.3 billion. India has an internet user base of about 460 million as of December 2017, despite being third largest user base in world. In India, cash on delivery is the most preferred payment method, accumulation 75% of the e-retail activities. The India retail market is expected to rise from 2.5% in 2016 to 5% in 2020. Mobile devices are playing an increasing role in the mix of e-commerce, this si also commonly called as mobile commerce or m-commerce.

E-commerce Websites

E-commerce websites are online portals that facilitate online transactions of goods and services through means of the transfer of information and funds over the internet. There are different e-commerce websites for every field. The most common type is retail selling, but there are many others too, like auction websites, music portals, consultancy websites, finance management websites, and the like.

Top e-commerce websites

These are some of the most popular examples of e-commerce websites across the world (in no particular order): Amazon, ebay, Alibaba, Walmart, Filpkart, etc.

Conclusion

E-commerce is useful in increasing the economy of the country in the present days. As people are left with a scare time in these days they prefer e-commerce i.e., purchase from the own place and getting things without physical movement.

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