Unit: 1

Ecommerce:

E-commerce, short for electronic commerce, refers to the buying and selling of goods and services over the internet. It has become a significant part of modern business and retail, transforming the way people shop and businesses operate.

Scope of ecommerce:

The scope of electronic commerce (e-commerce) is vast and continually expanding as technology evolves and consumer behavior changes. Here are some key aspects of the scope of e-commerce:

Diverse Business Models: E-commerce encompasses a wide range of business models, including online retail (B2C), business-to-business (B2B) transactions, subscription-based services, digital products, and more. This diversity allows for innovation and adaptation to various industries.

Global Reach: E-commerce has a global reach, enabling businesses to sell products and services to customers worldwide. This global scope opens up new markets and revenue opportunities for businesses of all sizes.

Mobile Commerce (M-commerce): With the widespread use of smartphones and mobile apps, the scope of e-commerce extends to mobile commerce. Consumers can shop, make payments, and access services through mobile devices, leading to increased convenience and accessibility.

Cross-Border E-commerce: The growth of cross-border e-commerce allows businesses to expand internationally without the need for physical presence in foreign markets. This opens up opportunities for businesses to tap into emerging markets.

Niche Markets: E-commerce allows businesses to target niche markets and cater to specific customer segments. Niche e-commerce stores can thrive by offering specialized products or services.

Digital Products and Services: Beyond physical goods, e-commerce includes digital products like e-books, software, online courses, streaming services, and more. The scope of e-commerce encompasses the distribution of digital content and services.

Marketplaces and platforms:
E-commerce marketplaces and platforms (e.g., Amazon, eBay, Shopify, WooCommerce) provide businesses with tools to establish and manage their online presence. These platforms offer a wide range of features and integrations to support e-commerce operations.

ECOMMERCE TRADE CYCLE:
The trade cycle in electronic e-commerce follows a similar pattern to the traditional trade cycle, but with some key differences.

Sourcing: In electronic e-commerce, sourcing may involve the purchase of raw materials or finished products from suppliers located around the world. This can be done through online marketplaces or by contacting suppliers directly through their websites.

Production: In electronic e-commerce, production may involve the assembly of finished products from pre-made components or the creation of digital products such as software or e-books.

Distribution: In electronic e-commerce, distribution typically involves the shipment of products directly to consumers or to third-party fulfillment centers for storage and shipment. This can be done through a variety of shipping methods, including postal services, courier services, or specialized delivery companies.

Consumption: In electronic e-commerce, consumption typically involves the purchase of products through online stores or marketplaces. This can be done through a variety of payment methods, including credit cards, PayPal, or other digital payment platforms.
The emergence of the internet is a complex and multifaceted historical development that spans several decades. It has fundamentally transformed the

way we communicate, access information, conduct business, and interact with the world. Here is a brief overview of the key milestones and events in the emergence of the internet:

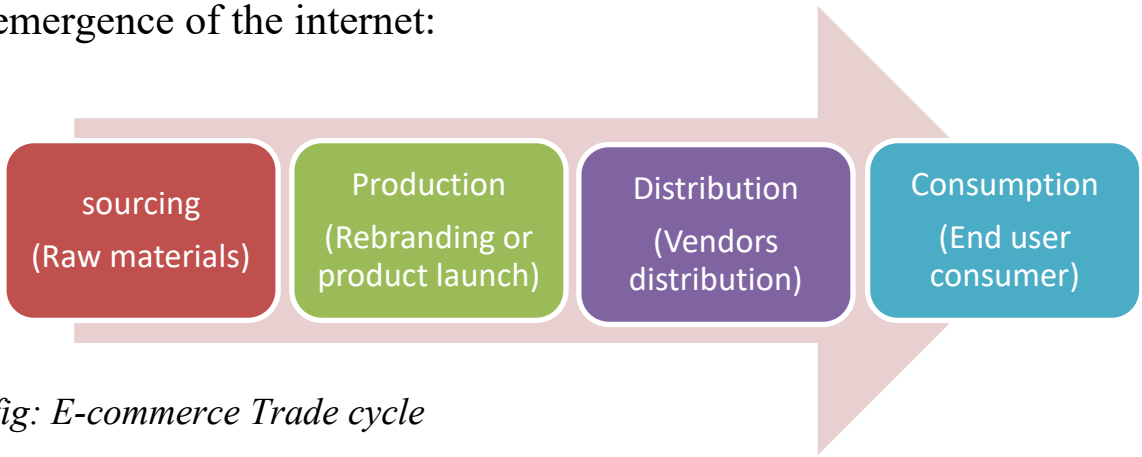

fig: E-commerce Trade cycle

Emergence of Internet:

Origins in ARPANET (1960s): The internet's origins can be traced back to the 1960s when the U.S. Department of Defense's Advanced Research Projects Agency (ARPA, now DARPA) created ARPANET. ARPANET was designed as a decentralized network to facilitate communication between research institutions and government agencies. It used packet-switching technology, a precursor to modern internet protocols.

Development of TCP/IP (1970s): The Transmission Control Protocol (TCP) and Internet Protocol (IP) were developed in the 1970s by Vinton Cerf and Bob Kahn. TCP/IP became the foundation for how data packets are transmitted and routed across the internet.

Commercialization and the World Wide Web (1990s): The World Wide Web (WWW) was created by Tim Berners-Lee in 1989, and it became publicly accessible in the early 1990s. This marked the beginning of the internet's transition from a research tool to a global communication and information-sharing platform. The introduction of web browsers later like Mosaic and Netscape Navigator made the internet more user-friendly.

Dot-com Bubble (late 1990s): The late 1990s saw the rapid growth of internet-based companies, leading to a speculative bubble known as the dot-com bubble. Many internet startups went public, and investors poured money into these companies, even if they were not profitable. The bubble burst in the early 2000s, leading to the collapse of many internet companies.

Broadband and High-Speed Internet (2000s): The widespread adoption of broadband internet connections in the 2000s greatly improved the internet's speed and accessibility. This allowed for the development of rich media content, online streaming, and more.

Social Media and Web 2.0 (2000s): The 2000s saw the rise of social media platforms like Facebook, Twitter, and YouTube, which revolutionized how people connect and share information online. This era is often referred to as Web 2.0, emphasizing user-generated content and interactive web experiences.

Mobile Internet (2000s-2010s): The proliferation of smartphones and mobile devices led to the growth of mobile internet usage. People could access the internet from anywhere, which further transformed how information and services were consumed.

Cloud Computing (2000s-2010s): The development of cloud computing technologies allowed for scalable and remote data storage, enabling businesses and individuals to access and store data and applications online.

IoT and the Future (2010s-Present): The Internet of Things (IoT) emerged, connecting everyday objects and devices to the internet. This has the potential to revolutionize various industries, including healthcare, transportation, and manufacturing.

Rise of E-commerce and Online Services (2010s-Present): Online shopping, streaming services, and remote work became integral parts of modern life, driven by the internet's continued evolution and expansion.

The internet's evolution continues, with ongoing developments in areas such as artificial intelligence, blockchain technology, and 5G connectivity shaping its future. The internet has become an indispensable part of our lives, impacting nearly every aspect of society and the global economy.

Commercialization of Internet:

The commercialization of the internet refers to the transformation of the internet from a government and academic research network into a platform for

commerce, business, and profit-making activities. This process began in the early 1990s and has had a profound impact on the way businesses operate, how people consume products and services, and the global economy as a whole. Here are some key aspects and milestones in the commercialization of the internet:

Emergence of the World Wide Web (Early 1990s): The World Wide Web, created by Tim Berners-Lee in 1989, played a crucial role in the commercialization of the internet. It provided a user-friendly interface for accessing and sharing information online, making the internet more accessible to the general public.

Web Browsers: The development and popularization of web browsers like Mosaic and later Netscape Navigator in the mid-1990s made it easier for people to navigate the web. This led to increased web traffic and the creation of online businesses.

E-commerce: In the mid-1990s, companies like Amazon and eBay emerged as pioneers in online retail and auctions, respectively. They demonstrated the potential for conducting commercial transactions on the internet.

Digital Advertising: The commercial internet saw the rise of digital advertising as a significant revenue stream. Banner ads, sponsored content, and pay-per-click advertising became common ways for businesses to monetize their online presence.

Broadband Internet: The widespread adoption of broadband internet in the early 2000s significantly improved internet speeds and enabled more sophisticated online services and multimedia content. This further fueled the growth of e-commerce and online entertainment.

Social Media: The rise of social media platforms like Facebook, Twitter, and LinkedIn introduced new advertising and marketing opportunities. These platforms allowed businesses to engage with customers and target specific demographics.

Mobile Commerce (M-commerce): The proliferation of smartphones and mobile devices in the late 2000s and 2010s led to the growth of mobile commerce. Consumers could shop, pay bills, and access services directly from their mobile devices.

Cloud Computing: Cloud services such as Amazon Web Services (AWS), Microsoft Azure, and Google Cloud Platform revolutionized how businesses host websites, store data, and run applications, making it more cost-effective and scalable.

Gig Economy and Online Marketplaces: Platforms like Uber, Airbnb, and Upwork exemplify the gig economy, where individuals can offer their services or rent their assets online. These platforms have created new income opportunities and business models.

Online Streaming and Subscription Services: The internet has transformed the entertainment industry, with the rise of streaming services like Netflix, Spotify, and Disney. These services have disrupted traditional media and distribution models.

Global E-commerce and Cross-Border Trade: The internet has facilitated cross-border trade, allowing businesses to reach international markets more easily, leading to the globalization of commerce.

The commercialization of the internet has led to significant economic growth, innovation, and changes in consumer behavior. It has also raised important questions about privacy, data security, and the regulation of online businesses, prompting governments and regulatory bodies to adapt to the evolving digital landscape.

Ecommerce Models

B2C — business-to-consumer

Business-to-consumer is a business model in which businesses sell directly to the consumers who purchase the goods for themselves. No third party, such as a wholesaler, is involved. A B2C example might look like a clothing company that sells bathing suits to women.

The B2C buyer journey is short and simple. The consumer becomes aware of a need or want, they consider their options, and they make a purchase.

B2C business models may be the easiest to translate into the ecommerce space, and B2C businesses have been many of the first types of businesses to do so. The buyer journey doesn't need to change at all in a digital environment — the last two stages simply happen online rather than in a physical store.

B2B — business-to-business

In a B2B model, businesses sell to other businesses — such as SaaS brands that sell productivity software to other companies. The buyer is an employee (or an entire department) purchasing a product or service on behalf of their company. Retailers, producers, and agencies are all examples of B2B companies.

B2B businesses aim to create relationships through a marketing and sales process that is more complicated than most B2Cs'. The B2B sales funnel typically includes awareness, interest, evaluation, engagement, and purchase stages.

C2C — consumer-to-consumer

C2C transactions don't involve a business at all. Instead, C2C business is between two consumers, with a third-party company enabling the purchase. Consumers will publicly share items for sale. Then other consumers can browse the listings or postings, decide what they'd like to buy, and contact the seller.

While newspaper classifieds could be considered C2C, today this business model is primarily online. Examples of C2C ecommerce include:

Auction platforms like eBay

Exchange of services platforms such as dog walking app Rover

Exchange of goods platforms like Etsy

Payment platforms such as PayPal

Personal Web Server:

A personal web server (PWS) is system of hardware and software that is designed to create and manage a web server on a desktop computer. It can be used to learn how to set up and administer a website, and it can also serve as a site for testing dynamic web pages. One of the main functions of PWS is to provide an environment where web programmers can test their programs and web pages. Therefore, a PWS supports the more common server-side programming approaches that can be used with production web servers.

A personal web server, or personal server in short, allows users to store, selectively share, or publish information on the web or on a home network. Unlike other types of web servers, a personal web server is owned or controlled

by an individual, and operated for the individual's needs, instead of by a company. It can be implemented in different ways:

- as a computer appliance
- as a general-purpose server, such as a Linux server, which may be located at the owner's home or in a data center
- in a shared hosting model, where several users share one physical server by means of virtualization, or virtual hosting.
- as one feature of a computer that is otherwise also used for other purposes.

Internet Information Server:

Internet Information Services/Server, also known as IIS, is a Microsoft web server that runs on Windows operating system and is used to exchange static and dynamic web content with internet users. IIS can be used to host, deploy, and manage web applications using technologies such as ASP.NET and PHP.

ASP page contain scripts:

ASP uses scripting on the server to generate content that is sent to the client's web browser via HTTP response. The ASP interpreter reads and executes all script code between <% and %> tags, the result of which is content generation.An Active Server Pages (ASP) file is a text file with the extension . asp that contains any combination of the following: text, HTML tags, and server-side scripts in an COM-compliant scripting language such as Microsoft VBScript.

Database Access:

In an e-commerce application, the main purpose of a database is to store information for retrieving the product details, customer information, track transactions, and further, maintain the inventory. One of the biggest benefits of using a database for e-commerce is structuring vast amounts of shop data. When the data is organized in a proper format, it can be accessed more efficiently by e-commerce applications.

Database plays a very critical and important role in the e-commerce industry, in today's scenario the reason behind the success of an e-commerce firm is how much it has optimized its database. Because today's consumers rely heavily on technology, e-commerce firms must use it to their advantage.

Most common applications of Ecommerce:

Retail and Wholesale

Ecommerce has numerous applications in this sector. E-retailing is basically a B2C, and in some cases, a B2B sale of goods and services through online stores designed using virtual shopping carts and electronic catalogs. A subset of retail ecommerce is m-commerce, or mobile commerce, wherein a consumer purchases goods and services using their mobile device through the mobile optimized site of the retailer. These retailers use the E-payment method: they accept payment through credit or debit cards, online wallets or internet banking, without printing paper invoices or receipts.

Online Marketing

This refers to the gathering of data about consumer behaviors, preferences, needs, buying patterns and so on. It helps marketing activities like fixing price, negotiating, enhancing product features, and building strong customer relationships as this data can be leveraged to provide customers a tailored and enhanced purchase experience.

Finance

Banks and other financial institutions are using e-commerce to a significant extent. Customers can check account balances, transfer money to other accounts held by them or others, pay bills through internet banking, pay insurance premiums, and so on. Individuals can also carry out trading in stocks online, and get information about stocks to trade in from websites that display news, charts, performance reports and analyst ratings of companies.

Manufacturing

Supply chain operations also use ecommerce; usually, a few companies form a group and create an electronic exchange and facilitate purchase and sale of goods, exchange of market information, back office information like inventory control, and so on. This enables the smooth flow of raw materials and finished products among the member companies and also with other businesses.

Online Booking

This is something almost every one of us has done at some time – book hotels, holidays, airline tickets, travel insurance, etc. These bookings and reservations are made possible through an internet booking engine or IBE. It is used the maximum by aviation, tour operations and hotel industry.

Online Publishing

This refers to the digital publication of books, magazines, catalogues, and developing digital libraries.

Digital Advertising

Online advertising uses the internet to deliver promotional material to consumers;it involves a publisher, and an advertiser. The advertiser provides the ads, and the publisher integrates ads into online content. Often there are creative agencies which create the ad and even help in the placement. Different types of ads include banner ads, social media ads, search engine marketing, retargeting, pop-up ads, and so on.

Auctions

Online auctions bring together numerous people from various geographical locations and enable trading of items at negotiated prices, implemented with e-commerce technologies. It enables more people to participate in auctions. Another example of auction is bidding for seats on an airline website – window seats, and those at the front with more leg room generally get sold at a premium, depending on how much a flyer is willing to pay.

E-Commerce is all around us today, and as an entrepreneur, you should also get into this realm if you want to expand your markets, get more customers and increase your profitability.

UNIT-2

Business to Business E-Commerce

B2B ecommerce (business-to-business electronic commerce) refers to the online exchange of goods, services or information between businesses or companies. In this type of ecommerce, the transactions occur between two or more businesses rather than between a business and individual consumers (B2C ecommerce).

B2B ecommerce involves many activities such as purchasing, selling, marketing, and servicing products or services exclusively within the business. It can include many different industries and sectors, including manufacturers, wholesalers, distributors, suppliers and service providers.

Characteristics of B2B:

1. Personalizing Customer Experience

One of the defining characteristics of B2B ecommerce in 2023 is the emphasis on personalized customer experiences. B2B buyers now expect tailored interactions similar to their B2C counterparts. Advanced data analytics and AI technologies enable businesses to gather insights on customer preferences, purchase history, and browsing behavior. Leveraging this data, companies can deliver relevant product recommendations, targeted marketing campaigns, and personalized pricing structures. This personalization not only enhances customer satisfaction but also promotes higher conversion rates and long-term customer loyalty.

2. Tighter Access Control

Security is a paramount concern in B2B transactions. In 2023, characteristics of B2B ecommerce platforms are implementing stricter access controls to ensure that only authorized individuals can access sensitive business information and complete transactions. This approach enhances data protection and minimizes the risk of unauthorized access or data breaches.

3. Multichannel Integration

In 2023, B2B ecommerce is characterized by the seamless integration of multiple sales channels into a unified customer experience. B2B buyers increasingly engage with businesses across various touchpoints, including websites, mobile apps, social media, and even voice assistants. To meet these diverse expectations, companies are adopting omnichannel strategies that ensure consistent branding, product information, and pricing across all platforms. This integration enhances convenience for customers, allowing them to transition seamlessly between online and offline channels.

4. Data-Driven Decision Making

Data has become an invaluable asset in shaping B2B eCommerce strategies in 2023. Businesses are harnessing the power of data analytics to make informed decisions about inventory management, pricing strategies, demand forecasting, and customer engagement. Advanced analytics tools provide insights into trends, customer behavior, and market fluctuations, enabling businesses to optimize their operations and stay ahead of competitors. The ability to interpret and act on data has become a critical characteristic of B2B eCommerce.

5. Enhanced security and trust

With the increasing volume of online transactions, security and trust have emerged as vital characteristics of B2B eCommerce in 2023. B2B buyers handle sensitive information, including payment details and proprietary business data. To instill confidence, eCommerce platforms are implementing robust cybersecurity measures such as encryption, secure payment gateways, and two-factor authentication. Additionally, transparency in data usage and compliance with privacy regulations contribute to building trust between businesses and their customers. Let's explore advanced security practices and the commitments to trust to enhance B2B ecommerce transactions, ensuring that every interaction is secure and successful.

7. Potential Global Market

The digital landscape has made it easier for businesses to engage in global trade. The characteristics of B2B eCommerce is embracing the potential of a broader international market in 2023. With fewer geographical barriers and improved logistics, businesses can explore new markets, establish international partnerships, and tap into a more extensive customer base.

Basic Models in B2B eCommerce

1. Supplier Oriented Marketplace (eDistribution)

In this type of model, there are many buyers and few suppliers. The supplier provides a common marketplace. This market is used by both individual customers as well as businesses. For the success of this model, goodwill in the market and a group of loyal customers is very important.

2. Buyer Oriented Marketplace (eProcurement)

In this model, there are few buyers and many suppliers. The buyer has his/her own online marketplace. It then invites suppliers and manufacturers to display their products. Buyers search in electronic stores in malls and markets for similar

service providing products and compare them. So the buyer company makes it simple by opening a bidding site where a particular product is available from different sellers at different prices.

3. Intermediary Oriented Marketplace (eExchange)

In this type of model, there are many buyers and many suppliers. An intermediary company runs a marketplace where business buyers and sellers meet and do business with each other.

Procurement Management Using Buyers Internal marketplace:

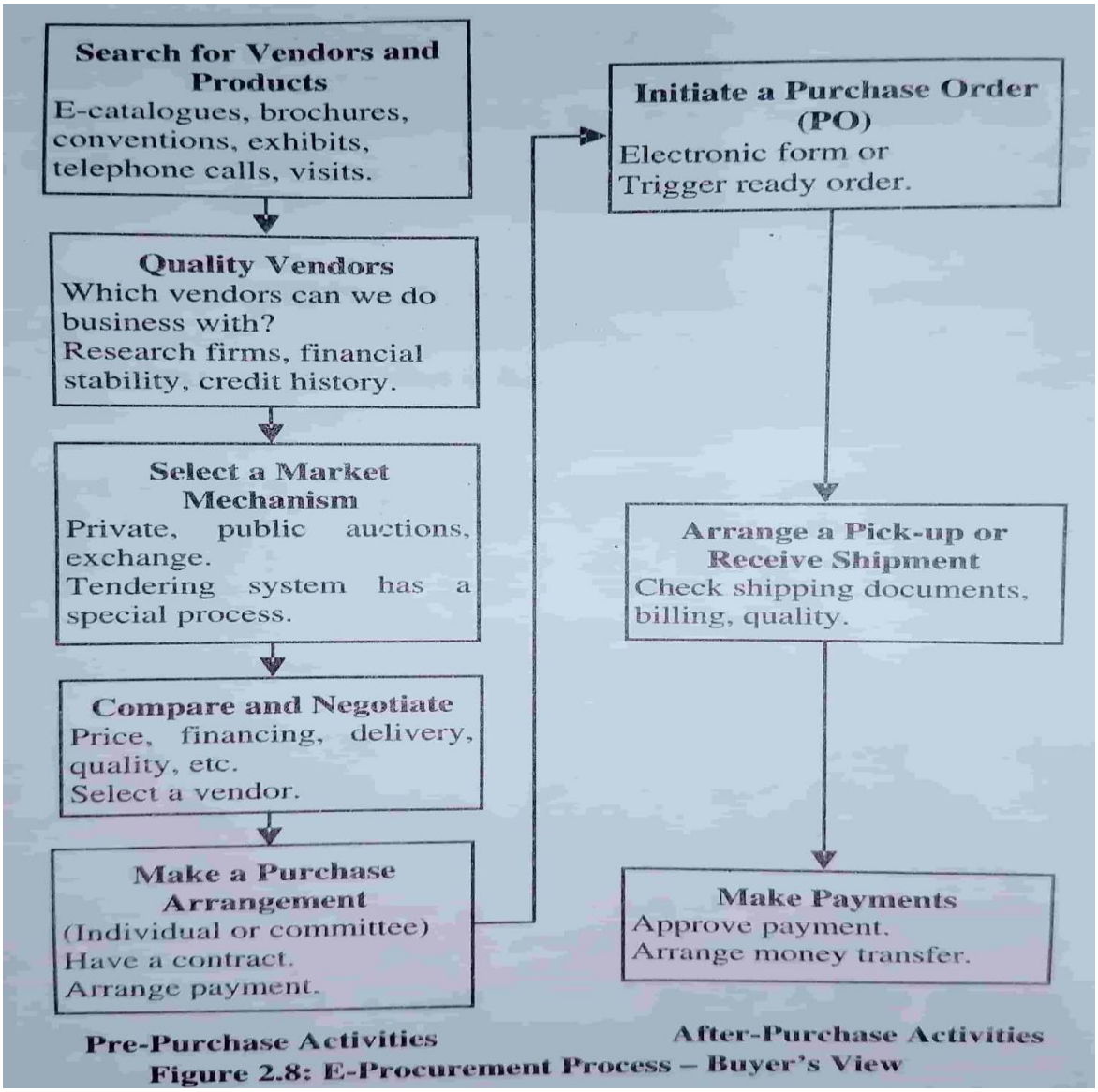

Figure 2.8: E-Procurement Process – Buyer's View

Business to Consumer (B2C):

Consumer to Consumer (C2C):

Development of B2B e-Commerce (B2C):

Difference between B2C and B2B e-Commerce:

e-Procurement:

Just In Time Delivery:

Just-in-time delivery means the process of creating goods in a ready state or completing their production so that a minimal inventory can satisfy demand and delivery can take place with immediate effect in order that consumers receive what they want precisely when they want.Just-in-time (JIT) delivery is an inventory and supply chain management strategy aiming to minimize inventory and increase efficiency. It is a process of delivering goods to business customers rather than maintaining a large inventory of items that may not be used immediately.

Just-in-time (JIT) delivery is a strategy that can lower inventory costs and waste for firms, by ordering and receiving items only when necessary. JIT delivery can boost productivity and cut down on lead times, but it necessitates close coordination between departments and with suppliers.By lowering the expense of keeping goods on hand and enabling businesses to make other investments, JIT

delivery can increase cash flow.JIT delivery necessitates vigilant demand and inventory management, as well as adaptability to changing conditions.

Integration with Backend Information:

External systems integration is a key feature of the B2B Commerce solution. In B2B Commerce business logic is enabled for integration and built-in adapters and interfaces are provided for common integration points. Additionally, the B2B Commerce integration leverages integration standards by using various IBM connectivity solutions.

B2B Commerce can integrate with:

- Customers by multiple channels
- Back-end systems within the enterprise
- Partners and suppliers

The B2Bintegration with the backend gives the ability to communicate with its external environment. This communication includes sending messages to and receiving messages from back-end systems or external systems, as well as sending notification to customers and administrators that events occur within B2B Commerce.

E-marketing in B2B :

B2B online marketing, just like regular online marketing, is a form of marketing in which online resources are used with the aim of promoting products and services. This involves collecting contact details, generating leads and selling products through online channels. As 'B2B' already indicates, B2B online marketing is aimed at companies that do business with companies. This distinction is important, since B2B oriented online marketing differs from consumer oriented online marketing (B2C). B2B online marketing consists of a wide range of activities. Which activities all apply is different for each company.

Contents of E-marketing In B2B:

B2B content marketing

Content marketing is especially important in the B2B sector. Business purchases are made less quickly than purchases made by consumers. It often takes a longer period of time before business purchases are made. Also, there are often more people involved in the purchase process and the purchases cost on average more money.

B2B SEA

Successful advertising via Google with SEA (search engine advertising) is a profession itself. Knowledge and skills of Google Adwords are important to get

the most out of it. SEA goes hand in hand with attractive landing pages. Advertising ensures that the traffic to your website is increased enormously but landing on irrelevant pages has the opposite effect on your company's reputation.

B2B SEO

When you produce content it is important to take into account search engine optimisation (SEO). Good SEO ensures that you are organically (and for free) at the top of the search results in Google. And this is important. Research has shown that 60% of visitors click on position 1-3 in Google, the remaining 40% click on lower positions.

Data driven marketing

Data driven marketing is also very important for B2B online marketing. This means that online marketing strategies are purely driven by data and not by feeling. Data tells the facts. This can sometimes (strangely) deviate from feeling but it is actually how your target group behaves on the website. Data driven marketing is a discipline that can ensure the successful execution of online marketing activities.

Electronic Data Interchange(EDI):

Electronic data interchange (EDI) is the most commonly used B2B Ecommerce technology today. It is the computer-to-computer exchange of business documents, such as purchase orders and invoices, in a standard electronic format between business partners. You can use standards such as ANSI X12, EDIFACT, or an XML-based standard such as RosettaNet in the high tech industry. There are many different types of EDI that utilize different standards.

EDI has been in use across many industries, including retail, banking, manufacturing, high-tech and services, since the 1980s and it remains a game-changer. In order to achieve the benefits of EDI, the businesses involved must aim to be as tightly integrated as possible with each other.

Twenty-first century corporations expect a network of business partners – their suppliers, their customers, their logistics providers, their banks – to function in a way that enables digital integration.

EDI is based on a set of standardized messages for the transfer of structureddata between computer applications. It can have many applications, e.g.sending test results from the pathology laboratory to the hospital ordispatching exam results from the exam boards to schools, but it isprincipally used for trade exchanges: orders, invoices, payments and themany other transactions that can be used in national and international tradeexchanges. Notable users of EDI are vehicle

assemblers, orderingcomponents for their production lines, and supermarkets (andOther multiple retailers), ordering the goods needed to restock theirshelves. EDI allows the stock control/materials management system of thecustomer to interface with the stock control/production systems of thesuppliers without the use of paper documents or the need for humanintervention.EDI is used for regular repeat transactions, it takes quite a lotof work to set up systems to send and retrieveEDI messages and, in general, it is not applicable to one-off exchanges. AlsoEDI is a formal system and it does not really have a place in the search andnegotiation phases.

EDI: The Nuts and Bolts, eJDI& Business:

Auctions and Services from Traditional to Internet Based EDI: