

eCommerce

- eCommerce websites are the digital portals (i.e. virtual storefronts) that facilitate eCommerce. Remember, eCommerce is a blanket term that includes virtually any transaction that takes place on the internet.
- Any website equipped with eCommerce functionality and allows customers to purchase a good or service is an eCommerce website.
- Historically, the earliest eCommerce transactions took place via email and phone calls.
- Nowadays, development, effective eCommerce websites are present.
- The standard definition of E-commerce is a commercial transaction which is happened over the internet. So the aim of these kind of projects is to sell products online.
- Online stores like Amazon, Flipkart, Shopify, Myntra, Ebay, Quikr, Olx are examples of E-commerce websites
- A shopkeeper wants to sell his product at minimum profit. A customer wants to buy a product at a large discount. So eCommerce is a mediator between shopkeeper and customer.
- Shopping cart is provided to the user for buying any product.
- With the help of eCommerce our lives become very easy.

Shopkeeper----->ECOMMERCE----->Us(Retail customer)

Buying and selling between buyer and seller is done with the ecommerce website.



eCommerce Websites Typically Work Like This:

1. A potential customer navigates to an eCommerce website, whether via search engines, paid advertisements, referral traffic, etc.
2. The eCommerce website connects to its database, which contains tons of data about the website's categories, products, product dimensions and weight, articles and content, images, etc. The website requests this data to dynamically render any requested web pages.
3. After browsing the eCommerce website, a potential customer adds a product or service to their virtual shopping cart and decides to check out.
4. The shopper completes the checkout process and finalizes the transaction.

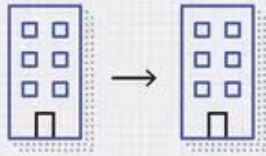
5. The shopper's credit card information is encrypted and sent to a Payment Gateway(Paypal, for example) to handle the credit card processing securely and remotely.
 6. Once the order is complete, and the payment has gone through, the website typically provides an estimated shipping time, a unique transaction number, postal tracking number, etc. Most of these processes are automated and part of a good eCommerce website's core functionality.
 7. As transactions take place, orders are stored in the website admin and sent to an order fulfillment team. Order fulfillment can be done in-house or by a third-party company/drop shipper.
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Types of Ecommerce:

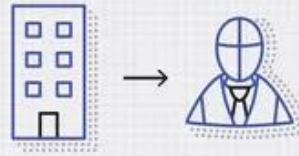
- There are main types of e-commerce: ---

business-to-business (websites such as Shopify), business-to-consumer (websites such as Amazon), and consumer-to-consumer (websites such as eBay,olx)

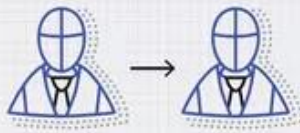
Types of E-Commerce



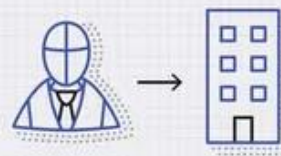
Business to business



Business to consumer



Consumer to consumer



Consumer to business

B2C – Business to consumer.

B2C businesses sell to their end-user. The B2C model is the most common business model, so there are many unique approaches under this umbrella.

Anything you buy in an online store as a consumer — think wardrobe, household supplies, entertainment — is done as part of a B2C transaction.

The decision-making process for a B2C purchase is much shorter than a business-to-business (B2B) purchase, especially for items that have a lower value.

And B2C doesn't only include products, but **services as well**.

B2B – Business to business.

In a B2B business model, a business sells its product or service to another business. Sometimes the buyer is the end user, but often the buyer resells to the consumer.

B2B transactions generally have a longer sales cycle, but higher order value and more recurring purchases.

In 2020, close to half of B2B buyers are millennials — nearly double the amount from 2012. As younger generations enter the age of making business transactions, B2B selling in the online space is becoming more important.

C2B businesses allow individuals to sell goods and services to companies.

In this ecommerce model, a site might allow customers to post the work they want to be completed and have businesses bid for the opportunity.

The C2B ecommerce model's competitive edge is in pricing for goods and services.

This approach gives consumers the power to name their price or have businesses directly compete to meet their needs.

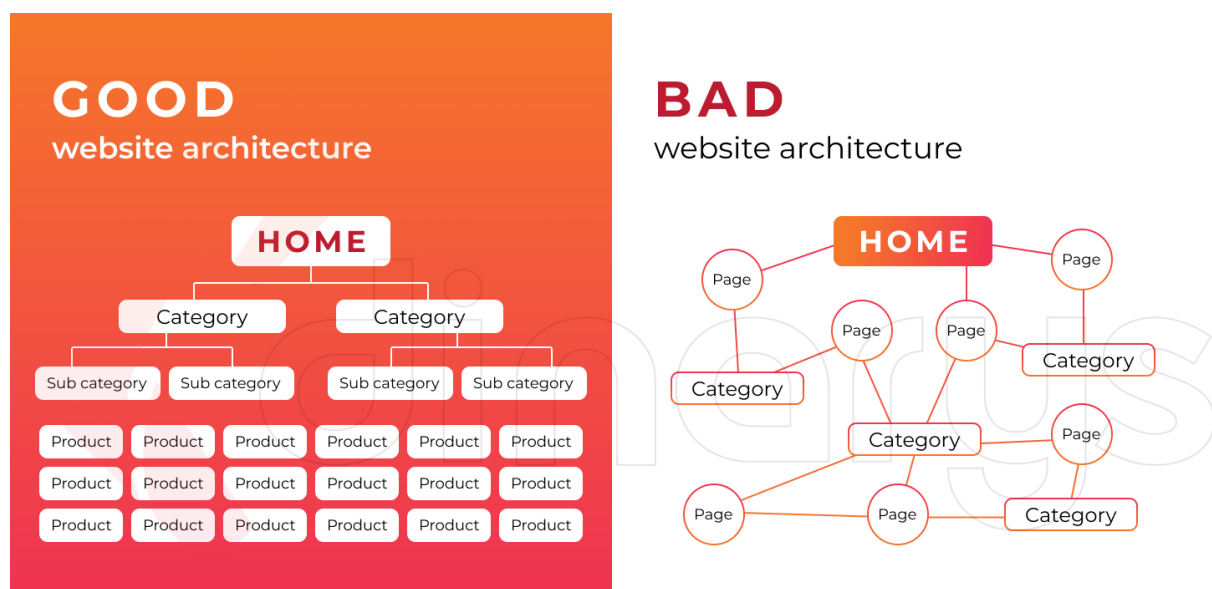
C2C – Consumer to consumer.

A C2C business — also called an online marketplace — connects consumers to exchange goods and services and typically make their money by charging transaction or listing fees.

Online businesses like Craigslist and eBay pioneered this model in the early days of the internet.

E-commerce Website Architecture:

Website architecture is the way information is laid out on a website. It includes organizing content so that users can quickly find what they are looking for.

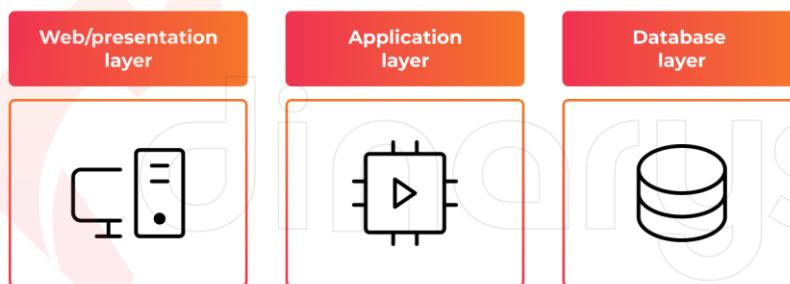


The picture above shows two e-commerce architecture diagrams. One represents a good site architecture that organizes pages into ordered structures. The second illustrates a poor site architecture consisting of disorganized, disparate pages.

Three-tier architecture

While two-tier website architecture is sufficient for many businesses, you may need three-tier e-commerce website architecture if you handle many processes and require more functionality.

Let us walk through a three tier architecture:



A three-tier architecture is a well-established software application architecture that groups applications into three logical, physical computing layers:

- The presentation layer or user interface.
- The application layer, in which data is processed.
- The data layer, where the information is related to the application.

Three-tier architecture offers greater flexibility than two-tier architecture in terms of platform configuration and deployment.

This improves data integrity and provides a higher level of security, as the client lacks direct access to the database.

The main advantage of three-tier architecture is that each layer has its own infrastructure, meaning each layer can be developed by a separate development team. Therefore, each layer can be updated and scaled as needed without affecting the other layers. For decades, three-tier architecture has been the most common architecture for e-commerce websites. Today, most three-tier architectures must be upgraded to cloud technologies, such as containers and microservices, and require cloud migration.

Challenges in Ecommerce testing:

1. Frequent updates and changes in design as designers are constantly trying new user flows
2. Daily or hourly updates and changes in products and corresponding menus
3. Numerous interfaces to 3rd party modules for payment and for other advanced functions
4. Offer sale ,design change