**<https://www.bigcommerce.com/articles/ecommerce/types-of-business-models/>**

[**https://ecommerceguide.com/top/top-10-ecommerce-sites-in-germany/**](https://ecommerceguide.com/top/top-10-ecommerce-sites-in-germany/)

[**https://ecommercenapratica.com/tipos-de-e-commerce/**](https://ecommercenapratica.com/tipos-de-e-commerce/)

[**https://www.4guysfromrolla.com/webtech/faq/Beginner/faq3.shtml**](https://www.4guysfromrolla.com/webtech/faq/Beginner/faq3.shtml)

[**https://towardsdatascience.com/web-scraping-basics-82f8b5acd45c**](https://towardsdatascience.com/web-scraping-basics-82f8b5acd45c)

[**https://github.com/smselby/Answers-to-Chapter-11/blob/master/AnswersC11**](https://github.com/smselby/Answers-to-Chapter-11/blob/master/AnswersC11)

**Ecommerce is much more than just selling online. There are different types of Ecommerce that have emerged over the years to meet market needs and specify all the particulars. This way, it is easier to differentiate the business model.**

**There are 4 main types of E-commerce:**

**1. B2C – Business to consumer.**

It sells 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.

Think about it: it’s much easier for you to decide on a new pair of tennis shoes than for your company to vet andpurchase a new email service provider or food caterer.

Because of this shorter sales cycle, B2C businesses typically spend less marketing dollars to make a sale, but also have a lower average order value and less recurring orders than their B2B counterparts.

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

B2C innovators have leveraged technology like mobile apps, native advertising and remarketing to market directly to their customers and make their lives easier in the process.

Zalando, Gorillas, Wayfair are examples of B2B.

**2. 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.

B2B innovators have made a place for themselves by replacing catalogs and order sheets with ecommerce storefronts and improved targeting in niche markets.

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.

Services like Dropbox, General Electric, Xerox and WeWork are great **examples** of modern day application of **B2B companies**.

**3. C2B – Consumer to business.**

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. Affiliate marketing services would also be considered C2B.

Elance (now [Upwork](https://www.upwork.com/" \t "_blank)) was an early innovator in this model by helping businesses hire freelancers.

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.

Recent innovators have creatively used this model to connect companies to social media influencers to market their products.

Companies such as Upwork, Fiverr, and Scripted have been made possible by freelancer’s ability to connect with potential employers and companies’ needs for fast and thorough projects. Upwork and Fiverr wouldn’t exist without the customer’s supply (freelancers’ services) and businesses’ demand.

**4. 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.

C2C businesses benefit from self-propelled growth by motivated buyers and sellers, but face a key challenge in quality control and technology maintenance.

S-Commerce

The latest Ecommerce model, S-Commerce – better known as Social Commerce – integrates the virtual store with social media. In this way, those who apply this business model are able to interact with the content offered.

This model has grown as social media platforms create direct and indirect sales capabilities.

From the consumer's point of view, the main thing is that the consumer can rate the quality of the product, service and share their vision about the company and the shopping experience.

From the company's point of view, the benefit is the reach and visibility that the business can have from a joint store and social media strategy. That's because the audience can share their content for free, expanding their voice.

**C2C business examples** include Amazon, Alibaba, and the online sites of brick-and-mortar stores such as Target and Walmart. **C2C** – Consumer-to-Consumer. Consumers sell to other consumers with the aid of an online intermediary who takes a cut.

**C2C eCommerce examples** include eBay, Amazon Marketplace, and Mercari.

* **S-Commerce**

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**Germany**

With a [population of 82.9 million](https://www.statista.com/statistics/624170/total-population-of-germany/" \t "_blank), Germany is the most populated country in Europe. With a thriving economy, e-commerce, and otherwise, it also happens to be one of the wealthiest.

In the e-commerce market, Germany ranks as the second-largest in the world, behind the UK. Against the European average, Germany is far ahead in the number of e-commerce consumers, internet penetration, and average online spending, making it a country with an excellent opportunity for e-commerce businesses looking to take some of the pie.

In numbers, the German e-commerce sector was estimated to have reached [USD 109.8 billion in 2018](https://www.export.gov/apex/article2?id=Germany-eCommerce" \t "_blank), up 10 percent from 2017. The average spend of consumers sits at around USD 867 per person, per year, and the online population is about 72.2 million.

While Germany may appear to follow standard e-commerce trends, a few elements are making this European country quite unique.

Firstly, [almost 80 percent](https://www.export.gov/article?id=Germany-eCommerce" \t "_blank) of the German population own smartphones, causing m-commerce to be on the rise. In fact, mobile e-commerce is growing faster than any other segment, estimated to have risen at a rate of 12 percent in 2018. [eMarketer predicted](https://www.emarketer.com/content/germany-ecommerce-2019" \t "_blank) that mobile purchases would account for 40 percent of digital retail sales in 2019.

1. Amazon Germany - Estimated number of monthly visitors: 578.80 million
2. E-bay Germany - Estimated number of monthly visitors: 229.32 million
3. eBay Kleinanzeigen - Estimated number of monthly visitors: 148.78 million
4. Otto - Estimated number of monthly visitors: 57.27 million
5. Idealo - Estimated number of monthly visitors: 55.70 million
6. MediaMarkt - Estimated number of monthly visitors: 33.47 million
7. Lidl - Estimated number of monthly visitors: 26.84 million
8. Zalando - Estimated number of monthly visitors: 23.96 million
9. Thoman - Estimated number of monthly visitors: 22.59 million
10. Saturn - Estimated number of monthly visitors: 20.59 million

* Briefly describe the differences between the webbrowser, requests, bs4. (hint: You can choose to elaborate your understanding visually by making diagrams).

A **web browser** (commonly referred to as a **browser**) is application software for accessing the World Wide **Web**. When a user requests a **web** page from a particular **website**, the **web browser** retrieves the necessary content from a **web** server and then displays the page on the user's device.

A **web request** is a communicative message that is transmitted between the client, or **web**browsers, to the servers. A **web request** can also be known as an **HTTP request** which is the protocol that interacts between the client and the server. A client will type in a URL address prompting the **web request** to the server.

**BS4** (Beautiful Soup 4) is a Python package for parsing **HTML** and **XML** documents. It creates a parse tree for parsed pages that can be used to extract data from **HTML**, which is useful for **web scraping**.

* How web scraping is related / not-related to Data Mining and API?

**Web scraping** refers to the process of extracting **data** from **web** sources and structuring it into a more convenient format. It does **not** involve any **data** processing or analysis. **Data mining** does **not** involve **data** extraction. In fact, **web scraping** could be used in order to create the datasets to be used in **Data Mining**.

An **API** – application programming interface – is an intermediary that allows one software to talk to another software. In more simple terms, an **API** allows the user to open up data and functionality to other developers and businesses. Both **web scraping** and **API scraping**are widely used today as data crawling methods.

Difference Between Web **Scraping** and **Data Mining**

Web **scraping** refers to the method of collecting and structuring the **data** from web sources in a more convenient format. It involves no processing or review of the **data**. **Data mining** refers to the method of analyzing large **data** sets to reveal useful information and patterns.

Today many **companies** sell things on e-commerce platforms like Amazon, eBay, BestBuy, Walmart, etc. To gather product information by manually copying and pasting data to files is an impossible mission because there are hundreds of thousands of **web** pages. This is where the data **scraping** technique comes in.

* What type of object is returned by requests.get()? How can you access the downloaded content as a string value?

Answer: The **requests**. **get**() **returns** a Response **object**, which has a text attribute that contains the downloaded content as a string.

One of the most important objects in ASP is the Response object. It is the object which communicates between the server and the output which is sent to the client. To write an ASP page, all you need to do is write a standard HTML page, putting in the Active Server Pages script where needed. Active Server Pages script is denoted by the text between <%'s and %>'s.

To send ASP to the client, you need to use the Response object. The method of the Response object which sends data to the client is the Write method. For example, if you write an HTML page which looks like:

<%@ LANGUAGE="VBSCRIPT" %>  
<HTML>  
<BODY>  
   <% Response.Write("Hello, World!") %>  
</BODY>  
</HTML>

if a user views the page with a standard browser, they will see the text, "Hello, World!" on the screen. It's as if you had just written an HTML page with the words "Hello, World!" where the <%'s the text between and the %>'s were. Of course, unlike an HTML page which is sent directly to the client, this page has passed through the server's ASP.DLL, parsing it so that instead of the client seeing <% Response.Write("Hello, World!") %>, the client merely sees "Hello, World!" Even if the user goes to View Source in their browser, they will only see the "Hello, World!" This is because the client is never sent the preprocessed ASP script.

**Extract out useful information and save it into a structured format**

**This step requires some time to understand website structure and find out where the data is stored exactly.**

**1. Brieﬂy describe the differences between the webbrowser, requests, BeautifulSoup, and selenium modules.**

Answer:

The webbrowser has an open() method that will launch a web browser to a speciﬁc URL, and that’s it.

The requests module can download ﬁles and pages from the Web. The BeautifulSoup module parses HTML.

The selenium module can launch and control a browser.

**2. What type of object is returned by requests.get()? How can you access the downloaded content as a string value?**

Answer: The requests.get() returns a Response object, which has a text attribute that contains the downloaded content as a string.

3. What Requests method checks that the download worked?

Answer: The raise\_for\_status() raises an exception if the download had problems and does nothing if the download succeeded.

**4. How can you get the HTTP status code of a Requests response?**

Answer: The status\_code attribute of the Response object contains the HTTP status code.

**5. How do you save a Requests response to a ﬁle?**

Answer: After opening the new ﬁle on your computer in 'wb' “write binary” mode, use a for loop that iterates over the Response object’s iter\_content() method to write out chunks to the ﬁle. Here’s an example:

saveFile = open('filename.html', 'wb') for chunk in res.iter\_content(100000): saveFile.write(chunk)

**6. What is the keyboard shortcut for opening a browser’s developer tools?**

Answer: F12 brings up the developer tools in Chrome. Pressing CTRL-SHIFT-C (on Windows and Linux) or z-OPTION-C (on OS X) brings up the developer tools in Firefox.

**7. How can you view (in the developer tools) the HTML of a speciﬁc element on a web page?**

Answer: Right-click the element in the page, and select Inspect Element from the menu.

**8. What is the CSS selector string that would ﬁnd the element with an id attribute of main?**

Answer: '#main'

**9. What is the CSS selector string that would ﬁnd the elements with a CSS class of highlight?**

Answer: '.highlight'

**10. What is the CSS selector string that would ﬁnd all the <div> elements inside another <div> element?**

Answer: 'div div'

**11. What is the CSS selector string that would ﬁnd the <button> element with a value attribute set to favorite?**

Answer: 'button[value="favorite"]'

**12. Say you have a Beautiful Soup Tag object stored in the variable spam for the element <div>Hello world!</div>. How could you get a string 'Hello world!' from the Tag object?**

Answer: spam.getText()

**13. How would you store all the attributes of a Beautiful Soup Tag object in a variable named linkElem?**

Answer: linkElem.attrs

**14. Running import selenium doesn’t work. How do you properly import the selenium module?**

Answer: The selenium module is imported with from selenium

import webdriver.

**15. What’s the difference between the find\_element\_\* and find\_elements\_\* methods?**

Answer: The find\_element\_\* methods return the ﬁrst matching element as a WebElement object. The find\_elements\_\* methods return a list of all matching elements as WebElement objects.

**16. What methods do Selenium’s WebElement objects have for simulating mouse clicks and keyboard keys?**

Answer: The click() and send\_keys() methods simulate mouse clicks and keyboard keys, respectively.

**17. You could call send\_keys(Keys.ENTER) on the Submit button’s WebElement object, but what is an easier way to submit a form with Selenium?**

Answer: Calling the submit() method on any element within a form submits the form.

**18. How can you simulate clicking a browser’s Forward, Back, and Refresh buttons with Selenium?**

Answer: The forward(), back(), and refresh() WebDriver object methods simulate these browser buttons.