

Financial Accounting

Commerce means the buying and selling goods on a large scale or social relations. An example of commerce is trade between two countries.

Definition of E commerce

E-Commerce or Electronics Commerce is a methodology of modern business, which addresses the requirements of business organizations. It can be broadly defined as the process of buying or selling of goods or services using an electronic medium such as the Internet.

E-commerce refers to the paperless exchange of business information using the following ways:

- ❖ Electronic Data Exchange (EDI)
- ❖ Electronic Mail (e-mail)
- ❖ Electronic Bulletin Boards
- ❖ Electronic Fund Transfer (EFT)
- ❖ Other Network-based technologies

Features

E-Commerce provides the following features:

1. **Non-Cash Payment:** E-Commerce enables the use of credit cards, debit cards, smart cards, electronic fund transfer via bank's website, and other modes of electronics payment.
2. **24x7 Service availability:** E-commerce automates the business of enterprises and the way they provide services to their customers. It is available anytime, anywhere.
3. **Advertising/Marketing:** E-commerce increases the reach of advertising of products and services of businesses. It helps in better marketing management of products/services.
4. **Improved Sales:** Using e-commerce, orders for the products can be generated anytime, anywhere without any human intervention. It gives a big boost to existing sales volumes.
5. **Support:** E-commerce provides various ways to provide pre-sales and post-sales assistance to provide better services to customers.
6. **Inventory Management:** E-commerce automates inventory management. Reports get generated instantly when required. Product inventory management becomes very efficient and easy to maintain.

7. **Communication improvement:** E-commerce provides ways for faster, efficient, reliable communication with customers and partners.

Traditional Commerce v/s E-Commerce

Traditional Commerce	E-Commerce
Heavy dependency on information exchange from person to person.	Information sharing is made easy via electronic communication channels making a little dependency on person to person information exchange.
Communication/transactions are done in synchronous way. Manual intervention is required for each communication or transaction.	Communication or transactions can be done in asynchronous way. The whole process is completely automated.
It is difficult to establish and maintain standard practices in traditional commerce.	A uniform strategy can be easily established and maintained in e-commerce.
Communications of business depends upon individual skills.	In e-commerce, there is no human intervention.
Unavailability of a uniform platform, as traditional commerce depends heavily on personal communication.	E-commerce websites provide the user a platform where all the information is available at one place.

No uniform platform for information sharing, as it depends heavily on personal communication.

E-commerce provides a universal platform to support commercial/business activities across the globe.

E-Commerce — Advantages

The advantages of e-commerce can be broadly classified into three major categories:

- ❖ Advantages to Organizations
- ❖ Advantages to Consumers
- ❖ Advantages to Society

Advantages to Organizations

- ★ Using e-commerce, organizations can expand their market to national and International markets with minimum capital investment. An organization can easily locate more customers, best suppliers, and suitable business partners across the globe.
- ★ E-commerce helps organizations to reduce the cost to create process, distribute, retrieve and manage the paper based information by digitizing the information.
- ★ E-commerce improves the brand image of the company.

- ✱ E-commerce helps organizations to provide better customer service.
- ✱ E-commerce helps to simplify the business processes and makes them faster and efficient.
- ✱ E-commerce reduces the paper work.
- ✱ E-commerce increases the productivity of organizations. It supports "pull" type supply management. In "pull" type supply management, a business process starts when a request comes from a customer and it uses just-in-time manufacturing way.

Advantages to Customers

- ❖ It provides 24x7 support. Customers can enquire about a product or service and place orders anytime, anywhere from any location.
- ❖ E-commerce application provides users with more options and quicker delivery of products.
- ❖ E-commerce application provides users with more options to compare and select the cheaper and better options.
- ❖ A customer can put review comments about a product and can see what others are buying, or see the review comments of other customers before making a final purchase.
- ❖ E-commerce provides options of virtual auctions.
- ❖ It provides readily available information. A customer can see the relevant detailed information within seconds, rather than waiting for days or weeks.
- ❖ E-Commerce increases the competition among organizations and as a result, organizations provides substantial discounts to customers.

Advantages to Society

- ❖ Customers need not travel to shop a product, thus less traffic on road and low air pollution.
- ❖ E-commerce helps in reducing the cost of products, so less affluent people can also afford the products.
- ❖ E-commerce has enabled rural areas to access services and products, which are Otherwise not available to them.
- ❖ E-commerce helps the government to deliver public services such as healthcare, education, social services at a reduced cost and in an improved manner.

E-Commerce — Disadvantages

The disadvantages of e-commerce can be broadly classified into two major categories:

- ☐ Technical disadvantages
- ☐ Non-technical disadvantages

Technical Disadvantages

- ☐ There can be lack of system security, reliability or standards owing to poor implementation of e-commerce.
- ☐ The software development industry is still evolving and keeps changing rapidly.
- ☐ In many countries, network bandwidth might cause an issue.
- ☐ Special types of web servers or other software might be required by the vendor, setting the e-commerce environment apart from network servers.
- ☐ Sometimes, it becomes difficult to integrate an e-commerce software or website with existing applications or databases.
- ☐ There could be software/hardware compatibility issues, as some e-commerce software may be incompatible with some operating system or any other component.

Non-Technical Disadvantages

- ☐ Initial cost: The cost of creating/building an e-commerce application in-house may be very high. There could be delays in launching an e-Commerce application due to mistakes, and lack of experience.
- ☐ User resistance: Users may not trust the site being an unknown faceless seller. Such mistrust makes it difficult to convince traditional users to switch from physical stores to online/virtual stores.
- ☐ Security/ Privacy: It is difficult to ensure the security or privacy on online transactions.
- ☐ Lack of touch or feel of products during online shopping is a drawback.
- ☐ E-commerce applications are still evolving and changing rapidly.
- ☐ Internet access is still not cheaper and is inconvenient to use for many potential customers, for example, those living in remote villages.

Types of E Commerce

There are six basic types of e-commerce

- Business-to-Business (B2B)
- Business-to-Consumer (B2C)
- Consumer-to-Consumer (C2C)

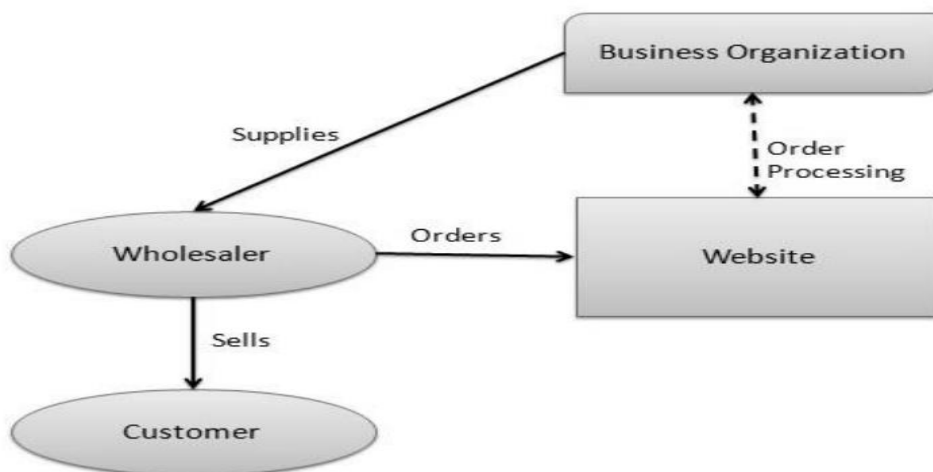
- Consumer-to-Business (C2B)
- Business-to-Administration (B2A)
- Consumer-to-Administration (C2A)

B2B and B2C are the two most prominent types of e-Commerce in the world today and they are the traditional transaction types that most people think of when they hear the word e-Commerce. Businesses are able to specialize and operate in more than one type of e-Commerce. Each recipient of the transaction has different wants, needs, and business requirements making each transaction type different from the rest.

Almost all of the listed transaction types may involve the same product or service. However, some of the differentiating factors can include price, quantity, order frequency, fulfillment method, product expectations, scale, and even barriers to enter the market. There are many factors consider when devising a business plan but understanding your target market and target audience is a great place to start.

Business-to-Business (B2B)

A website following the B2B business model sells its products to an intermediate buyer who then sells the product to the final customer. As an example, a wholesaler places an order from a company's website and after receiving the consignment, sells the end-product to the final customer who comes to buy the product at one of its retail outlets.



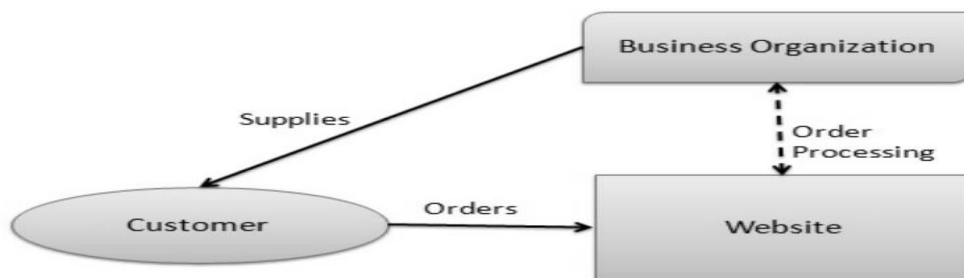
As the title suggests, a B2B transaction is where one business is selling to another business. These transactions often involve customizing an order on a rolling basis. B2B transactions can include bulk pricing, larger quantity orders, or specialty products that an average consumer would never need on a day to day basis. B2B transactions create powerful and long-lasting relationships between each side when orchestrated correctly. Typical products that are involved in B2B transactions include office supplies, gasoline and oil, medical equipment, airplanes, ships, and military equipment. These items are large in physical size or

quantities needed which would be overwhelming for an average consumer to purchase on their own.

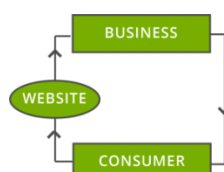
B2B transactions occur in many forms and take place globally. A popular derivative of the B2B model occurs between business and an administration of some sort (B2A). B2A transactions occur between companies and bodies of public administration such as the government. Also, the B2A model is sometimes referred to as B2G (business-to-government). As the world becomes increasingly reliant upon the internet, so have governments. Many processes are becoming optimized through digitalization and many administrations and governing bodies have implemented third-party technologies to assist in the process. In order to win business, marketing may occur targeted at decision makers within the government or authoritative body. These efforts would fall under the B2A model. Other B2A transactions include social security, employment contracting, financial measuring, and other online payment options.

Business-to-Consumer (B2C)

A website following the B2C business model sells its products directly to a customer. A customer can view the products shown on the website. The customer can choose a product and order the same. The website will then send a notification to the business organization via email and the organization will dispatch the product/goods to the customer.

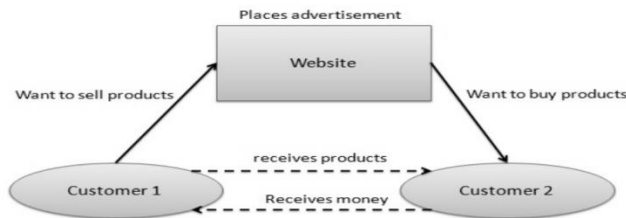


The most traditional transaction type from a consumer's point of view is the B2C model. This model mimics a purchase that made in-store at a brick and mortar location but occurs entirely online. Businesses sell goods straight to consumers through their website. The internet serves as a marketplace in itself and the eCommerce store serves as the portal between businesses and consumer shopping online. Online stores are able to list multiple products and SKUs which gives customers many options to pick and choose from during their buying experience. This allows for more options for a customer to research and find the perfect fit. Clothing, electronics, and outdoor recreational equipment are just a few of the products that effectively sold online in the B2C. The B2C transaction is not limited to products, but services are quite often distributed in this fashion as well. Businesses may offer services like financial advising, tutoring, subscription memberships, and others to grow their presence online.

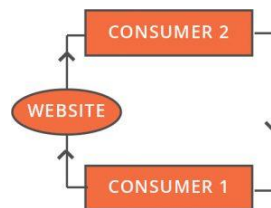


Consumer-to-Consumer (C2C)

A website following the C2C business model helps consumers to sell their assets like residential property, cars, motorcycles, etc., or rent a room by publishing their information on the website. Website may or may not charge the consumer for its services. Another consumer may opt to buy the product of the first customer by viewing the post/advertisement on the website.



With the rise of eCommerce, much innovation has taken place in many forms. The internet itself is a powerful marketplace in and of itself. Other marketplaces have come to fruition to offer consumers shopping options and pathways to obtain desired products. Platforms like eBay, Craigslist, Grailed, and even parts of Amazon allow consumers to sell to consumers. This bridge allows men and women to sell goods without setting up a personalized store. This results in fast and easy individual transactions allowing for niche items, used goods, and individual listings to be sold online.



In the C2C model, the platform itself does not own or sell any products. rather, it serves as the bridge between the consumer selling and consumer buying. They act as a third party to oversee and authorize the transaction to ensure it goes smoothly. Popular platforms became successful due to a high amount of users and traffic while offering a solution to get rid of goods with little cost and overhead. Selling an item on these sites can be as simple as opening the app or site, creating an account, listing the item, and waiting for another consumer to purchase. No additional marketing is needed which leaves more profit in the lister's pockets.

This type of model is becoming increasingly prominent with the inception of different marketplaces looking to gain a share of the market opportunity. C2C opportunities increase consumer buying power by eliminating many steps of the buying process.

Consumer-to-Business (C2B)

On the other side of the spectrum, the C2B model allows businesses to receive value from consumers when it is traditionally the other way around. Consumers are able to provide a service to businesses to augment their existing business through a reverse auction system. Consumers can act like contractors bidding on certain projects which allows them to bring value back to the business. This name your price option allows businesses to reach different parts of a community that may have been previously untapped. For example, popular bloggers can charge a fee to businesses wishing to have their item or idea listed in order to

receive exposure. The consumer is setting the price and has leverage over the transaction since they are providing the service.

Consumer-to-Administration (C2A)

This relationship allows access for consumers to receive information, make payments, and establish a direct line of communication between the government or authoritative body and the consumers it represents. Many common C2A transactions may include paying taxes, fines, inquiring about zoning codes, or paying tuition to a University. This permits consumers to conduct business instantly with large organizations that in the past may have been tedious and inefficient. Previously this sort of business was tedious and time-consuming, but operations have been vastly improved since transactions are able to be conducted over the internet. This opens up resources for both consumers and the administration to allocated more effectively.

No matter the type of model(s) your business will operate under, it is vital to understand the core functionality of your business. This internal development and insight will yield more desirable results and smoother operations. A business that is self-aware of its values and goals will facilitate the process of getting your eCommerce store up and running. This introspection will help make decision making more clear and simpler moving forward.

eCommerce is a budding industry and many people do not want to fall behind in the race. Setting up an online store is attainable but requires effort and industry knowledge to do so effectively. Planning out why you want to enter the eCommerce market and understanding your core values will make the process of setting up your store much easier in the long run. This guide will lead you through the many steps of getting your new eCommerce site up and running.

Types of Ecommerce Models

There are four main types of ecommerce models that can describe almost every transaction that takes place between consumers and businesses.

1. Business to Consumer (B2C):

When a business sells a good or service to an individual consumer (e.g. You buy a pair of shoes from an online retailer).

2. Business to Business (B2B):

When a business sells a good or service to another business (e.g. A business sells software-as-a-service for other businesses to use)

3. Consumer to Consumer (C2C):

When a consumer sells a good or service to another consumer (e.g. You sell your old furniture on eBay to another consumer).

4. Consumer to Business (C2B):

When a consumer sells their own products or services to a business or organization (e.g. An influencer offers exposure to their online audience in exchange for a fee, or a photographer licenses their photo for a business to use).

Examples of Ecommerce

Ecommerce can take on a variety of forms involving different transactional relationships between businesses and consumers, as well as different objects being exchanged as part of these transactions.

1. Retail:

The sale of a product by a business directly to a customer without any intermediary.

2. Wholesale:

The sale of products in bulk, often to a retailer that then sells them directly to consumers.

3. Dropshipping:

The sale of a product, which is manufactured and shipped to the consumer by a third party.

4. Crowdfunding:

The collection of money from consumers in advance of a product being available in order to raise the startup capital necessary to bring it to market.

5. Subscription:

The automatic recurring purchase of a product or service on a regular basis until the subscriber chooses to cancel.

6. Physical products:

Any tangible good that requires inventory to be replenished and orders to be physically shipped to customers as sales are made.

7. Digital products:

Downloadable digital goods, templates, and courses, or media that must be purchased for consumption or licensed for use.

8. Services:

A skill or set of skills provided in exchange for compensation. The service provider's time can be purchased for a fee.

Capabilities requirements

1. Real-time, customer specific pricing

Individual pricing lists need to be available to your customers across all buying channels, in real time. This means having a system that supports continual price changes at an individual SKU level that could be different for each customer accessing the system.

2. Quick order & reorder/auto-replenishment

Due to the high frequency of component ordering, your customers frequently know exactly what they want and increasingly depend on eCommerce to quickly locate and purchase the products they need. These customers need to be able to easily enter in a long list of items they want to purchase, but also to be able to bulk order items they have recently ordered.

3. Bundle and tiered pricing

Many products offered by electrical wholesalers are very low cost and often it isn't worth listing or selling products unless they are grouped into larger bundles or tiers of packs. The

B2B commerce platform therefore needs to allow the business to group and price products in a way where they can be easily marketed, merchandised and purchased.

4. Future stock availability

Visibility of overall stock and Available To Promise rules are critical in managing the supply chain. Without this, customers may decide to abandon their shopping journeys or not come back to shop at all, even though the wholesaler is about to receive stock imminently.

5. Customer self-service and administration

Corporate buyers will often have customer hierarchies for approval workflows and processes. Ensure your system has the capabilities to empower customers to build and configure their own users, cost centre hierarchy and workflow. This means they can administer the buying limits and approvals themselves, reducing administration and overall costs for you.

6. Invoice and credit reporting

B2B customers have lots of needs related to reporting on order invoicing, returns and credits. The cost to manually gather and send this data to your customers can be high. Make sure that the system automates the sending of reports and allows customers to access the data themselves.

7. Procurement integration

As digital transformation continues to occur across the electrical wholesale sector, businesses will need to provide technical integration support to their customers to be able to facilitate the use of their own procurement systems in the purchase process. Those that offer this facility earlier than their competition will capitalise on acquiring new large account customers.

8. Personalisation

The top priority of B2B retailers is to create a unique and personalised experience through innovation in technologies. Delivering tailored experiences have been shown to have a direct impact on conversion rates and customer loyalty.

9. Contextual assistance

Providing support to a customer base during their buying process is a key expectation of electrical wholesalers. Enabling your representatives to login to the same system as the customer and share the completion of their basket, giving them the same experience the customer is having, will help resolve issues much more effectively and quickly.

10. Cloud

Your focus should be on driving revenue and reducing costs, rather than producing and managing technical infrastructure. Harnessing cloud-based systems provides cost savings and flexibility to the business.

11. Catalog Management – Administer product data and supporting content (like marketing, technical and sales documents) across multiple product catalogs and complex product hierarchies. These capabilities enable content orchestration and change management, including sharing of data and assets across lines of businesses and partner sites, and handling new product introductions and product lifecycles.

12. Guided Buying/Selling – Self-service models are most effective when direction can be given to users on products that match requirements and offer relevant alternatives and add-ons. Ideally, machine-driven analytics can be applied to produce recommendations on products based on customer data and activities. Normally questionnaires with branching logic walk customers and partners through product portfolios and Web pages. [Recommendations engines](#) then showcase product substitutions, upgrades, options and different product bundles. Constraints and business rules and workflows should be easy to change as product portfolios change.

13. Product configuration – [Configurators](#) define and manage relationships, rules and constraints that drive unique combinations of components, products, options and services. These tools make differentiation manageable and scalable, by allowing customer facing staff and partners tailor solutions to the different needs of their markets, as well as enabling users in self-service environments personalize their own solutions. The administrative environments should make it easy for business practitioners to define, test/update and deploy configuration models.

14. Pricing – These tools automate processes for price setting, price administration and price execution that defend and bolster firms' pricing power. Such automation vastly improves efforts to develop, maintain, analyze and update pricing lists, policies and discounts for different channels, regions, partners or even corporate divisions. Innovation in pricing then becomes considerably easier, like with implementing attribute-based pricing, subscription-based pricing and value-based pricing.

15. Promotions and Rebates – Systematic approaches to managing any type of incentives is invaluable to marketing campaigns and channel strategies, for building awareness, demand and loyalty. Functionality should automate tasks for defining, launching and retiring promotions and rebates. Actual sales and orders need to be tracked to determine program effectiveness, while payment processes must be accurate and completely auditable.

16. Contract Management – Critical automation for accurately managing the terms and conditions that define commercial relationships, eliminating bottlenecks with closing transactions. [Such capabilities](#) also provide the basis for effectively growing subscriptions and recurring revenues, by permitting rapid access to the terms of existing business. Functionality spans authoring, updating and analysis of multiple contract types, redlining and tracking changes, approval workflows, electronic signature and support for third party contracts of counterparties.

17. Ordering and Billing – This functionality ties buying experiences and fulfillment together. Processes for generating orders must be fast, seamless and flawless. All fulfillment details must be correctly captured and conveyed to the right production and/or logistics organizations. With online sales, smooth check out processes are a must with bulletproof payment processes. In B2B commerce, relevant quoting and proposal information should flow into orders and contracts to eliminate duplicate data entry and errors, with all details validated and passed on to bills of materials (BoMs), and billing systems.

18. Renewals – In conjunction with contract management, [automated and managed renewals capabilities](#) underpin business models based on subscriptions and recurring revenues. Alerts and notifications provide advanced notice on expirations while asset-based ordering gives visibility into what has been purchased. Upselling, swaps and cross-selling can be supported

through recommendations that reference pricing updates, new product introductions, end-of-life schedules and contract pricing.

19. Usability and Mobility – User adoption is critical to any digital business. Ultimately, high quality user experiences based on popular Web design principles and intuitive access to resources will collapse learning curves, ensure the success of a system, and advance the brand of an online presence. Mobility is vital, with responsive designs for user interfaces that ensure features and data are intuitively arranged and presented within the screen real estate of any device, for any user, partner or end customers.

20. Analytics – Understanding in real time trends in buying patterns and incoming business is a significant advantage, such as demand for products, realized prices and discounting activities. [Predictive and prescriptive analytics](#) help enterprises identify, assess and take action on key indicators like sales cycle times, conversion rates, win rates, deal slippage, average transaction values and renewals. Drill-down features permit revenue teams to examine issues more closely, by region, company, channel, product, customer segment or any other dimension. It is not a question of “if” but “when” multichannel selling becomes an essential core competency for most industries, both B2B as well as B2C, in raising the competitiveness of enterprises, and boosting growth rates of revenues and profits. So begin pursuing a concerted effort at leveraging digital commerce technologies to excel at multichannel sales disciplines.

Technology Issues When Dealing With an e-Business

Launching an e-business is a good way to extend your market reach beyond the local community. It's not difficult to get your site up and running; just purchase a domain name and Web hosting space. Make sure you understand what kind of problems this sort of technology can bring.

Server Issues

When using external Web hosting, the hosting company's servers may experience downtime. When the servers are down, your site is down, and when your site is down, you can't make sales, which translates into profit loss. To reduce the risk of server issues, choose a hosting company with backup servers, and make sure it guarantees at least 99.5 percent up-time for its regular servers.

Bandwidth Issues

Most hosting companies place a limit on the amount of bandwidth your e-business can use each month. Some e-businesses start small and do not require a lot of bandwidth, but the more your e-business grows, the more bandwidth you will likely need. If you anticipate that your business may eventually exceed the bandwidth allotment, choose a host that offers the option to upgrade to a dedicated server. A dedicated server is your own server with unlimited bandwidth. Otherwise, you will have to go through the hassle of moving your entire website to another host.

Dynamic IP Address Issues

The domain name for your business is assigned a “dynamic” Internet protocol address, or IP. An IP address is a series of numbers associated with your domain name. A dynamic IP address is shared with numerous other website owners, which decreases the stability of your

e-business website. Dynamic IP addresses are always changing, which also decreases the stability of your site.

Static IP Address

To prevent a dynamic IP address problem, consider purchasing a “static” IP address, which is your own IP address -- it never changes, and is not shared. This results in more site stability. To purchase a static IP address, contact your Web hosting provider or Internet service provider. If purchasing through your ISP, request that the ISP associate the static IP address with your e-businesses domain name.

Security Issues

Hackers can break into your business website's database to steal confidential and proprietary information, along with customer data. Many customers have learned how to look for “security seals” on websites, and will not make purchases from sites that are not secure. To prevent hacks and to increase customer confidence, secure your website by purchasing a secure socket layer, or SSL, certificate. Most Web hosting companies offer SSL certificates for an additional fee.

Building business on the net

It's no longer feasible to run a business, even a brick-and-mortar one, without a web presence. Consumers turn to the internet for everything from product research to location and operating hours. Having even a simple website that's well-designed can give you an edge in your field, and if you have products to sell, your site can open up new markets and expand your business cheaply and easily.

Website design software has evolved so it's easier to use now more than ever. You don't need to know coding to develop an attractive and functional site. No matter what program you use, there are basic rules and tips that will give your website a professional look, make it easy to find, and show your company in the best light.

Here's our step-by step guide to creating a successful business website.

1. Determine the primary purpose of your website

A business website generally serves as a space to provide general information about your company or a direct platform for e-commerce. Regardless of whether you create a simple website that tells a little about your company or a more complex e-commerce site, the most important thing you must do is say, on the home page in plain terms, what your company does. Do not make customers root around to discover if your company can do what they need, warned Erin Pheil of website design company, [Followbright](#).

"Think about your specific user experience, and the journey the user will go through as they navigate your site," added Gabriel Shaoolian, CEO of website design and digital marketing agency [Blue Fountain Media](#). "Whatever the fundamental goal of your website is or whatever the focus may be, users should be easily able to achieve it, and the goal itself should be reinforced as users navigate throughout your site."

If you don't plan to accept payments through your website, you won't have as much work to do in setting it up. If you are a retailer or service provider and want to offer customers the

option to pay online, you'll need to use an external service to receive your payments, which will be discussed later in this article.

2. Decide your domain name

Your domain name is one of the most important features of your website. It's the URL you'll be sharing with your current and potential clients and promoting on social media. Therefore, you want it to be descriptive and easy to remember and type in. Try to keep it short, and steer clear of abbreviations, acronyms and numbers if possible, to avoid customer confusion.

You also need to decide your top-level domain, or TLD. This is the suffix at the end of your domain name, such as .com, .net or .biz. However, nontraditional TLD names have grown in recent years. While these can be descriptive, .com is still the default. Read our [article on choosing a nontraditional TLD](#) for more information.

Once you've selected your domain name, you'll need to confirm its availability and purchase it through a domain registrar like GoDaddy, Squarespace, Wix or Web.com. Don't forget to check copyrights to make sure you're not infringing on anyone else's protected name with your website. If your preferred URL is already taken, you can call the company and ask to buy it from them.

3. Choose a web host

Every website needs a "host," a server where all of the data is stored for the public to access at all times. As a small business, hosting your own website is simply too large an expense, so you'll need to select an external host.

Depending on your budget, you can follow two different routes. A shared web host, the least-expensive option, means you'll share a server with other sites. Dedicated hosting costs significantly more, but it means that you get your own private server and won't have to compete with other sites that could drag down your speed. For help choosing a web hosting service, visit our [buyer's guide](#).

When choosing a host, consider how well that host can answer questions about its server locations and reliability, said Jim Cowie, chief scientist at cloud-based Internet performance company [Dyn](#).

"It's good to ask, 'Can you show me how close you are to the major markets my customers are going to be in?'" said Cowie. "Any good hosting provider should have the tools to show you ... measurements of their performance," he added.

As you grow, you may find that you need to upgrade to a different web host, or even work with multiple providers to handle your website traffic and operations. Cowie advised keeping a close eye on your site performance and the experience your customers have using your website so you can determine your hosting needs. **[See Related Story: [How to Choose a Web Hosting Service](#)]**

4. Build your pages

A good website is more than a static home page. You'll want to create multiple pages dedicated to different aspects of your business, such as a detailed catalog of your products or services, or a blog section for company updates. As for your overall website, you want to be

sure each page supports the primary goal of the website, has a clear purpose and includes a call to action (e.g., learn more, sign up, contact us or buy this).

A contact page, your customers' direct link to you, is one of the most important sections of a website, so make sure you include as much information as you can (phone number, email address and physical location, if applicable). It's also a good idea to include information about the founding team or staff on an "About" page to help customers put real names and faces to your brand.

If your business doesn't already have a logo, hire a graphic designer or create a logo yourself to use on your website, business cards and social media profiles. This will help your clients identify your company quickly and easily on the web.

Justin Zalewski, a design lead at design and innovation consultancy [Studio Science](#), offered a few basic tips to help you create efficient, content-rich pages for your website:

Be clear about what your business does. Distill what your business does into a clear, concise statement and lead with that. Visitors should be able to understand what you do within seconds of landing on your home page. A few well-written pages are more effective than dozens of poorly written ones.

Place strategic calls to action. Call-to-action buttons tend to perform best when they match the information on the page. For example, a "Buy Now" button makes sense on a product page, but not on the About page. Rather a "Contact us to learn more" might be more appropriate. Likewise, a page listing customer reviews might have a button that takes the reader to the available plans and pricing.

Automate speed improvements. Set up as many automated speed improvements as you can. If you use a content management system (CMS), installing the right plugins will cache parts of your site so visitors don't need to download anything more than once. For WordPress users, Zalewski recommended WP Super Cache or W3 Total Cache, which compresses files and allows visitors to browse your site more quickly. Some of the more technical aspects of caching and compressing files may require a Web development partner if you're not particularly tech savvy.

Avoid stock photos. Cheesy stock photography is the quickest way to turn a great site into a mediocre one. If you're looking for photos to use on your page, it's best to use a picture of your actual team or office.

Pheil added that high-quality images of the products increase sales, so invest in good photos of the products or services you sell.

5. Set up your payment system (if applicable)

While this step won't apply to all business websites, companies that want to offer the option to pay online will need to integrate electronic payment systems into their websites. The easiest way to do this is through e-commerce software or [third-party payment processors](#). Many web hosts offer an in-house shopping cart or integration with e-commerce programs. Do some research to make sure you get a solution that's easy to work with and flexible enough to meet your needs now and in the future. To explore your e-commerce software options, visit [Business News Daily's best picks list](#).

6. Test and publish your website

Before announcing that your site is live on the web, make sure it works on all major browsers, like Internet Explorer, Microsoft Edge, Firefox, Safari and Chrome. Click through

each page and feature on every browser to ensure images show up, links are correct and the format looks smooth. This will take some time, but the effort you put in now will save future complaints from visitors who can't access certain features.

Another important feature to incorporate into your website from the very beginning is an analytics program. By setting this up before the website is live, you can iron out any issues and coordinate a proper setup, Shaoolian said. Once the website is live, you can monitor page performance and determine why a page is successful or unsuccessful based on your analytics.

"You can look at which of your marketing campaigns are showing the most conversions, and examine any metrics such as city, browser, etc., to shed some light on how your audience is interacting with your site," Shaoolian said. "If you ... implement this [after] the site goes live, you'll miss out on valuable data and have no way of seeing which elements of your site are successful or unsuccessful right from the start."

7. Market your website on social media/search engines

Social media, whether Facebook, Twitter, LinkedIn or Pinterest, is the best way to increase your audience reach and alert customers and clients about what's going on with your company. Whenever you update your website, post about it on your social media outlets — but balance that out with genuine, nonpromotional engagement.

Also include links to your social media on your website. The most common places are the footer or the ancillary bar (the extra menu in the top right that often holds login or contact links). Learn more about social media for business in our [marketer's guide](#).

Submitting your website to major search engines will also help direct potential leads to your page, as will deploying a strong search engine optimization (SEO) strategy across your site. Shaoolian said that defining title tags, meta-descriptions and uniform resource identifiers (URIs) that are relevant to your company and aspects of your industry will help ensure that you rank correctly in search engines for the products or services that you're trying to market.

"Building relevant keywords into your content from the very first phases of your website, and having a strong focus on SEO from website launch, will help you generate traffic early on," he said.

8. Maintain your site

Staying relevant is important, so update your website frequently with blog posts on current industry events, new products and offers, and company news to keep visitors coming back to the site.

You should also check at least monthly to ensure your software and all add-ons are up to date. Pheil said that if your software is not up to date, it's in danger of being hacked, even if the website host's security is strong. If you don't have time to do this yourself, delegate the task to a trusted employee or hire a freelance website manager.

Starting a website for your business is a low-cost investment that will help you to both establish credibility and reach a wider customer base than you ever could through traditional marketing techniques. If you keep your website updated with fresh, current content and are

quick to address technical issues, you'll never have to worry about "not existing" to your current and future clients.

Concepts of on line Catalogues, Shopping carts, Checkout pages

What is an electronic catalogue?

An electronic catalogue is an online publication, that is to say a graphic interface -generally an html page in which the products and services offered by a company are showed. Digital catalogues can store great quantities of items, which can be organized and classified into different categories for users to search in a more rapid and effective way.

There are different types of catalogues according to their functions. The simplest catalogues show only descriptions of the products and price lists, and do not enjoy a purchase and payment online method. Others have shopping carts, order forms and offer payment methods. The amount of functions an online catalogue has will determine the price of its development.

The main aims of e-catalogues are to advertise, to sell, to distribute, and to draw the customer's attention. They are the digital representation of a company and a powerful e-commerce tool. In the e-commerce world we find business-consumer transactions and business to business transactions. In this way, e-catalogues are excellent communication tools between a company and its client, suppliers or other companies. For all these reasons, catalogues became a marketing tool used everyday by different types of organizations.

There are different types of electronic catalogues according to the way they appear on the Internet. Retailer's e-catalogues are generally independent pages on the Internet, and their aim is to promote and sell products and services. But, big companies generally include their e-catalogues on their general websites. Generally, they are not used as tools for selling but as means to promote products and services and to draw the customer's attention. There are also malls, that is to say e-catalogue groups –ebay.com for example. In this case, an Internet provider gathers different companies' digital publications, showing a great number of offers made by the users.

Advantages

E-catalogues bring many advantages to different companies. Here we show them to you for you to consider catalogues as a promotion tool for your company:

- **Low costs:**
Unlike conventional catalogues, these e-catalogues allow you to save money, since you will not need to spend on paper and printing. For this reason, they are perfect for small and medium-sized companies, which will have, with them, the possibility of getting into the world market.
- **Market expansion**
Thanks to the possibilities that the Internet provides, people around the world will be able to gain access to your online catalogues any time. With these catalogues, different companies gain new customers, providing a faster and more comfortable service to consumers. By using these catalogues, users will be able to search for products and services, place orders, make payments by credit cards or payment portals, and clear up their doubts. In this way, sales increase considerably.
- **Interaction**
Unlike printed catalogues, digital catalogues allow a direct relationship between the company and its clients. With an e-catalogue, a company can inform about its products and services to

its clients, who will contact the company's representatives to clear up their doubts, to make comments or suggestions. Because of this, company will be permanently updated about the fluctuating necessities of their target.

- **Information for customers**

With these catalogues, each company will be able to provide information on the products and services it offers and links to other websites for customer to get complementary information on the subjects the company's website leads with.

- **Regular update**

E-catalogues content is stored on a server to which navigators from all over the world have access. They can be updated from the server in a regular, fast and easy way. What is more, the changes made are immediately available for customers to see. In this way, catalogues show the latest about new products, prices, points of sale, new technology incorporations, etc.

What is a shopping cart?

Definition: A shopping cart on an online retailer's site is a piece of software that facilitates the purchase of a product or service. It accepts the customer's payment and organizes the distribution of that information to the merchant, [payment processor](#) and other parties.

Why shopping carts are important

Shopping carts bridge the gap between shopping and buying, so having the [best shopping cart software](#) is extremely important on your website.

It's likely that those just starting out in the market may be unfamiliar with the concept. Most people, especially those in the ecommerce industry, have likely made a purchase online at some point in their lives. That said, most consumers don't fully realize the need and capability that shopping carts have (besides [leading a customer to checkout](#)). A cart typically has three common aspects:

It stores product information

It's a gateway for order, catalog and customer management

It renders product data, categories and site information for user display

Another way to look at things is as follows: The online shopping cart is similar to the tangible ones we use at the supermarket, but it wears many more hats. It's also the shelves, the building, [the clearance sign](#), the cash register and often the credit card machine relaying information back to the bank.

What options are there?

For those seriously [considering the ecommerce platform route](#), it's important to know that there are two basic types of carts:

Hosted shopping carts: A third-party firm "hosts" the solution and is responsible for server backups, maintenance and upgrades. The beauty of a hosted solution is that hosting comes free, which means it doesn't cost anything for the third party to keep your site functional on the Web. The main drawback with hosted solutions is that customers will be directed to another domain for payment processing.

Licensed shopping carts: This type of solution allows business owners to build their own type of cart and customize it to their specific needs. There is much greater flexibility in changing features and functionality, as well as in adding third-party tools if need be. However, the

upfront costs are often higher and require more hands-on expertise for troubleshooting issues and technical support.

Hosted solutions are often recommended for those who are beginning their own venture because they require less technical expertise. That's not to say all new online retail store owners aren't adept in IT, but a hosted solution may free up time to focus on other aspects of operations. There are numerous providers of shopping cart software on the market today, and companies must first evaluate their individual needs before making a final decision on which solution is best for them.

What is a Checkout Page?

A checkout page refers to any website pages shown to a customer during the step-by-step checkout process. Think of a checkout pages as the online version of a physical checkout counter in a grocery store. Checkout pages come in two types: one-page checkout and multi-page checkout.

One-page Checkout vs. Multi-page Checkout

As the terms imply, checkout pages can be built as single-page solutions or as step-by-step processes. Although the one-page checkout option is rapidly gaining popularity among online retailers due to its perceived benefits of being faster and more user-friendly, various case studies demonstrate that conversion-optimized multi-page checkouts can be just as effective, and both options have their pros and cons.

One-page Checkout: Pros

- **It's faster.** Despite the fact that the number of form fields to fill are pretty much the same between single-page and multi-page checkouts, it still takes less time to complete the one-page checkout because shoppers don't need to wait for the multiple pages to load or refresh.
- **It has a psychological advantage.** The fact that shoppers can see exactly how far along the process they are, and how many steps they have left to complete the purchase, acts like a psychological booster motivating them to finish what they've started.
- **It has no navigation.** Since all the fields are on the same page, customers don't need to navigate between different pages if they want to edit or change the information they entered. It eliminates the possibility of shoppers dropping off if they need to re-enter the same details every time they go back in the browser.

One-page Checkout: Cons

- **It's a nightmare to design.** Depending on the amount of data you're trying to gather, one-page checkouts can be difficult to design. When crammed into one page, the number of forms and fields required can cause the layout design to look cluttered and off-putting, which would most likely lead to [shopping cart abandonment](#).

Multi-page Checkout: Pros

- **It's easier to collect data.** By splitting your checkout process into multiple steps, you have a better chance of capturing customer data even if they abandon the cart at a later stage. For example, if you ask for the shopper's email address first and they end up abandoning the checkout after proceeding to the next step, you still have their email address and can follow up with an [abandoned cart email](#).
- **It's simpler to design.** When you spread the forms across several pages, it is much easier to create a clean, minimalistic layout design, which also gives the impression of the checkout process being simple and fast.

Multi-page Checkout: Cons

- **It can be disheartening.** If the checkout progress bar is showing four more steps to go until the order is complete after the initial page, a customer might find the process too long and tedious and abandon the purchase altogether.

Choosing between the two options will ultimately boil down to the type of business you're running and your customer base. The important thing to remember is that selecting the type of checkout page is just the first step, next, you should look at ways to optimize it.

Tips to Optimize an Online Checkout Page

Before you start changing anything on your checkout page, ensure you have a crisp understanding of all the problems that need to be addressed. Going at this blindly might do more harm than good. Make use of Google Analytics, heatmaps, and [A/B testing](#) to determine friction and drop off points and implement relevant changes to improve the [conversion rate](#). A few reliable tactics you can try are:

1. **Skip the mandatory registration:** more and more users expect to have the guest checkout option when they proceed to the payment page. You can also offer the option to log in via social networks or Gmail or ask them to register on the thank you page if you're trying to collect more data, but be sure to remove the registration barrier in order to [increase conversions](#).
2. **Offer multiple payment options:** it's a good idea to display payment options as early as the product page to avoid causing frustration later in the process. The wider the choice of different [payment gateways](#), the more chances are your customers will complete their journey.
3. **Help buyers feel more secure:** minimizing the risks involved in online shopping will help your customers follow through with their purchase. You can do that by adding security seals and payment logos as well as offering a money-back guarantee or free refunds option.
4. **Add 'save the cart' option:** allowing your buyers to quickly and easily resume their shopping by providing the option to save the entire cart or individual product for later will increase the odds of them returning to complete the order.
5. **Offer free or cheap shipping:** with the Amazon Prime on the rise, buyers are starting to take free shipping for granted. High shipping charges is one of the main cart abandonment reasons, so it's best to be transparent about them upfront or, when possible, remove the additional fees entirely.

Payment and Order Processing, Authorization, Chargeback and other payment methods - Security issues and payment gateways

What is Online Payment?

Online payment is when the customer or buyer makes his payment transactions for the goods or services purchased with the use of the Internet – to be online. “This type of payment lowers the costs for businesses as the more payments made electronically (online or offline) the less they spend for paper and postage. Also, it helps on improving customer retention as he is more likely to return to the same e-commerce site where his or her information has already been entered and stored.” [1]. With online payment, it is not necessary for the payer to be in a long queue as payment is made in just a click of a mouse. Additionally for example, almost all the banks have an online bill payment service where it is offered free of charge and is available all days of the week or 24/7 shall I say.

Nevertheless, the issue on security is a crucial element to the implementation as well as acceptance of payment both for sellers or merchants (fraud) and buyers or customers (privacy or identity theft). I will go into details about this topic in chapter 5 of this paper.

2. Online Payment Methods

For the purchases done online most likely he will also make his payments online. In this section, you will find the different methods on making online payments.

2.1. Credit Cards. This has been the dominant form of online payments when purchasing online. However, many people still resist the appeal and simplicity of credit-card transactions due to security concerns. Until now there are a high risk for stolen cards, identity theft thus customers fear credit-card fraud by merchants and other parties. Yet, there are some credit card issuers who have features that provide online fraud protection.

2.2. Virtual Credit Cards. This virtual credit card is an innovation in online credit cards. Credit card issuer provides a special number that can be used in place of the regular credit card number to make online purchases. This allows the user to use a credit card online without disclosing the actual number. Additionally, the user gives a transaction number instead of the credit card number – example is *Private Payment* by American Express.

2.3. Debit Cards. With the debit card, the money for a purchased item comes directly out of the holder's checking account. The actual transfer of funds from the holder's account to the merchant's takes place within 1 or 2 days

2.4. Smart Cards. This card looks like any plastic payment card but it has a microchip embedded on its face. This can hold more information than ordinary credit cards with magnetic strips. Rather than holding only card's information, it can also hold information for such as health care, transportation, identification and banking, and others. This enables information for different purposes to be stored in one location. The smart card can be used to make purchases over the Internet with the use of a card reader to read the card details necessary for

payment and secure sending of data over the Internet

2.5. e-Checks. An e-Check is an electronic version or representation of a paper check. It contains the same information as a paper check and based on the same legal framework. It works the same as the paper check however they are faster, cheaper and more secure [2]. To pay by e-check, an account number is keyed in and together with the bank's routing number. The vendor authorizes payment through the customer's bank, which then either initiates an electronic funds transfer (EFT) or prints a check and mails it to the vendor

2.6. Digital Cash. Digital cash is an example of a digital currency, where it allows people who do not have credit card to shop online. It is similar to a traditional bank account: consumers deposit money into their digital cash accounts to be used in the purchase online. This is often used with other technology such as digital wallets

2.7. e-Wallets. An e-wallet is a software component that a user downloads to their desktop and in which the user stores credit card numbers and other personal information. When a user shops at a merchant who accepts e-wallet, the user clicks the e-wallet and the forms are automatically filled in with all the necessary information in just one click. Credit card companies such as Visa and MasterCard also offer this e-wallet

2.8. Peer-to-Peer Payments. P2P payments are one of the fastest-growing online payment schemes as they enable the transfer of funds between two individuals.

PayPal is one of the first companies to offer this service. A user will open an account with the username, password and also an e-mail address as well as the payment card or bank account number. Then the user adds funds to their account and once account has been funded, the money can be sent to the recipient who also has an account at PayPal, for instance. The e-mail that is sent to the recipient contains a link back to the service's (PayPal) website and can transfer the money from the PayPal account to their credit card or bank account.

2.9. e-Billing. E-Billing is also called *electronic bill presentment and payment (EBPP)*. This enables the presentment, payment and posting of bills via the Internet. Presentment means taking the information that is typically printed on a bill and hosting it on a bill-presentment web server. Once the bill is available, the customer can view it with the browser, review and then pay online. When the payment is received, it is posted into the biller's account receivable system and the payment is transferred from the customer's account. It is said that online payments are expected to grow to more than 15% of 19 billion bills by 2011. [3]

3. Online Payment Process

In discussing the online payment process, I took the example of a credit card transaction as this is most commonly use when making payments for the purchases made online.

3.1 Online Credit Card Payment Process [4]

In the processing of a credit card payment, there are several entities that play important roles to make the online payment possible. For the payment to be successful, merchants must connect to a network of banks (both acquiring and issuing banks),

processors, and other financial institutions so that the information provided by the customer can be routed securely.

1. Cardholder – the individual or the entity or simply the customer that uses his credit card to pay the purchases made online.

2. Issuing Bank – the financial institution that issues a credit card to the cardholder. The issuing bank establishes and verifies the cardholders' credit line to see if he has available credit to purchase a product/service and it provides the cardholder with the monthly billing statements, etc.

3. Credit Card Issuer/Association – a financial institution that provides credit cards and other products for banks who privately brand the products such as Visa International or MasterCard International. Also they often set up programs for merchants to accept the cards. Also they are involved in operating and managing the authorization and settlement systems worldwide.

4. Merchant – the entity or an individual that is selling products/goods or services. Goods can be either hard goods (tangibles) such as apparel, computer hardware any kinds of goods that is possible to sell over the Internet or soft goods (intangibles) such as service contracts or pay-per-view content.

5. Acquiring Bank – an entity that is often referred to as the merchant bank or acquirer. It is the financial institution that enables merchants to accept credit card payments. The acquiring bank often works with the third-party processor to accept or decline the cardholder's credit card purchase or request, deposits funds into the merchant's bank account, provides the merchant with the periodic deposit statements, etc.

6. Payment Application – the application that is used by the merchant to request credit card authorization and settlement of funds between the merchant and the acquiring bank. This application can either be self-managed application or can be an outsourced service.

7. Third-party Processor – also known as payment processing networks, frontend processors, or just processors, the organization that works with an acquiring bank (merchant bank) to process credit card transactions via the card issuers/associations. The third-party processor communicates to the card associations/issuers to obtain authorizations and execute fund transfers. In some cases, the acquiring bank and the third-party processor may be the same entity

.

8. Independent sales organization (ISO) – an independent agent that solicits prospective merchants for merchant banks, ISOs are also referred to as merchant account providers. ISOs assist merchants in setting up merchant accounts and ensure that the accounts connect to the third-party processors. ISOs may either assume partial or shared financial liability for merchant activity.

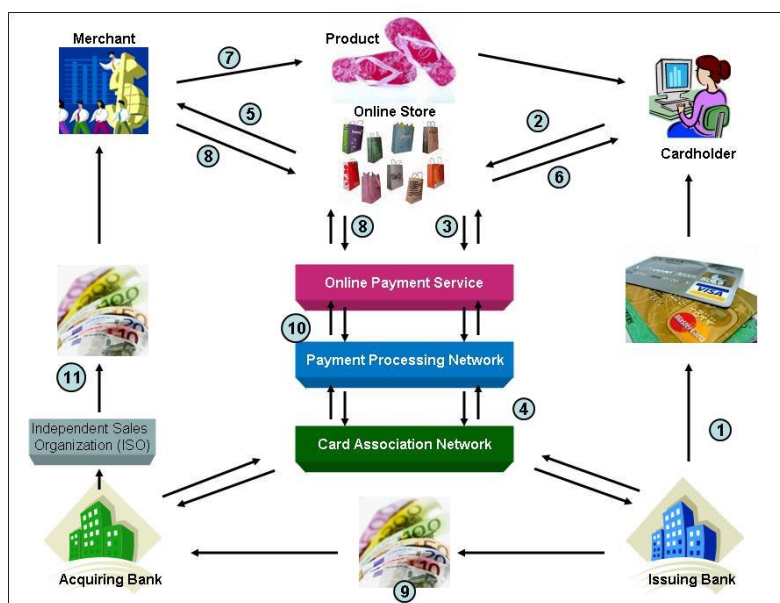
When using the credit card for online payment, merchant's account must be in place with the acquiring bank or with the third party service. As soon as the customer makes a purchase online and pays using his credit card, he is required to submit his credit card information which is then sent securely over the Internet to the merchant's. Below is an illustration (see Figure.1) on how is the process going on when a transaction of purchasing and payment (thru credit card) is made online as well as the step-by-step

process explanation of the figure. Nevertheless, please take note that this is a simple and generic online transaction processing, authorization and settlement where potential steps can be added into it

1. Card issued: The customer has a credit card with him issued by the issuing bank with the credit limit and an available balance.

2. Buy button: The customer visits a web site or the online shop using standard web browser and start shopping and add the product(s) into his shopping cart. Upon

checkout, he is required to submit his credit card information, expiration date, billing address. After which, he also selects the method of shipping for example and then click on the submit button to initiate the transaction. The information is then transmitted to the merchant's online shop where the outsourced payment service is setup. The outsourced payment service receives the encrypted information from the online shop, perform a fraud check, and then initiate the process of communicating the billing information and purchase amount to the third-party processor.



3. Authorization request: The outsourced payment service encrypts the purchase information or data and transmits it to the third-party processor, who will forward the information or data further to the card association or card issuer for authorization and verification.

4. Authorization response: The issuing financial institution verifies the credit card information and determines whether the customer has sufficient credit available to pay for the purchase. An authorization number is generated and the available credit is reduced by the authorized amount. If it so happen that the credit card information is not correct or if there is not enough available credit, then a message declining the transaction is generated.

During this short span of time, the issuing bank also performs other operations such as address verification service (AVS), where the billing information entered online is compared to the entry in the issuing bank's database – this is the

authentication part. After which, an authorization message is returned to the card association and forwarded to the third-party processor.

5. Merchant notification: The third-party processor receives the authorization message and other pertinent information from the card association or issuer and initiates the process of communicating the authorization message to the merchant. The third-party processor encrypts the authorization message and transmits the encrypted information to the merchant's secure commerce server.

6. Shopper notification: The merchant's server receives the information and is programmed to send immediately the purchase approval or decline message to the cardholder/customer. Normally when the credit card was declined, some pertinent information like a suggestion to check for the accuracy of the information provided or to use a different credit card is sent. As soon as the customer receives this information for example approved transaction he at the same time receives a confirmation number.

It takes only a few seconds end-to-end from the moment that the customer hit the buy button until he receives the authorization message back. The authorization process usually takes a few seconds, depending on the merchant's payment application and procedures as well as Internet traffic and other factors.

7. Fulfillment: The merchant begins the process of fulfilling the customer's order with the appropriate product/service.

8. Settlement request: The merchant compiles a batch of orders that have been fulfilled and begins the process of transmitting batch to the third-party processor for the settlement. The merchant first transmit the batch to his payment service that encrypts the purchase information and transmits the encrypted information to the third-party processor. The third-party processor receives this information and sends the settlement instructions to the appropriated financial institution to transfer the ticket amount from the cardholder's account to the merchant's account.

9. Settlement: For each credit card transaction in the batch, the appropriated financial institution is debited and the cardholder's credit card statement is updated.

The acquiring bank receives the funds and makes a deposit into the merchant's bank account.

10. Settlement response: The merchant receives the notification that the funds have been deposited into his bank account. On a periodic basis, the merchant receives reports that he can use to reconcile with his batch settlement requests with his deposit activity.

11. Funds available: The interval between the merchant's issuance of a settlement request, funds transfer and funds availability can take up to several days, depending on the issuing bank, the acquiring bank and the third-party processor. The settlement cycle time is actually affected by the acquiring bank's holding period on deposits, as well as other procedures and policies established by the acquiring banks and third-party processors.

3.2 Some of the Online Credit Card Transaction Enablers [2]

In this section, I will be presenting some of the online payment enablers that are commonly used by merchants to enable the acceptance of payments online particularly for the online credit card transactions. There are a lot more of them but I will only discuss a few of them. These companies established business relationships with the financial institutions to accept online credit card payment for their merchant clients.

1. PayPal. *“Arising from the popularity of eBay online auctions, PayPal (www.paypal.com) has quickly become dominant in online transaction processing”* according to Pan-Western E-Business Team [9]. Many people still think of PayPal primarily as the service to use to pay for items they buy on eBay. PayPal originally started as a peer-to-peer money transfer system for eBay auctions, but has also expanded as a third payment processor for any website. Two of their main gateway products that they offer are **Payflow Pro** and **Payflow Link**

2. Google Checkout™. Google has an online payment processing service particularly for credit card transactions. The difference between PayPal is that the scope of Google Checkout™ is focused on enabling one-time payments to be made from a purchaser to a merchant

3. Authorize.Net. Like any other payment gateways Authorize.Net handles online payment transactions for credit card and electronic payment processing between the merchants and financial processing networks. These three vendors are almost the same in a way that they connect the merchants' website to the back end processing systems of the credit card issuer. Only they differ in the charging policy such as monthly fee and transactions fee that has been regulated differently.

4. Security in Online Payment

Security is vital when doing business be it online or offline. If I compare the traditional transaction using a credit card, what the merchant need is the signature of the cardholder and sometimes the photo on the credit card is also use to verify the identity of the customer. In the virtual world, information needed are the credit card number, the verification code and the billing address to verify the identity of the cardholder and fraudulent transactions are always around.

Common challenges that the merchants have to face are Internet fraud, product returns, non-delivery claims, disputes that leads to chargebacks and etc. As regard to the customers are stolen cards, theft identity and so on. Most people think that the customers are most in danger of being defrauded, however the truth is that merchants are more often the targets of fraud and they are at the same time held liable for these fraudulent transactions [4]. Therefore, a well devised security system can address these security issues that are very crucial to the online payment acceptance. VISA for example, has developed a list of “best practices” to be used by the merchants when conducting creditcard transactions. This list includes implementing a firewall, using encryption, anti-virus software and the incorporation of intercompany security practices and the protocols are also mandatory [3] which I will discuss in the next topic.

4.1 Standard Security Protocol.

SSL and SET technologies are used for data security where data are encrypted and digitally signed before transmission over the Internet. **Secure Socket Layer (SSL)** and **Secure Electronic Transaction™ (SET™)** are the standard security protocols that protect the integrity of these online transactions. **SSL** was developed by Netscape Communications, a nonproprietary protocol used to secure communication in the Internet and the Web. This SSL is built into many web browsers including Netscape Communicator, Microsoft Internet Explorer and numerous other software products. SSL uses public-key technology and digital certificates to authenticate the server in a transaction and to protect the private information and transmit the data over the Internet with integrity [2]. However, in the case of online credit card transactions for example, there are more to make than just encrypting the credit card information upon transmission to the merchant – such as checking the validity of the card, the authorization of the card, etc. **SET™** is a cryptographic protocol which was developed by Visa International and MasterCard International was designed specifically to protect and handle the complete online transactions both for the customers and the merchants. SET uses the digital certificates to authenticate each party in a transaction. Additionally, it requires special SET software to process transactions. With this protocol, the merchant never sees the customer's information like the credit card information as it is not stored on his server which reduces the risk of fraud.

Moreover, you will know that you are transacting safely or when the website is running on a secure server when you see the **lock** icon found in the status bar of your browser and also in the URL in the address bar has the prefix '**https**' instead of 'http', see

4.2 Fraud Rate

In the graph below (Fig. 2) it shows how the online payment fraud is still a significant problem for many e-businesses. According to CyberSource® Annual Online Fraud Report – 2008 Edition, “Over the past few years the percent of online revenues lost to payment fraud has been slowly declining from 1.8% in 2004 to 1.4% this year. However, total losses from online payment fraud in the U.S. and Canada have steadily increased during this time as eCommerce has continued to grow 20% or more each year (U.S. Census Bureau Retail E-Commerce Sales reports, Shop.org & Forrester Research). In 2007, we estimate that \$3.6 billion in online revenues will be lost to online fraud — up from \$3.1 billion in

4.3 Fraud Protection

As mentioned earlier, merchants are held liable for fraudulent transactions that lead to chargebacks. Some companies have a feature where transactions are monitored by how many times the credit card for example is being used within a day, where if the transaction is suspected, the merchant can reject the request. The credit card issuers had also established a solution to make the online payment transaction more secure. These are “*Verified by Visa®*” program of Visa Inc. and “*SecureCode®*” program by Mastercard which are used during the authentication process that protects both the cardholders as well as the merchants' liability against fraudulent credit card transactions. In MasterCard SecureCode® [6], every time the cardholder pays online through the merchant's website, he will automatically be prompted to enter the unique and private code called the SecureCode that was issued and registered with his issuing bank as part of the authentication process of the transaction made before confirming that the purchase transaction is completed.

In Verified by Visa® [7], it uses the same system in authenticating the cardholder's transaction. The cardholder activates his visa card online directly with Visa Inc. or with his issuing bank's website. During activation process, the cardholder has to create a unique password which shall be used together with the credit card number when making a purchase online. Another way also is the use of the "3-Digit Security Code" by Visa Inc. as below:

Furthermore, there had been suggestions on how online merchants can prevent fraud in general (see points below) [9] or avoid chargeback problem such as subscribing to services like ChargebackPrevention.com and the like [8].

- _ Understand what existing technical measures are already in place to reduce fraud by your payment gateway.
- _ Retain and require documentation for every stage of the sale
- _ Respond to your customers in a timely fashion.
- _ Require human intervention for suspicious orders, such as international orders, mailing addresses with PO boxes, and orders over a certain amount of money
- _ Consider using a shipper that can provide you with a signature for proof of delivery
- _ Find out if your payment processor provides some sort of seller fraud protection, and follow their guidelines

Online Payment Process Work in eCommerce

Once you set up your new online store in place, the very next step for you is to think about how to receive the payments from your customers online. Having a seamless and easy to process payment method helps you improve your conversion ratio.

To understand how this process of online payment works in eCommerce, let's take a look at the different components that make this online transaction of money possible.

There are two things that you need to complete an online payment process successfully:

Merchant Account
Payment Gateway

What Is A Merchant Account

A merchant account is a type of bank account which can accept payments via credit cards, debit cards, net banking, third-party payment applications, etc. You or your company sign a contract with a bank to open a merchant account for your online business so that all payments derived from online sales are directly transferred to your business bank account.

For this purpose, the bank asks you to fill out an application with all the details regarding your business which includes what products/services you sell online, to whom do you sell, different currencies in which you accept payments, estimated sales you would be making in a time period, etc.

Once the application gets approved by the bank, your business would be assigned a unique ID (merchant ID) along with your business bank account.

You also need to understand that there are different types of charges that are imposed by these banks, such as monthly charges, transaction fee, etc, on such merchant accounts. Having an understanding of these banking charges will help you to make sure you don't make losses at the end of an online sale.

What Is a Payment Gateway?

A payment gateway is software that is required to connect your merchant account to your online store. It's responsible for taking details from the online buyers regarding their payment mode, like credit/debit card details, net banking details etc, It is also responsible to process that payment so that it reaches to your bank account safely and securely.

A payment gateway is of two types – direct and redirected. In a direct way, the buyer/customer doesn't leave the eCommerce website to make the payment. In a redirected way, the buyer/customer is redirected to the payment gateway to make the payment and is redirected back to the eCommerce store once the payment is done.

Here are the steps involved in the process of making online payments successfully:

The customer/online buyer shares their card details with the payment gateway.

Payment gateway then verifies the details with the associated bank and then encrypts the details.

After the verification, the payment gateway processes the payment which is transferred to the merchant's bank account with the help of unique merchant ID.

As a result, the payment reaches to the online seller/merchant.

UNIT 5

What is a Trial Balance Report? Types, Usage, Examples

For companies and businesses, accountability of finances and assets is mandatory for the smooth running of all programs. Companies need to record transactions in journal ledgers and in the [general ledger](#), with the trial balance key in the preparation of financial statements like the [income statement](#).

What is a trial balance report?

This is a financial document prepared at the end of every financial year. It shows the debits and credits of a given business for a certain financial period. In a trial balance, amounts on both the debit side and credit side must balance. Unbalanced debit and credit columns simply denote an error in the accounting systems of that company or business.

Every company that keeps track of its financial records will have to prepare a trial balance report at the end of its financial year.

Trial Balance Format

The trial balance item list shows you what should be included as part of the trial balance worksheet. However, the format generally has four columns that appear in this order:

- account number
- account name (description)
- debit balance
- credit balance

Totals under the debit and credit balances are indicated at the bottom of the worksheet.

Where you record the account balance- whether on either debit or credit side – depends on the type of account. Read the section below to find out where or what balances go to the debit and credit side.

Trial balance items list

A trial balance lists general ledger account totals but has to show the following details:

- business name
- Serial No
- Date/accounting period
- Account name
- Debit balances
- Credit balances

If the trial balance has been adjusted, then it must also show the balances before, then adjusting balances, and lastly the new (final) balances.

How to prepare a Trial Balance

The preparation of the trial balance can take two forms: using the account totals (Total Method) and net balances (Balance Method).

Close all books of transactions- the ledger account, the cash book, and bank account- by ensuring the credit and debit entries balance.

Prepare a four-column worksheet with the following titles: account number, account name, debit, and credit.

Add to the debit column amounts from Assets, Expense account, cash account, bank balances, and losses.

In the credit section of the worksheet, fill balances from Liabilities, income accounts, Capital account, and Profits.

When recording balances in a trial balance, the preparer sorts them by account number, making it easy to find details about a particular account.

The order of balances mirrors that of a balance sheet, typically beginning with assets than liabilities.

The function of a trial balance

The primary function of a trial balance is to show that the total of all debits is equal to that of credits. It helps businesses to generate accurate **financial statements**. Businesses prepare the trial balance report at the end of an accounting period.

Why is it important to prepare a trial balance?

We have mentioned that the function of a trial balance is to show that balances under debits and credits indeed balance. Here is why else it is important to prepare a trial balance report.

The effective running of any business is mostly anchored on its financial strength which should be well managed. Here are the uses or the importance of a trial balance report.

To verify financial records

Using the trial balance, one can check if all journals, ledgers, and books of accounts are entered correctly and if they balance. It also verifies that every entry is entered on the correct side i.e. either on the debit side or credit side.

A tool for making Financial Statements

Use the information in the trial balance report to prepare documents such as a balance sheet and Profit and Loss statements.

To correct debit/credit errors

You can use the trial balance to note and correct any given arithmetic errors.

For Comparison

The company will be able to compare the balances of the previous financial year to those of the current year. With such information, the company can be able to make an important decision concerning their company like the need to reduce expenses or increasing income.

Useful when preparing an Audit report

Auditors can prepare a report after going through the trial balance report. They can advise accordingly from the financial statements posted in the trial balance.

Types of trial balance

There are three different stages or types of trial balance as discussed below.

The unadjusted trial balance

Since a trial balance report is prepared from the ledger entries, an unadjusted trial balance is one that is prepared before entries in the journals are adjusted. In other words, it is a reflection of the daily debits and credits.

This trial balance is very useful when preparing the adjusted trial balance.

Adjusted trial balance

This one is prepared once all the adjusting entries are done. It shows the closing balances in all of the company's accounts. It ensures the errors noticeable in the unadjusted trial balance are correct.

This is the main function of trial balance in the company or business:

- It shows that the company's debit balances and the credit balances are balanced (they are equal)
- It is the reference document when preparing financial statements like the balance sheet and income statement.

Post-closing trial balance

This trial balance posts all balances in the balance sheets with a net balance of zero. It is the one that ascertains that the credit and debit balances are equal. It also serves as the starting trial balance in the coming financial year.

Trial balance example

MirrorMirror, LLC

Adjusted Trial Balance (example)

For the year ended December 31, 2019

	Debit	Credit
Cash	10,000	

<u>Accounts Receivable</u>	7,500	
Equipment	29,000	
Prepaid Insurance	500	
Supplies	1,200	
Accumulated Depreciation		11,200
<u>Accounts Payable</u>		5,000
Notes Payable		7,000
Capital		12,000
Retained Earnings		9,000
Distributions	25,000	
Revenue		90, 800
Rent Expenses	10,000	
Supplies Expenses	29,000	
Travel Expenses	6,000	
Depreciation Expenses	10,400	
Utilities	4,700	
Interest	1,700	
	135,000	135,000

Prepare Income Statement from Trial Balance

To prepare an income statement from a trial balance takes the same process as using the report at the end of an accounting cycle to prepare other financial statements like the Balance Sheet and Cash Flow statement.

First, prepare the adjusted trial balance, and use the account information to construct the income statement. Use the details under the revenue accounts and expense accounts. As the income statement shows a company's financial performance over a specified accounting period, subtract expenses from revenues to get the net income/profit or a net loss.

How to Prepare a Trial Balance from Ledger

When preparing a trial balance from the ledger, you need to post ledger accounts balances onto a worksheet showing the debit and credit balances from the main ledger accounts.

Add the balances in the chart of accounts under each category- e.g. Assets or Cash. Extract these balances and post them as either debits or credits. Refer above to the section "how to prepare a trial balance" to find out which balances go to which side.

What can make a trial balance not balance?

- Wrong amount of entry
- Correct entry in the wrong column
- Failure to enter an amount in the ledger
- Arithmetic error in the ledger account

The following errors can be detected using a trial balance.

- Posting errors which occur at the ledger entry stage
- Transcription errors – entering credit side amounts on the debit side or a debit entry entered in the credit column.
- Calculation errors can result from extracting the wrong ledger account balance.

Conclusion

A trial balance report is a very important document that any business cannot avoid to prepare. It will help you compare your business with peers and make an important decision that nurtures your business.