# Technical Writing

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**Topic & Motivation:**

For years now we have been exposed to the handiness of next day delivery, item comparison and promo codes as we shop online. Not only can we order and pay in for items online, but we can also get food, shopping or takeaways delivered to our door.

In a world where we are growing more accustomed to opening amazon and ordering items as opposed to checking if our local stores even sell these items, is it feasible for a small business to create a professional quality e-commerce website while managing a busy retail store and competing against bigger brands?

During Covid most of us were of work, while sitting indoors, regardless of our technical know-how we moved our interest to online shopping as all non-essential shopping was forbidden. I was fortunate enough to have been offered a job to create an online e-commerce website for a local bicycle store. As we all do, I checked their current website to see what the expectations where. Well safe to say, the bar was low. With a tedious navigation bar, mismatched image ratios, missing item descriptions and out of stock items that I was still able to order, this site was obviously left to the side for quite some time.

Was this due to the fact that retail was booming before Covid, and they had no time to manage it? This got me thinking, would it be possible for a store during the midst of Covid to setup a truly good e-commerce store. A store that held thousands of items, fully unique item descriptions with the manufacturers item data, not some manually typed version that was missing half the data that was deemed "unnecessary". A real, top of line website.

As I got started to work on the website I was also in-store managing new stock and getting photos. It quickly became apparent how busy this store during Covid was. Bicycles were deemed essential for travel therefore the retail store was open. As I watched my manager do his day-to-day tasks, I thought about all the small stores that hadn't the budget to bring a web developer in and create a website. How would they manage in setting up API's if they were even lucky enough to work with brands that offered API access. The only other solution would be to web scrape data from the manufacturer and display that information.

Because of my above reasons, this is why I am interested in seeing if I believe it would be achievable for a business owner to produce their own professional website to compete against today's big brand standards.

**Topic:** E-Commerce

**Research Question:** Is it feasible for store owners to single handedly produce a professional e-commerce website to match the current standard people expect.

**Thesis:** I believe that due to the complexity and professional expectations of online shopping that a single business owner could not produce a suitable e-commerce website to compete with today's expectations.

        a. Statistically Quantifiable.
        b. Soft and hard skills required.
        c. Competing against larger brands with qualified professionals.

**Resources:**
The primary resource that I have decided to use for my research question is The Full Stack Developer by Chris Northwood. The secondary and supporting resources are a variation of statistics gathered from various tech sites and online articles/blogs.

('20 Biggest Ecommerce Challenges In 2022 + Simple Solutions' 2022)

(Ravishankar 2021)

('Retail sales, Great Britain: March 2020' 2020)

(Northwood n.d.)

(2017)

(2021)

**Feedback Changes:**
Having received feedback on my initial submission I have went ahead and added more research in to the topic of my choice. I have also found a reliable and trustworthy primary source to base what can be described as core skills and principles required to be a successful web developer in the current era of web development. Alongside the previous changes I have made amendments to my thesis phrasing.

**Proving Thesis:**

In order to prove my thesis, I am going to lay out a list of essential soft and hard skills required to be a web developer and also the specific challenges that are faced when creating an e-commerce shop that is expected to meet the high standards set by the Covid-19 pandemic and large-scale brands. Listed below are examples of the standards that are to be meet when providing an online experience to a web user.

1. Users expect a personal, unique experience that has been thought out and tailor designed to suit their expectations. To achieve this standard of professionalism, a well thought out and planned website that accounts for multiple devices is required.

   **Evidence:** Due to the increase in online shopping because of Covid-19, shoppers now expect their online experiences to be significantly easier and simpler to use.

   "68% of consumers say they have higher expectations for businesses digital capabilities since Covid-19." – ('Website Design Industry Statistics' 2022a)

   "Design has a 75% influence on a websites credibility." – ('Website Statistics: 60+ Website Stats to Know' 2022)

   "About 92.4% of internet users prefer using their phones" – ('Website Design Industry Statistics' 2022b)

2. A professional website must include custom content such as graphics and videos that have been designed to pull the user in and retain their focus for as long as necessary. Customers will judge a website upon its first appearance, so custom content is there to keep them interested in the website's products.

   **Evidence:** A user will make a quick judgement on whether they wish to stay on your site within the first couple seconds. Due to the increase in websites and the wide variety, users have become so impatient that if a website doesn't load in roughly 3 seconds, then there is a high chance they find a new site to visit.

   "Users spend an average of 0.05 seconds deciding whether to stay on your site or leave."- ('Website Design Industry Statistics' 2022c)

   "When you switch to a video background, there is a 138% improvement in conversion rate." – ('Website Design Industry Statistics' 2022d)

3. To keep up with such demand for high quality content, a full stack web developer must possess hard skills such as being able to use Adobe XD for planning/prototyping, Adobe Illustrator for graphics, Adobe Photoshop, or GIMP for image processing (product images) and Adobe After Effects for motion videos.

   **Evidence:** "78% of shoppers want e-commerce sites to include more images on their product pages" – ('Website Design Industry Statistics' 2022e)

   Indeed.com lists that the average completion for a computing science degree could set you back either 3 years if your full-time, or 5 years if your part time. Some of the skills acquired from these courses are languages such as HTML, CSS, JavaScript, and software skills such as Adobe creative suit.

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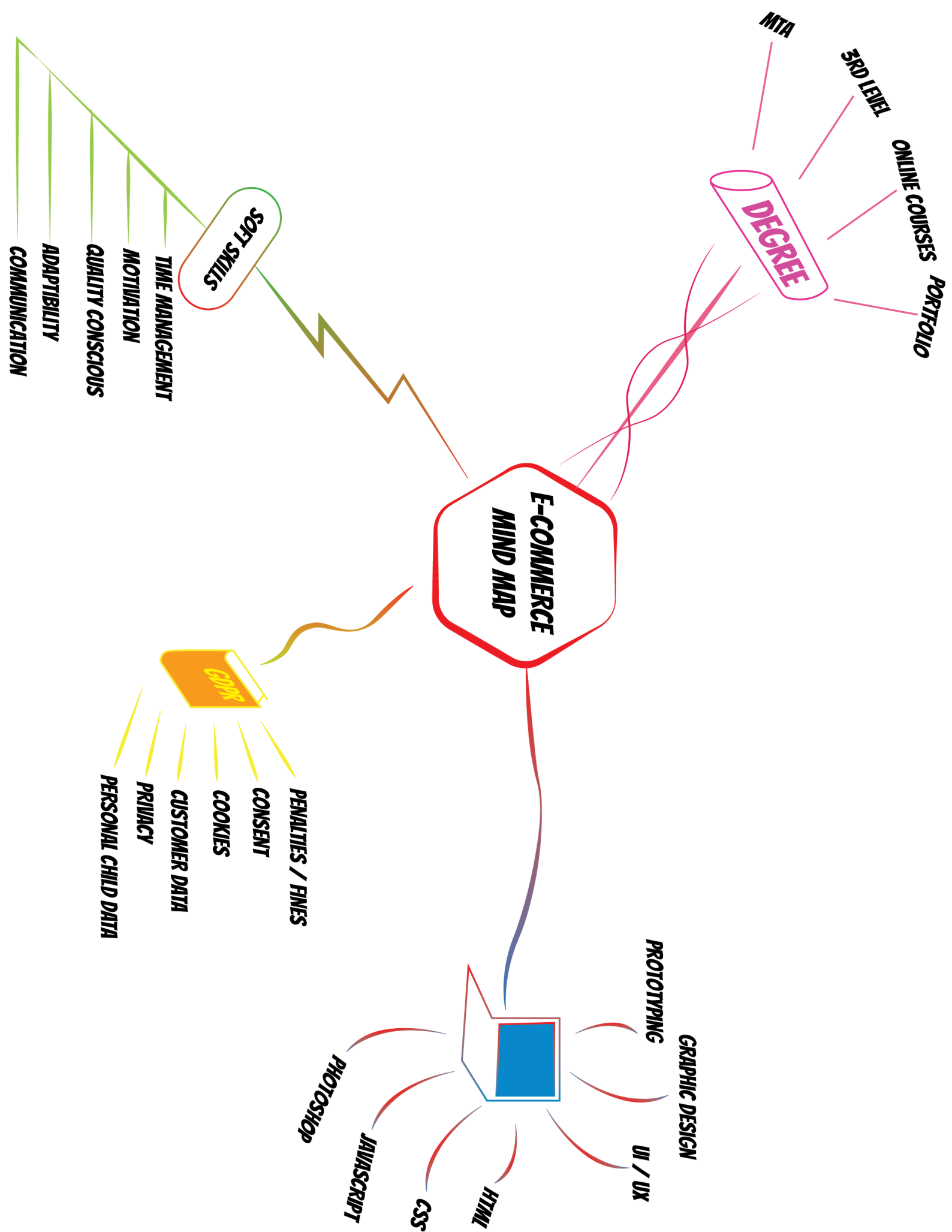
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# E-COMMERCE MIND MAP

## SOFT SKILLS
- COMMUNICATION
- ADAPTIBILITY
- QUALITY CONSCOUS
- MOTIVATION
- TIME MANAGEMENT

## DEGREE
- MTA
- 3RD LEVEL
- ONLINE COURSES
- PORTFOLIO

## GDPR
- PENALTIES / FINES
- CONSENT
- COOKIES
- CUSTOMER DATA
- PRIVACY
- PERSONAL CHILD DATA

## (Technical Skills)
- PROTOTYPING
- GRAPHIC DESIGN
- UI / UX
- HTML
- CSS
- JAVASCRIPT
- PHOTOSHOP

**Lines of Enquiry:**

| Hard Skills | Soft Skills | Languages | Software | Qualifications |
|---|---|---|---|---|
| Do you need to have UX skills? | Do you need to have time management? | What coding languages are required for creating a website? | What software is required for graphical design? | Do you need a degree/3rd level education? |
| Do you need to know how to code? | Do you need to have IT skills? | Will there be a need to add any external libraries/frameworks? | What software is required for coding languages? | What makes you qualified to manage an e-commerce website? |
| Do you need to know how to prototype a website? | What soft skills are required to run an e-commerce website? | If the pre-made website is being hosted by another platform, do you need to understand their language and can you edit it? | What software is required for prototyping? | Are there many learning options available for web design/web development? |
| Do you need to have graphical design skills? | | How many languages should you know before starting up the website? | What software is required for motion design/videos? | What is the average time of competition to become a web designer? |
| Do you need to know GDPR laws? | | Is it hard to learn multiple programming languages? | What software is required for image manipulation? | |

**Question 1:** Hard Skills

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| Do you need to have UX skills? | User Experience skills are essential in making sure that the users have an enjoyable and easy to use experience. The skill itself is not a fundamental requirement, without it the website will function but the user drop of rate and customer satisfaction rate will plummet. More than likely, the website will fail overall as users won't want to come back.<br><br>"70% of online businesses fall through because of bad UX." - (Gajic 2022) |
| Do you need to know how to code? | If you are setting up a website based of a CMS (Content Management System) like WordPress or Lightspeed then no, you will not need to know how to code to get the website live. If you want to however make any personalisation to your website outside of using other peoples pre-designed themes, then the bare minimum one will need to know is CSS (Cascading Style Sheets) and HTML (Hyper Text Markup Language). |
| Do you need to know how to prototype a website? | No, you do not need to know how to prototype a website to get started in e-commerce. The ability to prototype the website before building gets underway will alloy the developer/designer to fix any mistakes they might make, or to create a better UX design since they know how everything will be laid out prior to starting. It is however, not a must have skill to possess. |
| Do you need to have graphical design skills? | Adding tailored graphics to a website will increase the overall design of the website and will also keep the users more engaged but it is not a requirement. |
| Do you need to know GDPR laws? | Yes. Knowing GDPR regulations and rules while designing a website is important. If using a CMS that has built in user control, you still must be aware of what you can and can't do in relation to someone's data. Neglecting these rules and guidelines can't result in unsatisfactory customer interactions or in extreme cases, legal action.<br><br>If you are controlling the data yourself, then it is even more important to understand how long you can store the data and the level of security required. |

**SUMMARY:**

When it comes to hard skills, although they are not all required in order to initially setup the website, without them you will find that your website cannot hold up to larger brands and also the expectations that have come from the rise in online shopping due to Covid-19 and can also incur possible legal issues if neglected.

**Question 2:** Soft Skills

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| Do you need to have time management? | Time management skills are important when running a e-commerce website. If you receive 30 new products each week in store and can only upload 25 of them each week, then you will build up a certain amount of stock that won't display on the website. This skill is also required to meet project deadlines. |
| Do you need to have IT skills? | To assume that you will never run into a technical issue when working with web design/web development would be negligent. A good understanding of IT is required to debug and fix any issues that may arise. A well-rounded IT understanding isn't required but you should have a firm understanding of the CMS you are using alongside any tools required. |
| What soft skills are required to run an e-commerce website? | To make sure that everything goes smooth, good time management, problem solving, organisation, and creative thinking skills are a necessity. |
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**SUMMARY:**

Having a good sense of what to expect from the task of running an e-commerce is important. This is where IT skills are important so that if anything goes wrong you have the knowledge on how to at least begin diagnosing the issue. Not having these soft skills is going to add an extra challenge to the already large task of running a large-scale e-commerce website.

**Question 3:** Languages

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| What coding languages are required for creating a website? | If creating from scratch, HTML, CSS, JavaScript, and any framework such as Angular or React are capable of designing the front end of an e-commerce website. On the data side, you will need SQL to store products and customer data.<br><br>If using a CMS, then a good understanding of HTML and CSS is fine for the basics. JavaScript will allow for more advanced customisation. |
| Will there be a need to add any external libraries/frameworks? | If working with a custom website, then adding a framework isn't required but it will speed up the overall completion time.<br><br>If using a CMS, then you will find that most CMS use external libraries such as Bootstrap. A good understanding of Bootstrap will allow for a user to quickly make changes that can create a brand new, unique looking website. However, still not required but is advised. |
| If the pre-made website is being hosted by another platform, do you need to understand their language and can you edit it? | If you are working on another platform or CMS then you won't be required to understand their language. A majority of CMS systems allow their users to change primary and secondary colours, font, and what widgets are displayed on their website without coding. This in turn means that the user will have a selected amount of customisation.<br><br>It is advised that you get to understand the code that is running your website in the background so that if anything does go wrong, you can fix it. |
| How many languages should you know before starting up the website? | You should know at least one language. The most important language when trying to create a bespoke website is CSS. This one language is used on nearly every website created. If you understand CSS then regardless of the style of the default website or theme that your CMS platform has, then you will be able to make changes to it.<br><br>If creating a bespoke website by yourself, then you will need a professional understanding of at least 3 languages consisting of HTML, CSS and JavaScript. |
| Is it hard to learn multiple programming languages? | It is very difficult to learn multiple coding languages at the same time if you have not learnt at least one before. When learning your first language it is advised to learn the core concepts first and then work on the syntax and methods that come with your selected language. It is discouraged by professionals to try and learn multiple languages at once as their syntax can vary.<br><br>(Darling 2022) |

**SUMMARY:**

When it comes to understanding programming languages, a firm understanding of CSS is required if you wish to do any professional looking customisation to your website. For added functionality it is important to know either HTML or JavaScript. Although it is possible to create a website based of CMS themes, they will not be able to hold up the professional teams that other large companies and brand can employ that makes their website stand out compared to the rest. Being able to set your website apart from the others is what will gain traffic and keep customers returning.

**Question 4:** Software

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| What software is required for graphical design? | There are paid and free alternatives when it comes to graphical design software. Adobe Illustrator (AI) is a premium software that is well equipped to provide you with professional standard graphics if you know how to use it. AI is capable of exporting SVG file types which are favourable for website images. |
| | Inkscape is free alternative that also has SVG exporting. Compared to AI, Inkscape uses a node-based design method so it tedious to use for some projects. |
| What software is required for coding languages? | For coding you can use a variation of IDE's (Integrated Development Environment). Visual Studio Code (VSC) is very popular and free. It comes with a massive store that allows for plugins to be installed. An IDE makes finding mistakes easier as it will highlight the issues using intellisense, which is a smart feature in most programming tools. VSC has support for HTML, CSS, JavaScript and many more. |
| What software is required for prototyping? | It is important to have a good prototyping tool so that you can plan out each page of your website, how your buttons will look and anything else that goes into your website. |
| | Adobe XD and Figma are two of the leading prototyping tools. Both have tools that the other doesn't so it's about finding what suits you best. Figma has a large open-source community, while Adobe XD is a premium software and requires a subscription to Adobe Creative Cloud. |
| What software is required for motion design/videos? | When creating videos to be used on your website or for branding then Adobe After Effects (AE) is a premium software that has a medium/challenging learning curve. |
| | Blender is free open-source software that has video editing capabilities. Although not as intuitive of an interface as AE, there are plenty of instruction videos provided by the Blender.org institution. |
| What software is required for image manipulation? | Adobe Photoshop is the industry leading image manipulation software on the market. With its smart features such as content aware fill, you will be able to clean up product photos, re-size, and export multiple files at once, all formatted and ready for web upload. |
| | A free version of Photoshop would be GIMP. GIMP is an open-source GNU Image Manipulation Program that allows for web exporting. |

**SUMMARY:**

There are both paid and free software packages out there that are capable of producing professional assets for an e-commerce website designer. Time and dedication are going to be the defining factors when it comes to the quality of the assets that are outputted. The user will need to be efficient with their time and not get caught up in the tools that all these software offer.

**Question 5:** Qualifications

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| Do you need a degree/3<sup>rd</sup> level education? | You do not need a 3$^{rd}$ level education or a college degree to create or manage an e-commerce store. Although a vast majority of people benefit from the skills and knowledge they learn while attending their studies in that area, it is not a requirement.<br><br>('What Kind of Degree Do I Need to Become a Web Designer' 2022) |
| What makes you qualified to manage an e-commerce website? | Having completed a course or degree in that field of work, one could say that at that point you are qualified to take on the job of creating an e-commerce website.<br><br>Another method of gauging if your qualified is by having a good broad portfolio that demonstrates the core principles of coding alongside some personal projects. |
| Are there many learning options available for web design/web development? | There are loads of education options in that field. One could pursue a degree from an accredited college, or if there was a specific topic you wanted to learn you could look on a reputable online course provider such as Udemy or Skillshare.<br><br>A final resource could be simply reading coding documentation and learning from online material such as Stack Overflow or YouTube. |
| What is the average time of competition to become a web designer? | By looking at multiple college courses online, attending both a design-oriented degree myself in the past, and currently studying an computing degree I can say confidently that it will range from 3-4 years for any course that teaches their modules to a professional standard while attending full time and 4-5 for a part time course. |
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**SUMMARY:**

Although you don't need a degree or any qualifications for that matter to run, design or create an e-commerce website, the skills and knowledge that come with them degrees or the lessons learned from online material such as Udemy courses will prove invaluable if you were to come across any issues. These courses aim to teach not just how to use certain CMS but to also teach the core values that you can carry to any e-commerce project.