e-Commerce Guidelines

User Interface Design

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**Ministry of Transport and Communications
(MOTC)**
State of Qatar

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Foreword

There has been a long felt need for a comprehensive set of guidelines for development and management of e-commerce Websites, given their ever-increasing use by citizen and residents. The guidelines presented in this document are an effort towards this direction.

These guidelines are an outcome of extensive deliberation by the Ministry of Transport and Communication and advice of experts in Information Technology and e-commerce industry. The guidelines of other countries, as well as International bodies like ISO and W3C, were also consulted.

Special attention has been paid to ensure that the content of the guidelines conform to the overarching philosophy - making sure the e-commerce websites in Qatar are client centric and user friendly.

About the Document

This document contains recommended guidelines for the development and management of e-commerce websites in Qatar, the primary objective of which is to ensure that e-commerce businesses and websites are designed and built to the correct standard. These guidelines can be used as a framework and adhered to when building a website.

Table of Contents

1. Introduction

1.1   Background

Today, e-commerce has become more of a business imperative than ever before as consumer awareness and expectations evolve. The proliferation of high-speed broadband and the availability of a sophisticated Internet infrastructure and Web-enabled mobile devices present increased economic opportunities for government, businesses, and individuals that could have profound impact on how future business-to-business (B2B) and business-to-consumer (B2C) commerce is conducted.

In 2015, global e-commerce B2C sales totalled USD 1.54 trillion. To get a glimpse into how e-commerce is transforming the marketplace worldwide, one only has to look at some of the world's most successful and popular businesses. Amazon, one of the world's leading online retailers, has no points of sale; Uber, the world's largest taxi company, owns no vehicles; Netflix, the largest pay TV service, owns no STB or transmission infrastructure; and Alibaba, one of the world's most valuable retailers, has no inventory.

This national e-commerce guideline is the first of its kind in Qatar, that helps merchants through all touch points involved in starting and implementing a successful e-commerce business. This guideline is the result of a thorough collaborative effort with local, regional, and international stakeholders across the entire e-commerce value chain—from product creation to consumer receipt of the product—and its successful implementation is dependent on strong collaboration and coordination among the different stakeholders.

Widespread adoption of this guideline would have a positive effect on Qatar's business environment, significantly contributing to economic development, a major pillar of the Qatar National Vision. This is because it will provide businesses better access to consumers, improve business efficiency, expand trade and investment opportunities, and promote innovation, diversification, and competitiveness.

While this guideline outlines a variety of key functions for e-commerce, the core focus has been placed on the user experience and best practice for e-commerce sites.

1.2   E-Commerce

E-commerce (Electronic Commerce) is what we call a business activity where the process of providing customers with goods or services is done by means of electronic devices and the Internet. This sort of communication and finalization of sales adds some new aspects to data management, sales channels, advertising, and presenting goods and services, while also enabling full cycle of commerce operations, including payments, delivery and refunds.

The last decade has witnessed booming e-commerce development. Today, it provides opportunities for not only e-trade, from businesses to buyers, but also online auctions and user-to-user sales platforms. E-commerce systems and activities today include presenting and booking wide range of services, e-banking, commercial operations with e-money and e-wallets, diverse forms of e-marketing and many others, which customers are using more and more on an everyday basis.

Websites and mobile applications for e-commerce are always created within a particular business scheme. This means, they are the part of a certain business plan with the specific goals in mind and the planned ways to achieve them. Therefore, design for this sort of products definitely starts much before the first real line appears on the paper or screen. There are several important factors, which should be considered and agreed upon before actual design starts. Among them are the following:

- ## USP of the Business

    It is crucial to define the unique selling point of the business, as this will be used as the fundamental base that sets the business apart from others.

- **Understand the Consumer**
  It is important to understand who the buyers are from the beginning of the project. This helps inform the strategy and design that is used to develop the business.

- **Brand Positioning**
  The position of the brand will help determine the tone and style used throughout the business. This needs to relate to the value propositions, target audience and strategy of the business.

- **Marketing and Advertising**
  While the experience is important for promoting customer engagement, a trigger is necessary to bring clients to the website. This is where marketing and advertising comes into the picture. There are many different ways of driving traffic to a website, from email to Pay Per Click (PPC) to social media advertising.

- **Type of Business Relations**
  Type of business relations based on target customers deeply influences the core aspects of UX design. Set from the start whether it is B2B (Business to business) or B2C (Business to customer) to create proper layout and predict possible user behaviour.

- **Typical Environment of Use**
  Designers need to know when, where and in which conditions users will typically use the website. These factors have a considerable impact on the decisions about layout, colour scheme, typography, transitions and interactions, all of which need to follow the global objective of making the process easy, quick and enjoyable.

1.3   Who will Benefit from these Guidelines

There are varieties of key players that will benefit from the guideline.

- **E-commerce Merchants**
- **Government Entities**
- **Financial Services**
- **Logistics Companies**
- **Education Institutions**

1.4   How to Use these Guidelines

Merchants and officials are expected to read, understand and align to these guidelines. All e-commerce websites set up and owned within Qatar should comply with these guidelines.

The guidelines act as basis, which outlines the process for a generic e-commerce website. However, depending upon the specific requirements of the business, these guidelines may be adjusted so that they are fit the business purpose.

1.5   Feedback and Suggestions

The guideline acts as a generic model, which can be applied, to many contexts. While it has been developed based on the current state of e-commerce, the digital environment changes rapidly. Therefore, it is crucial that updates are made frequently. Any feedback or suggestions would be fundamental to growing a customer centric guideline that can be used by all.

Please send any feedback or suggestions to the following email address: ecommerce@motc.gov.qa

2. Legal

An ecommerce store that is selling goods and/or services must have an accessible, clear set of legalities, terms, and conditions that comply with the laws. Terms and conditions are a legal agreement that must clearly set out the rules of conduct between the business and the customer.

2.1   Qatar Electronic Commerce and Transactions Law

The Electronic Commerce and Transactions Law, also known as e-Commerce Law, outlines rules and regulations concerning electronic business.

The law gives legal weight to business transactions conducted over electronic communications such as emails, and includes the legal validity of electronic contracts and signatures. The By Laws, which have now become effective and enforceable relate, inter alia, to licensing of certification service providers who maintain infrastructure of public keys to issue credence certificates and provide services in relation to digital signatures. The law designates Ministy of Transport and Communications as the entity in charge and requires the concerned authorities, each within its competence, to implement it. The law also includes provisions on email content privacy, the legalization of e-signatures, and the security of consumer information with regard to online shopping. Ultimately, the aim of such e-laws is to boost electronic commerce as an effective tool for businesses to increase their efficiency.

Download the Electronic Commerce and Transactions By Law:
http://www.motc.gov.qa/en/documents/document/qatars-e-commerce-law

2.2   Terms and Conditions

2.2.1 Loss, Liability and Damage

In the event of product failure/damage/malfunction, the damage obligations between the seller and customer should be specified along with the level of risk involved.

2.2.2 Intellectual Property

The intellectual property clause must be specified to ensure that brands or trademarks are not misused in any way and clearly, state that nothing contained within the website should be construed as granting any license or the right to use any trademark without the prior written consent of the owner of the website.

2.2.3 Payment

When purchasing products and/or services from the website, payment terms must be specified. Some ecommerce sites will stipulate that until payment has actually cleared, no orders will be dispatched. In the case where payment does not clear, the ecommerce site has a right to cancel the order completely. These extra clauses serve as further protection to a business.

2.2.4 Data Protection

The data protection clause must disclose how the personal information of the customer will be protected, used and stored.

2.2.5 Terms of Use

Simply sets out the terms for accessing a website and applies to every single visitor. The terms of use usually cover items such as privacy and prohibited uses of the website.

2.2.6 Delivery

Delivery Terms should cover both shipping and delivery, and would typically include what the delivery costs are, how shipping charges are calculated, and also (where third party service providers are involved) that the quality of delivery cannot be guaranteed.

2.2.7 Warranty Information

Should set out clear terms on how products can be purchased, whether there are any restrictions e.g. the restriction of sale for age-restricted products and services, and what happens in the event that a product cannot be supplied. Some online stores will also include warranty information as part of their terms and conditions whereas others will have a separate Warranty policy.

2.2.8 Cancellation

This clause should set out the circumstances in which the customer has the right to cancel their order, the process they must follow in cancelling their order and any other requirements e.g. goods must remain unused and returned in its original packaging.

3. Payment

An e-commerce payment system allows users to pay for online transactions using electronic payment. In Qatar, most payments are made on a cash-on delivery basis, and there are limited e-payment methods (debit cards, prepaid cards, digital wallets, etc.). Complex e-payment rules and regulations, complexity in merchant e-payment set up, an acquiring process with high associated costs, and the absence of aggregators in the market inhibit e-commerce development.

3.1   Payment Types

3.1.1 Credit Card Payment

Credit cards are the most common way for customers to pay online. This is generally configured for MasterCard and Visa cards, as well as a few others. Merchants can reach out to an international market with credit cards by integrating a payment gateway into their business.

3.1.2 Electronic Transfer

Customers enrolled in an internet banking facility can do a bank transfer to pay for online purchases. A bank transfer assures customers that their funds are safely used, since each transaction needs to be authenticated and approved first by the customer's internet banking credentials before a purchase happens.

3.1.3 Cash On Delivery

Physical cash on delivery is the most popular payment method used for physical goods in Qatar. Paying with cash does come with several risks, such as no guarantee of an actual sale during a delivery.

3.1.4 Click and Collect

This is becoming a trend with businesses that have physical stores. It is when a customer places an order online and requests that the package be picked up at one of the dedicated drop zones represented by the business.

3.2   Payment Gateways

A payment gateway is an e-commerce service that processes credit card payments for online stores. Payment gateways facilitate these transactions by transferring key information between payment portals such as web-enabled mobile devices/websites and the front end processor/bank.

Payment gateways fulfil a vital role in the ecommerce transaction process, authorizing the payment between merchant and customer. Selecting a good payment gateway directly influences the success of the business as it holds credibility and trust which are among the top reasons for customer conversions.

3.2.1 Payment Gateway Process

1. A customer visits the e-commerce site, selects a product and proceeds to enter relevant details in the checkout process. Some sites will also ask the customer to provide payment details during this process. Alternatively, all payment details are provided through the payment gateway

2. If payment details were provided on the website, it securely sends it to the payment gateway

3. The payment gateway sends the details to the merchant's bank

4. The Merchant's bank proceeds to contact the customers bank and exchange the details

5. The bank provides authorization on the transaction provided that the details provided are correct

6. In some cases, the payment gateway and bank may ask the customer to verify that they are the approved to perform the transaction by sending an email or sms to the registered bank contact information

7. The specified amount is deposited in from the customer's account to the merchants account

8. The payment gateway returns the information to the website to let the customer know if the status of the purchase.

3.2.2 Example of Payment Gateways

QPAY

- Complete payment solution
- Secure, fast and reliable transactions
- Multiple payment methods
- Website integration
- CMS integration
- Tokenization for recurring payment
- Mobile SDKs for mobile app integration
- POS integration
- E-billing solutions
- Low cost e-commerce & e-billing

Paypal

- Worldwide usage
- Accept international and local payments
- Checkout pages available in more than 15 languages
- Integrated with a variety of platforms and shopping carts
- Mobile-optimized checkout pages
- Advanced encryption and dedicated security platform
- Easily customizable checkout pages
- Fast, simple and secure

✳ QNB Qatar National Bank

- Secure credit card payment facility
- Single platform to support multiple payment technologies
- Easy Reconciliation and Reporting
- 3-D Secure Visa Authenticated Payment protocol
- MasterCard Secure Payment Applications
- Incorporates a hosted payment page that provides a common interface with the merchant web site
- Secure browser-based access for real time transaction monitoring and reports download
- Flexible, scalable and user-friendly solution

Commercial Bank of Qatar

- Secure credit card payment facility
- Easily integrated to numerous platforms
- Processes major card brands
- Single Point of Certification
- VBV and MasterCard Secure-code
- Reduction in the number of charge-backs
- Reduction in the number of fraudulent transactions
- Quick and easy to incorporate into any e-commerce card processing system
- Increase in potential sales volume through increased consumer confidence in making online purchases
- Added protection against any online fraud
- Compliant to Payments Industry standards and mandates

Doha Bank

- Lowest interchange rate per transaction in Qatar
- Certified for Visa and MasterCard transactions
- Powerful and robust payment gateway system
- Quick and efficient transaction processing
- Multiple security layers
- Flexible platform allows easy integration
- All online approved payments guaranteed by the bank within two working days of the transaction
- 24/7 technical support

4. Logistics

Logistics is the management of how resources are acquired, stored and shipped to their destinations. An objective-orientated system is built to facilitate the planning, execution and control of the movement and placement of these goods and services, which varies by industry.

E-commerce business will by default require logistics services and finding an efficient logistics service provider is the key. Only local companies may deliver domestically and it is important to take this into consideration when selecting your logistics service provider, in order to ensure that they are legally permitted to fulfil your business needs.

The Delivery performance indicators in Qatar are gradually improving albeit at a relatively slow pace, but there are many factors that will improve the performance of these indicators such as increased competition in the parcel delivery sector and more free trade areas, which will also increase imports and raise the attractiveness of trade and exports.

4.1   Delivery Methods:

4.1.1 Domestic Deliverys

Legislation in Qatar relating to parcel delivery only permits local companies to deliver domestically from one address to another. Domestic delivery includes but is not limited to the following:

- Door to door with delivery service in Qatar
- Same Day Delivery services
- Delivery tracking
- Overnight Parcel delivery services
- Delivery of trader's goods
- Delivery of hot and cold foods, desserts and ice cream
- Deposit and personal property delivery
- Insurance

Examples of Local Qatar Logistics Companies:

 Q-Post

 Hammaly

 Pick n Drop

4.1.2 International Deliverys

Foreign logistics companies are limited to international deliveries in and out of the country. International delivery includes but is not limited to the following:

- Door to door international delivery service
- Delivery tracking
- Delivery of trader's goods
- Deposit and personal property delivery
- Pickup service
- Delivery scheduling
- Insurance

Aramex (Shop and Ship)

DHL

Connected by Qatar Post

Fedex

21

5. Security

E-commerce security involves protecting the various e-commerce assets from unauthorized access, use, or modification. This is a vital ingredient to a successful e-commerce business as one of the main causes for drop offs is due to trust issues and concerns. Additionally, cyber criminals will often specifically target and exploit weaknesses in e-commerce websites, and any such breach can quickly erode the trust customers place in a business.

5.1   Types of Threats

5.1.1 Price Manipulation

Modern e-commerce systems often face price manipulation problems as these systems are fully automated; right from the first visit to the final payment getaway. Stealing is the most common intention of price manipulation where an intruder slides or installs a lower price into the URL and gets away with all the data.

5.1.3 Snowshoe Spam

Spam is something which has been very common over the last few years. It is basically something which is sent by one person; but unfortunately, a new development is taking place in the cyber world as you read this and is called snowshoe spam. Unlike regular spam, it is not sent from one computer but from many users, making it difficult for the anti-spam software to filter these messages.

5.1.4 Malicious Code Threats

These code threats typically involve viruses, worms, or Trojan horses.

- Viruses are normally external threats and can corrupt the files on the website if they find their way into the internal network. They can be very dangerous as they destroy the computer systems completely, and can damage the normal working of the computer. An important thing to remember is that a virus always needs a host, as they cannot spread by themselves.
- Worms are very different and are more serious than viruses. It places itself directly through the internet and can infect millions of computers in a matter of just few hours.
- A Trojan horse is a programming code, which can perform destructive functions. They normally attack a user's computer when downloading a file.

5.1.5 Wi-Fi Eavesdropping

One of the easiest ways in e-commerce to steal personal data, Wi-Fi eavesdropping is like "virtual listening" of information which is shared over a Wi-Fi network which is not encrypted. It can happen on public as well as on personal computers.

5.1.5 Other Threats

Some other threats to be aware of include data packet sniffing, IP spoofing, and port scanning. Data packet sniffing is also normally called sniffers, and involves an intruder using a sniffer to attack a data packet flow and scan individual data packs. IP spoofing involves changing the source address and moulding it a way as to make it look like it originated from another computer. This makes it very difficult to track the attacker.

5.2   Combating Threats

5.2.1 Secure e-commerce Platform

Development teams and companies might decide to build a complete e-commerce solution, which is not an ideal decision as it entails high costs and security risks. The better approach when building an e-commerce website is to use an existing e-commerce platform.
It is faster, easier and less risky in terms of security to use an existing e-commerce platform. Adopting and customizing e-commerce solutions to the specific needs of a website will save time, money, and human resources, while also providing a good base of security practices already built-in by the e-commerce solution vendors.

5.2.2 Secure Connection for Checkout (SSL)

The internet works on the HTTP protocol for transferring information from the user's browser to the hosting servers. HTTP by its nature is not secure, as it does not implement any type of encryption on the data being transferred.

This puts e-commerce website users at the mercy of hackers on the same network, sniffing for information that is being sent – including passwords, credit card numbers, and addresses.

A solution to this problem is to implement the e-commerce website on a more secure protocol which is HTTPS. HTTPS implements an SSL (Secure Socket Layer) certificate that enables all communication between the user's web browser and the e-commerce website server to be completely encrypted. This encryption in communication ensures that the user's information is not exposed to anyone monitoring the network traffic.

5.2.3 Encryption

It is the process of converting a normal text into an encoded text, which cannot be read by anyone except by the one who sends or receives the message.

5.2.4 Digital Certificates

A digital certificate is issued by a reliable third party company. A digital certificate contains the following things: the name of the company (Only in EV SSL Certificate), the digital certificate serial number, expiry date and date of issue. An EV SSL Certificate is necessary as it provides a high level of authentication to the website, while also protecting it from unwanted attacks such Man-In Middle Attack. There are other different types of SSL Certificates available (such as Wildcard SSL, SAN, SGC, Exchange Server certificate, etc.) which can be selected according to the need of your website.

5.2.5 Strong User Passwords

Hackers have devised a logical approach to solving simple passwords through techniques known as social engineering. To tackle this problem, additional validation rules must be implemented on sign up forms with Users being required to choose more difficult passwords by using a combination of upper and lower case letters, numbers, and special characters.

5.2.6 Tracking Numbers for Orders

Tracking numbers should be implemented for all orders that need to be shipped to customers. The tracking of packages helps identify customers by confirming their billing and shipping addresses, and also helps prevent 'charge-back fraud'. This is where a user might say they did not receive an order, and then demand a refund, when actually they did get their item delivered.

5.2.7 System and Database Backups

A backup strategy must be devised which allows the business to keep copies of data for reference in case any problems occurs on the main server of the e-commerce application.

Online backups are needed for data redundancy (the replication of data as a backup), allowing the web content to be switched to those backups automatically in case the primary server that is serving the e-commerce solution fails or is compromised.

Local backups allow the business to cater for disaster situations in case they happen with the hosting provider or data centers.

25

6. Platforms

An e-commerce platform is a software application that provides the form and structure to allow your businesses to manage the website, sales and operations. These platforms offer the powerful features needed to run a business online and are continuously updated to handle upgrades in security and technology. Additionally, they are integrated with leading business tools — enabling businesses to centralize their operations and run their business their way.

These entities provide "end to end" e-Commerce solutions as a service. This at the very basic level means they provide highly customizable templates for e-Commerce websites for a monthly fee. In reality however these entities provide a wide range of front and back office features with their services, such as content management, customer relationship management, order processing, order fulfilment etc., making them a very attractive proposition to new e-Commerce businesses.

6.1   Platform Guidelines

The following guidelines are the general rule set which should be consulted for choosing or building the ecommerce platform:

- Allows to manage product data i.e. the feature to add, update and remove product.
- List and display product
- Allows to keep track of inventory
- Allows to place product in cart, if there are multiple products offering
- Allows to place order
- Allows to collect payment securely
- Should be able secure the portal from credit card frauds using PCI DSS compliant payment processing solutions.
- Allows to integrate with local Qatar banks
- Provide customer clear information about what they are going to purchase and what will be the cost. Only if customer accepts then should be able to proceed for payment collection
- Provide customer with a receipt of purchase
- Should keep the data of customer secure
- Should not share the data of customer without prior consent of customer
- Provide customers with a mechanism to contact merchant, notably via webform, live chat, contact numbers etc.
- Provide customers with Privacy policy (including data & cookie) and terms & conditions
- Allows customer to view the prices in Qatari Riyal
- Allows website to be localized in multiple languages and be able to adapt both LTR and RTL type languages
- Allows content to be populated in Arabic and English at least
- Allows customer to access the platform on mobile devices as well as desktop

Other than above, one should carefully check the requirements of the business with the features of platform.

6.2   Leading E-commerce Platforms Available in the Market.

	Woocommerce
	Magento
	Shopify
	Wix
	Qpay International
	Prestashop
	Big commerce

In addition to above, there are some third-party entities that allows you to present your products and services on their website where they will manage the presentation and all aspects of sales including payment processing and delivery. You can expect to pay a recurring fee to showcase your products and a commission on each product/ service sold. Some third party e-commerce platform can require an initial subscription fee especially for premium listing/ presentation.

	Qatar e SOUQ
	DOHA SOOQ
	SOUQ

Please note that MOTC does not affiliate / recommend / suggest any of platforms in any manner. List is provided just for information purpose without any order of priority

7. Marketing

E-commerce marketing is the process of driving sales by raising awareness about an online store's brand and product offerings. Digital marketing for e-commerce applies traditional marketing principles to a multichannel, data-driven environment.

E-commerce marketing can be divided into two general actions: driving website traffic and optimizing the user experience for conversion. Both are critical components to growing an online business — failure in one will undermine any success in the other. Seasoned marketers can thrive in a digital landscape, starting with a solid foundation of common terms.

7.   Ecommerce Marketing Strategies

7.1.1 Pay-per-click Advertising (PPC)

Effective PPC campaigns drive users with intent to purchase, making it more efficient than many traditional advertising platforms. Businesses bid on impressions for paid listings at the top of search engine results, paying on a per-click basis. Impressions are determined by user search query, with strategy revolving around which keyword bids yield the highest ROI.

7.1.2 Search Engine Marketing (SEM)

SEM is often used to describe efforts on Google's AdWords platform and paid platforms on other search engines, such as Bing. This multifaceted term is also used by many marketers to describe all paid and organic efforts.

7.1.3 Search Engine Optimization (SEO)

SEO traffic comes from unpaid "organic" results on search engines such as Google and Yahoo. Successful SEO requires adherence to best practices on a product page level in tandem with content creation, inbound links, social media engagement, and many other factors that search engine algorithms take into consideration.

7.1.4 Display Advertising

An overarching term for banners, sidebars and other predominantly visual advertisements that appear on other websites, display ads are facilitated by ad networks such as Google Display Network.

7.1.5 Affiliate Marketing

Referrals from other websites with industry or product-focused content such as reviews, comparisons, and testimonials are termed as affiliate marketing. Successful affiliates have a loyal following or receive traffic from some of the above channels. They typically receive a set commission of referred sales, often determined on a case-by-case basis.

7.1.6 Email Marketing

Newsletters, abandoned cart notifications, wish list reminders and remarketing all use email to target past and potential customers.

7.1.7 Programmatic Advertising

Programmatic ad buying typically refers to the use of software to purchase digital advertising, As opposed to the traditional process, that involves RFPs, human negotiations and manual

Insertion orders. It is using machines to buy ads, before programmatic ad buying, Digital ads were bought and sold by human ad buyers and salespeople, who can be expensive and unreliable. Programmatic advertising technology promises to make the ad buying system more efficient, and therefore cheaper, by removing humans from the process wherever possible.

7.1.8 Social Media

Social media marketing is the process of leveraging social media networks to interact with prospects and ultimately increase traffic and sales to a website. Online businesses rely on social media such as Facebook, Instagram and Twitter to build a connection with users who are increasingly relying on social networks and mobile devices to consume web content.

7.2   Ecommerce Marketing Terms

7.2.1 Google AdWords

Google's advertising platform pioneered the PPC model and capitalizes on the company's majority share of the search market.

7.2.2 Search Engine Results Page (SERP)

The cumulative results from users executing a search engine query, comprising organic and paid listings. Having results on the first page of SERPs is critical to acquiring new customers.

7.2.3 Conversion Rate Optimization (CRO)

The process of improving every aspect of a website so that more visitors purchase. Faster load times, fewer clicks to purchase and more enticing product descriptions/images make it easier for users to evaluate products and follow through to purchase. The most common metric for evaluating CRO efforts is conversion rate.

7.2.4 Conversion Funnel

The steps taken by a prospect to become a customer, beginning with awareness and ending with a purchase. Higher-priced items generally have a longer sales cycle, while low-cost items can convert in a much shorter period of time.

8. SEO

Search engine optimization (SEO) is the practice of increasing the quantity and quality of traffic to the website through organic search engine results. Search engines can be a great free channel for growth and is directly related to the user experience on the site as it helps users find what they need more efficiently. E-commerce sites can work on improving SEO in four key areas, being, keyword research; on page SEO, Technical SEO and link building. Furthermore

8.1   Keyword Research

Keyword research refers to the usage of words throughout all areas of the website, from the landing page to category pages to product pages. The market is extremely competitive, words should be chosen strategically to gain a high ranking and ideally attract the correct users.

8.2   On-Page SEO

On-page SEO refers to optimizing individual web pages on the e-commerce site in order to improve ranking. This is based on the content and HTML source code of a page that can be optimized, as opposed to off-page SEO which refers to links and other external signals. A large part of this is based on the content strategy implemented on each page, such as the hierarchy of headings, images, descriptions and navigation.

8.3   Technical SEO

This is the technical aspects of the website that influence the quality of the experience. It is about laying a strong foundation so that search engines are able to easily access and crawl the site. Technical aspects need to be taken into consideration such as page load speed, responsiveness, a logical site architecture and XML sitemap and avoidance of duplicate content and errors.

8.4   Link Building

Link building is referred to as offsite SEO. It is the process of acquiring links from other websites to lead to the e-commerce site. Search engines use links to crawl the web; they will crawl the links between the individual pages on the e-commerce website, and they will crawl the links between entire websites. Websites that have a higher amount of links leading to their website from credible, relevant sources are considered more trustworthy and will rank higher.

8.5   SEO Metrics

SEO metrics should be tracked on a continuous basis in order to find issues and resolve them.

8.5.1 Search Volume

The business can grow with SEO if there are a lot of people searching for the product in Google or Bing. Keyword Planner is useful to learn if the keywords you want to be ranked for can generate enough traffic for growth.

8.5.2 Average Ranking Position

In the SEO Report in Google Analytics, you can see the average position of the keywords that are bringing in traffic. Position 1 means the website is the first result in Google for that keyword, the one that generates the most traffic.

8.5.3 Organic Bounce Rate

If people have clicked on a search result in Google, they will land on the site. If their expectations are not met, people will leave, and you will get high bounce rates. Google uses bounce rates as a measure for ranking too, so high bounce rates are not only bad for sales, but for SEO. For SEO, it may reflect the issues with the selection of keywords. If your keywords selection is not good, then after optimizing your website for those keywords will bring irrelevant traffic to the website which will result in increase bounce rate.

8.5.4 Organic Conversion Rate

The conversion rate is the percentage of users who take a desired action. The archetypical example of conversion rate is the percentage of website visitors who buy something on the site. If the visitor clicked through to your website after searching for a keyword you're currently ranking for and took a desired action this will be called organic conversion.

8.5.5 Organic Conversions

A conversion is an action that occurs on the website, which is a predetermined goal set by the business. An organic conversion is basically the conversion made by the visitors that landed on the website through SEO. This varies greatly depending on the type of business and what the goal of the website is. An Ecommerce store wants to convert website visitors into purchases directly on their site. Each conversion can easily be tracked and compared with the campaign in order to determine the cost of each conversion. From here, it can be optimized and changed in order to achieve a lower conversion cost. SEO campaigns can deliver high rankings and an insane amount of website traffic, but if the conversion numbers are low then it will not be a successful marketing campaign. A lot of this has to do with the website content, layout and call-to-action location.

8.5.6 Link Building

One link from a high-quality website has much more value than thousands of low-quality spam links. Proper search engine optimization is all about quality and should never revolve around quantity.

9. Reporting and Analytics

Data analytics are used to understand the way all digital elements are performing. Setting up goals and KPI's for the website is essential to defining what are the main areas that need to be reported on. These metrics are tracked in order to analyses the effectiveness of the business.

One of the reasons Google Analytics Enhanced e-commerce is so effective is the magnitude of data it collects, including some areas the standard Google Analytics ignores. This data can reveal many of the elusive factors you need to make informed business decisions:

- How to design the site to appeal to your visitors
- The areas of your site that are most/least effective, and what that means
- Raw components for a SWOT analysis
- Behavioral patterns that signify problematic areas

The top priority should be to achieve Product, which is an indication that the business is providing real value to customers. A store that has achieved Product/Market Fit is one that offers a successful solution to a customer's problem or unmet need. If the product truly fits the market, people are willing to exchange money for it.

9.1   Analytics Plugin

9.1.1 Ecommerce Tracking Plugin

Ecommerce tracking allows you to measure the number of transactions and revenue that your website generates. On a typical ecommerce site, once a user clicks the "purchase" button in the browser, the user's purchase information is sent to the web server, which carries out the transaction. If successful, the server redirects the user to a "Thank You" or receipt page with transaction details and a receipt of the purchase. From here, you can send the ecommerce data from the "Thank You" page to Google Analytics by using analytics.js library. The massive amount of extra data available in Google Enhanced Ecommerce Tracking is extremely useful for building an online retail business... but at times it can be a bit overwhelming. Perhaps this is what is kept your e-commerce brand from using it in the past, or perhaps you do use it, but are confused about its true potential.

9.1.1 Enhanced Ecommerce Plugin

The enhanced ecommerce plug-in for analytics.js enables the measurement of user interactions with products on ecommerce websites across the user's shopping experience, including: product impressions, product clicks, viewing product details, adding a product to a shopping cart, initiating the checkout process, transactions, and refunds.

9.2   Key Metrics to Track

9.2.1 Customer Lifetime Value (LTV)

Lifetime value measures how a business will profit from the average customer over the timeframe that they will remain a customer. This is calculated based on the average customer purchase, profit per purchase and the number of purchases made in the customer's lifetime. Adopting new and improved CRM strategies may help increase the lifetime of the customer, thus improving the LTV.

9.2.2 Returning Visitors

This measures the percentage of users who return to the site after their first visit. This is an indication that they were interested, and cookies may be tracked to personalise their experience the next time they enter the site. A good ratio of returning visitors to new visitors is above 20%.

9.2.3 Time On Site

The time on site metric may be both good and bad. Generally, a longer period spent on the website means that customers are interested in the content. However, if customers are spending long periods on an e-commerce site which is not leading to conversions then there might be a problem with the journey and flow.

9.2.4 Pages Per Visit

The average number of pages that users navigate on the site in a single visit. A high number of pages per visit (around 4) indicates that people are interested in what is being sold.

9.2.5 Bounce Rate

The percentage of users who visit a single page on your website and then leave before taking any action. A high bounce rate (usually above 57%) means that your site is not giving a good first impression. A user may bounce because of poor design, unmet expectations, or slow page loading time.

9.2.6 Conversion Rates

The percentage of people that visited the website and either signed up or made a purchase is the conversion rate. This is important because the lower the conversion rate is, the more expensive and time consuming it will get to make a sale.

9.2.7 Page Load Time

Page load time can have an impact on revenue of as much as 16%. Increasing speed has become a fundamental product requirement. People need websites to load faster and information to be readily presented. Every second counts when it comes to the time it takes for a page to load and if visitors cannot find what they are looking for, it will have a direct negative effect on business results.

9.2.8 Customer Acquisition Cost (CAC)

CAC measures the amount of money being spent to acquire each customer. Since customer acquisition is the main expenditure in e-commerce, if the CAC is higher than the lifetime value per customer, the business will be operating at a loss. CAC requires a simple calculation of the amount spent in marketing versus the number of sales generated from that amount.

10. Website Development Process

The website development process is ever evolving as digital teams transform and mature in companies. It is an approach that is used by e-commerce teams to enhance efficiency and performance when developing e-commerce businesses and websites. While this process is a standardized approach to all digital product teams, it must be tailored depending on the business.

When implementing a successful e-commerce website it is essential that all areas in the process are taken into account to achieve a high quality outcome, however, dependant on the size and complexity of the business, certain areas may be given less emphasis than others and multiple roles may be conducted by a single team member. Utilising this approach helps save both time and money by allowing the e-commerce business and the customer to be clearly established from the beginning. This leads to thoughtful, well executed and validated design before moving into development. Through the development phase, thorough testing ensures the final e-commerce website that is deployed for the customer has been executed to the highest standard, thus creating positive experiences and driving retention.

10.1 The Circle Charter

Project manager

Business Analyst

Test analyst

Website owner

UX Designer

Development

UI Design

10.2 Waterfall Vs Agile Methodology

10.2.1 Waterfall

The Waterfall method is the traditional approach to website development where a project is broken up into distinct stages that must be completed in sequence.

Its name implies its workflow: each stage represents a discrete phase of software development, and the team must complete one phase before proceeding to the next. In a pure Waterfall implementation, returning to a previous phase is prohibited—the team can only travel

downstream and must complete a full development cycle before returning to the top. In addition, there is typically a review of requirements at the end of each stage.

Analyse → Plan → Design → Build → Test → Deploy

10.2.2 Agile

Agile takes an iterative approach to website development. Instead of handling all the planning upfront, Agile focuses on being lean and producing minimum viable products (MVPs) over set periods of time while improving with each iteration. For instance, the first few sprint cycles may include only the core features needed to deploy the website such as the homepage, product details pages and checkout. The sprint cycles that follow can then cater to additional features such as secure login, product reviews and so forth.

The different phases of the cycle can happen in parallel, and a backlog is kept to keep track of desired features and requirements. Agile methodologies place an emphasis on teamwork, constant user feedback, continuous improvement, and the ability to adapt to changing requirements.

Analyse → Plan → Design → Build → Test → Deploy

Analyse → Plan → Design → Build → Test → Deploy

Analyse → Plan → Design → Build → Test → Deploy
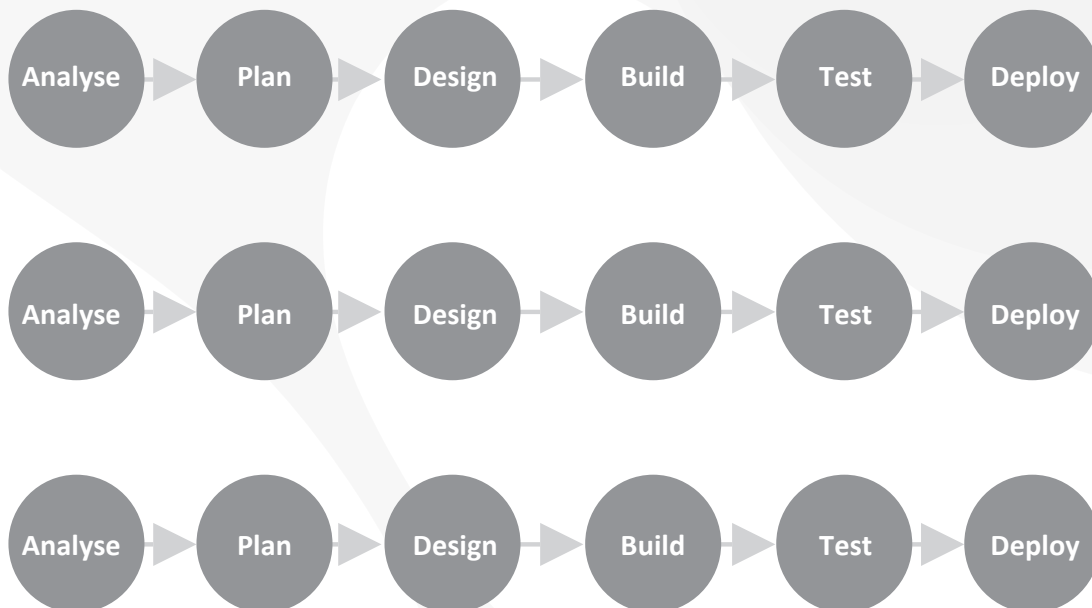
10.3 Steps Within the Process

10.3.1 Business Validation

Understanding business problems in relation to the Customer Value Proposition.
- Business and Operating Model
- Segmentation
- Customer Value Proposition

- Business Objectives/Outcomes.
- Demand Types (Failure and Value)
- Problem and Opportunity Analysis
- Business and Customer Needs
- Trends

10.3.2 Discovery and Research

Conduct an investigation and analysis regarding the business problems/opportunities while also gathering user input, consolidating thinking and outlining solutions/ideas/concepts.

- Refined Business Outcomes
- Domain Map
- Base Personas
- User Needs
- Scenarios and User Story Cards
- As-Is User Journeys
- Gaps/Opportunities
- Ideation (High-Level)

With the basic questions of what to sell, and whom to sell to answered, it's time to move to the next stage: the ecommerce website design and validation.

10.3.3 Design

Execute the detailed design. This is not a high-level solution space; it is a delivery environment that needs to bring concepts alive in enough detail so as to launch as efficiently as possible.

- Design Strategy and Requirements
- High-Level Implementation Plan
- Prioritized Roadmap
- Benefits/Business Case
- Release and Sprint Planning and Management
- Detailed User Stories and BRD
- Detailed Scenarios, Task Flows, Wireframes, Prototypes

10.3.4 Validate and Reiterate

This is where the product gets tested to see if the experience has been implemented correctly.
- Usability Test Plan
- Usability Test
- Reiterate on Designs

Upon completing and validating the website designs, it is ready to move into the development phase.

10.3.5 Build, Test and Deploy

Once the design has been successfully validated and is proven to be viable, the product will move into the development phase.

- Working Code
- Test Cases and Testing
- Change Management Prep
- Go Live

10.3.6 Adoption and Benefits Realisation

Drive internal change in management and customer awareness, and adoption interventions. Ensure ongoing benefits tracking and realisation associated with initiatives in the consolidated roadmap.

- Adoption Activities
- Operations
- Live Environment Monitoring
- Business Benefits Tracking
- UX Metrics Tracking
- User Feedback (Live)
- Continuous Improvement identification and scheduling.

11. Website Principles

A heuristic evaluation is a usability inspection method for digital products that helps identify usability problems in the interface. It involves evaluators examining the interface and judging its compliance with recognized usability principles (Heuristics). This evaluation or expert review of a web or mobile site is based on a set of predetermined heuristics or qualitative guidelines.

The heuristic set introduced is based on the analysis of a variety of credible studies - these studies present guidelines or functional requirements for websites.

11.1 Findability

11.1.1 Navigation

Navigation refers to the paths, taxonomy and interaction involved in browsing through a website.

A. Navigation options are clear, intuitive and consistent
- Browser standard functions (e.g. 'back', 'forward', 'bookmark') are supported
- Navigation structure is easy to identify and is consistent
- A clear and well structure site map or index is provided
- There are no broken links on the site
- A search box is provided
- Navigation is useful, consistent and easy to use
- Links are clear, descriptive and well labelled
- The website supports deep-link users. All of the site's pages are built in a way that makes sure a user could orient themselves if they arrived on that page before any other place on the site
- Search and filtering functionality is easy to use

B. Navigation ensures tasks are easy to perform
- The navigation has sufficient flexibility to allow users to navigate by their desired means
- The homepage emphasizes high priority tasks
- The number of pages to complete a task is appropriate
- The site structure is clear, easily understood and addresses common user goals
- Information is presented when it is needed
- Overall navigation supports primary task flows and works as an integrated whole

C. Context of place and clarity of routes forwards and backwards exist
- The current location is clearly indicated (e.g. breadcrumb, highlighted menu item)
- The navigation lets the user know where they have been and where they can go in a clear and consistent manner
- Sense of place is clear
- Users can easily return home. Users expect that your site's main logo will always link to your homepage, so make sure this is implemented
- The site has a clear name and the purpose can be easily established on the homepage
- There is a differentiation between visited and unvisited links
- Headings, lists, and a unifying structure are included across the website

- If users can go back to a previous menu, they should be able to change their earlier menu choice
- Users are able to move forward and backward between fields or dialog box options

D. Information Architecture

- Information is organized and grouped effectively. Menu choices fit logically into categories
- Naming and labelling of information is clear, consistent and descriptive
- The breadth and depth of menus is appropriate

11.1.2 Routing to Property

- The site is easy to find for users and search engines
- The URL provides and essence of the brand identity
- The URL is short so that it can be easily relayed from one user to the next, making viral marketing easier to come by
- TITLE and META tags have been completed to let users and search engines know what the site is all about
- URLs are consistent
- The URL is predictable and is returned by search engines

11.2 Intuitiveness

Intuitiveness refers to ease of use and understanding of the website.

11.2.1 Simplicity

A. Interaction model and use of controls avoids confusion

- The user easily knows what to do based on what they want
- The user knows what actions they can perform on specific locations
- Interactive elements follow familiar guidelines
- Interactive objects look clickable
- The user is able to interact with the design without confusion
- Strong visual affordances are provided for selectable items
- Best practice standards have been applied to the interactive elements used
- There is a clear outcome to every action performed
- All the information available in the current location is obvious
- Related and interdependent fields appear on the same screen
- Field-level prompts are provided for data entry screens

B. Complexity has been reduced to manageable levels

- Complex forms and processes are broken up into readily understood steps and sections. Where a process is used, a progress indicator is present with clear numbers or named stages.
- Repetitive actions or frequent activities feel effortless
- The number of micro-interactions to complete a task is suitable
- It is easy to find desired information

- The site structure is simple and clear without unnecessary complications
- The content language is clear, simple and easy to understand
- The most important information is presented upfront, with more details available as needed
- Information is grouped logically so it can be understood quickly and correctly
- Content is scannable and to-the-point
- Recognition rather than recall
- Make objects, actions, and options visible
- User should not have to remember information from one part of the dialogue to another
- Content is presented as digestible chunks
- The information is accurate, complete, relevant and understandable
- The user can change the level of detail available. Progressive disclosure is used effectively
- Instead of just describing things, examples are provided

11.2.2 Obviousness

There is a match between the system and the real world

- The design meets user expectations
- Information appears in a natural and logical order
- Menu choices are ordered in the most logical way, given the user, the item names, and the task variables
- If shape is used as a visual cue, it matches cultural conventions
- Selected colours correspond to common expectations about colour codes
- On data entry screens, tasks are described in terminology familiar to users

11.3 Efficiency

Users want to complete tasks within the shortest time as possible. Efficiency relates to the performance, relationships and processes.

11.3.1 Windows and Workspaces have Appropriate Relationships

- There is an appropriate content relationship between windows
- Use of secondary windows, screens, and hover-overs work as expected
- The amount of required window housekeeping has been kept to a minimum
- In systems that use overlapping windows, it is easy for users to switch between windows
- If the system displays multiple windows, the navigation between windows is simple and visible
- There are salient visual cues to identify the active window

11.3.2 Tasks Can be Completed with Minimum Effort

- Repetitive actions or frequent activities feel effortless
  - Appropriate input fields (e.g. calendar for date selection, drop down for selection) are used and required formats are indicated

- Visual cues are grouped effectively in determining the task flow and the tab order
- Buttons, links, icons are big enough to be able to reach and click easily
- The distance between associated objects are close enough
- Search box is easy to identify and easy to use
- Autosuggest is enabled for quick search functionality
- Information that is requested in more than one field is prepopulated
- The task is completed in an efficient manner and within an acceptable time frame
- In forms, only information needed by the user at a given time is included
- Allow users to remain focused on critical data
- Exclude extraneous information that is not relevant to current tasks
- Provide defaults. Defaults let users do less work to get the job done
- On data entry screens, users have the option of either clicking directly on a field or using a keyboard shortcut
- On menus, users have the option of either clicking directly on a menu item or using a keyboard shortcut
- In dialog boxes, users have the option of either clicking directly on a dialog box option or using a keyboard shortcut
- Efficiency and Task Completion
- Provide quick links to common features/functions
- Provide advanced features like the ability to delete multiple messages
- Pre-check common options, like opt-out of marketing emails
- Allow defaults to be changed, cancelled or overridden
- Remove unnecessary steps
- Automate unwanted workload
- Free cognitive resources for high-level tasks
- Eliminate mental calculations, estimations, comparisons, and unnecessary thinking
- The system automatically enters commas in numeric values greater than 999
- Users can reduce data entry time by copying and modifying existing data

11.3.3 System Performance Matches User Expectation and are Appropriate to the Task

- Visual cues (e.g. progress indicators) are provided
- Errors and reliability issues don't inhibit the user experience
- Website loads quickly
- Custom 404 errors are implemented
- Response time is appropriate to the task. Feedback is provided when response times are too long.
    - Typing, cursor motion, mouse selection: 50-1 50 milliseconds
    - Simple, frequent tasks: less than 1 second
    - Common tasks: 2-4 seconds
    - Complex tasks: 8-12 seconds

11.4 Clarity

Clarity relates to the visual cues and language which helps make the website clear to users.

11.4.1 Layout and Visual Structure

A. Layout and visual design build comprehension and visual hierarchy

- Visual hierarchy is clearly incorporated
- Visual elements fit to the brand, are used for a clear purpose and have been used to enhance hierarchy
- The design visually represents what it is intended to
- There is an established information hierarchy
- Visual hierarchy directs the user to the required action
- The primary action is visually distinct
- The design minimizes cognitive load
- The design guides the eye. Colour, position, size, and more are used to create a specific flow for the site
- Prompts, cues, and messages are placed where the eye is likely to be looking on the screen
- Grid systems are been implemented to provide structure and consistency
- Design is clean and simple
- White space has been used appropriately
- Important content is above the fold
- White space is used to create symmetry and lead the eye in the appropriate direction.
- Items have been grouped into logical zones and headings have been used to distinguish between zones.
- Zones been separated by spaces, lines, colour, letters, bold titles, rules lines, or shaded areas.
- Field labels are close to fields, but separated by at least one space
- The site renders correctly in different screen resolutions.
- The site functions correctly and has been tested on different web browsers

B. Design correctly uses attention and grouping cues

- Gestalt principles have been applied in accordance of similarity, proximity, common area and connectedness
- Visual attention of the user is guided to focus on vital information on the page
- Group data in consistently meaningful ways to decrease search time
- Use the senses to grab attention such as bright colours, large fonts, beeps, and tones
- Things that are close together are believed to "go" together
- Text areas have "breathing space" around them
- Meaningful groups of items are separated by whitespace
- Attention-getting techniques are used with care
- Intensity: two levels only
- Size: up to four sizes

- Font: up to three
- Blink: two to four hertz
- Colour: up to four (additional colours for occasional use only)
- Sound: soft tones for regular positive feedback, harsh for rare critical conditions

11.4.2 Visual Elements

A. Colour - Shows relationships and status, and draws attention with discretion
- Correct fundamental colour combinations are used
- Effective use of colour used to provide natural grouping cues
- Colour hazards have been avoided (saturated designs, saturated text and inappropriate colour designs
- Colour has been used specifically to draw attention, communicate organization, indicate status changes, and establish relationships
- Colour scheme is clean, pleasant and consistent
- The hardest colours to look at together are red and blue. Avoid red text on a blue background or vice versa.
- The same colour has been used to group related elements.
- Colour coding is consistent throughout the system.
- There is a good colour and brightness contrast between image and background colours.
- Light, bright, saturated colours have been used to emphasize data, and darker, duller, and desaturated colours have been used to de-emphasize data.
- Colour is used properly. Avoid placing light-coloured text on a light-coloured background, or it will be hard for visitors to read content. The same goes for dark-on-dark
- High-value, high-chroma colours are used to attract attention

B. Graphics - Enhances Layout, Meaningful, Aligned to Brand
- Icons are familiar, consistent and appear in context with related icons
- There is a consistent icon design scheme and stylistic treatment across the system
- Data graphics and data visualization are represented in the correct context (Tables to show precise data and graphs to show the relationship)
- Each individual icon acts as a harmonious member of a family of icons
- Excessive detail in icon design has been avoided
- High-quality, aesthetic images and videos are used
- Images and icons serve a purpose and are relevant
- Icons are universally understood
- Images are meaningful and serve a purpose
- Each icon stands out from its background
- Cut down on unnecessary animations to avoid overwhelming the user

C. Text - Legible and scalable, with good typography and visual contrast
- Major headings are easy to understand
- Minimal text, with information presented using clear terminology, without jargon
- Information is chunked
- Information is grouped

- Text and content is legible and scalable, with good typography and visual contrast.
- Content is written for scanning
- Required and optional form fields are clearly indicated
- Headings are easy to understand
- Symbols are used to break long input strings into "chunks"
- Text is readable, legible and consistent
- Text links are clear and follow conventions
- Anchor text is provided to links, adding a description to help users understand where the links may lead to
- Terms, language and tone used are consistent (e.g. the same term is used throughout)
- Information is in context to the related interface
- The design guides readability
  - Fonts are large enough to read
  - Fonts that are not too decorative so they are easy to read
  - Fonts provide a sense of hierarchy. Size, boldface, underlining, colour, shading, or typography used to show relative quantity or importance of different screen items
- Heavy use of uppercase letter has been avoided
- Abbreviations follow a simple primary rule and, if necessary, a simple secondary rule for abbreviations that otherwise would be duplicates
- Multi Page data entry screens are consistent and logical:
  - All pages have the same title
  - Each page has a sequential page number
- Integers are right-justified and real numbers decimal-aligned
- Icons are labelled
- Field labels and fields are distinguished typographically
- Field-level prompts provide more information than a restatement of the field name
- Large strings of numbers or letters been broken into chunks
- Data entry screens and dialog boxes indicate when fields are optional
- On data entry screens and dialog boxes, dependent fields are displayed only when necessary
- Field labels are brief, familiar, and descriptive
- Each data entry screen has a short, simple, clear and distinctive title
- Link names use important keywords
- Language and wording is straightforward
- Information does not look like an advertisement. Users will ignore information if it resembles a promotion, so large red text and other design elements found in advertisements should be avoided
- Content does not have spelling or grammar errors

D. Content - Correct tone, supports decisions, sufficient, clear and concise

- Content available (e.g. headings, text, images, video) is appropriate and sufficiently relevant, and detailed to meet user goals
- Links to other useful and relevant content (e.g. related pages or external websites) are available and shown in context

- Good content, good writing, message on target
- Write clear, concise copy
- Only use technical language for a technical audience
- Write clear and meaningful labels
- Language, terminology and tone used is appropriate and readily understood by the target audience
- Inverted pyramid is used for show most important to least important
- Content follows summary/detail format
- Tone of writing is appropriate
- Content facilitates decision making
- Every display begins with a title or header that describes screen contents

11.4.3 Privacy and Security are Maintained

- A privacy policy has been outlined. It drives users crazy to give away their contact information without knowing what will be done with it. Make it explicitly clear whether you'll sell their email address, and how often they'll get email from you
- Secure areas of the site are completely protected from unauthorized users

11.4.4 Visibility

A. Feedback and system status are clear and promptly provided
- Users are always kept informed about what is going on
- Appropriate feedback is provided within reasonable time
- After the user completes an action (or group of actions), the feedback indicates that the next group of actions can be started
- There is visual feedback in menus or dialog boxes about which choices are selectable
- There is visual feedback in menus or dialog boxes about which choice the cursor is on now
- If multiple options can be selected in a menu or dialog box, there is visual feedback about which options are already selected
- There is visual feedback when objects are selected or moved
- The current status of an icon is clearly indicated
- The user is kept informed of the system's progress and if there are observable delays (greater than fifteen seconds) in the system's response time
- Response times are appropriate to the user's cognitive processing
    - Continuity of thinking is required and information must be remembered throughout several responses: less than two seconds
    - High levels of concentration aren't necessary and remembering information is not required: two to fifteen seconds
- Alert messages are visually distinct
- Alert messages are consistent.

11.5 Learnability

The site should be consistent, familiar and supporting.

11.5.1 Familiarity

A. Patterns, elements, interactions and presentation styles are familiar

- Objects should be located in familiar locations
- Common/familiar objects (icons, buttons etc.) are used in a way that users will recognise and understand immediately
- Patterns, icons and presentation styles are familiar
- Follow platform conventions:
    - Place items in standard locations like search boxes at the top of the screen
    - Place the shopping cart at the top right of the screen
    - Create a system that behaves in a predictable way
    - Checkout processes follow a standard order
    - Use standard processes and web patterns
- Interactive elements follow familiar guidelines

B. Uses common terms, metaphors and naming conventions

- Everyday terms, metaphors, etc. are used
- Users should not have to wonder whether different words, situations, or actions mean the same thing
- Common naming conventions such as "login" are used

11.5.2 Consistency

A. Design elements are placed and used in a consistent manner

- Menu instructions, prompts, and error messages appear in the same place(s) on each menu
- Structure/layout of the site should be the same throughout the page
- Action buttons, navigation etc. should be located in the same position throughout the pages
- The same colour should be used for visual detection of important information
- The structure of a data entry value is consistent from screen to screen
- Industry or company formatting standards have been followed consistently in all screens within a system
- Industry or company standards have been established for menu design, and are applied consistently on all menu screens in the system

B. Language is consistent in terminology, style and construction

- Field labels are consistent from one data entry screen to another
- User actions are named consistently across all prompts in the system
- System objects are named consistently across all prompts in the system
- Menu choice names are consistent, both within each menu and across the system, in grammatical style and terminology

- Commands are used the same way, and mean the same thing, in all parts of the system

11.5.3 Support

A. Explanations, guidance and instructions provided to avoid confusion

- Explicit coaching is provided for new features or complex tasks
- The system provides additional explanatory information when an item is selected, if menu choices are ambiguous
- Data entry screens and dialog boxes are supported by navigation and completion instructions
- If menu items are ambiguous, the system provide additional explanatory information when an item is selected
- There are memory aids for commands, either through online quick reference or prompting

B. Help system is valuable, contextual and integrated

- The FAQ section answers real and valuable questions
- The help function is visible
- Help functionality is context-sensitive
- It is easy to access and return from the help system
- Users can resume work where they left off after accessing help
- Accessing help does not impede user progress

11.6 Forgiveness

Humans and interfaces make mistakes. The website should help prevent and recover from them.

11.6.1 Error Prevention, Identification and Recovery

A. The design prevents errors from occurring

- Common user errors (e.g. missing fields, invalid formats, invalid selections) have been taken into consideration and prevented, wherever possible
- Users should be provided with confirmation messages before certain actions (e.g. payment, deleting information, sending message etc.)
- Information that is requested in more than one field is pre-populated.
- User inputs are validated immediately
- The design minimizes user errors
  - Irrelevant options are disabled
  - Local and international dialing codes are disabled
  - Examples and contextual help is provided
- If the results of an error are severe then use a confirmation before acting on the user's action.
- Make it easy to "undo"
- If a task is error-prone, break it up into smaller chunks
- Data inputs are made case-blind whenever possible

- The function keys that can cause the most serious consequences are placed in hard-to-reach positions
- The function keys that can cause the most serious consequences are located far away from low-consequence and high-use keys
- The system warns users if they are about to make a potentially serious error
- Data entry screens and dialog boxes indicate the number of character spaces available in a field
- Fields in data entry screens and dialog boxes contain default values when appropriate
- A good error prevention strategy is used – format cues, controls, help
- Forms autofill and calculate when practical
- Users are prompted to confirm commands that have drastic, destructive consequences
- Users can cancel operations in progress

B. It is easy to understand and recover from errors

- Errors are clear, easily identifiable and appear in appropriate location (e.g. adjacent to data entry field, adjacent to form, etc.)
- Error messages are concise, written in easy to understand language and describe what's occurred and what action is necessary
- Users are able to easily recover (i.e. not have to start again) from errors.
- Users understand the nature of errors
- Error messages explain how recover from the error
- Error messages displayed at appropriate locations
- Prompts are stated constructively, without overt or implied criticism of the user.
- Prompts imply that the user is in control
- Prompts are brief and unambiguous
- Error messages worded so that the system, not the user, takes the blame
- If humorous error messages are used, they are appropriate and inoffensive to the user population
- Error messages are grammatically correct
- Error messages avoid the use of exclamation points
- Error messages avoid the use of violent or hostile words
- All error messages in the system use consistent grammatical style, form, terminology, and abbreviations
- Error messages inform the user of the error's severity
- Error messages suggest the cause of the problem

11.7 Accessibility

The site should be made readily available for all types of users and devices

11.7.1 Device Accessibility

- It is possible to access the UI from multiple devices
- The site is effectively responsive

11.7.2 Design Accessibility (User Disability)

- Graphic links are also available as text links
- Audio/Video content is also available as text
- Colour can be used to show whether things go together. Devise another way to show the same info since some people are colour-blind
- Descriptions have been added to images. Let users know what purpose an image serves by placing information in the ALT and TITLE attributes

11.8 Relevance and Value

The site should be current and provide the right information for users at the right time.

11.8.1 Relevance

- The content is current, comprehensive and correct
- The site conveys its value proposition
- The site gives users what they're looking for, when they need it

11.8.2 Value

Features and offerings are useful and meet user's needs
- The content meets the user's needs
- The features are useful and meet the user's needs
- Only features that people really need are provided. Do not rely on your opinion of what you think they need; do user research to actually find out. Giving people more than they need just clutters up the experience.

12. User Interface (UI) Design

User Interface (UI) design is the design of user interfaces for software or machines, such as the look of a website, with a focus on ease of use and pleasure for the user. UI design usually refers to the design of graphical user interfaces—but can also refer to others, such as natural and voice user interfaces.

Many user interfaces are designed with a focus on usability and efficiency. Users should be able to achieve their goals as efficiently as possible, without focusing too much on the user interface itself. In that sense, a well-designed user interface becomes effectively invisible to those using it. In other words, they interact directly with the 'reality' the design portrays without reckoning on the point that, for example, thumbing button icons through the glass screens of their handheld devices is responsible for producing changes in what they see. However, usability and efficiency might not be the only measure of a well-designed user interface; a user interface might be designed to create a fun and pleasurable experience for users instead.

12.1. Design Systems

12.1.1 What are Design Systems?

From typography, layouts and grids, colours, icons, components and coding conventions, to voice and tone, style-guide, documentation, a design system brings all of these together in a way that allows your entire team to learn, build, and grow. Design systems provide the flexibility needed for working with the unknown devices of the future. It may be a change in process, but it shouldn't be too much of a difference in thinking.

It is not enough to focus only on the visual. The first thing that needs to be done is to align the very foundations of the website, such as documentation, tools we use every day, and the design process - all of which plays an important role in building a strong design foundation

12.1.2 Examples of Well-executed Design Systems:

a. Atlassiana
   https://atlassian.design/

b. Shopify Polaris
   https://polaris.shopify.com

c. Google Material Design
   https://material.io/guidelines

d. Microsoft
   https://fluent.microsoft.com/

e. MailChimp
   https://ux.mailchimp.com/patterns

f. Trello
   https://design.trello.com/

g. BuzzFeed
   http://solid.buzzfeed.com/

h. Apple
   https://developer.apple.com/design/

12.2 Design Thinking

12.2.1 What is Design Thinking?

"Design thinking is a human-centred approach to innovation that draws from the designer's toolkit to integrate the needs of people, the possibilities of technology, and the requirements for business success."
Tim Brown, CEO OF IDEO

Design thinking is a methodology used across all business streams in order to promote innovation through experimentation and understanding. It allows the business to understand the true needs of the customer which helps validate the solutions and identify future opportunities.

12.2.2 How Design Thinking Influences e-commerce Businesses

Thinking like a designer can transform the way businesses develop e-commerce websites, apps, services, processes, and strategy. It is a creative way of thinking which is built upon understanding the needs of the user in order to implement design that fulfils the right needs. This way of thinking allows all stakeholders in an e-commerce business to use creative tools to address a variety of challenges. The e-commerce market is highly competitive and using this approach to building website can effectively help determine the key offering and differentiate the website from the others.

12.2.3 The 4 Phases of Design Thinking

Phase 1 **Gather Inspiration**	Inspire new thinking by discovering what people really need
Phase 2 **Ideation**	Push past obvious solutions to get to breakthrough ideas
Phase 3 **prototype and test**	Build rough prototypes to and validate them to pick out issues and missing opportunities
Phase 4 **Build a story**	Create empathy with the website by crafting a human story to inspire others toward action

Reference: https://www.ideou.com/pages/design-thinking

12.3 Design Elements

The design elements within a user interface reinforce the experience that a user has with a website. Each element should convey both meaning and provide aesthetic value, while working collectively with all other elements to provide a holistic interface.

12.3.1 Branding/Visual Identity

While branding and visual identity have been around since people began buying and trading goods, the definition has evolved in the Digital Age. Consumers now have a wider range of interaction with companies and greater choice in product selection. Today, a brand is the holistic sum of customers' experiences, composed of visual, tonal and behavioural brand components, many of which are shaped by interaction design.

Best Practice:
- The design should convey the brand identity of the company
- The visual style guide should be consistent, conveying brand credibility
- Logo should be placed in the top left corner of the page

12.3.2 Page Layout

The page layout refers to the way content has been strategized across a given page. This may include hierarchy, grids and guides, modules, positioning, colour, sizing and typography. All elements should work together as one unit to build comprehension, trust and conversion.

Best Practice:
- Visual hierarchy is clearly incorporated
- The design visually represents what it is intended to
- There is an established information hierarchy
- Visual hierarchy directs the user to the required action
- Primary action is visually distinct
- The design minimizes cognitive load
- The design guides the eye. Use colour, position, size, and more to create a specific flow for the site
- Prompts, cues, and messages are placed where the eye is likely to be looking at on the screen
- Grid systems have been implemented to provide structure and consistency
- White space has been used appropriately
- Important content is above the fold
- Items have been grouped into logical zones and headings used to distinguish between zones
- Zones have been separated by spaces, lines, colour, letters, bold titles, rules lines, or shaded areas
- Field labels are close to fields, but separated by at least one space
- Text links are obvious with coloured, underlined text
- Gestalt principles have been applied in accordance of similarity, proximity, common area and connectedness
- Visual attention of the user is guided to focus on the vital information on the page

- Attention-getting techniques are used with care:
- Intensity: two levels only
  - Size: up to four sizes
  - Font: up to three
  - Blink: two to four hertz
  - Colour: up to four (additional colours for occasional use only)
  - Sound: soft tones for regular positive feedback, harsh for rare critical conditions

12.3.3 Buttons

Buttons are a simple element of interactive design, used every day by people browsing the web. Buttons are a core ingredient to driving conversion and engagement on websites as they are the call to actions that lead users one-step closer to where they need to be.

Best Practice:
- Make sure that buttons do what they say and are labelled
- Button colour should stand out from other elements on the page
- Buttons should convey meaning through colour - primary action, secondary action and negative state
- Buttons should be consistent with defining design trends
- Buttons are placed where users can find them in the UI
- Visual feedback and interaction on buttons is clear
- UI sizing principles should be adhered to: at least 48 x 48dp, with at least 8dp (or more) between them
- UI shape principles should be adhered to: flat and raised material buttons should be 36dp high, have a minimum width of 88dp, and have a 2dp corner radius (flat)/have a default elevation of 2dp (raised)
- UI padding principles should be adhered to: Padding, essentially white space around content or components, gives the UI breathing space and avoids overwhelming the user.
- Buttons look like buttons

12.3.4   Iconography

A user's understanding of an icon is based on previous experience. Due to the absence of a standard usage for most icons, text labels are necessary to communicate the meaning and reduce ambiguity.

In addition to conveying brand personality through colour and style, icons must first and foremost communicate meaning in an interface. Icons are a visual representation of an object, action, or idea, and if that object, action, or idea is not immediately clear to users, the icon is reduced to only hold visual aesthetic that hinders people from completing a task.

Best Practice:
- Icons should be simple, and their meaning and symbolism should be self-explanatory and relevant
- Icons should be large enough to be distinguishable on a high-resolution monitor, since the display size of components decreases with the increase in the screen resolution set by the user
- "Universal" icons are rare. Icons should be a depiction of their meaning

- Text labels must be present alongside an icon to clarify its meaning in that particular context
- Size of icons should be relevant to the content
- Icons should have a consistent style with similar line weights and colours

12.3.5 Typography

Typography is defined as the art and science of font style, appearance, and structure, which aims at delivering aesthetic and easily readable copy to readers, playing a significant role in design.

Typography is used to create clear hierarchies, useful organizations, and purposeful alignments that guide users through the product and experience. It is the core structure of any well-designed interface.

The Role of Typography in Design

Typography is an essential part of the effective design. The majority of information that people consume is in text form and designers need to make this process easy and productive. The basic knowledge of typography can help to comprehend the peculiarities of font visual presentation and its influence on users perception.

Effective copy is a key to the powerful design, and this effectiveness depends on not only its content but also presentation. Designers can transfer certain moods or messages by choosing appropriate fonts and the ways of their presentation. This way typography helps design to communicate with people. Visual performance and readability of copy in digital products have the great impact on user experience, and if fonts are illegible, people can face problems with navigation or even worse - cannot use it at all.

Best Practice:
- The content of the site should be readable with default standard fonts.
- Web typefaces are preferred as they are designed to render efficiently on digital platforms
- Italic fonts are not legible in small font sizes
- All capital characters and italics should be used sparingly as they hinder legibility in big blocks of text
- Text must be resizable without assistive technology, without loss of content or functionality
- Font properties should be such that the text must be readable both in electronic and print format, and the page must print correctly on an A4 size paper
- To separate different types of information and highlight the vital points, fonts should be applied in different sizes and weights. The type weight is a measurement of how thick type character is. The sizes are usually measured in inches, millimetres, or pixels
- White space, also known as negative space, is the area between elements in a design composition. It should be balanced and used accordingly to improve readability
- Typography should be structured and organized, providing a sense of hierarchy
  - The primary level of copy content includes the biggest type, like in headlines. It strives at drawing a user's attention to the product
  - The secondary level consists of copy elements, which can be easily scanned.
  - The tertiary level of typography includes body text and the other information. It is often presented with the small type still it should be readable enough.

12.3.6 Colour

Colour does much more than adding an aesthetic appeal to design, it reinforces it. The use of colour should convey meaning through psychology, interaction, grouping and hierarchy. Colour must be used in moderation, sticking to a maximum of three primary colours in the colour scheme. Additional colours beyond the primary defined colours can be built up of a range of shades and tints, which provide a different tone to work with.

Best Practice:

- 60–30–10 Rule - The 60% + 30% + 10% proportion is meant to give balance to the colours. This formula works because it creates a sense of balance and allows the eye to move comfortably from one focal point to the next. It is also incredibly simple to use - 60% is your dominant hue, 30% is secondary colour and 10% is for accent colour.

- Psychological colour meaning plays a key role in establishing the right message within the website. Colour meaning can be both universal and culture specific.

Universal Colour Meaning:

- Red is generally used for warnings or errors
- Orange is a colour used for caution
- Green is generally associated with success
- Blue is neutral and safe

Middle Eastern Culture Specific Colour Meaning:

- Red evokes feelings of danger and caution. Some also consider it the colour of evil.
- Orange is associated with mourning and loss.
- Yellow is widely connected to happiness and prosperity
- Blue is safe and protecting. It is the colour associated with Heaven, spirituality and immortality
- Green is that of Islam. It represents strength, fertility, luck and wealth.
- Purple represents wealth
- Brown is harmonious with earth and comfort.
- Black has somewhat contrasting but symbiotic meanings – it represents both rebirth and mourning
- White is associated to purity and peace

- Colour contrast should be taken into consideration, making sure that the contrasting ratios are strong enough for content to viewed in multiple lighting conditions

- Use of colour should depend on the type of target audience. For example, a site for children may use bigger fonts and bright colours to grab the attention of kids while a site designed for researchers and academicians should focus on content with subtle use of colours

- Designers must ensure that all information conveyed with colour is also available without colour, for example from context or markup

- Colour should be used to convey meaning in interaction. A scientific approach should be implemented which gives users a consistent meaning for a colour dependent on the interaction. For example, all primary Call to Action buttons should use a consistent colour so that the user begins to understand the relevance of it through learnt behavior

- Websites should ensure the colours used for text and graphics look good on a variety of platforms, monitors and devices by selecting them from the 216-color web-safe palette

12.3.7 Imagery

Photographs can be a powerful way to capture attention and communicate the value of the product. They provide more than just aesthetic value and have the power to drastically improve a user's experience and engagement with the brand as compelling images have a unique ability to inspire and engage them on an empathetic level.

Best Practice:

- Images should be in the correct format ratio. They should not be stretched in any way
- Avoid generic stock photography. Images used should convey meaning and feel realistic as opposed to the staged nature of stock photography. New services like Adobe Stock Premium, Unsplash, etc. bring a higher quality set of images to the table - with exceptional, lush photography and relatable scenarios
- Use a consistent style across images used on the website
- Rich, strong, high definition images should be used
- Make sure there is enough contrast for text to be readable when placed over images
- Images should only be used when it adds value to the content
- Commonly used images, such as those for website identity and navigation, should be re-used to decrease download time. Images stored in the browser's cache will not need to be re-loaded and will display faster
- The size of image should be reduced as much as possible to minimize the download time of web pages
- Images should be created in an appropriate format to minimize load time and maximize the display quality. There are three formats for displaying images:
    - JPEG format for images that contain many colour variations, such as photographs. JPEG images can contain up to 16 million colours
    - PNG format does not have any patent restrictions and can be read and written freely by software developers and webmasters alike
    - GIF format for images that contain line-art and areas of colour such as icons and graph.

12.3.8 Data Visualization

The purpose of data visualization is to bring order to chaos, allowing a user to quickly read and understand multiple attributes of a particular issue, topic or data point. The UI design styling that builds up the data visualization needs to find a way of removing complexity and simplify it.

Best Practice:

- Embed proper data analytics in visualizations
- Use colour as a tool to convey meaning
- Add interactivity to complex visualizations
- Use familiar chart types, such as area charts, bar/column, line, or pie/donut
- Add no more than 5 slices to a pie chart
- Simplify the visualization as much as possible so that it is easy for users to grasp and understand:
    - Remove backgrounds
    - Remove redundant labels

- Remove unnecessary borders and containers
- Reduce colours; highlight most important data
- Remove all effects (3D, shadows, etc.)
- Visually separate labels/lines from data
- Remove extraneous lines and labels

12.3.9 Video

One of the fastest growing elements in website design is the use of video. From full-screen moving images to pop-ups and embedded video from social media, video is a must-have when it comes to content. Video can provide users with a glimpse into your world, with good ones that hook users, making the experience immersive and keeping them on a website longer. Since seamless video is now possible on almost any device and in any environment thanks to universally faster internet connections (even on cellular networks), the reasons to use video are compelling.

Best Practice:

- Quality is of primary concern; do not even consider using video unless it is high definition and has top-notch production values. It needs to render crisply at high resolutions, as well as convey a professional look and feel, from the images captured to its framing and editing
- Contrast should be used to establish flow and guide users through the content:
  - Colour contrast: Elements layered on top of video should remain easy to read
  - Multiple contrasting videos: Play with content. Users will appreciate seeing something new when they visit your website
  - Still elements vs. motion: Because video is such a striking feature, elements sharing the UI need to be (and appear) still
- Avoid sound if possible
- Auto-play sound is intrusive and can be jarring for some users. Therefore, when it comes sound in video, the rule of thumb is to always "turn it off."
- Formats of audio/video should be common across a website

12.3.10 Animation

Users expect motion as an integral part of interactive experience. Sophisticated methods should be utilized to make animation pleasant-looking and problem solving, characteristic of modern apps and websites.

Animation supports the essence of actual and real interaction, creating the level of feelings and perception close to what people have when they are interacting with a physical object in real life. This sort of feeling can boost user experience rate of positivity really high as the more natural a user feels, the less effort is needed to deal with the app or a website and the more clear its working gets. What's more, it will certainly leave the user satisfied. In addition, it is no secret that satisfaction and pleasure are among top things that encourage people to use a product again.

Like everything that is put into the interface and process of interaction with it, animation must be a functional element, not just for decor. Considering motion elements while planning user journey around the digital product, a designer should deeply analyse its potential for increasing usability, utility and desirability of the product before making a decision to apply it in the layout or transitions. Animation in UI requires thoughtful approach and always needs to have a clear

purpose set behind. Advantages and utility of using it in the interaction process have to be obvious and outweighing possible disadvantages.

Animation may be used in a wide range of scales and contexts to unite beauty and function - it can influence behaviour, communicate status, guide the users attention and help the user see the results of their actions.

Best Practice:

- Animation should be designed to mimic real-world interactions
- Use animation to provide visual feedback to users
  - Animate elements in simple and subtle ways upon interaction to give them the feedback they need. E.g. change the background colour of a button when it is clicked
  - Telling your user what's happening, even via a simple progress bar, can ease the mind considerably and prevent the user from excessive clicking or even worse, leaving the site
- Performance is of high importance. Animations should run fast, not slow. The movement should be fast enough that it doesn't cause waiting, but slow enough that the transition can be understood
- Associate newly created surfaces to the element or action that creates them. The logic behind associative connection is to help the user comprehend the change that has just happened in the view's layout and what has triggered the change
- Animations should ease in naturally. Avoid a surprising transition. Every movement should be inspired by forces in the real world
- Avoid multiple animations and effects within a single view
- Certain special effects such as spiralling or throbbing have been reported to cause epileptic seizures and should be avoided.

65

13. Appendix

A.   E-Commerce Checklist

To effectively rate the e-commerce implementation of the website, each heuristic should be used as criteria and given a score based on performance within the site.

Scoring is based on a scale of 0 to 1.

0   =   Not applied
1   =   Applied

Each category should be translated into an accumulative score in order to gain an understanding of where problems may lie.

E-commerce Scorecard		Score (0 - 1)
No.	E-commerce Criteria	
1	Business Strategy	
1.1	The Unique Selling Point of the business has been identified	
1.2	Research methodology has been implemented to gain an understanding of the customer	
1.3	The brand position, tone and style has been determined	
1.4	A product team has been organized	
2	Legal	
2.1	The Qatar Electronic Commerce and Transactions By Law is adhered to	
2.2	Terms and conditions have been outlined and explicitly stated on the website	
3	Payment	
3.1	Applicable payment types have been selected	
3.2	A certified payment gateway has been utilized for card payments	
4	Logistics	
4.1	Integration with Qatar Post has been established	
5	Security	
5.1	A secure connection is used for checkout (SSL)	
5.2	Digital certificates have been implemented to enhance the security	
5.3	Site content is encrypted	
5.4	A combination of upper and lower case, numbers and special characters is requested for user passwords	
5.5	Tracking numbers are used for all orders	
5.6	Online and local backups have been configured	
6	Platforms	
6.1	A leading e-commerce platform is utilized	
7	Marketing	
7.1	A comprehensive marketing strategy and plan has been devised	
8	SEO	
8.1	A comprehensive SEO strategy and plan has been devised	
8.2	SEO metrics are tracked and monitored	

9	**Reporting and Analytics**	
9.1	Key objectives and metrics are established	
9.2	Metrics are tracked and reported accordingly	
10	**User Experience**	
10.1	A standard UX process is followed with all product design	
10.2	Thorough requirement gathering and research is conducted	
10.3	The website strategy is implemented based on analysis of the research	
10.4	Designs are validated using user research methodology	
10.5	Functions within the User Experience Toolkits are utilized accordingly	
11	**UI and Design**	
11.1	A visual identity has been established and is consistently used across all elements of the design	
11.2	The page layouts are consistent, well-structured and provide a sense of hierarchy	
11.3	Buttons adhere to usability guidelines, and are consistent and labelled correctly	
11.4	Icons adhere to usability guidelines, and are consistent and labelled correctly	
11.5	Typography is readable, legible and consistent	
11.6	Colour has been used to provide both aesthetic value and meaning	
11.7	Imagery is rich, unique and consistent	
11.8	Animation uses a scientific approach to convey meaning and enhance the interface	
12	**Pages, Features and Functionality**	
12.1	The home page includes all relevant features and functionality	
12.2	Clear and optimal categories have been used	
12.3	Best sellers, popular items and offers are given prominence	
12.4	It is easy to switch between different languages (English and Arabic)	
12.5	Category landing pages are used wherever necessary	
12.6	Navigation is obvious, clear and consistent	
12.7	Search functionality is made prominent with added filtering options	
12.8	Product listing pages provide easy scanning and filtering	
12.9	Product detail pages a descriptive and content rich	
12.10	Strong Call To Actions have been utilized to promote conversion	
12.11	A persistent shopping cart has been applied across the website	
12.12	Checkout processes are quick, logical and easy	
12.12	Guest checkout is enabled	
12.13	Contact information and support is provided explicitly throughout the site	
12.14	The post-sale experience has been optimized to provide value to the customer	
12.15	Users are given the ability to login and track order status, manage orders and update details	

B.   Web Usability Checklist

To effectively rate the complete experience of the website, each heuristic should be used as criteria and given a score based on performance within the site.

Scoring is based on a scale of 1 to 5.

1	=	Extremely Poor
2	=	Poor
3	=	Average
4	=	Good
5	=	Extremely Good

Each category should be translated into an accumulative score in order to gain an understanding of where problems may lie.

Usability Scorecard		**Score (1 - 5)**
No.	**Usability Criteria**	
1	**Findability**	
	Navigation	
1.1	Navigation options are clear, intuitive and consistent	
1.2	Navigation ensures tasks are easy to perform	
1.3	There is clear context of place and of routes forwards and backwards	
	Information Architecture	
1.4	Information is organized and grouped effectively	
1.5	Naming and labelling of information is clear and descriptive	
1.6	The breadth and depth of menus is appropriate	
	Routing	
1.7	No broken links, is easy to access and is search engine optimized	
2	**Intuitiveness**	
	Simplicity	
2.1	Interaction model and use of controls avoids confusion	
2.2	Complexity has been reduced to manageable levels	
	Obviousness	
2.3	There is a match between the system and the real world	
3	**Efficiency**	
3.1	Windows and workspaces have appropriate relationships	

3.2	Tasks can be completed with minimum effort	
3.3	System performance matches expectations and tasks	
4	**Clarity**	
	Visual Structure and Layout	
4.1	Layout and visual design build comprehension and visual hierarchy	
4.2	Design correctly uses attention and grouping cues	
	Visual Elements	
4.3	Colour - Shows relationships and status, draws attention, with discretion	
4.4	Graphics - Enhances layout, meaningful, aligned to brand	
4.5	Text - Legible and scalable, with good typography and visual contrast	
	Content	
4.6	Content - Correct tone, supports decisions, sufficient, clear and concise	
4.7	Privacy and security are maintained	
4.8	Feedback and system status are clear and promptly provided	
5	**Learnability**	
	Familiarity	
5.1	Patterns, elements, interaction and presentation styles are familiar	
5.2	Uses common terms, metaphors and naming conventions	
	Consistency	
5.3	Design elements are placed and used in a consistent manner	
5.4	Language is consistent in terminology, style and construction	
	Support	
5.5	Explanations, guidance and instructions provided to avoid confusion	
5.6	Help system is valuable, contextual and integrated	
6	**Forgiveness**	
6.1	Errors are prevented from occurring	
6.2	It is easy to identify, understand and recover from errors	
7	**Accessibility**	
7.1	Disabilities and ease of access have been catered for	
8	**Relevance and Value**	
8.1	Content is current, comprehensive and correct for the audience	
8.2	Features and offerings are useful and meet user's needs	

C.   Definitions

404 errors	404 is a frequently seen status code that tells a Web user that a requested page is "Not found."
Administration Module	Used to administrate products, prices, orders, offers, invoices, customers, financials and product packaging.
ALT and TITLE attributes	The HTML attribute used in HTML and XHTML documents to specify alternative text (alttext) that is to be rendered when the element to which it is applied cannot be rendered.
Animation	The technique of photographing successive drawings or positions of puppets or models to create an illusion of movement when the film is shown as a sequence.
Autofill	A software function that completes data in browser forms without the user needing to type it in full.
B2B	Business to business, also called B to B or B2B, is a type of transaction that exists between businesses, such as one involving a manufacturer and wholesaler, or a wholesaler and a retailer.
B2C	Business to consumer (B2C) is business or transactions conducted directly between a company and consumers who are the end-users of its products or services.
Call to Action (CTA)	An exhortation or stimulus to do something in order to achieve an aim or deal with a problem.
Categories	A class or division of people or things regarded as having particular shared characteristics.
Chunked	Group together (connected items or words) so that they can be stored or processed as single concepts.
Cognitive load	Cognitive load refers to the total amount of mental effort being used in the working memory. Cognitive load theory was developed out of the study of problem solving by John Sweller in the late 1980s. Sweller argued that instructional design can be used to reduce cognitive load in learners.
Cognitive science	The study of thought, learning, and mental organization, which draws on aspects of psychology, linguistics, philosophy, and computer modelling.
consumer	A person who purchases goods and services for personal use.
Content Management System (CMS)	A term and has not been endorsed with a solid definition. A CMS can have multiple meanings depending on the scenarios and the person's or project objectives.
Contrast	The state of being strikingly different from something else in juxtaposition or close association.
Conversion	The process of changing or causing something to change from one form to another.
Cookies	Information that a Web site puts on your hard disk so that it can remember something about you at a later time.

Coupon codes	A computer-generated code, consisting of letters or numbers that consumers can enter into a promotional box on a site's shopping cart (or checkout page) to obtain a discount on their purchase.
Customer Lifetime Value (CLV)	A prediction of the net profit attributed to the entire future relationship with a customer.
Cyber criminals	Computer related crime, is crime that involves a computer and a network. The computer may have been used in the commission of a crime, or it may be the target.
Data visualization	The representation of information in the form of a chart, diagram, picture, etc.
Defaults	A preselected option adopted by a computer program or other mechanism when no alternative is specified by the user or programmer.
e-billing	Electronic billing or electronic bill payment and presentment, is when a company, organization, or group sends its bills over the internet, and customers pay the bills electronically.
e-commerce	E-commerce (electronic commerce or EC) is the buying and selling of goods and services, or the transmitting of funds or data, over an electronic network, primarily the internet.
e-payment	An electronic payment system is a way of paying for a goods or services electronically, instead of using cash or a check, in person or by mail.
Encrypted	Convert (information or data) into a code, especially to prevent unauthorized access.
FAQ	A list of questions and answers relating to a particular subject, especially one giving basic information for users of a website.
Field labels	You can assign text information to a data element with the field labels. The field labels are used to display a screen field.
Fonts	A set of type of one particular face and size.
Gestalt principles	Gestalt is a psychology term, which means "unified whole". It refers to theories of visual perception developed by German psychologists in the 1920s. These theories attempt to describe how people tend to organize visual elements into groups or unified wholes when certain principles are applied.
Gestalt principles	Gestalt is a psychology term, which means, "unified whole". It refers to theories of visual perception developed by German psychologists in the 1920s. These theories attempt to describe how people tend to organize visual elements into groups or unified wholes when certain principles are applied.
Google Analytics	A freemium web analytics service offered by Google that tracks and reports website traffic.
Grid systems	A grid system is a set of measurements a graphic designer can use to align and size objects within the given format.
Grouped	Put into categories; classify.
Hackers	A person who uses computers to gain unauthorized access to data.

Heat maps	A representation of data in the form of a map or diagram in which data values are represented as colors.
Heuristic	Proceeding to a solution by trial and error or by rules that are only loosely defined.
Hierarchy	A system in which members of an organization or society are ranked according to relative status or authority.
High-chroma	The quality lightness or darkness. That is, black is a dark value or low value. White is a light value or high value. Chroma: the quality of a color's purity, intensity or saturation. For example: A gray color is a neutral -- an extreme low chroma.
Human computer interaction (HCI)	The study of how people interact with computers and to what extent computers are or are not developed for successful interaction with human beings.
HyperText Transfer Protocol (HTTP)	The underlying protocol used by the World Wide Web and this protocol defines how messages are formatted and transmitted, and what actions Web servers and browsers should take in response to various commands.
Iconography	The visual images and symbols used in a work of art or the study or interpretation of these.
Internet Protocol (IP)	A digital media transport system that runs over standard IP networks.
ISO	The International Organization for Standardization (ISO) is an international standard-setting body composed of representatives from various national standards organizations. Founded on 23 February 1947, the organization promotes worldwide proprietary, industrial and commercial standards.
Legible	Clear enough to read.
META tags	Meta tags are snippets of text that describe a page›s content; the meta tags do not appear on the page itself, but only in the page's code.
Metric	A system or standard of measurement.
Minimum viable products (MVP)	A development technique in which a new product or website is developed with sufficient features to satisfy early adopters. The final, complete set of features is only designed and developed after considering feedback from the product's initial users.
Navigation	The process or activity of accurately ascertaining one's position and planning and following a route.
Pay-per-click (PPC)	An internet advertising model used to direct traffic to websites, in which an advertiser pays a publisher (typically a website owner or a network of websites) when the ad is clicked.
Personas	The aspect of someone's character that is presented to or perceived by others.
Point of sale (POS)	An electronic device used to process card payments at retail locations. A POS terminal generally does the following: Reads the information off a customer's credit or debit card.
Port scanning	A series of messages sent by someone attempting to break into a computer to learn which computer network services, each associated with a "well-known" port number, the computer provides.

Promotion	The publicizing of a product, organization, or venture so as to increase sales or public awareness.
Readability	The quality of being legible or decipherable.
Return on Investment (ROI)	Expressed as a percentage and is typically used for personal financial decisions, to compare a company's profitability or to compare the efficiency of different investments.
Saturated	(Of color) very bright, full, and free from an admixture of white.
Scalable	Able to be changed in size or scale.
SDK	A software development kit (SDK or devkit) is typically a set of software development tools that allows the creation of applications for a certain software package, software framework, hardware platform, computer system, video game console, operating system, or similar development platform.
Search engine	A program that searches for and identifies items in a database that correspond to keywords or characters specified by the user, used especially for finding particular sites on the World Wide Web.
Search Engine Optimization (SEO)	the process of maximizing the number of visitors to a particular website by ensuring that the site appears high on the list of results returned by a search engine.
Server	A computer or computer program, which manages access to a centralized resource or service in a network.
Social media	Websites and applications that enable users to create and share content or to participate in social networking.
Spam	Irrelevant or unsolicited messages sent over the Internet, typically to a large number of users, for the purposes of advertising, phishing, spreading malware, etc.
SSL (Secure Sockets Layer) encryption	The standard security technology for establishing an encrypted link between a web server and a browser. This link ensures that all data passed between the web server and browsers remain private and integral.
STB	A set-top box is a hardware device that allows a digital signal to be received, decoded and displayed on a television.
Target audience	A particular group at which a product such as a film or advertisement is aimed.
Taxonomy	The branch of science concerned with classification, especially of organisms; systematics.
TITLE tags	A title tag is an HTML element that specifies the title of a web page. Title tags are displayed on search engine results pages (SERPs) as the clickable headline for a given result, and are important for usability, SEO, and social sharing.
Trojan horses	A program designed to breach the security of a computer system while ostensibly performing some innocuous function.
Typography	The style and appearance of printed and digital matter.
URL	The address of a World Wide Web page.

Usability test	A technique used in user-centered interaction design to evaluate a product by testing it on users.
User Experience (UX)	The overall experience of a person using a product such as a website or computer application, especially in terms of how easy or pleasing it is to use.
User interface (UI)	The means by which the user and a computer system interact, in particular the use of input devices and software.
User Journeys	A person's experience during one session of using a website or application, consisting of the series of actions performed to achieve a particular goal.
USP	A unique selling proposition (USP, also seen as unique selling point) is a factor that differentiates a product from its competitors, such as the lowest cost, the highest quality or the first-ever product of its kind.
Viruses	A piece of code, which is capable of copying itself and typically has a detrimental effect, such as corrupting the system or destroying data.
W3C	The World Wide Web Consortium (W3C) is an international community where Member organizations, a full-time staff, and the public work together to develop Web standards. Led by Web inventor Tim Berners-Lee and CEO Jeffrey Jaffe, W3C's mission is to lead the Web to its full potential.
White space	In page layout, illustration and sculpture, white space is often referred to as negative space. It is the portion of a page left unmarked: margins, gutters, and space between columns, lines of type, graphics, figures, or objects drawn or depicted.
Wi-Fi	A facility allowing computers, smartphones, or other devices to connect to the Internet or communicate with one another wirelessly within a particular area.
Wireframe	An image or set of images, which displays the functional elements of a website or page, typically used for planning a site's structure and functionality.
Worms	A standalone malware computer program that replicates itself in order to spread to other computers.

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