

E-commerce Usability Best Practices

A White Paper by



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1. Executive Summary

This paper is intended to act as an introduction to the principles of website usability and their particular application in the design and development of sites that have a primary goal to draw visitors to complete an online purchase.

We will introduce you to the best usability practices gathered from the lessons and experiences of first generation e-commerce sites. This includes an analysis of the key factors known to affect user's online purchasing habits, such as trustworthiness and clarity of design.

The specific guidelines we look at focus on the really critical issues of checkout and payment processes as well as more general factors such as layout and product information.

There are of course no hard and fast rules - if there were then all shopping websites would be the same and there would be very little room for creativity. However an understanding of the key factors that influence the completion of a purchase, and the best current practices for layout and providing the 'right' amount of product information, is a crucial starting point in the development or re-design of any e-commerce enabled website.

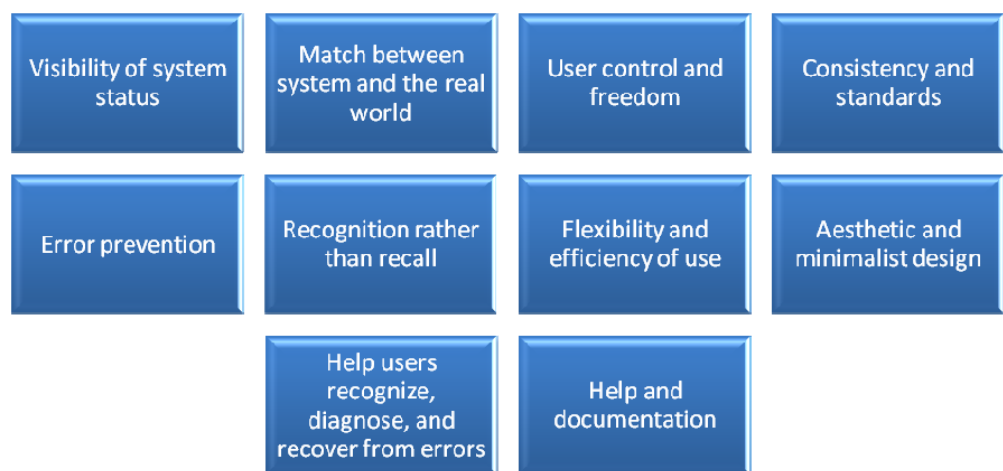
This paper will outline a combination of guidelines that should be applied to the development or review of an e-commerce site. It will highlight human factors in online shopping experience, provide guidelines on best practices for key areas of an e-commerce site, and provide a summarised conclusion for how to apply these guidelines.

2. Principles of Usability

Usability Engineering is a discipline devoted to the improvement of Human Computer Interaction (HCI) across any kind of IT system that involves end users. This makes it a very wide ranging field, but in the context of e-commerce it is all about making it as easy and intuitive as possible for a visitor to find the products they want, and then complete a purchase. This may sound simple, but when you are dealing with thousands of products and millions of customers, all with different information needs, it can be very complex.

However, fortunately it is possible to break down almost all usability issues into the application of ten basic principles against which you can test any design or existing system:

Ten 'Usability Principles'



These ten principles, first developed by Jakob Nielsen and Ralph Molich (1990), are used in the application of many usability engineering techniques and should be the mantra of anyone involved in commissioning, designing or developing a website.

2.1. An explanation of the Ten Principles

Visibility of system status

The system should always keep users informed about what is going on, through appropriate feedback within reasonable time.

Match between system and the real world

The system should speak the users' language, with words, phrases and concepts familiar to the user, rather than system-oriented terms. Follow real-world conventions, making information appear in a natural and logical order.

User control and freedom

Users often choose system functions by mistake and will need a clearly marked "emergency exit" to leave the unwanted state without having to go through an extended dialogue. Support undo and redo.

Consistency and standards

Users should not have to wonder whether different words, situations, or actions mean the same thing. Follow platform conventions.

Error prevention

Even better than good error messages is a careful design which prevents a problem from occurring in the first place. Either eliminate error-prone conditions or check for them and present users with a confirmation option before they commit to the action.

Recognition rather than recall

Minimize the user's memory load by making objects, actions, and options visible. The user should not have to remember information from one part of the dialogue to another. Instructions for use of the system should be visible or easily retrievable whenever appropriate.

Flexibility and efficiency of use

Accelerators, unseen by the novice user, may often speed up the interaction for the expert user such that the system can cater to both inexperienced and experienced users. Allow users to tailor frequent actions.

Aesthetic and minimalist design

Dialogue boxes should not contain information which is irrelevant or rarely needed. Every extra unit of information in a dialogue competes with the relevant units of information and diminishes their relative visibility.

Help users recognize, diagnose, and recover from errors

Error messages should be expressed in plain language (no codes), precisely indicate the problem, and constructively suggest a solution.

Help and documentation

Even though it is better if the system can be used without documentation, it may be necessary to provide help and documentation. Any such information should be easy to search, focused on the user's task, list concrete steps to be carried out, and not be too large.

2.2. Usability Testing

Both new and existing systems can and should be subjected to testing against the ten principles listed above. It doesn't need to be a lengthy process, although it can be, but it is important that some level of analysis is carried out and fed into the design, or re-design of any system – especially an e-commerce website.

The most thorough usability testing involves participants from the target audience who are recruited and asked to use the actual or prototype interface and their reactions, behaviours, errors, and self-reports in interviews are carefully observed and recorded by a Usability Engineer.

When using prototypes it is quite common to use paper based representations of page designs to carry out testing. Both static and dynamic screen elements like expanding menus and drop down boxes can be easily created on bits of paper, and then quickly re-arranged to test different ideas.

On the basis of findings from usability testing, a site design can be tweaked effectively to suit its purpose and ultimately increase its sales. This is not something that happens only at the initial design stage but should be an ongoing technique used on an existing site to constantly improve it and ensure it is providing a superior user experience at all times.

Testing can also be combined with market and competitive analysis, especially in more specialised product areas, to feed into any development or redesign of an e-commerce solution.

Competitive analysis is about looking closely at your key competitors sites from the point of view of usability. Buy from them if it is practical – to understand their whole process. Then consider questions like:

- How do they work?
- What are the useful features you would like to adapt to your own site?
- What are the elements that you would want to improve upon?

3. Factors that affect user shopping habits

Both expert and novice users are often unintentionally affected by their first impression of your site. Usability, functionality and reliability influence the perceived trustworthiness and the user's perception of the quality of the site. Once you are aware these factors could prevent a successful purchase within your online shop, you can then approach a method for improving them to your advantage.

Factors affecting trust worthiness:

1. Information about your company. Understanding the company's background, and having that information readily available, will encourage the user of the trustworthiness of the company and therefore the site.
2. Product descriptions. High quality descriptions give customers confidence in your products, and your expertise.
3. Clear information about placing orders / information about delivery.
4. Transaction security. Make sure people know their information is secure with you. Make your returns/refunds policy clear.
5. Usability (efficiency, effectiveness, ease of learning how to use it, clarity of design, system flexibility and user acceptance).
6. References: external positive references to the site, company and its products will improve your company's perceived trustworthiness.
7. E-shop functionality and overall impression.

Other Factors affecting Online shopping habits

1. Placement of items such as orientation information, navigation devices, user input, feedback, or operating instructions;
2. Use of colour.

3. Use of access structures such as headings.
4. Use of cues such as font, bolding, italics, and colour.
5. Style of graphics.
6. Similar interaction behaviour required in similar situations.

4. E-commerce usability best practices

There are many approaches to providing an e-commerce experience users will use successfully time and time again. The areas focused on will very much depend on your company's product and background. For example, if the e-commerce site is the only point of contact for your customer to your business, your site has to work harder to gain the trust of new users who will pass judgement on your whole brand from the moment the homepage is loading.

In the case of an established business your site already has a core of potential visitors who purchase with you in store. Existing customers are more likely to buy from your online store based on the established trust gained by entering your bricks and mortar store, meeting your staff and being supported through the purchasing process. However, the online experience of these customers - browsing categories, finding the desired product and taking this through to a completed purchase should be even more efficient, simple and just as pleasant as a visit to your store. In other words, the online brand experience needs to match your bricks and mortar brand, if you are to benefit from existing customer loyalty.

In the remainder of this paper we look at some of the key rules and guidelines that usability analysis and testing have demonstrated to be valuable considerations in the design and development of e-commerce driven websites.

4.1. Hygiene Factors - A Few Simple Rules

Your brand is your differentiator in your marketplace, but there are also a number of key issues that you need to get right as a matter of course. These are known as Hygiene Factors. They do not in themselves add value to your brand, but if they are missing, or don't behave as visitors expect them to, they can reduce your perceived trustworthiness as an online business.

Here are some guidelines that take into account these hygiene factors.

General e-commerce guidelines:

1. Use Headlines, Subheadings and Breadcrumb navigation to show shoppers where they are.
2. Keep the site search function above the fold and in plain view so shoppers can query the catalogue anytime.
3. Put users' minds at ease with clear explanation of security measures in place.
4. Promote ease of navigation through your categories and products.
5. Show related products and cross-sell before the checkout process, and after items have been added to the cart.

6. Use product page copy that answers shopper's questions about products – this will also enhance SEO (Search Engine Optimisation).
7. Allow shoppers to add items to their cart before making them register for an account.
8. Make sure shoppers can easily access their cart contents and that it can easily be modified or adjusted.

E-Shop Specific guidelines:

1. Identify users with their e-mail address: minimize user confusion and additional user names to remember
2. Break up the ordering process into bite size chunks.
3. Tell users where they are and where they're going through the use of bread crumbs and stages in the ordering process.
4. Don't make the ordering process harder than it needs to be: for each step think about how it can be simplified. This will minimize the number of problems experienced and increase the number of completed orders.
5. Address common user queries – consider any questions a user may have and provide the answer through a link.
6. Highlight required fields – reduce the chance of a form being returned due to it being incomplete by clearly highlighting required fields.
7. Make the ordering process flexible – enable back and forward movement within the application.
8. Have users confirm their order details before entering their card details, then provide a summary including product details, expected delivery dates, the order number and order tracking details if possible.
9. Send a confirmation e-mail. This should be brief, concise and exemplify the excellent customer service provided by your company.
10. Keep unnecessary elements off checkout pages.
11. Show the price of the item, amount saved and any applicable delivery or taxes as early in the process as possible.
12. Offer a variety of payment and delivery options so shoppers can pick the one they have an account with, or most often use.
13. Carry out usability testing to find out if the users utilise the site in the way it was designed. This should be supported by detailed web analytics to provide insight into required improvements.

5. Category pages

These are the e-commerce equivalent to your shop floor, and are the first point of contact for a user trying to find a product on your site.

As the gateway to your products, category pages should be organised into logical or hierarchical groups that reflect users' experience of being able to locate the item in a bricks and mortar shop, or if they were using a printed catalogue.

There has been a lot of research conducted on the ideal layout of category pages. Thumbnail images are ideal to attract users to click on the items listed along with a short title and description and price. However the specifics of the approach taken on these pages should ultimately be suitable for your sites product and users.

An important category page function is the ability to "filter by feature". Such filters serve two potential customer needs: they enable knowledgeable buyers to quickly find a product that matches their requirements, and for novice buyers they offer the opportunity to find out more about a type of product by experimenting with different feature combinations. This kind of functionality has proven to be especially successful on sites with a large range of products. Some examples of this can be seen at: [tesco.com](https://www.tesco.com) and [johnlewis.com](https://www.johnlewis.com).

6. The Product page

The Product page is the one that spotlights the searched for product and offers the all important option to buy. The whole site works to drive the user to these pages, which makes their design and functionality critical to e-commerce business success.

6.1. Key to a product page's success

Simplicity

It should provide details on one product only. It should show with clarity what the product is, its price, and provide access to the shopping cart.

Dimensional Navigation

Enable the user to easily find similar products that may suit their needs faultlessly and encourage the perfect purchase.

Information Rich

Users need to know the specifics about a product before they buy. There is no support through the online purchasing process, so the information that would normally be provided by a sales assistant should be available in the product page. If there is a lot of information, it should be broken down by layering or tabs so that information is one click away if required, but does not overwhelm the visitor by presenting it all at once.

Expert Opinions

Expert opinions should be used with caution, and only if you have a truly accredited source to quote. They may otherwise be distracting or redundant as users do their own research prior to purchasing.

Product Options

If a product has a variety of colour or size options these must be selected by the user before adding the product to the shopping basket.

6.2. A well built product page should include:

A clearly descriptive title and a photo

For the purposes of Search Engine Optimisation (SEO) a descriptive page title and summary description will help crawlers find your product pages. A clear photo with the option to view a significantly larger image is also a requirement. Ideally with additional photos of various views of the product to allow the user to thoroughly inspect the item.

All the information a shopper will need

Research studies show that 11% of failures to make a sale were due to insufficient information on the product page. The page should contain a detailed list of product features, with a link to further information if needed. In addition to this the final cost should also be clear including delivery charges.

Product availability and, when possible, delivery time

The Product page should indicate if an item is in stock and if not, when it will be dispatched. Customer relationships are negatively affected when a user has to nearly complete the checkout process to find out an item is out of stock or will not be dispatched for the next three weeks. This lack of information upfront reduces a user's willingness to buy.

Links to a guarantee policy

Trust can be built with customers by having a comprehensive guarantee of support if the online shopping process does not go as planned. This is ideal for product pages but would be a welcomed link in the footer across the whole site.

A prominently displayed 'Buy' button

This button should stand out from the whole page and be a one click operation to get an item into the shopping basket.

6.3. The Shopping basket & Checkout

Everything should be as simple and clear as possible for your user to become a loyal customer. The shopping basket is where a user will typically review items edit quantities and remove unwanted items and either complete the process by going to the checkout or go back to shopping to find another item.

It must be easy for users to do both of these tasks at the shopping basket page, so a clear "proceed to checkout" button should be displayed on the basket as well as a back to shopping link. The shopping basket is also the ideal place to show related products because you have found out at this point what your user is looking for.

Customers who bought Harry Potter and the Philosopher's Stone (Book 1) also bought:



Harry Potter and the Chamber of Secrets (Book 2)
by J.K. Rowling
Price: ~~£9.99~~ £4.99 ★★★★★ (390)
Used & new from £0.01

[Add to Basket](#)



Harry Potter and the Prisoner of Azkaban (Book 3) Paperback
by J.K. Rowling
Price: ~~£9.99~~ £4.49 ★★★★★ (631)
Used & new from £0.01


[Add to Basket](#)



Harry Potter and the Goblet of Fire (Book 4)
by J.K. Rowling
Price: ~~£9.99~~ £5.24 ★★★★★ (626)
Used & new from £0.01

[Add to Basket](#)

Customers who shopped for Harry Potter and the Philosopher's Stone (Book 1) also shopped for:



Wii Fit (Wii)
by Nintendo
Price: ~~£80.99~~ ★★★★★ (195)
Used & new from £80.99

[Add to Basket](#)



Harry Potter and the Order of the Phoenix (Harry Potter 5)
by J.K. Rowling
Price: ~~£9.99~~ £5.99 ★★★★★ (899)
Used & new from £0.47

[Add to Basket](#)



Harry Potter and the Deathly Hallows (Book 7) [Children's Edition]
by J.K. Rowling
Price: ~~£9.99~~ £5.99 ★★★★★ (727)
Used & new from £3.25

[Add to Basket](#)

YOUR SHOPPING BASKET

[Proceed to Checkout](#)

Show gift options during checkout

Added to your Shopping Basket:

Harry Potter and the Philosopher's Stone (Book 1) - J.K. Rowling
Paperback
Condition: New
£4.59
Quantity: 1

Subtotal: £4.59

[Edit Shopping Basket](#)

[Proceed to Checkout](#)

OR

[Buy now with 1-Click!](#)

Dispatch to:
Ms S Simon-Lond
[Edit your 1-Click address & settings](#)

Items in your Shopping Basket always reflect the most recent prices displayed on their product detail pages.

Amazon is particularly good at presenting similar items to tempt you with, using the purchasing histories of their clients to choose which items to present.

The checkout process should be broken down into a few logical steps with very little additional information around the page. These steps should be well thought through from the user's perspective and provide clear links to help or explanations for users that may be novice to the online purchasing process.

A summary page showing clearly what has been ordered and when and where it will be delivered should be shown to the customer before a purchase is completed, being very careful to make it clear that the order is not complete until this summary has been confirmed. The chance of a purchase being abandoned at this point can be mitigated by showing the summary of the order in a step before the payment details are entered.



An example of signposting the stages in the checkout process, from www.dixons.co.uk

The customer should then receive a confirmation email containing the details of the summary page to solidify the transaction's completeness. This is the customer's last contact with your website for this transaction. However, the fulfilment of the order in a timely fashion is crucial in order to finalise the online purchasing experience as a positive experience that your customer is likely to repeat and/or recommend to others. These positive recommendations are what will continue to increase your new website users and ultimately your customer base without additional investment direct advertisement.

6.4. Common Mistakes made at e-commerce checkouts

It doesn't take much to deter a visitor from completing a purchase – even at the checkout stage. Here is a list of common errors that can easily be avoided@

1. Unfriendly Credit Card Errors.
2. Login: too many user names and passwords to remember if a password is forgotten a purchase maybe lost.
3. Default Credit Card Type Selected: either ensure there is no default card selected or automatically detect the card based on the number.
4. Cancel Buttons: do not place the cancel button right next to the confirm button.
5. Cross-selling: leave this to the stages before the checkout, too many choices can lead to an abandoned cart.
6. Disclaimers, explanations, and warnings: do not display messages that may alarm customers. Keep them on a need to know basis. If these warnings are a result of functionality that can be fixed then these should be fixed and messages removed.
7. Insecure page errors: when secure pages contain non secure elements such as images or script, some browsers provide warnings. Verify this is not happening with your browser security settings on the default settings.
8. Only one payment type: alternative payment types have become almost an expectation these days, with "PayPal", "e-Checks", "BillMeLater", and "Google Checkout" leading the way. Adding an additional payment method can go a long way in preventing abandoned shopping carts.
9. Dead end receipt pages: consider adding a tell-a-friend form, displaying customer service FAQs, or asking customers to complete a survey.
10. Hiding additional charges: ensure all charges including delivery are up front.
11. No prominent contact number – a contact number will not be used often but the presence of one can build trust.
12. Product out of stock: if this is being notified at the checkout stage then this will anger and deter customers.
13. Improper add to cart functions: it is best to direct user to the cart when they add something.
14. Poor internal search: the only thing worse than bad search results is displaying none.
15. Old dates and information: this raises questions in customer's minds – is the company in business, are these prices still correct?

7. Conclusions

This white paper has introduced the concept of Usability in systems design, and how an appreciation of the core principles of usability, along with testing and market analysis, has enabled e-commerce website designers to develop a set of key guidelines for the development of e-commerce driven websites.

Whilst these guidelines cannot be seen as hard and fast rules for good design (there are always new ways of doing things that have the potential to change the rules), consciously ignoring them is a high risk strategy.

8. About Governor Technology

Governor Technology is an independent software development company, incorporated in 2001. From our offices in Central London, we specialise in building CRM systems, e-commerce solutions, database-driven websites, content management systems, web and desktop applications. We have been a Microsoft Certified Partner since 2004, and are a member of the Sage Development Network and UK Web Design Association.

We currently work for a wide variety of clients, ranging from start-ups to multinationals including Microsoft, Saatchi, Euro RSCG, Citigroup, and Thomson Financial/Reuters, and have earned a reputation as a flexible, agile supplier of high quality software solutions.

We have experience implementing and customising all three of the products discussed in this white paper. If you would like to discuss using a CRM system in your company, please give us a call on: 0207 953 7135, or email: sales@governor.co.uk