

Website Evaluation

John Lewis

Usability, Accessibility, Sustainability

Content

1. Summary	1
2. Brand Brief Introduction and User Situation	1
3. Context and Usability	2
3.1 User Journey	2
3.2 Heuristic Evaluation	4
3.3 Overall Website Performance	6
3.4 Code Validation	9
4. Accessibility	10
4.1 Perceivable	11
4.2 Operable	12
4.3 Understandable	13
4.4 Robust	14
5. Sustainability	15
6. Conclusion	18
7. Utilised Tools	20
8. References	21

1. Summary

This report examines the e-commerce website Johnlewis.com, including product pages, the accessibility statement, and the sustainability statement, etc. I evaluate the website according to three core elements of web design: usability, accessibility, and sustainability.

Using tools such as Lighthouse, SimilarWeb, and the Wayback Machine, the report provides a theoretically informed and evidence-based assessment of the website. I analyse the findings in detail and propose recommendations for further enhancements and solutions to critical issues. Overall, the report argues that while Johnlewis.com performs well in accessibility, it requires improvement in both usability and sustainability. As a well-known e-commerce platform, John Lewis should take responsibility for providing a usable, accessible, and sustainable online shopping experience.

2. Brand Brief Introduction and User Situation

John Lewis & Partners is a prominent UK retailer that launched its website, Johnlewis.com, in the 2000s. The website’s stated mission is to provide an exceptional and trusted online shopping experience, reflecting the partnership’s broader commitment to quality, sustainability, and

customer well-being

(Johnlewis.com 2024).

These goals are central to any evaluation of the site’s

digital performance. Most users are from the UK, primarily

aged 23–34 and 46–54, with women representing 60.82% of the user base. The website



Figure 1: Monthly Visits of Johnlewis.com.

receives around 25.5 million visits per month, showcasing its significant influence.

(SimilarWeb 2024)

Given this scale, it is crucial to analyse the website’s performance in terms of usability, accessibility, and sustainability. An evaluation of these three aspects not only ensures that it meets user needs but also helps reduce its environmental impact and fulfils its responsibilities as a high-traffic e-commerce site. These demographic insights are significant: the dominant 23–34 age group are likely confident digital users who expect fast, efficient journeys, while the substantial 46–54 cohort may require clearer navigation, larger text, and robust accessibility support. The female majority (60.82%) further suggests that the site’s design choices around layout, product discovery, and trust signals must be evaluated with these specific groups in mind throughout this report.

3. Context and Usability

3.1 User Journey

The user journey on the John Lewis website can be divided into four stages, as visualised in the journey map in Figure 2. The map plots user actions, touchpoints, and expected emotional states per stage, alongside key usability insights. The ‘expected feelings’ row is inferred from heuristic analysis rather than empirical user testing, and should be treated as a

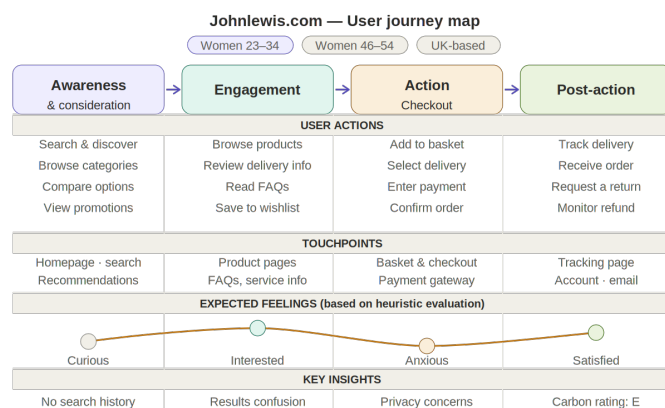


Figure 2: User journey map of JohnLewis.com. Expected feelings inferred from heuristic evaluation, not empirical testing (Lemon and Verhoef 2016).

hypothesis for future research. This structure mirrors the awareness–consideration–decision–retention framework described by Lemon and Verhoef (2016, 71), who argue that each stage is shaped by distinct touchpoints and emotional drivers. Understanding these stages is particularly important given the site’s mixed age demographic: older users in the 46–54 bracket may navigate these stages more linearly and require clearer signposting at each transition. First, during the awareness and consideration process, users search for specific products, product details through the search bar, recommendation section, and categories. Users can develop an understanding of the options and compare different categories. The second stage is engagement. Users interact deeply with the website by visiting product pages, FAQs, and service information pages. On product pages, they can access key information, including detailed product descriptions, prices, delivery options, and return policies. Third, the user enters the action (checkout) stage. It involves navigating the basket, selecting delivery options, and completing the payment process. Notably, John Lewis allows customers to choose a delivery method before finalising payment. The final stage is post-action. During the delivery or collection process, users can track their parcels and view the estimated arrival time. After receiving and trying the product, customers who are dissatisfied can request a return or exchange. They can monitor the progress of refunds through the website. Ensuring friction-free post-purchase interactions is especially important for the 46–54 cohort, who research suggests are more likely to contact customer service and value clear return policies (Lemon and Verhoef 2016, 82). These stage-by-stage considerations will inform the heuristic evaluation that follows.

3.2 Heuristic Evaluation

I employ the Heuristic Evaluation method in evaluating usability. Figure 3 contrasts the full-screen and non-full-screen states of the homepage. At first sight, its homepage features a clean and minimalist interface, avoiding visual clutter prevalent, which aligns with “aesthetic

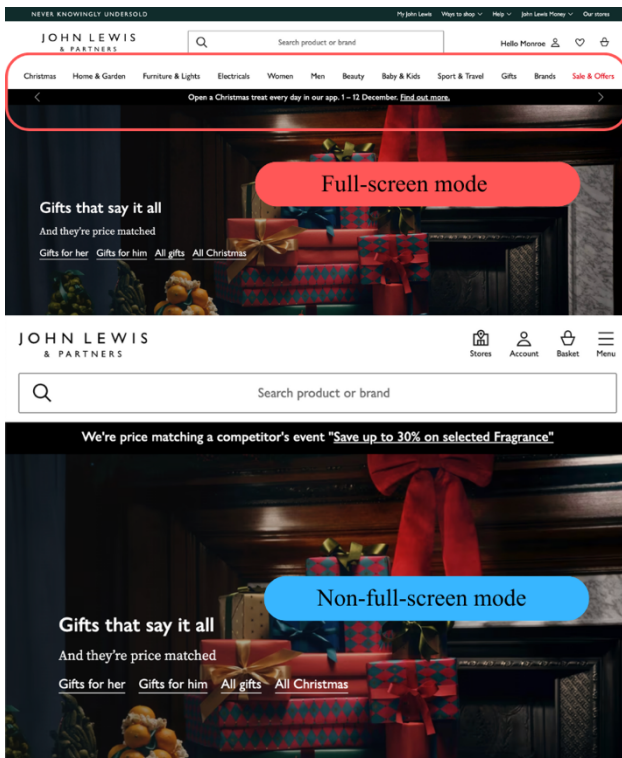


Figure 3: Full-screen mode VS Non-full-screen mode

and minimalist design” (Nielsen 1994). Johnlewis.com allocates the largest section of its homepage to product promotion information and the recommendation section. In full-screen mode, Figure 6 shows a search bar positioned at the top of the page, with clear product categories visible directly below it. However, in non-full-screen mode, categories cannot be seen. Users must navigate through the menu to access product categories, brand guides, and other key features, which fails to accommodate novice

and advanced users simultaneously. It ignores potential difficulties faced by new users or those with purchasing intentions but no clear shopping goals during their search process, thus violating the heuristic of “flexibility and efficiency of use.”

Another key issue is that it does not follow the principle of “recognition rather than recall.” The search bar lacks a feature to retain users’ recent search history, forcing them to re-enter queries after exiting the interface. This creates unnecessary cognitive effort and contradicts human-centered design principles (Norman 2013). So Johnlewis.com could implement a feature that displays recent searches in the search bar and offers options for managing this

history, allowing users to delete entries or clear all records, thereby enhancing convenience while respecting privacy.

Moreover, the website has redundant design elements that complicate the user experience.

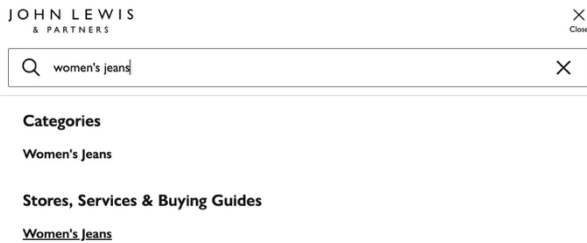


Figure 4: The results of searching "women's jeans".

When searching for 'women's jeans' (see Figure 4), the results page displays Categories and a separate section for Stores, Services & Buying Guides. As Figure 5

shows, while the Categories section shows women's jeans directly, the other section provides explanations of different styles and their uses. Although there is an option to "Shop all women's jeans" with purchase links, this design adds unnecessary steps to the purchasing process and can be confusing.

When I first searched it, I mistakenly clicked on "Stores, Services & Buying Guides" and did not get the desired results.

So the Stores, Services & Buying Guides section should be separated from the main

results page. A collapsible guide button at the top of the product details page allows users to access additional information only if they wish, while prioritizing the product details.

Conducting an A/B test to compare the current layout with the proposed design could provide valuable insights for further refinement, ensuring that changes align with the preferences of John Lewis users.

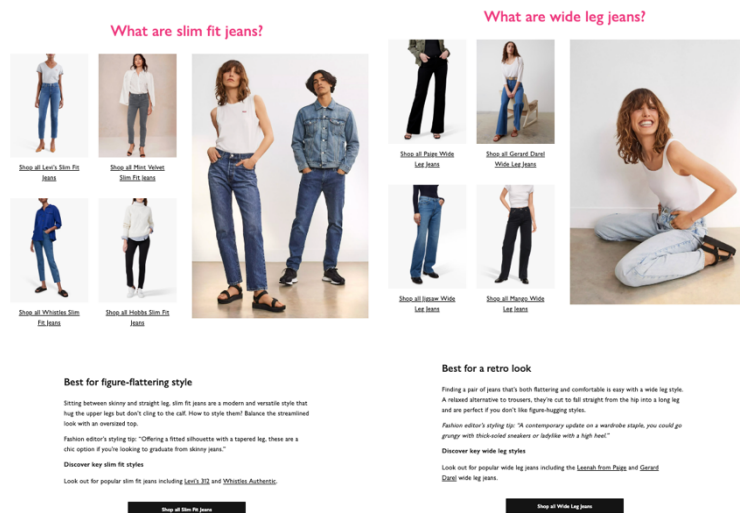


Figure 5: Women's jeans Stores, Services & Buying Guides page.

3.3 Overall Website Performance

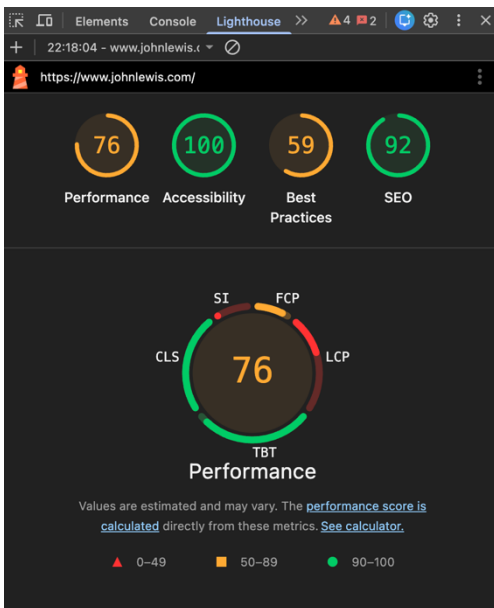


Figure 6: The result is from Google Lighthouse.

To verify the overall performance, I used Google Lighthouse; the overall scores dashboard is shown in Figure 6. According to Figure 6, the website performed excellently in both accessibility and SEO, achieving scores of 100 and 92, respectively. However, performance (76/100) and best practices (59/100) emerged as key parts requiring improvement.

The primary performance issue is LCP, a metric that measures the time taken for the largest visible element

on a page to fully load. Users must wait 2.8 seconds for the page's largest content element to render, which is particularly problematic on low-speed networks: it raises bounce rates and compromises the initial user experience.

The second issue concerns a Speed Index of 3.1 seconds, which measures how quickly page content becomes visually complete. A higher Speed Index means users perceive the page as loading slowly, even if elements technically exist in the DOM. This creates a sluggish, unresponsive experience that amplifies user anxiety during wait times.

Regarding Best Practices, the first issue is a warning for “Uses deprecated APIs.” (Figure 7) To be specific, ‘overflow: visible’ on img, video, and canvas tags may cause visual content to extend beyond element boundaries.

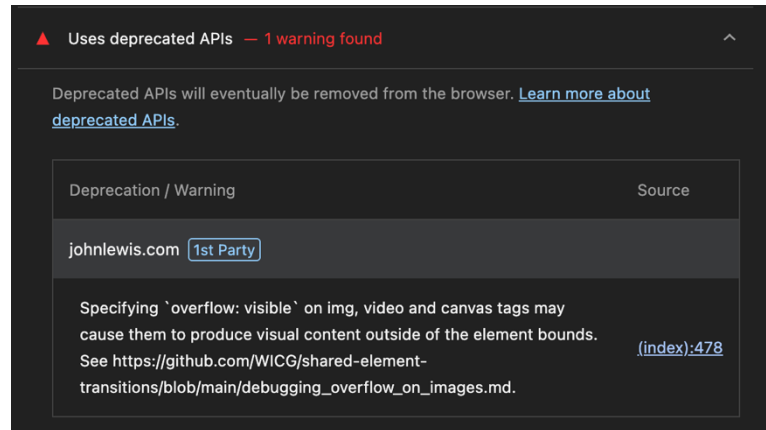


Figure 7: Lighthouse performance scores for Johnlewis.com.

Deprecated APIs will eventually be removed by browsers, so the website must audit and modify relevant CSS rules, removing or replacing the ‘overflow: visible’ property on these specific elements to adhere to modern web standards. It ensures that the website’s visuals and layout do not break or display abnormally due to reliance on removed APIs following browser updates, thereby enhancing the reliability of the user interface.

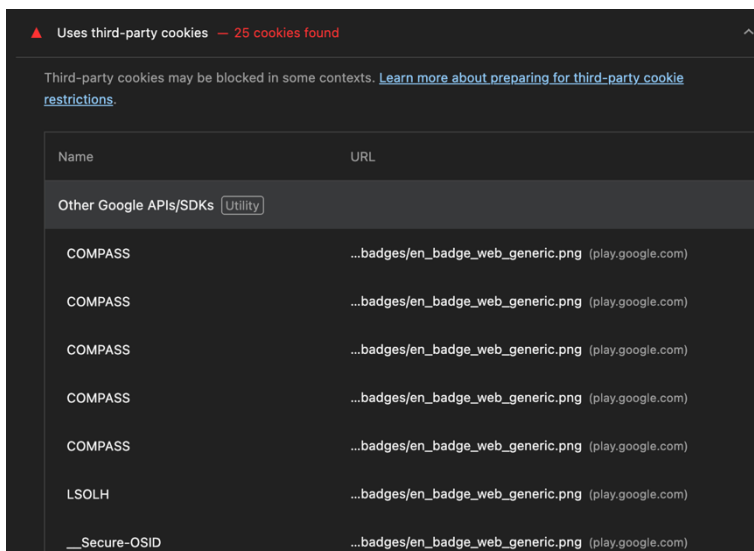


Figure 8: 3rd: Deprecated API warning in Lighthouse Best Practices.

Additionally, 25 third-party cookies on the website pose several risks to usability (Figure 8). As browsers phase out third-party cookies, e-commerce functions that rely on cross-site tracking, such as personalised recommendations, may become unreliable. These cookies also introduce privacy concerns

under regulations like GDPR, as they enable external companies to collect behavioural data that users may not fully understand or consent to. Besides, third-party scripts often slow down page loading due to additional network requests, negatively impacting performance

metrics and potentially reducing conversion rates. John Lewis should therefore adopt first-party data strategies and reduce unnecessary third-party libraries to enhance privacy, performance, and long-term robustness.

Another issue in the report is “missing source maps for large first-party JavaScript.” It slows down development workflows and increases the risk of unresolved errors affecting users,

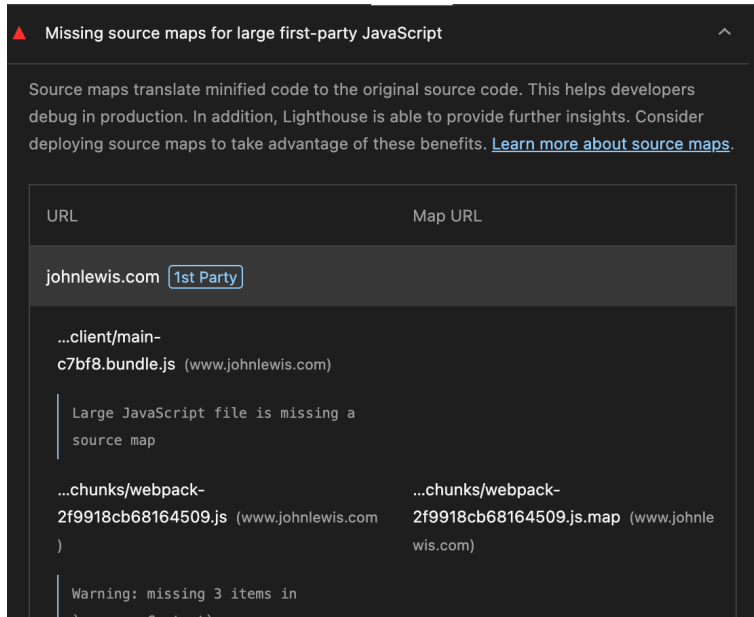


Figure 9: Third-party cookies on Johnlewis.com.st-party JavaScript.

particularly on a complex e-commerce platform like John Lewis. The absence of source maps also reduces the site’s long-term maintainability.

Johnlewis.com can enable source map generation during the build process, host the

resulting .map files on the

server, and ensure that build

pipelines automatically generate and upload maps for every deployed JavaScript bundle.

Additionally, source maps can be uploaded to monitoring tools such as Sentry or New Relic, enabling readable stack traces without publicly exposing the source maps if security is a concern.

3.4 Code Validation

To examine the code validation, I use the W3C Markup Validation Service. I have identified 210 errors in total, and I have listed the most frequent errors on the website (Table 1). These issues primarily arise from inconsistent HTML structuring, incomplete media element definitions, misuse of accessibility attributes, and improper CSS syntax. Given the scale and complexity of the John Lewis website, combined with frequent updates and numerous interactive components, errors such as missing image sizes, invalid tag nesting, incorrect ARIA attributes, and CSS parsing problems can easily accumulate. If left unresolved, these issues can negatively impact the user experience in several ways. For example, missing size attributes may prevent responsive images from loading correctly, resulting in layout shifts or unstable rendering; HTML structural errors can interfere with the browser’s ability to interpret the document, affecting styling and interaction. These errors directly hinder screen-reader users, making key content difficult to perceive. CSS syntax issues may cause certain styles to fail entirely, resulting in inconsistent visual presentation.

Category	Count	Description	How to Fix	Impact
Image/Media Element Errors	40+	Missing sizes with srcset; Non-integer height values; Malformed source	Add sizes; Ensure height is integer; Fix source structure	Responsive images may not load correctly; Layout issues
HTML Structure Errors	30+	Div inside h3, button, summary; Span with href; style in wrong place	Use semantic tags (e.g., a instead of span); Move styles to <head>	Semantic errors; Affects accessibility and styling
Accessibility Errors	10+	Aria-label, aria-labelledby on invalid elements	Remove or add correct role	Impacts screen reader users
CSS Syntax Errors	10+	CSS parse errors; Invalid variable usage	Fix CSS syntax; Ensure correct variable references	Styles may not apply correctly

Table 1: The most frequent errors occur on Johnlewis.com.

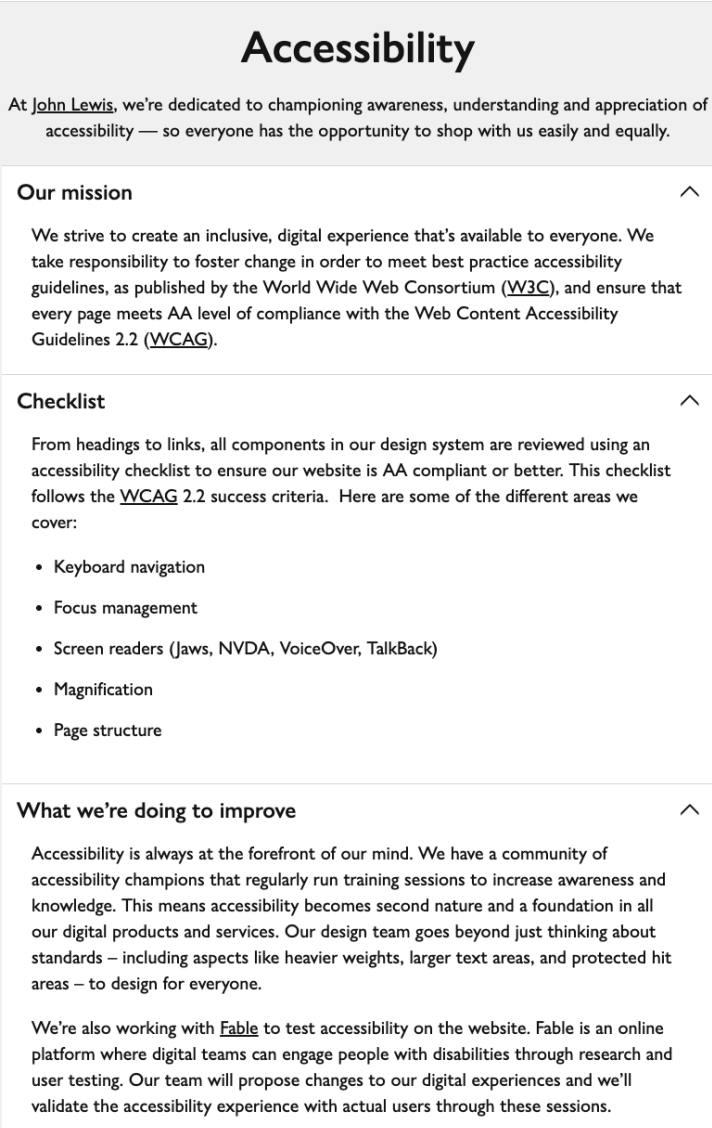
To maintain a high-quality and inclusive website, these issues need to be systematically addressed. Solutions include adding explicit size attributes for images, ensuring valid integer-based height and width values, correcting tag nesting with proper semantic elements, relocating inline styles to the <head> section, assigning ARIA attributes to the appropriate elements, and validating CSS variables and syntax. By resolving these errors, the John Lewis website can achieve more stable rendering across devices, improve both usability and

accessibility for users, and provide a more reliable and polished shopping experience for all visitors.

4. Accessibility

I can find the accessibility statement on [Johnlewis.com](https://www.johnlewis.com), as illustrated in Figure 12. In its accessibility statement, John Lewis commits to adhering to W3C practice guidelines and ensuring pages meet AA-level compliance with WCAG 2.2 (Johnlewis.com 2018). WCAG provides standards and guidelines for making websites accessible to all users. (W3C 2016)

Although the website scores a full 100 in the Accessibility on Lighthouse, several areas still require improvement to achieve more effective and inclusive accessibility. In this section, I will analyse [Johnlewis.com](https://www.johnlewis.com) using four principles of WCAG 2.2: operable, perceivable, robust, and understandable.



The screenshot shows the 'Accessibility' page on John Lewis.com. The page has a grey header with the title 'Accessibility'. Below the header, there is a paragraph stating: 'At [John Lewis](#), we're dedicated to championing awareness, understanding and appreciation of accessibility — so everyone has the opportunity to shop with us easily and equally.'

The page is divided into three sections, each with a title and an upward-pointing arrow:

- Our mission**: We strive to create an inclusive, digital experience that's available to everyone. We take responsibility to foster change in order to meet best practice accessibility guidelines, as published by the World Wide Web Consortium ([W3C](#)), and ensure that every page meets AA level of compliance with the Web Content Accessibility Guidelines 2.2 ([WCAG](#)).
- Checklist**: From headings to links, all components in our design system are reviewed using an accessibility checklist to ensure our website is AA compliant or better. This checklist follows the [WCAG](#) 2.2 success criteria. Here are some of the different areas we cover:
 - Keyboard navigation
 - Focus management
 - Screen readers (Jaws, NVDA, VoiceOver, TalkBack)
 - Magnification
 - Page structure
- What we're doing to improve**: Accessibility is always at the forefront of our mind. We have a community of accessibility champions that regularly run training sessions to increase awareness and knowledge. This means accessibility becomes second nature and a foundation in all our digital products and services. Our design team goes beyond just thinking about standards – including aspects like heavier weights, larger text areas, and protected hit areas – to design for everyone.

We're also working with [Fable](#) to test accessibility on the website. Fable is an online platform where digital teams can engage people with disabilities through research and user testing. Our team will propose changes to our digital experiences and we'll validate the accessibility experience with actual users through these sessions.

Figure 10: John Lewis.com's accessibility statement.

4.1 Perceivable

Perceivability refers to the content being presented in a manner that is accessible and comprehensible to all users. (W3C 2024) John Lewis employs several strategies that align with perceivability requirements, including bold typography, enlarged text areas, and protected tap zones, which collectively enhance visual accessibility and promote a more inclusive user experience.

However, it also exhibits issues, particularly regarding maintaining readability and functional integrity when content is enlarged. This limitation becomes even more significant on mobile devices. On desktop devices, although the site does not offer an internal font-size adjustment option, users can enlarge text via browser zooming. The layout remains relatively stable until approximately 500% zoom (the maximum allowed by Google Chrome), at which point elements begin to overlap. In contrast, on the mobile interface, layout distortion occurs much earlier; icons begin to overlap at approximately 175% zoom (Figure 13), which limits usability for users relying on magnification tools. This is a particular concern

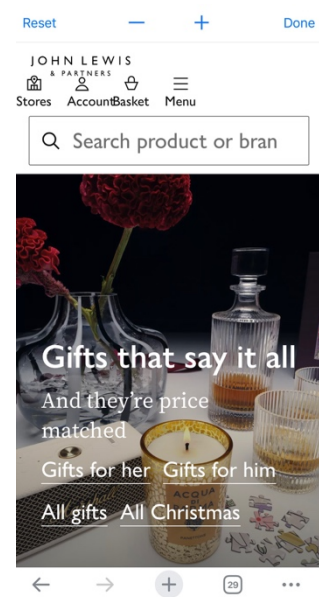


Figure 11: The website does not function properly when zoomed below 175% on the mobile interface.

given that the 46–54 age group forms a significant share of John Lewis’s user base, as older adults are statistically more likely to rely on zoom and magnification features (Faulkner 2004). To address this, John Lewis should implement responsive typography using relative CSS units (rem or em) and test layouts at multiple zoom levels across devices, consistent with WCAG 2.2 Success Criterion 1.4.4 (Resize Text). A comparable site, Marks & Spencer, handles mobile zoom more robustly by using flexible grid layouts that reflow content rather

than overlapping it, which could serve as a benchmark for improvement (Marks and Spencer 2024).

4.2 Operable

John Lewis implements multiple measures for its operable user interface contents and navigation. For users who rely on keyboard navigation, the website supports interaction with elements through the Tab. Additionally, the site replaces auto-scrolling content with manual controls. Although this may reduce the immediate visibility of certain products, it mitigates user confusion and prevents dizziness, which are issues commonly associated with automatically rotating carousels. Furthermore, on product pages, a ‘back to top’



Figure 12: ‘Back to top’ button.

button is positioned in the lower-right corner, enabling users to control navigation without excessive scrolling or repetitive tabbing (Figure 12).

Furthermore, the accessibility statement confirms the availability of BT Relay services, helping to ensure that users who are deaf, hard of hearing, or who experience speech impairments can interact with the website more effectively. However, keyboard navigation could be further strengthened: during testing, some interactive components within promotional banners were not reachable via keyboard alone, which contravenes WCAG 2.2 Success Criterion 2.1.1. Research by WebAIM (2024) consistently finds that keyboard inaccessibility remains one of the most prevalent barriers for disabled users on e-commerce platforms. John Lewis should conduct a full keyboard-only audit of all interactive elements, with particular attention to dynamically loaded content such as pop-ups and carousels, to ensure full compliance. This is especially pertinent for the site’s older and mobility-impaired users who may not use a mouse.

4.3 Understandable

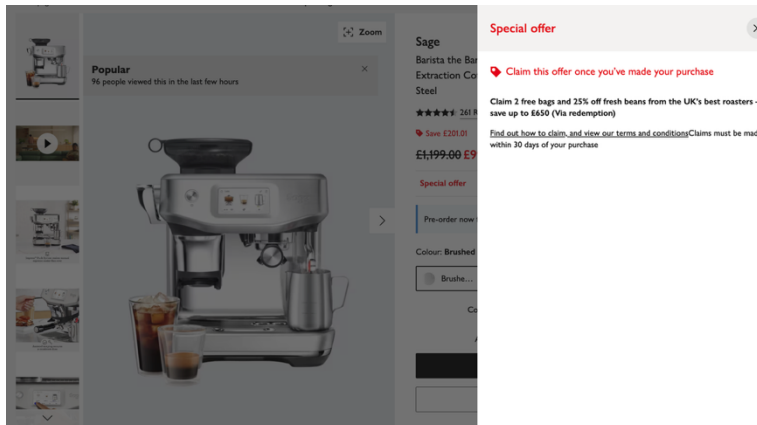


Figure 13: JohnLewis.com highlights the promotional information in red.

The ‘understandable’ principle emphasizes that content should be readable, learnable, and predictable. (W3C 2024) First, the website clearly labels promotional information and discount rules, highlighting

them in red (Figure 13). It makes promotional conditions more intuitive and easier to interpret, thereby reducing users’ cognitive load and minimising misunderstandings when shopping. For novice users, those with reading difficulties, or those with attention-related issues, it also enhances trust and decision-making efficiency.

Additionally, at the bottom of the page, service categories, such as Help, Shopping, etc., are organized into structured sections, each written in user-friendly e-commerce

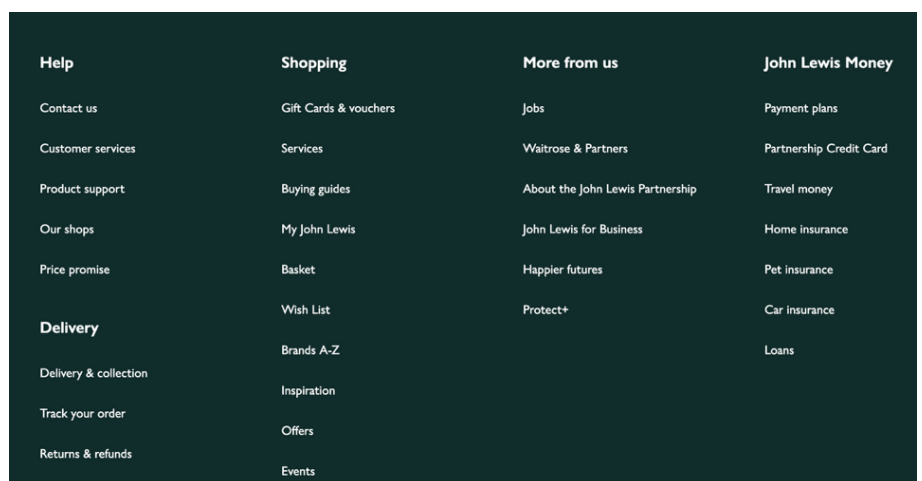


Figure 14: Footer service categories on JohnLewis.com.

terminology (Figure 16). The

clearly segmented service areas provide intuitive navigation pathways, contributing to a more coherent and transparent shopping experience. However, one area for improvement concerns error messages during checkout. During testing, form validation errors were displayed only in red colour without an accompanying icon or descriptive text label, which can be problematic

for colour-blind users and violates WCAG 2.2 Success Criterion 3.3.1 (Error Identification). Nielsen and Budiu (2012) highlight that clear, descriptive error messages are among the most impactful factors in reducing checkout abandonment, particularly for less digitally fluent users. John Lewis should revise its error messaging to include both colour cues and explicit text descriptions to serve all user groups, including the older demographic who may be less familiar with convention-based error indicators.

4.4 Robust

Robustness requires code to be semantic, structurally clear, and standards-compliant, ensuring that content remains functional across various technologies, devices, and assistive tools. John Lewis states that all its products are designed with accessibility as a foundational principle. Through collaboration with Fable, the company ensures that webpage structures and interaction patterns meet semantic and standardised requirements, enabling compatibility with a broad range of assistive technologies. Furthermore, user feedback mechanisms enable the website to identify and resolve compatibility issues during routine updates, ensuring that accessibility is not compromised across technological iterations. While this approach is commendable, it could be strengthened by adopting a more proactive accessibility governance model. For example, Lloyds Bank has published a detailed accessibility roadmap that commits to specific WCAG 2.2 milestones and conducts quarterly third-party audits (Lloyds Bank 2023). John Lewis would benefit from a similarly transparent and time-bound commitment, which would not only ensure robust technical compliance but also build trust with the disability community and align with the Equality Act 2010's requirements for reasonable adjustments in digital services. (DX 2024).

5. Sustainability

Since its official launch in the 2000s, the John Lewis website has undergone numerous

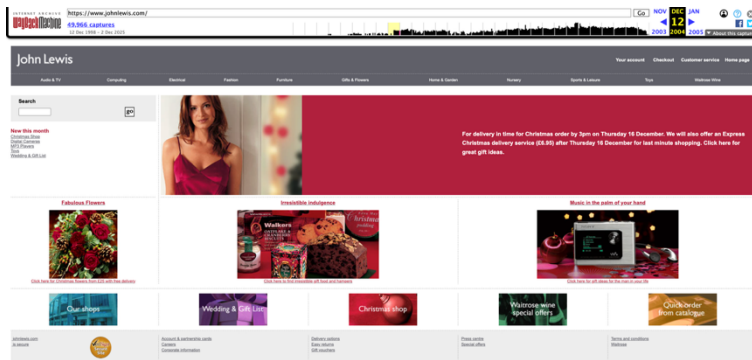


Figure 15: John Lewis homepage in 2004.

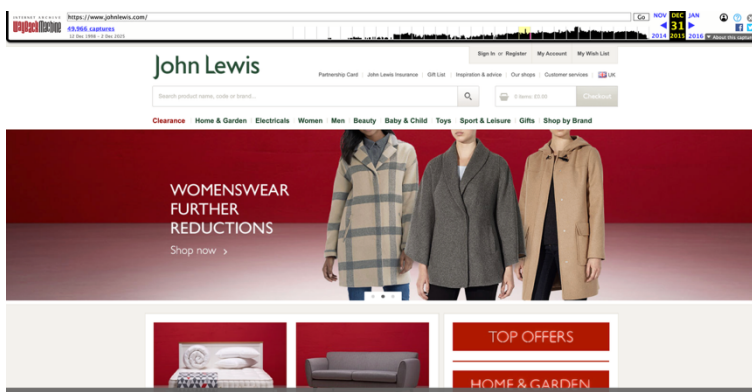


Figure 16: John Lewis homepage in 2015.

updates. Although the Wayback Machine indicates the site existed as early as 1998, the lack of accessible snapshots suggests these versions were likely for internal testing. The earliest available snapshot is from December 5, 2000, showing that regular updates began in 2004.

I selected snapshots from 2004 and 2015, as the update frequency peaked in 2015; these are

reproduced in Figures 15 and 16 respectively. Comparing these archives connects the past and present, allowing me to assess current digital accessibility standards and guide future design decisions toward inclusivity (Consalvo and Ess 2011).

Reviewing the two versions highlights several significant changes, with the most notable being improvements in typography and layout. The earlier version of the website did not adequately account for usability or accessibility considerations. The 2004 layout appeared dense and visually compact; both the search bar and 'go' buttons were extremely small. In addition, the logo and category at the top of the page were displayed in small font sizes with insufficient colour contrast. From a usability perspective, such small interactive elements

reduced the efficiency of user navigation, making it more difficult to locate search functions or perform basic tasks. From an accessibility perspective, the limited font size and inadequate contrast violated WCAG perceivability requirements by hindering readability for users with low vision. Likewise, the small buttons negatively impacted operability, creating additional barriers for users with visual impairments or motor difficulties.

By contrast, the 2015 website significantly improved upon these issues. The use of larger and bolder text, clearer layout structures, an enlarged search box, a more prominent shopping-cart icon, and the addition of language options contributed to greater clarity, navigability, and inclusiveness. These changes reflect an effort to make sure digital content remains relevant, accurate, and accessible over time.

Besides, website sustainability is also crucial.

To assess the sustainability of the John Lewis website, I evaluated its carbon footprint using WebsiteCarbon.com. As shown in the tool's results, the webpage appears to be powered by sustainable energy. Nonetheless, it receives a carbon rating of E, slightly below the global average (Figure 17). Given the high traffic of the John Lewis website, the 0.70g of CO₂ generated per visit scales up substantially,

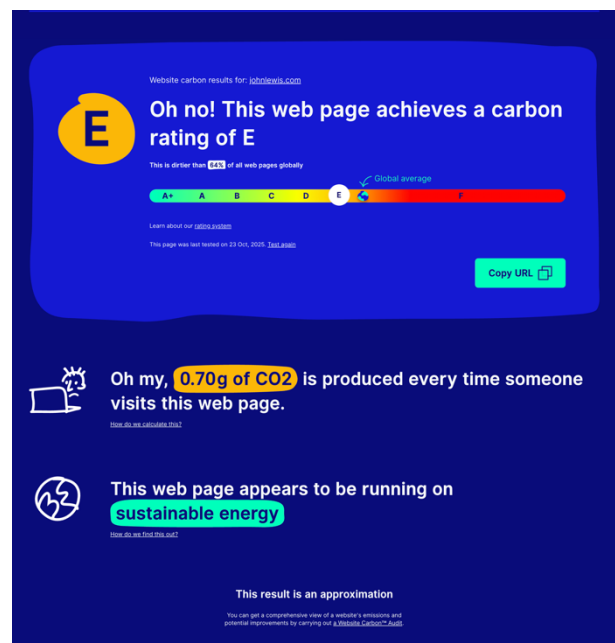


Figure 17: Carbon footprint of Johnlewis.com.

resulting in significant cumulative carbon emissions. This, in turn, meaningfully increases the carbon footprint associated with its digital operations.

To further investigate the site's sustainability, I used PageSpeed Insights tool. Some findings overlap with those highlighted by Lighthouse, such as the use of outdated JavaScript and

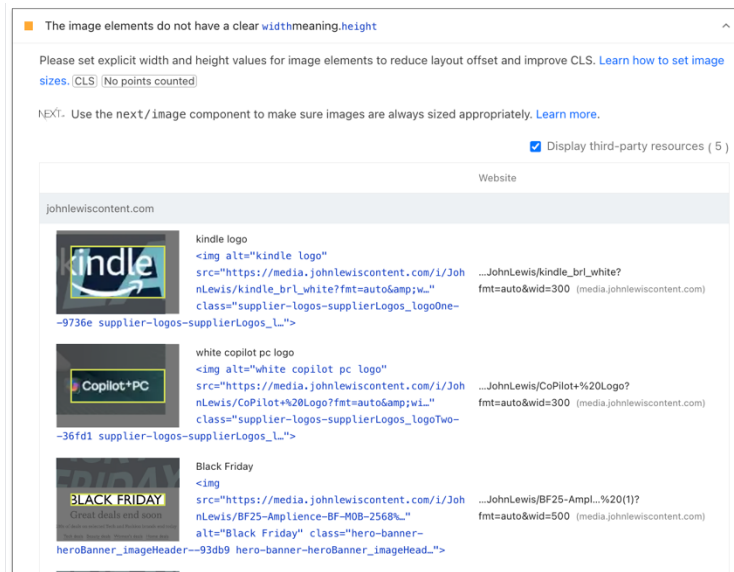


Figure 18: Images do not have the correct sizes.

render-blocking resources that delay the LCP, etc. The analysis revealed that many image assets were not resized to their displayed dimensions, causing unnecessary data transmission. Additionally, some images lacked width and height attributes, resulting in layout shifts (Figure 18).

Based on these observations, John Lewis engineers can consider several optimizations, such as adding explicit width and height attributes to all image elements to avoid layout instability. Reducing the volume of transmitted data would significantly lower the website’s energy consumption and consequently reduce CO₂ emissions per visit.

If the website can improve its carbon rating to an ‘A’ level, it would position John Lewis as an industry leader in digital sustainability. A sustainable website not only enhances user trust but fosters long-term brand loyalty, as environmentally conscious consumerism increasingly shapes attitudes toward e-commerce, so a focus on sustainability can lead to a better user experience (Balogh and Bernatavičiūtė 2022).

More broadly, the Sustainable Web Manifesto (Greenwood et al. 2019) argues that digital sustainability requires action across three dimensions: clean energy, efficient design, and open measurement. On the clean energy front, the WebsiteCarbon results indicate that Johnlewis.com is powered by sustainable energy, which is a meaningful step. However, its E rating reveals that efficient design remains a significant weakness. Specifically, Wholegrain

Digital (2024) recommends that high-traffic e-commerce sites prioritise image compression, the removal of redundant third-party scripts, and the adoption of modern image formats such as WebP and AVIF, which can reduce page weight by up to 30% compared with traditional JPEG files. Implementing these techniques at scale would not only reduce the carbon cost per visit but would also improve performance scores and loading speeds, directly benefiting the 46–54 age group who may rely on older hardware or slower connections. Compared to a sustainability-leading competitor such as Patagonia’s website, which achieves a carbon rating of B with significantly lower page weights (WebsiteCarbon 2024), John Lewis has clear, actionable benchmarks to pursue. Embedding sustainability KPIs into the website’s development lifecycle, as advocated by Balogh and Bernatavičiūtė (2022), would provide a structured pathway toward meaningful environmental improvement.

6. Conclusion

Following the evaluation of Johnlewis.com, the website offers users a logically structured shopping journey that accommodates diverse needs of different consumer groups.

Nevertheless, substantial improvements are still required to enhance the overall user experience. The website demonstrates efforts toward inclusive and user-centred design.

However, several critical issues remain unresolved and warrant further attention.

Furthermore, although John Lewis emphasises sustainability in its statement (Johnlewis.com 2024), the website itself reflects a stronger focus on operational practices and products than on web-based environmental sustainability. As a high-traffic online e-commerce platform, Johnlewis.com cannot overlook any dimension of development, and improving its digital sustainability should be considered an integral part of delivering a high-quality user experience.

In conclusion, while Johnlewis.com shows commitment to continuous improvement, there remains considerable room for advancement across usability, accessibility, technical performance, and sustainability. Continued refinement will be essential for the platform to meet contemporary expectations for responsible, efficient, and inclusive digital retailing.

7. Utilised Tools

Doubao: <https://www.doubao.com/chat/>

Gemini:

https://gemini.google.com/app?utm_source=deepmind.google&utm_medium=referral&utm_campaign=gdm&utm_content=

Google Lighthouse: <https://github.com/GoogleChrome/lighthouse>

PageSpeed Insight: <https://pagespeed.web.dev/>

Similar Web: <https://pro.similarweb.com/#!/sales>

Wayback Machine: <https://web.archive.org/>

Website Carbon Calculator: <https://www.websitecarbon.com/>

W3C Markup Validation Service: <https://validator.w3.org/>

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