

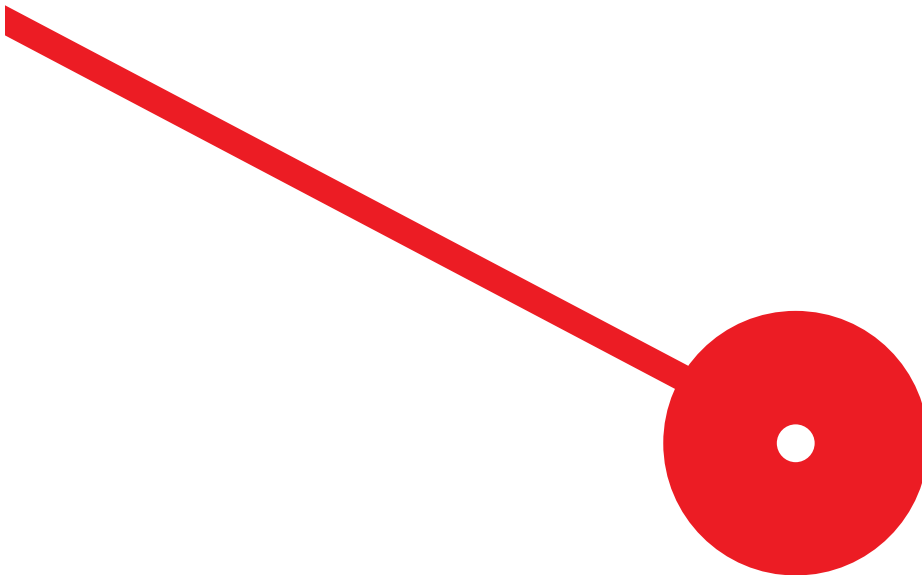


Redesign and Content Creation for the New Lightsource Website — Internship Report

Beatriz Marta de Castro

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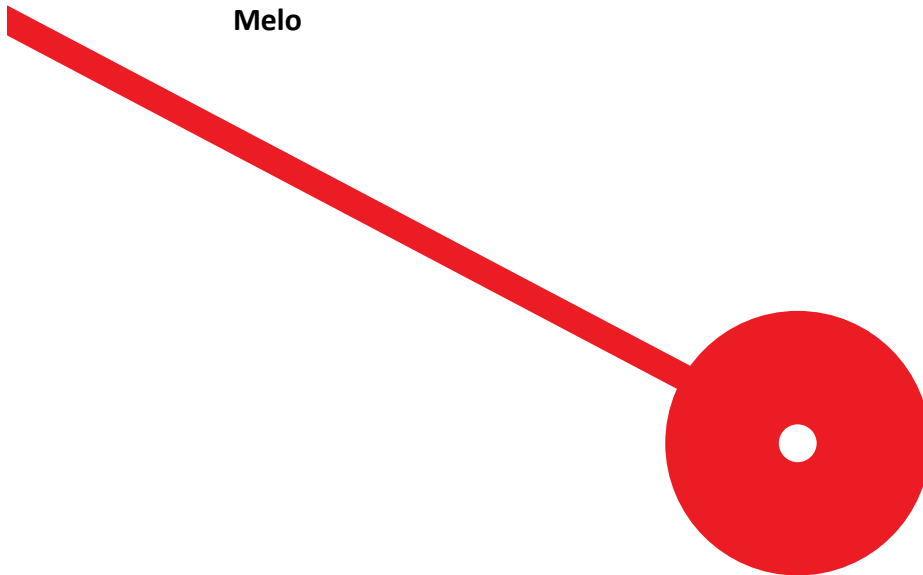
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Redesign and Content Creation for the New Lightsource Website — Internship Report

Beatriz Marta de Castro

**Relatório de Estágio apresentado ao Instituto Superior de
Contabilidade e Administração do Porto para a obtenção do grau de
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Melo**



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Resumo:

Todos os anos o número de utilizadores de Internet atinge consecutivamente novos valores recordes, fazendo, conseqüentemente, que fenómenos como o eCommerce se tornem hábitos cada vez mais comuns. Como resultado, as empresas têm vindo a agarrar a transformação digital como uma oportunidade para ganhar visibilidade e credibilidade, com a vantagem de alcançar mercados que sem a magnitude do digital seriam inalcançáveis. O Reino Unido é um exemplo prático de como as compras online são um fenómeno em expansão, sendo considerado o mais avançado mercado eCommerce na Europa. E para atingir o sucesso neste mundo digital incrivelmente competitivo, um website focado nas necessidades do utilizador que reúne conteúdo valioso e relevante é imperativo.

O presente relatório descreve as atividades realizadas durante o estágio curricular de seis meses realizado na Lightsource, uma empresa do setor da iluminação sediada em Belfast, Irlanda do Norte. O projeto conduzido durante o estágio teve como objetivo a prestação de suporte no desenvolvimento do novo website da Lightsource, com especial foco no redesign e na criação de conteúdo para a nova plataforma de eCommerce da marca. Para isso, envolveu a aplicação de uma combinação de metodologias de design centrado no humano para identificação de requisitos, necessidades e obstáculos que exigiram melhoria nesta nova solução digital. Paralelamente, foi criado novo conteúdo para o website de forma a otimizar as estratégias de Marketing de Conteúdos e SEO, sempre suportado por aquilo que são as boas práticas salientadas pela literatura. O resultado final revela uma melhoria na presença digital da Lightsource que integra decisões informadas e validadas pelas conclusões obtidas no estudo conduzido sobre as necessidades do utilizador.

Palavras-chave: eCommerce; Design Centrado no Humano; Marketing de Conteúdos; SEO

Abstract:

Every year the number of Internet users expands, and consequently, eCommerce has become part of our daily life. As a result, companies have held the digital transformation as an opportunity to gain visibility, credibility and approach targets that, without the magnitude of the online, couldn't be reached. And the United Kingdom is an impressive example of how online shopping has become a buying phenomenon, being named the most advanced eCommerce market in Europe. And to be successful in this highly competitive digital world, a humanised website that gathers valuable and relevant content for the user is imperative.

The present report describes the six-month curricular internship performed at Lightsource, a lighting company based in Belfast, Northern Ireland. This project aimed to assist in the development of the new Lightsource website, focusing on the redesign and content creation for the new eCommerce platform. This involved using a combination of human-centred design methods to study the users' requirements, needs and obstacles that needed improvement in this new eCommerce solution. In line with the redesign process, new content was created for the platform to push the Content Marketing and SEO strategies of the website, always supported by the best practices described in the literature. The final result is a clear improvement on the Lightsource digital presence that integrates informed decisions and outputs compiled from exploring the users' needs.

Keywords: eCommerce; Human-Centred Design; Content Marketing; SEO

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CHAPTER – INTRODUCTION

We live in a vibrant and revolutionary era where technological advancements have shaped Digital Marketing, where brands and companies feel the need to adapt to the digital world to reach and build deep relationships with customers. And the ones that don't have the strength to keep up with this digital revolution and change the way they communicate, advertise and sell are left behind the competition.

Ecommerce has become a crucial tool for businesses to achieve success in this highly competitive world. Online giants like Amazon, for example, show how eCommerce is unquestionably growing and dominating retail sales. The expansion of this trend is a clear result of the multiple advantages digital commerce has brought not only to the clients but also to the businesses and their marketing strategies. Advantages like creating a faster and more convenient platform to generate transactions or the multiple possibilities it can create to track and better understand consumers' behaviour, prove that eCommerce is not just the future but the present. So it's now in the hands of retail companies to take advantage of this beneficial strategy in the best way possible.

Therefore, the main focus of an eCommerce platform should be the customer and the customer experience. A positive and integrated online experience from the moment a brand is recognised until a post-purchase stage will positively affect the customer's trust and loyalty. And while many efforts and marketing tools can be applied to improve the online experience, a website is indispensable.

An eCommerce website assumes the role of conducting the business online. And many factors can contribute to a successful eCommerce website, such as integrating fundamental usability and design elements (Sivaji, Downe, Mazlan, Soo & Abdullah, 2011). Authors repeatedly defend that usability can create a positive impact on online "revenue, loyalty and survival" (Sivaji et al., 2011, p.221). However, this positive impact can only be achieved when the user needs are considered a priority, aiming for a complete understanding of its needs and expectations. Therefore, usability will dictate an eCommerce website's success or failure (Goh et al., 2013).

The present report aims to provide evidence of the theoretical and practical knowledge gained during the two years of the Digital Marketing Master's course and the six-month internship carried out at Lightsource. As a result, the report will cover the activities and responsibilities undertaken as a Marketing and eCommerce intern at Lightsource and the literature review that supported the tasks of the proposed project.

Lightsource

Lighting Enterprises is a family-owned business with over 40 years of experience sourcing and supplying lighting throughout Ireland, the United Kingdom, and, more recently, across the globe. The company is specialised in decorative lighting, parting with international brands to offer modern, traditional, domestic, commercial, exterior, and LED solutions.

The company comprises five different lighting brands, each directed for a specific target, with a unique brand image that sells exclusively through each website: Best & Brown, Lighting Design, Hotel Lighting, Light Monster and Lightsource.

Best & Brown sells exclusively luxurious and designer lighting. It is the high-end brand of Lighting Enterprises. Lighting Design is essentially an extension of Lightsource with a wide range of styles and products for every budget, but with different branding to Lightsource as an attempt to attract customers through additional content and get more traffic to Lighting Enterprises as whole. As the name suggests, Hotel Lighting is a specific brand created to offer lights focused on hotel projects. Light Monster is the low-cost brand of the company using significant discounts and sales all over the website for trade and public customers. And finally, Lightsource, the most successful brand of the company and the one that is now receiving the most attention from the Lighting Enterprises team. Overall is the one that fits the most markets and has the most comprehensive range of products and brands available.

Lightsource represents a project lighting partner that reunites a team of highly skilled lighting experts. The brand sells globally and for both markets, B2C and B2B, so it works to provide the best lights either for residential designs or commercial projects.

The brand's reputation was earned for efficiently solving lighting problems and having an excellent sourcing service to help its clients achieve their vision on time and within budget. Their clients include many prestigious residences, hotels, bars and restaurants in Belfast, London and across Europe. Some of the biggest Lightsource projects include "The Grand Opera House" and "Europa Hotel", two iconic buildings in Belfast, the "Hard Rock Café Hotel" in Dublin and the "MAAT Museum" in Lisbon, just to name a few.

At the moment, Lightsource represents more than 100 international brands such as Anglepoise, Flos, Roger Pradier, Visual Comfort, Wever & Ducre and many more.

Besides the reseller side of the company, Lightsource also offers design services that go from simple product advice to complete design services. The client can receive guidance from one of the sales consultants on choosing the right light fittings or solutions for a particular room, space, or effect, or get a full design service, where is arranged an initial consultation so then detailed architect's drawings are created to discuss lighting needs area by area. Also, there is the possibility of going on-site and partnering with a third party like electricians, interior designers, and architects to achieve the desired result.

Besides the Lightsource's showroom in Belfast, where the client can see a selection of products and get to know the company's work, the brand has its website (www.thelightsource.co.uk), that offers clients its vast range of lighting products. Clients can browse through pages of lighting from hundreds of brands and designers that can suit different tastes and budgets. There is also a live online support service for assistance while browsing the site to help achieve the best lighting option. The product pages are continually updated to include the latest products from around Europe and currently has over 14.000 products available.

The new website project

The Lightsource insights on online sales during 2019 and 2020 showed that the lighting company felt a significant eCommerce growth. The total amount of online sales value during 2019 was 400.000 GBP, while in 2020 was just over 600.000 GBP. Unfortunately, this data only reflects the card payments because of the previous website limitations, as the payments made by bank transfer or cash are not considered in these annual values. And it is known for a fact that some clients, especially when we are talking about B2B clients with more extensive and expensive projects, prefer to pay by bank transfer. Plus, trade projects had a significant volume in the sales between 2019 and 2020. So, these insights show that the growth was registered indeed, but the actual values are even higher.

In addition to this beneficial impact on the eCommerce platform performance, Lightsource has also recently worked on big projects that made it stand out in the lighting industry. One of the latest projects was for PwC, where Lightsource was involved in the lighting project for the company's new offices in Belfast. A 40 million GBP investment by the advisor firm to create a new advanced research and engineering centre.

So, the present scenario is very promising for the company. And all this growth and context made Lightsource feel the need to improve its website and invest in a new and

more functional platform to better address the market and clients' needs while keeping track of the latest trends in Digital Marketing and eCommerce. Furthermore, this was an excellent opportunity to improve the system used on the website and upgrade it to answer some of the biggest problems pointed out by the Lightsource team explored in following chapters and enhance the customer experience.

After months of deliberation and analysis, Visualsoft was chosen as the new platform to develop and host the new Lightsource website. The chosen platform showed to be the best cost/quality option after a meticulous analysis of other competitors' websites and eCommerce platforms in the market.

Internship Program

As a student of Digital Marketing, I got the opportunity to integrate the Lightsource team as a Marketing and eCommerce intern. The internship started on the 2nd of August 2021 and finished on the 28th of January 2022, taking place at the company's office in Belfast, Northern Ireland.

For the first three months, the placed supervisor for this internship was Andrew Nesbitt, Lightsource eCommerce Manager, while for the last three months Richard Browbek, the Manager Director, took this responsibility¹.

This entry on Lightsource was entirely intended to assist the development of the new Lightsource website, with the main tasks being: **writing and proofreading of onsite content; generating ideas for content for inclusion into the onsite blog or CMS; monitoring competitor activities, offers, emails and price changes; ensuring all of the product information, price, data, category is up to date; development of an existing web platform or movement to a new eCommerce platform for the business.**

Though all these activities were the primary focus of the role as an intern, new responsibilities and tasks were gradually added to the internship program. The personal interest in website development and design, allied with the multiple delays and divergences between Lightsource's vision for the new website and the Visualsoft work,

¹ This change of supervisors wasn't predicted. However, had no impact on the internship plan once all the activities that started with Andrew were finished by the end of the first three months and the change marked the beginning of a new set of tasks related to the implementation of the insights until then collected

opened the space and the opportunity to suggest and apply user research and human-centred design methods as well as design proposals to the project that was being carried.

The delays and changes in the planned tasks led to multiple alterations to the work timeline and milestones for the six-month internship. Table 1 summarises the final set of main assignments completed and the corresponding months that the tasks were started and finished².

Milestones	Aug	Sep	Oct	Nov	Dec	Jan
Platform and Competitor Analysis	●	●	●	○	○	○
Website Design	●	○	○	○	○	○
Website Content	●	●	●	●	●	○
Qualitative Research	○	●	●	●	●	○
Testimonials Section	○	○	○	○	●	●
Portfolio Section	○	○	○	○	○	●

Table 1 - Chronogram of the milestones completed during the internship

All the work done during the internship will be explained in detail in the different chapters of this report, but to support a better understanding of what were the tasks performed and how these were distributed in time were considered the following milestones:

- **Platform and competitor analysis:** analysis, based on a strategic framework, of the Lightsource at the time current website and six more selected sites;
- **Website Design:** materialisation of the ideas and suggestions proposed for the new website into layouts designed through Adobe XD;
- **Website Content:** writing and proofreading on-site content as part of the new website's Content Marketing as SEO strategies;
- **Qualitative Research:** planning, conducting and analysing interviews, usability tests, personas and scenarios of interaction;
- **Testimonials Section:** creating a section on the new website with clients' testimonials;

² The complete version of the chronogram is on the Appendix I as a Gantt Chart

- **Portfolio Section:** create a portfolio section on the new website with some of the previous Lightsource works through WordPress.

Report Structure

Following this introduction, Chapter I presents a synthesis of the literature on eCommerce, with a specific focus on the United Kingdom consumer's online buying behaviour; Content Marketing and SEO as critical strategic elements in a website's success; human-centred design methodologies, focusing on interviews, usability testing, questionnaires, personas and scenarios. Chapter II describes in detail the tasks performed during the internship to assist in the redesign and content creation of the new Lightsource website, while the final result is analysed in Chapter III. Finally, Chapter IV employs the research's conclusions, project limitations, and suggests further work on the Lightsource website.

CHAPTER I – LITERATURE REVIEW

This chapter aims to define and explore the ground concepts that theoretically support the activities carried out during the reported internship. First, it was essential to reflect on the current state of eCommerce as a structural part of a Digital Marketing strategy and, in particular, explore the online buying habits of Lightsource website's primary target - the United Kingdom online consumer. Additionally, and in line with the goals of the internship, it was relevant to review the concepts and the best practices related to Content Marketing and SEO. Finally, we summarise the literature on human-centred design methods and their relevance in creating a humanised solution that impacts the success of an online business.

1.1 Ecommerce

In the last decade, consumer buying habits have changed radically. Shopping online, when compared to shopping at traditional brick-and-mortar stores, has gained popularity over the years and bigger significance in customers' purchasing patterns (Tsagkias, King, Kallumadi, Murdock & Rijke, 2020). The fast advancement of technology and the growing use and easy access to the Internet played a pivotal role in this change. As a result, numerous industries and retail companies are now using the online as a new retail channel, contributing to expanding eCommerce (Mohd & Zaaba, 2019).

To the authors Totonchi and Kakamanshadi (2012), eCommerce can be seen as a transaction via a computer-mediated network that involves a transposition of ownership over products or services. The same authors also suggest a more comprehensive definition of the concept, stating that eCommerce "is the use of electronic communications and digital information processing technology in business transactions to create, transform, and redefine relationships for value creation between or among organisations, and between organisations and individuals" (Totonchi & Kakamanshadi, 2012, p.2).

1.1.1 Research Method

The literature review presented in this report resulted from a keyword search on the platform Google Scholar. The study took into consideration the combination of the terms "eCommerce", "Digital Marketing", "Lighting Industry", "Belfast", and "United Kingdom", considering only the publications of the last ten years (the period from January 2012 to April 2022). The goal was to rigorously analyse available literature that could support this report, since initial research showed that together the topics mentioned might represent a gap in the literature review. And this lack of information was felt due to the

short number of articles and studies available on the web search engine. The time frame chosen was a criterion to keep the analysed data updated and accurate, as well as based on the remarkable year 2012 was for eCommerce — B2C eCommerce sales increased by 21.1% and topped one trillion USD for the first time, marking the beginning of a rising phenomenon (Insider Intelligence, 2013).

When combining “Belfast” with the topics of “Digital Marketing”, “eCommerce”, or “Lighting Industry”, it retrieved a total of 1.480 results. From there, an intensive scan was made through the titles and abstracts, but none was selected for further analysis. The inclusion criteria were the explicit incorporation of the mentioned topics and the specific exploration of the subject in the geographic area of Belfast. As all the articles retrieved were mainly on particular sectors, for example, tourism, or focused on a different and specific side of digital marketing like social media, the research was extended to the entire UK, resulting in 50.038 publications on Google Scholar. From these, only eight articles were selected for further analysis³. Additionally, some other publications were also selected throughout the process of writing this literature review through snowballing.

As a result of this literature review, it was observed that the Lighting Industry is a sector that lacks study in the field of Digital Marketing, particularly from an eCommerce perspective. It is even more challenging to collect data that reflects the application of these topics in Belfast or even in the UK. So, for that reason, the primary motive to discard an article was when the subject was not specifically about “eCommerce” in the “United Kingdom”, once “Lighting Industry” and “Belfast” were particularly hard to find associated with the research goals.

1.1.2 Online Buying Behaviour

Several authors have been exploring practical aspects of the shopping process. For example, Comegys, Hannula & Väisänen (2006) defend that the process of making a buying decision has five stages: need recognition, information search, evaluation of alternatives, purchase decision, and post-purchase behaviour. This theoretical model gives essential guidance on how companies should take online sales as a sequential process and not as a single transaction moment, requiring a longitudinal marketing strategy.

³ Before expanding the search for “United Kingdom”, it was used as a keyword “Northern Ireland”. However, the results were less related to this study's scope and didn't add relevancy to the literature review conducted

Other authors like Xu & Huang (2015) narrowed their search on online shopping habits and focused their research on the factors that influence cart abandonment in the online shopping process. The authors concluded that factors like organisation and research have a crucial impact on cart abandonment, while others, like perceived cost and risk, do not affect it directly (Xu & Huang, 2015).

Bell, McCloy, Butler and Vogt (2020) followed the assumption that the customer buys when feeling the motivation for it, or when this motivation is nourished during the online buying process. This study combined emotional and affective factors that can influence the motivation to buy online and concluded that “Negative emotions such as irritation, disappointment, or fear clearly reduce the likelihood to buy and need to be managed where possible through good website design” (Bell et al., 2020, p.10). In the same article, it is also suggested that it is crucial to build an online purchase and payment mechanism that promotes a smoother and easier transaction that doesn’t irritate or disappoint the client and makes it more likely to complete the transaction (Bell et al., 2020).

The online buying motivation was also studied in a B2B context. B2B clients’ consuming behaviour is no longer exclusively motivated by functional and economic features. The trustworthiness and expertise of the seller are now significant factors that impact buying decisions (Mononen, 2020), once they pursue the best solutions, not products. But online commerce also involves significant challenges that B2C clients don’t face, creating substantial differences between behaviours. For example, B2B clients buy to satisfy demand, the product and services requirements have to meet the needs of their buyers and not their own, there’s no such thing as buying by impulse, everything is clearly stated with a cost and a schedule, and usually more than just one person is involved in the buying decision (Grewal et al., 2015). So, there are specific features and requirements that a website that targets a B2B market can adopt to create an improved platform, such as, creating a *rebuying product* functionality or an *ask for a quote* feature, which are frequent actions by B2B clients on a website and can shape the customer’s behaviour in the use of eCommerce (Mononen, 2020).

1.1.3 The United Kingdom Online Consumer

According to reports from the International Trade Administration of the United States of America (2021, para. 1), “Internet shopping is more popular in the UK than in any other major country”, and every week more than 3 billion dollars are spent on online retail by

the UK citizens. And according to the online portal Statista, these impressive numbers led the UK to be named the most advanced eCommerce market in Europe. In fact, between 2019 to 2020, the value of online retail sales had the highest growth registered since 2012 (Statista, 2021). Furthermore, reports point out the effects of the Covid 19 pandemic on consumer buying habits regarding online shopping to explain this enormous growth. In the case of the UK, in only one year, the country went through three national lockdowns marked by high restrictions regarding social distancing and purchase in physical stores. And even after the end of some of the social limitations, a 2021 March survey from Adobe shows that out of 1.000 consumers inquired, 40% prefer to continue to avoid shopping in brick-and-mortar environments (Adobe Communications Team, 2021). So the pandemic has been pointed out as a possible significant boost for online shopping in recent years.

This shows that the current economic and social context favours eCommerce. And this not only applies to the B2C market but also the B2B. This is because online transactions can bring benefits and have been widely adopted by both market segments. Nevertheless, specific types of products and market segments are generally less favourable to purchase online.

On the one hand, there's the risk that involves buying online. Users tend to be less willing to purchase through eCommerce platforms when it comes to products that involve a large amount of money and when they are uncertain of the quality of the products, primarily due to the intangibility of the online buying context (Yu, Hudders & Cauberghe, 2018). According to Statista (2021) and based on the 2020 results of an annual interview conducted by the Office for National Statistics, clothes, shoes and accessories (55%) are the favourite online purchased items in the UK. The second favourite goes for deliveries from restaurants, fast-food chains or catering services (32%) and the third to printed books, magazines and newspapers (29%). At the bottom of the list, there are physical copies of films or series (13%), music (12%) and bicycles, mopeds, cars, or other vehicles or their spare parts (8%). In the middle of the list, we can find consumer electronics (18%) that include household appliances like lights, whether installed or free-standing.

On the other hand, there's the resistance shown by B2B clients to adopt online shopping. A research focused on B2B clients' preferences when dealing with suppliers from a vast range of industries shows that only "46% of buyers say they would be willing to buy from a supplier's website if the option were available and the service efficient" (Angevine, Lun

Plotkin & Stanley, 2017). And 46% also said, “it was difficult to compare products online accurately. They are frustrated that they cannot complete a repeat order easily. And they grumble about the time it takes to get a response when seeking help”. In an article published in 2020, Forbes suggests “four key branding factors to consider that B2B often forget” (Hyder, 2020, para. 16), and one of them is the user experience. Many times, B2B online platforms mistakenly put user experience out of their list of priorities, and like any business, successful eCommerce strategies derive from knowing customer needs and expectations.

In this context, and for its challenges, a particular industry stands out – the lighting industry. Everything mentioned before shows the strong development and the opportunity that eCommerce is for the retail market in the UK. But it also highlights how the online buyer can be hesitant in purchasing more expensive items. These items require more deliberation and, like lights, might require a technical understanding of the product specifications. And this can be even more challenging if we are talking about B2B clients who are often involved in more extensive and expensive projects, feeling that options like contacting the supplier company make them feel more comfortable and with a more straightforward buying process than by using the website.

1.2 Content Marketing and SEO

Having an eCommerce website represents an important step in a company’s digital strategy to sell online and directly connect with customers. However, in itself, it is not a guarantee of success. It lacks a plan to generate traffic, create brand awareness, and fundamentally boost online revenue. And it is precisely with this purpose that, together, Content Marketing and SEO represent crucial elements of a Digital Marketing strategy to transform a website into a competitive asset.

1.2.1 Content Marketing

In 1996, Bill Gates wrote the acclaimed essay titled “Content is King” (Bailey, 2010). More than 20 years later, content seems to keep this illustrious title.

Content Marketing has been part of the digital marketing strategy of companies for decades. Still, the digital side of content was only highlighted by the marketing community in recent years (Vinerean, 2017). One of the key figures of this change is Joe Pulizzi. In 2011, Pulizzi founded the Content Marketing Institute (CMI), in which we can

find the following definition: “Content marketing is a strategic marketing approach focused on creating and distributing valuable, relevant, and consistent content to attract and retain a clearly defined audience — and, ultimately, to drive profitable customer action.” (Content Marketing Institute, n.d., para. 3). Content Marketing created a significant impact because of the way it shifted Marketing from the traditional approach of persuasive advertising into an effort to distribute valuable information (Forrest, 2019). And is this shift that makes the word “valuable” in the given CMI definition what defines the core of Content Marketing. It is the application of strategies and methodologies that provide “truly relevant and useful content to your prospects and customers to help them solve their issues” (Content Marketing Institute, n.d., para. 4).

1.2.1.1 Best Practices

As previously stated, an effective Content Marketing strategy distributes “valuable, relevant, and consistent content to attract and retain a clearly defined audience” (Content Marketing Institute, n.d., para. 3). And as the phenomenon of content grows, multiple authors share their personal experiences and business insights on the best practices to adopt when creating a Content Marketing strategy with valuable content.

Because it is one of the most mentioned and respected sources for everything related to Content Marketing, the CMI website is a trusted source for obtaining helpful tips to be successful at marketing and web content creation. For example, one of the institute’s articles points out four essential guidelines for content creators: the prioritisation of quality and quantity, the importance of titles in grabbing the user’s attention, the impact of a detailed SEO strategy, and the evaluation of conversion rates as the ultimate metric of success (Murray, 2014). This all reflects how important it is to structure not just well-written content but optimised content that will be complete enough to answer the user’s doubts, that is appealing, and that will ultimately engage with the audience and generate a desired behaviour in the customer.

Other sources, like the Rock Content blog, also highlights Content Marketing best practices such as creating measurable strategies, creating content for personas, generating shareable and evergreen content, and applying storytelling elements. And in the other hand, the same article also points out practices that shouldn’t be followed, such as creating content with no purpose or substance, purely selling and self-promoting, creating content

sporadically, using only one type of content, and the recourse to keyword stuffing (Rock Content Writer, 2021).

1.2.2 SEO

Search Engine Optimisation (SEO) is a technique implemented to enhance the relevance of a webpage between the multiple results retrieved by a search engine. This capability of improving a website ranking, and consequently extending the visibility of a page, makes SEO a powerful and helpful tool in every Digital Marketing strategy (Sharma, Shukla, Giri & Kumar, 2019).

The importance of a website ranking well in search engines is obvious. There are more than 1 billion websites online, and statistics show that three new ones are created every second (Huss, 2022). To face this extremely competitive scenario, a website's position in the SERP (Search Engine Results Page) becomes a key variable that will highly impact metrics like the CTR (Click-through Rate) and conversion rates (Sharma, Gupta, Mateen & Pratap, 2017). Taking Google as an example, and because of the large percentage it holds of the search market share worldwide, statistics show that the first result on the SERP achieves a value of CTR of around 39.6%, which is more than the double when compared to the second website shown, that generates approximately 18.4% (Bailyn, 2022). And the difference when compared to lower rank results is even more significant.

Equally important is that there are two types of SEO described in the literature – SEO On-Page and SEO Off-Page. The main difference between these two types lies in the control the website owner has over it. On-Page includes all the SEO practices that are entirely under the power of the website owner. Off-Page is the exact opposite, once it is only related to promotions out of the website's reach, such as link building or social media engagement (Patil & Patil, 2018; Sharma et al., 2019).

1.2.2.1 Best Practices

Because of the purpose of the internship reported, the focus was the SEO On-Page strategy. Therefore, the SEO best practices study was concentrated on On-Page factors.

After the analysis of multiple articles, the following techniques were considered by the literature as some of the most relevant and influential in an SEO strategy (Andersson & Lindgren, 2017; Khan & Mahmood, 2018; Patil & Patil, 2018; Schubert, 2016; Sharma et al., 2017; Voutilainen, Salonen & Mikkonen, 2015):

Keywords: the search engine retrieves results based on the search of keywords, which makes it crucial to create a website that will gather relevant keywords to the theme and audience that it aspires to achieve. It is essential to define a vast and constant keyword search methodology to track which keywords represent the highest search volume over time and a keyword placement strategy to strategically place target keywords in critical places of the website;

Meta title: it will express to the search engine what the page is about, so if it effectively matches the theme of the web page, it will be shown to the user as a relevant result. There's not a recommended length for a title tag by Google, however, to make it entirely displayed on the SERP, it should be between 50 and 60 characters (Moz, n.d.);

Meta description: it is a summary of what is the content of a webpage. Together with the title tag, are deciding elements when it comes to catching the user's attention and encouraging them to click. So it's essential that both match searched keywords. To ensure the search engine doesn't cut the meta description created, it must not be bigger than 160 characters (Moz, n.d.);

Headings Tags: are used to create a hierarchy of importance in the page content through "H1" to "H6" headings. The headings and subheadings separate the content and make it easier to read a page from a user's perspective and easily find the searched information;

Optimising image: to every image added to a website should be assigned an alt text attribute with the targeted keyword. This is an imperative element to improve accessibility;

Robot.txt: this file will express to the search engine crawlers the URLs that can be indexed or not, essential for privacy reasons and better SEO performance;

Site Map: this file helps the user navigate and assists the search engines in finding and crawling the website;

FavIcon: is an icon used to represent a website, brand, or business, which will improve the user experience by making it easier for the user to identify a website between browser tabs or saved pages;

Mobile-Friendly: the fact that a website is built to provide a great user experience not only for desktop users but also for mobile usage will positively impact the website's rank;

Media Query Responsive: media query techniques are the basis for responsive design functionalities. So, it's a crucial factor to consider when creating a mobile-friendly website and improving the SEO performance;

Custom 404 error page: it's the page shown to the user when the URL requested can't be found. This page is particularly important to be well thought out in advance once it can easily give the user the idea that the website isn't available when it can be just a problem with a specific URL. In addition, this page will keep the user on the website by suggesting other pages that might be relevant to the user and reduce the bounce rate;

Optimised URL: the URLs should be straightforward, self-explanatory, and easy to read. Hyphens should be used to separate the words;

Internal links: are used to redirect users to other pages of the same domain. They do matter for the SEO strategy once the search engine can read them as related topics or thematic dependencies;

Broken links: whether the hyperlinks are internal or external, having broken links (links to pages that no longer exist) on the website will negatively impact the SEO performance;

Website speed: the time it takes a page to load is one of the factors the search engine considers when ranking a website, which means that elements that will weigh on the load speed, such as heavy JavaScript or CSS files, will negatively impact the SEO strategy.

1.2.3 The Importance of an Integrated Strategy

As delineated before, Content Marketing and SEO are different strategies in the Digital Marketing domain. But that doesn't mean that they represent isolated practices. Instead, they impact each other and should be thought of as a whole to achieve a successful online presence (Baltes, 2015).

Content Marketing contributes with valuable content that SEO requires. At the same time, SEO will push the content to the top results retrieved by the search engines. They complement each other to deliver relevant and consistent content to the users through the SERP. If there's not this integral effort, the implemented strategies will not be efficient on their own. For example, the content created can follow a notable keyword search and be full of highly searched keywords. Still, if it is poor content that doesn't reflect the target needs, the search engine will not consider it relevant or rank it higher (Forrest, 2019).

1.3 Human-centred Design in an eCommerce Context

Ecommerce has revolutionised marketing and the buying process. Consequently, the customer buying patterns have also changed. More than ever, the consumer can compare prices, services, products, and all just a click away. And in the meantime, an engaging customer experience arises as a crucial factor for the success of any online business (Jaiswal & Singh, 2020).

Studies show that the experience created through a website will impact the way users think about a brand and how they interact with it (Bilro, Loureiro & Ali, 2018) — drawing attention to how important it is to create meaningful digital products that will shape the online customer experience. By meaningful, we refer to developing intuitive and easy-to-use platforms that meet the users' expectations in an online context. Accordingly, in a highly competitive world, a human-centred approach can be a decisive aspect for a client's choice between competitors (Diaz, Arenas, Moquillaza & Paz, 2019).

All of this highlights the relevance of understanding in depth what human-centred design is and the methods to improve the usability of a website to create a humanised problem-solving solution that will impact the success of an online business.

1.3.1 Methods of Human-centred Design

Every digital solution as an interactive system will be, ultimately, used by humans. A group of human beings who will interact through an interface looking for an innovative, effective, and person-centred experience. Therefore, the user should be at the centre of every solution design (Putnam et al., 2016).

According to the ISO 13407:1999, “Human-centred design is an approach to interactive system development that focuses specifically on making systems usable”. It’s about applying methodologies and techniques that value “human capabilities, skills, limitations and needs” to create effective and efficient interactive systems. And following a human-centred design approach can bring benefits such as “increased productivity, enhanced quality of work, reductions in support and training costs, and improved user satisfaction” (ISO, 1999).

Essentially, human-centred design makes use of methods that are applied to recognise and better understand users’ needs (Farooqui, Rana & Jafari, 2019). And this design approach can be completed through four activity phases: “Identify the user and specify

the context of use; Specify the user requirements; Produce design solutions; and Evaluate design solutions against requirements” (Harte et al., 2017, p.3). It’s an iterative and human-oriented process that prioritises user research to develop problem-solving solutions.

One of the main ambitions of human-centred design is the creation of usable systems, which means that human-centred design and usability are inseparable concepts. Usability is a complex concept, but its core is simple to understand. When there's the chance no one uses an object whose use is confusing, doesn't work as expected, or doesn't add value to the user's experience (Weichbroth, 2020). This reflects lack of usability.

According, to the ISO 9241-11:2018, definition 3.1, usability is the “extent to which a product can be used by specified users to achieve specified goals with effectiveness, efficiency and satisfaction in a specified context of use”. And a usable system can be achieved by applying a human-centred approach (Maguire, 2001).

In order to implement the described approach, there are different methods to collect human-centred research data, evaluate and synthesise it, to finally report it as outcomes for the design of the solution. However, and because of the scope of this report, only **interviews, usability testing, questionnaires, personas** and **scenarios** will be explored in depth.

Interviews

The interview is a survey research method where "one user and one expert participate in a discussion session concerning the user's attitude towards the artefact to be evaluated" (Fernandez, Insfran & Abrahão, 2011).

Interviews can be divided into two major classifications – individual interviews and focus groups. Each type of interview has its advantages and disadvantages compared to the other, and the choice of the most efficient will always depend on the goals and circumstances of the research (Kruger, Rodgers, Long, & Lowy, 2019).

Another classification of the interviews is related to the structure. These can be structured, by following a guiding script of questions, or unstructured, without a script and with more flexibility to conduct the conversation (Hanington & Martin, 2012). Interviews can also be semi-structured, requiring a set of predefined questions, but the interviewer can change the course of the discussion based on the answers it's getting (Longhurst, 2003). And once

again, the most apt choice will always depend on whether the research goal aims for a more limited scope of answers or not and the context in which the interviews are being applied.

Based on the case studies analysed, most authors adopt individual and semi-structured interviews to evaluate and interpret the user experience with an interface, seeming not only a common practice but also an effective approach (Eysenbach & Köhler, 2002; Granić, Mitrović & Marangunić, 2011; Snyder, Jensen, Courtin & Wu, 2009; Sohl, 2017).

Interviews often use complementary methods like questionnaires or observation, for example (Hanington & Martin, 2012).

Usability Testing

Usability testing it's an evaluative method that, through tests with users, can improve the usability of an interface (Ghasemifard, Shamsi, Kenar & Ahmadi, 2015). Testing a digital product like a website will help identify the user's specific struggles and support developing solutions and recommendations to improve the interface.

The pre-testing process usually follows this sequence of steps: the development of the test's tasks, the selection of the sample, the recruitment of participants and the preparation of the needed material and environment (Ghasemifard et al., 2015). And typically, what is asked the users to do during the test is connected to real tasks and scenarios of the target audience (Hanington & Martin, 2012).

Observing an individual's experience with a digital application is a complex process that requires a lot of examination post-test. As a result, these tests can be highly difficult to analyse, taking a long time and making it impossible for the researcher to conduct many tests when the time available is limited. This limitation led Nielsen and Landauer's research (1993) to defend that five users, per interaction, are enough to catch 85% of the problems in most websites.

Over the years, the think-aloud protocol has become a popular method combined with usability testing to achieve an effective usability evaluation (Krahmer & Ummelen, 2004). In this method, it is given to the user a set of realistic tasks to complete while being asked to articulate what they are thinking, doing, or feeling (Van Waes, 2000; Hanington & Martin, 2012). The significant advantage of applying the think-aloud protocol is its contribution to understanding "the user's mental model and interaction with the product"

(Law & Hvannberg, 2002, p.71). And the fact that the user is self-reporting the experience gives a closer chance for the researcher to better understand “aspects of an interface that delight, confuse, and frustrate” (Hanington & Martin, 2012, p.180) the user experience.

Questionnaires

Questionnaires have always been one of the most used methods to evaluate the usability of a system, primarily because of their advantages (Zaharias & Poylymenakou, 2009). They are an easy technique to apply, almost with no costs associated, and because they reflect the user perspective, they are highly efficient in adding depth to the results (Guion, Diehl & McDonald, 2011; Zaharias & Poylymenakou, 2009).

Because it is an effective evaluation method, experts have been working over the years to add more value to this technique by developing specific usability questionnaires for software product evaluation. For example, Assila & Ezzedine (2016) found 24 questionnaires based on a literature review – the Questionnaire for User Interface Satisfaction (QUIS), the After-Scenario Questionnaire (ASQ), the Computer System Usability Questionnaire (CSUQ), and the System Usability Scale (SUS), just to name a few.

In the same article, the authors also mention that "The reported analysis results have shown that SUS was the fastest questionnaire to converge on the correct conclusion and also, it has reliable results across all used sample sizes" (Assila & Ezzedine, 2016, p.19). Furthermore, the SUS, and according to the literature, seems to represent a reference among many authors, being stated in more than "600 publications" (Assila & Ezzedine, 2016, p.18), and it represents "43% of post-study questionnaire usage" (Lewis, 2018, p.577).

The SUS questionnaire consists of "10 statements that are scored on a 5 point Likert scale of strength of agreement" (Martins, Rosa, Queirós, Silva & Rocha, 2015, p.295), from strongly disagree to strongly agree, and integrates factors like reliability, validity, and sensitivity (Lewis, 2018).

Personas

A persona is a profile representation of the target user's behaviour patterns, goals and motivations that helps humanise the designing process and test scenarios (Hanington & Martin, 2012).

According to Alan Cooper, “The more specific the persona is, the more effective they are as design tools. With more specific, idiosyncratic details, the persona becomes a “real” person in the minds of the developers.” (as cited in Blomkvist, 2002, p.2). And this is the reason why the author defends that in a design process it should always be used the term persona, a specific and individual profile, instead of user, a more general concept.

Usually, applying this method results in short and consolidated descriptions of real users with “a name for the person, a photograph (use stock photography to avoid connection to a real identity) or sketch, and a narrative story describing in detail key aspects of his or her life situation, goals, and behaviours relevant to the design inquiry” (Hanington & Martin, 2012, p.132).

Scenario

A scenario results from a plausible and possible future interaction between a user (represented by the persona) and the interface. It’s a valuable methodology that guides teams to develop a product based on future use and just not based on functional and technical requirements (Hanington & Martin, 2012).

Essentially a scenario is a narrative that describes how the user sees and acts when interacting with a product. It is a description of a persona's point of view (Goodwin, 2011). So, a scenario should be created for each envisioned persona, written from the persona’s point of view while describing a predictable narrative. This narrative should start “with a trigger event, which sets the scene and preconditions, and ends with the resolution of a task by using an intervening technology that assists (and hopefully delights) the persona” (Hanington & Martin, 2012, p.152).

CHAPTER II – INTERNSHIP PROJECT

In this chapter, the undertaken tasks during the internship to assist in the redesign and content creation of the new Lightsource website are specified. Each subchapter represents a group of methodologies conducted to explore the new platform's potential and gather valuable insights to include in this new digital product. First, each approach is presented, highlighting its goals, while posteriorly, the corresponding results and conclusions are exposed in the form of suggestions.

2.1 Platform and Competitors Analysis

To assist in creating the new Lightsource website, it was important to gain a broader perspective on what was, at the time, the current site. From the team perspective, it was imperative that we knew the biggest strengths and weaknesses of the brand's digital platform to help structure how that could be highlighted or improved in the new one. Additionally, a meticulous website study was an essential first step in gaining lighting knowledge.

For the same purposes, it was considered relevant not only the analysis of Lightsource's, at the time, current website but also the analysis of six other, relevant, websites. This set of six websites analysed is divided into three categories: lighting websites created by Visualsoft, non-lighting websites created by Visualsoft, and lighting websites developed in other eCommerce platforms. The list was created by Lightsource's eCommerce manager based on what he believed were good examples of design, features, and customer experience. Table 2 sums up all the websites analysed by category.

Lightsource previous website	Lighting websites created by Visualsoft	Non-lighting websites created by Visualsoft	Lighting websites developed by other eCommerce platforms
	Designer Lighting Company	Miltons	Inspyer Lighting
	The Lighting Company	Only Home	Lightology

Table 2 - List of analysed websites divided by category

Some of these websites' companies are Lightsource competitors, and some are not. And some are not even from the lighting industry. This is because the goal was not only to analyse competitors' websites but also how Visualsoft websites perform.

The analysis was divided into two big evaluation sections for each website - an **overall strategic evaluation of the website** and an **SEO evaluation**. For each evaluation, were selected multiple factors: for the first evaluation, were established 50 elements based on the strategic framework suggested by the authors Chiou, Lin and Perng (2010), while for the SEO evaluation were selected 13 key elements mentioned in the literature review (p. 15) that can strongly influence the website results. It's important to note that while the framework mentioned in the literature considers 52 criteria of evaluation, because of what was the scope of this study and the tasks related to the internship, *Reliable and innovative system* and *Data retrieve mechanism* were not considered in this evaluation.

To conduct this review, all the information gathered was placed on tables⁴. And based on those tables, a colour scheme evaluation was created to make it easier to score the websites and have a better perspective on the performance of each one compared to the others⁵. So, for each factor of each website, a colour based on its performance was assigned.

The following topics reflect the conclusions from evaluating each criterion for the seven websites selected through an empiric and comparative evaluation.

2.1.1 Overall Website Strategic Evaluation

Ease of navigation⁶: ease of navigation is related to all the factors that help the user navigate the website. These factors can be related to the layout and elements such as links and tabs, intending to increase the website's navigability. A website that provides easy navigation, is predictable (and therefore learnable), and has an attractive layout, making it effortless for the user to achieve any task (Tarafdar & Zhang, 2008).

The websites were analysed based on this theoretical background, and the results show that Lightsource can improve the ease of navigation compared to some competitors. The website resembles a traditional eCommerce website, and its simplicity is a plus when it comes to navigate. The navbar is not excessively long and makes good use of the subcategories. However, it can be a little unpredictable and incoherent with what is expected in an eCommerce website. For example, when a user goes over one of the top-

⁴ The tables with the complete strategic and SEO review for each website are presented in the link: https://ipppt-my.sharepoint.com/:x:/g/personal/2170304_iscap_ipp_pt/EX48wapqJV5KmwylgRRRT7EBOcoPFV2Hwa3LvucM6wV01g?e=V7nVPz

⁵ The colour-grading scheme is available in Appendix II

⁶ Evidence on Annex II

level categories of the navbar, it is expected to see (if it exists) the dropdown with the subcategories appearing without a click. On Lightsource's website, this doesn't happen, and the only way to find out if each category has a dropdown list is by clicking on it and taking the risk of going to a different page, even if that's not the user's will. This can be easily improved by creating a hoverable dropdown menu or by adding an icon that clearly shows to the user that there are subcategories related to that option.

Another problem related to predictability in Lightsource's website is some of the icon choices. The user's understanding of an icon is based on previous experiences, and expects to see a shopping bag or cart as a button to proceed to the checkout. So having a “project basket” as Lightsource has can be hard to memorise and interpret precisely. It can also make the company look merely like a B2B focus business based on the term *project*. The other websites analysed show a more predictable icon choice and are, most of the time, complemented with a label, which is a good UX practice.

Links are also essential for ease of navigation. Some of the websites analysed show a button to "go to the top" while scrolling down the pages. That can also make the navigation easier for the user when going through a lengthy products page. Broken links, like the ones found on The Lighting Company and the Only Homes websites, are unacceptable for good navigability.

Content relevancy and usefulness⁷: content interpretation can influence the user's evaluation of a website and, therefore, impact attitudes and behaviours (Thielsch & Hirschfeld, 2019).

One major problem detected on Lightsource's website is the lack of content related to the details of the products. Not all the products, ranges or brands have descriptions, and when compared to some other websites, they seem poorer. It could provide more information about the product such as finishes available, design details, and how to use it — content that would contextualise the usage of the product and its aspect. This is also an excellent opportunity to add internal links to redirect users to other pages such as brands or ranges. Lightsource does an excellent job, through its blog, of building a great resource of useful content for its target. The blog category "Lighting Knowledge" seems extremely valuable

⁷ Evidence on Annex III

for helping the client understand lighting topics with the help of experts, so for being this helpful maybe it could be more than just a blog category but a website section.

Websites like The Lighting Company and Lightology stand out regarding content relevancy and usefulness for investing in great content sections that focus on some clients' needs. For example, The Lighting Company has a video blog with videos showing how to fix a lamp, while Lightology has resources such as a glossary for residential lighting and an energy savings calculator. Lightsource also has quality content, so it could be interesting to highlighting it in a website section.

On the other hand, the 3D virtual tour of Lightsource's showroom is an innovative and unique feature that makes this content stand out from the competitors' photos of offices and showrooms.

Appealing and consistent style⁸: an appealing and consistent website is the combination of visual elements and functionalities that creates a pleasant user experience. All the websites analysed have a layout close to what a traditional eCommerce website looks like. For example, the navbar has the same position on each page, as well as the search bar, the fonts and colours are consistent throughout the site and the logo constantly appears on the pages. However, on some websites, like the Designer Lighting Company and The Lighting Company, certain pages look like they don't belong to the same site. They have significantly different layouts, don't have the same navbar, and the colour scheme is different, making it hard to navigate. That doesn't happen with Lightsource, which is extremely good for achieving a consistent website.

When it comes to the appealing side of the design, Lightsource has an elegant, and professional brand image, which could be more reflected in the website design. It doesn't have an unpleasant design, but it has some details that could be improved. For example, the homepage has a lot of blank spaces that give an empty feeling to it. It could have more organised sections and content, such as copy to contextualise some site areas or multimedia content of some large-scale projects that the brand is involved in. The buttons are very inconsistent throughout the website, sometimes they are squared, others they are rounded, sometimes they have bold and capital letters other times they don't; the line heights can be very different on the same page; the arrangement of the headings are not

⁸ Evidence on Annex IV

consistent. These are just a few examples of details that could be changed to create a more cohesive platform.

Of all the websites analysed, Inspyer Lighting is the one that has the most cohesive layout with an elegant and attractive design, as well as distinct to other websites' styles. While Designer Lighting Company has the least consistent layout.

Security protection⁹: security and online safety should be a priority for every website. And numerous measures should be taken, especially on an eCommerce website that requires online payments. However, for this evaluation, the focus wasn't on the actions taken by each company but the way they are presented to the user on the website.

Most of the "Privacy Policy" and "Terms and Conditions" pages have the same structure since they want to express more or less the same information. But some insights can be taken from the analysis of a set of websites, such as: the text should be organised through a numbered list that makes reading a lot easier (e.g. Lightsource's website); an index on the top of the page with links for each paragraph makes the navigation a lot easier (e.g. Miltons' website); having the font size too small as well as the line height can make reading it a lot harder (e.g. Only Home's website); the amount of information on this type of pages can make it hard and dense to read it all, so having an explanation video, like Designer Lighting Company and The Lighting Company have, can make going through all of this information a more effortless while providing alternative formats to the user.

Logical structure¹⁰: the hierarchy of menus and content must feel intuitive for the user, and that can only be achieved through a logical and well-thought website structure. This is important not only for the user's ease of navigation but also to optimise the search engine rankings. The main thing analysed on the selected websites was the navbar as an insight into its logical structure. One of the most important aspects to consider is the choice of unique and distinctive categories and related subcategories while balancing their number. For example, Designer Lighting and The Lighting Company have eight and ten top-level categories, which can be too many and confusing for the user. And some of these categories could perfectly be transformed into filters inside the product category, like the "Style" and "Finish" categories. The same problem occurs again with the number

⁹ Evidence on Annex V

¹⁰ Evidence on Annex VI

of subcategories on The Lighting Company website. The top-level category "Ceiling Lights", for example, has 22 subcategories that don't make the user navigation easier.

On the Lightsource website, the navbar is not exaggeratedly full of categories, making it easy to navigate through the pages. Still, it would be predictable that by clicking on the "Product" category, a full page of all the available products or with all the subcategories of products like most websites have (Lightology, for example) would be shown.

Another important thing about the navbar and the logical structure of the website is the labels chosen for the categories and subcategories. These should be essential and relevant keywords for the business, indicating the pages' relevance to search engines.

Ease of online transaction: we inspected the checkout process of each site to analyse the ease of online transaction. One of the things to consider was the number of payment methods provided to the user as it can have a substantial impact on the decision to buy or not online¹¹.

Patel (n.d.) defends that websites should allow payment without requiring registration, as it might seem like an unnecessary step or an invasive approach from the user's perspective. Only Inspyer Lighting follows this practice, and from the websites analysed, it has the most straightforward checkout as it doesn't prolong the process with extensive forms, has a simple layout with nothing that distracts from the conversion, and the design is as elegant and professional as the rest of the website. This doesn't happen with the Visualsoft websites (Designer Lighting Company, The Lighting Company, Miltons and Only Home). These checkout processes require the user to be registered, creating an additional step before the actual buying process; have a confusing layout with too much information at the same time; have numerous internal links that can redirect the user to other website pages when it's already so close to becoming a client; have repeated buttons that only make the process confusing. The Lightsource website also reveals some of these inconsistencies and approaches.

User-friendly interface¹²: a user-friendly interface is related to an efficient design that supports the users in completing their tasks faster (Nielsen, 1996). Overall, for all the websites analysed it was easy to accomplish basic tasks like seeing the products available or adding a specific product to the shopping cart and buying it. The only exception was

¹¹ This will be explored more in-depth in the *Convenient payment methods* topic (page 36)

¹² Evidence on Annex VII

the Only Home website. When the website was analysed, there were a lot of pages that weren't available (presenting an error 404), which made it extremely hard to accomplish basic tasks and navigate through the website.

The websites' interfaces were also analysed on mobile phones, and overall, they adapted well to this type of device. The only thing that could be an issue and make the interface less user-friendly is that some websites have many rectangles in photos with links instead of buttons. This is not a good practice for creating a user-friendly interface as it might be confusing and not perceptible for the user.

Comprehensive content coverage: this topic is related to the already explored *Content relevancy and usefulness* topic (p.26). Guaranteeing that a website has an excellent level of comprehensive content coverage is not just a matter of the content length. It's more about its relevancy and usefulness. Studies show that long-form content has more chances of getting better results online and driving more traffic to the website (Mittal, 2021). Longer content can get more backlinks, social shares, organic traffic, social media engagement, and higher SERP rankings. As an example, if we search on Google "how to light your living room" (the title of the last Lightsource blog post), the first organic result is for an article written by Lightology on "How to Light a Living Room", and the Lightsource post doesn't appear on the first page of results. If we compare the number of characters from each post, the Lightology article has 12.143 while the Lightsource one has 5.060. More factors can influence this result, but the length of the content can significantly impact the ranking. Furthermore, with longer content, the probability of having more relevant information on is higher, and the number of times it mentions important keywords along the text is also higher. So, creating longer, relevant and valuable content should be a priority for Lightsource. Additionally, it is also crucial to make sure that the content is easy to understand, even for someone that doesn't have lighting knowledge. And for this, creating internal links on the content for blog posts or "Lighting Knowledge" content is something that Lightsource can do to help better the user understand specific terminology.

Loading and processing speed: to analyse the loading and processing page speed of the set of websites selected, two tools were used: the Page Speed Insights, a resource from Google, and the SEO Site Check-up platform. Through Google Loading Page Speed, we can compare through a score from 0 to 100 the website's speed on a mobile device and desktop. The results show that Lightsource has the lowest score on mobile devices,

scoring 16 out of 100. This is an extremely low result and should be a concern for the company. It may also justify why Lightsource is one of the only websites analysed where the traffic is higher through desktop than mobile. It can be so slow that the user might just give up and access it through its computer. The loading page speed for desktop is better for the Lightsource website, but it also has a lot of room to improve as it only got a 61 out of 100¹³. By using SEO Site Check-up, we can see the loading time of each website in seconds. Lightsource time is 3.58 seconds, which is lower than the maximum recommended by the platform (5 seconds), but it's still really close to it. And when compared to the other websites, only Only Home got a worse result (4.58 seconds). Overall, except for Only Home, the Visualsoft websites got good results. The lowest loading time observed is Miltons' website (1.26 seconds)¹⁴.

Up-to-date content: keeping the website content up-to-date is a way to improve the user experience. It is also a way to keep measuring what works best for the company audience and create better strategies based on those insights. Plus, it will keep the user interested in visiting the website for new and fresh content. Furthermore, having a mainly static website can easily make the content outdated, out of date or even incorrect. It's also essential to make regular updates and changes for an optimised SEO strategy.

By analysing the Lightsource website, it is clear that not many regular changes are made to the content. Usually, only the top image of the homepage is changed often, and new blog content is added frequently. The same happens to the other websites analysed. In the specific case of Lightsource, there are a few sections of the website that the company could take advantage of to create up-to-date content besides the blog. For example, "The design team's choices of the month" is a section of the homepage that has the same content for months, and the portfolio doesn't have most of the company's recent projects.

Proper multimedia¹⁵: multimedia content can positively impact users' buying behaviour (Micu et al., 2019). Here Lightsource stands out from the other websites analysed. All the multimedia files on the website are carefully selected having excellent quality. The professional photographer's work for the website makes a difference on the website.

Another multimedia content that makes Lightsource stand out is the "3D Office Tour", which creates an interactive way for the user to get to know the company's office. This

¹³ Numbers registered on the 2nd of September 2021

¹⁴ Numbers registered on the 2nd of September 2021

¹⁵ Evidence on Annex VIII

3D functionality is also used by other websites analysed. For example, Lightology offers the user the opportunity to see the products in 3D through a 3D CAD (computer-aided design) version of each light available. This topic could further be explored by Lightsource by the use of Augmented Reality (AR) versions of the products, as it already has 3D CAD versions of most of the available items.

Well and quick linkage: it was already mentioned in several topics how important well and quick linkage is for the user experience, whether it is for achieving comprehensive content coverage or easier navigation on the website. Doubly important is to keep track of broken links and quickly amend them. Lightsource was the website with the most significant number of broken links detected. It had four, while the other websites had none (Designer Lighting Company, The Lighting Company and Inspyer Lighting) or only one (Miltons, Only Home and Lightology)¹⁶.

Searching mechanism¹⁷: searching mechanisms are integrated into a website to help the users find relevant and precise results for complex search queries. There are essentially three types of search queries: exact search (when the user searches for a specific product name, reference, range, etc.), product type search (such as “bathroom lights”, for example) or a non-product search (such as information about the company like the return policy) (Appleseed, 2020).

It was precisely on the search mechanism that the biggest problem of the Lightsource website was found. This functionality is incredibly sensitive in a way that only suggests the correct product if the user searches for the exact name. If a wrong letter of the product name or a wrong character of the product code is used, it will not suggest the right product.

While typing on the search bar, some suggestions will be made to the user, like products, brands and ranges. But, for example, when starting to write “chandelier”, the product suggestions appear as “037804/CHANDELIER/PN Signal Chand ...” which is of limited value to the user, lacks user-friendliness, and fails with Nielsen’s 2nd Usability Heuristic — Match between system and the real world (Nielsen, 1994, para. 4).

¹⁶ Numbers registered on the 3rd of September 2021

¹⁷ Evidence on Annex IX

For the product type search, the search showed again to be inefficient. For example, searching for “bathroom light” gives suggestions of products that are not for bathroom installation. The search bar doesn’t provide non-product results.

Other websites analysed have a more helpful search bar. Miltons and Only Home follow a template version of a navbar created by Visualsoft. While the user is typing, it shows suggestions divided into departments, brands, and products. The products suggested have images of the items, the name of the product in bold and the prices too, which helps the user in a quick view find what is looking for. Inspyer Lighting search bar is very similar to the Visualsoft websites. However, it has a cleaner and simple layout that makes it easier to review the suggestions and get a quick view of the product description.

Filters can also be a good way for the user to narrow the wide range of products available and find the exact product that is looking for. However, the Lightsource website also showed some problems in this regard. For example, if the user is on an “all products” brand page and wants a bathroom ceiling light from this specific brand, it has to click first on the “bathroom” filter because if it clicks on the “ceiling” filter first, the “bathroom” filter will disappear.

Ease of access: the ease of access of each website was analysed based on accessibility and on how well are the websites created “for universal access, including users with visual, auditory, motor, and cognitive disabilities” (Nielsen, 1998, para. 1). The online tool User Way Accessibility Tester was used for that purpose. The results show that the Lightsource website has an impressively low number of accessibility violations. Only 40 issues were detected, like new tabs or windows opening without warning the user, heading levels that were being skipped, links lacking descriptive text and some elements lacking adequate colour contrast. While the other websites had more than 100 issues detected, some even more than 200.¹⁸

Although Lightology had 125 accessibility violations¹⁹ detected, its website has a website accessibility feature that can help the user easily adapt the text size, alignments, contrasts, saturations, adjust the cursor, and many more options to improve the accessibility of the website.

¹⁸ Numbers registered on the 4th of September 2021

¹⁹ Numbers registered on the 4th of September 2021

Easy to understand and read: lighting concepts can be overwhelming for someone with little or any experience in light, as it can involve many terminologies, finishes, textures, styles, and types. As such, it's not only a requirement that the content on the website must be easy to understand, but it also must be easy to read. If users don't easily find what they are looking for, they will leave the page and contribute to a higher bounce rate. So, paying attention to the font choice, font size, line height, paragraph width, the use of titles and subtitles, and the length of the paragraphs can make a difference in the ease of reading even more complex content. And when it comes to pages with content related to customer support like privacy policy, returns and shipping, for example, the ease of reading and understanding can be crucial to a clear perception of the business conditions.

Overall, all the websites' content analysed were easy to interpret even without much lighting knowledge. Some websites, like Lightology, make it even easier by providing to the user glossaries that help understand some technical terminologies.

All websites were relatively easy to read, except for Only Home, which for some pages has a tiny font size, a small line height, small paragraph width, and not divided sections of the content (e.g., the "Terms & Conditions" page).

Accuracy: wrong information on a website will hurt its (and, by extension, the brand) credibility with the audience. For this reason, we analysed if the information was free of evident spelling or grammar mistakes and technically accurate. Due to time restraints, only the homepage and a few first blog articles were seen, but no spelling, grammatical or typographical errors were found.

Regarding the technical accuracy of the information, Lightsource and Lightology stand out for providing a pdf file with all the technical details about each product. The user can confirm this accuracy once it can compare the information provided on the website with the technical file from the manufacturer.

Easy to find target information: one of the biggest challenges for a company that serves both sectors, B2B and B2C, is creating a website that balances both needs, and this is a Lightsource's challenge. Some details of the website can confuse a first-time visitor about the company's target market. For some, it can look purely like an eCommerce website, while others might seem that it only offers lighting design services. It can start right after the user creates an account and it's asked if he wants to apply for a trade discount. This can be confusing for a non-trade client and give the wrong impression to the user. So, it

could be worth doing different register pages, one for each target, such as Inspyer Lighting and Lightology have. Even some icon choices might create the wrong impression to the user, like the “project basket”, that it’s not a common term or icon used in a B2C website. The homepage section “What our customers are saying” can also contribute to the confusion once it has only reviews from trade clients.

One possible solution, inspired by Inspyer Lighting, is creating segmented areas by client type. Inspyer Lighting has a lighting design category that leads the user to a trade section only focused on B2B content such as a project portfolio and an explanation of the designing service process that the company provides. It gathers valuable information for a specific target in a separate area of the website, making it easy to find target content.

Online assistance and help: from more complex systems like live chats to simple pages like “Customer Support” and “Frequently Asked Questions”, there are different formats to assist an online client. Nevertheless, a “Customer Support” page with a form to contact the company will never be as flexible and fast as a live chat with a team behind it. Lightsource stands out from the rest of the competitors in this regard. The website’s live chat is extremely easy to use from a user perspective, it’s always present over the website pages, and it doesn’t give an automatic response to the user but a personalised answer.

Convenient payment methods: every customer will have different preferences regarding the payment type, especially when talking about such a wide range of customers as in the Lightsource scenario. There are numerous options, but according to the website Ecommerce News (2021), Europa's most popular payment methods are digital wallets, card, PayPal, local payment method, pay on delivery, Apple, Google, or Samsung Pay. According to the same website, the preferred payment methods in the UK are Visa, Mastercard, digital wallets, local bank card, direct debit and bank transfers. For Lightsource, the only option available for payment on the website is by card. The user has no choice in the payment stage, which is incorrect, as Lightsource also accepts bank transfers. However, there’s no information about it on the website, and it requires the user to contact by phone or email the company to get the payment details and proceed with the transaction.

From all the websites analysed, overall, the most frequent options are card, PayPal, bank transfer, Bacs and Apple Pay. It’s important to highlight that all these options were available on Visualsoft websites.

Know the present location: knowing the user's current location can be a valuable insight to developing a personalised content strategy based on that specific location. Simple details like showing the correct currency based on the user's location could be an interesting way to adapt the experience to the user's preferences.

Nothing on the analysed websites showed that they knew the user's location, except for Miltons website. Here, during the checkout process, the country on the address form is automatically adjusted based on the user's location, but it can be changed if needed.

Overview of selected items: overall, from all the websites analysed, all of them follow a similar structure (the item is added to the shopping basket, a pop up asks the user if wants to continue shopping or proceed with the checkout, and then in the shopping basket, the user can see the selected products, change the quantity desired, delete any product and see the total cost) and have a coherent design with the rest of the website. Lightsource's website has a similar process to the one described. However, after adding the selected product(s) to the shopping bag, no icon shows the user how many items are on the checkout bag. It is a common practice to add an icon with a number that reflects the number of products added, and it is also a way for the user to confirm that has added the desired amount of products.

Easy to cancel or modify orders: creating a specific section on the website where the user can report a problem with an order giving the chance to cancel or change it, could be helpful for the user. This would take out additional steps of the process, like emailing the company or calling the support team. Of all the websites analysed, the only one with similar functionality is Lithology, that on the client profile page, the user can track, make changes and return an order. This doesn't imply that return policies don't have to be written and explained on the website. So, having a page where the user can understand how the company's return policy works is pivotal to giving the clients a feeling of security in their purchases.

Product details: the product details page can be a decisive section on the customer's journey on an eCommerce website and it has to be accurate, persuasive, informative and convincing. For that purpose, some elements can't be left out of the product details page: the product title (it should be as specific and descriptive as possible, and it has to be the easiest thing to see on the page), the product description (it should describe the products accurately and requires an excellent copywriting strategy), product images (photos of the

products in different angles, with a white background and with the product displayed in a real-life setting), the price (that should be followed with information related to VAT²⁰ and shipping or any other costs that might be applied), CTAs (to persuade to add an item to the shopping basket), social proof (like reviews from other clients about the specific product), cross-selling (show to the user other products that he can be interested in too, or suggestions related to upselling) and social sharing features (to allow the user to share the products on social media and promote the brand). Most of the websites analysed had similar product pages with most of the elements mentioned present. Still, some stand out for having better product descriptions and different multimedia functionalities to show the products (like the possibility to see the products in 3D and buttons with the actual colour or finish instead of just text labels). Based on these elements, Miltons, Inspyer Lighting and Lightology stand out. The Lightsource website, has already been mentioned in topics before, has room to improve when it comes to the product descriptions and could also follow some of these features that stand out in these other websites to create an improved product details page.

Product comparison²¹: allowing the user to compare products inside a website is a way to ensure that it doesn't have to turn to comparison engines to get a list of similar products. As such, creating a feature that does this comparison process inside the website is beneficial for the company that will retain a possible client. From all the websites analysed, the only one that has a comparison feature is Lightology. This functionality allows the user to select a maximum of five products and compare lighting features like colour, size, bulb, lamp life or finish. No other websites have this feature. However, they have a wishlist option that, even knowing it's not the same thing and that doesn't make the comparison as easy as a comparison tool, gives the opportunity to select and save items and quickly access them. The Lightsource website doesn't have a wishlist or a comparison feature.

Product search or assortment: as seen in topics before, the search bar and filters play a pivotal role in searching for products. Focusing on the filters, once we have already explored the search bar, the effectiveness will highly depend on the relevance of the

²⁰ Value-Added Tax

²¹ Evidence on Annex X

results. Lightsource's filters seem to be not effective — some of them give wrong suggestions, others disappear when selecting one and some categories are repetitive.

The location of the filters is also critical, as studies show that having horizontal filter bars can be not suitable for all websites. The vertical left-sided filters are a more common practice, making the user expect to find them on the left side. The only websites that don't have the filters on the left side are Inspyer Lighting and Lightology.

Having a selection of similar products at the bottom of the product's page helps with the search. Furthermore, having product recommendations based on the user's search behaviour might be a great strategy to incite the transaction, such as "Looks Great With", "You May Also Like", and "Recently Viewed Items". All the websites analysed have it, some with a better layout than the others, but they all have product suggestions.

Product variety: according to Google (n.d.), "88% of shoppers surveyed say product selection/variety is important to them when deciding which brand or retailer to buy from". Product variety is particularly hard to compare with websites (like the websites analysed in this chapter) that sell different types of products. However, we can say that Lightsource, Inspyer Lighting and Lightology stand out in the number of online products available. The fact that Lightsource has more than 10.000 products and 66 brands mentioned on the website gives a wide range of options to the user and a large selection of designers and brands. But, on the other hand, the enormous number of products available demands the search functionalities to be as effective as possible. And as mentioned before, this is something that the Lightsource website is not able to achieve. So, making changes to the search bar and the filters should be a priority to boost the positive impact product variety can generate.

Hierarchical product category: following what was mentioned in the *Product variety* topic, the more comprehensive the variety of products is, the bigger the need for a logical hierarchical structure to organise the products. Of the websites analysed, The Lighting Company stands out for the confusing navbar it has, as it doesn't have a product category. Instead, it has all the product types as options on the navbar with ten categories. And the enormous number of subcategories only makes it more confusing and complicated for the user to find what is looking for. All the other websites have more organised hierarchical product categories that help the user experience.

Product quality: eCommerce has one significant disadvantage for the customer compared to on store buying – the customer will not be able to physically see, touch and test the product before buying it. So online retailers must find ways to demonstrate product quality while dealing with this significant disadvantage. Big industry recognitions, excellent online customer service, reviews from other clients, renowned partners and suppliers are all options to give evidence to the client that the products available and service have excellent quality. Lightsource mentions big brands and projects that it is involved with on the website, which can reflect the high quality of the products and services that the company provides. But creating a section with customer reviews or communicating some significant recognitions that the brand has been gathering over the years could also be interesting to add to the website.

Price details: the product's price is always a big factor of consideration in any buying decision. As such, it has to be visible, clear and understandable without any effort. One thing that lighting websites that sell for both markets, B2C and B2B, make confusing is the inclusion (or not) of the VAT. A trade client can expect to see the prices without the VAT, while a non-trade client is not used to see it without. This can be another challenge related to having a website that targets such different markets. A possible option for the new website is to add a feature that allows the user to change from prices including VAT to excluding it. Another similar feature that could make sense for Lightsource's website would be changing the currency. For a company like Lightsource that delivers to almost anywhere globally, this could be very helpful for an international client.

Competitive price: as with the *Product variety* factor, this can also be a difficult element to analyse in a set of websites with such different offers. So, for example, comparing Miltons' website prices with the Lightsource prices is irrelevant for this analysis and is an incoherent comparison. For this reason, the focus of the analysis of this element is the discounts available in the set of websites analysed and the way they are presented to the user.

Setting up discounts and seasonal sales can be a strategic way to work within smaller profit margins to increase sales and boost overall revenue, while being attractive from a consumer's perspective. Many lighting brands analysed opt for having a sale or clearance category always available on the website. For a company like Lightsource with a high-end branding image, creating a category of products with discounts can make it a more accessible choice for a larger audience. At the same time, it allows B2C clients access to

discounts and not be something exclusively for B2B clients. This is something that Lightsource competitors, like Inspyer Lighting and Lightology, already do.

Another practice noticed on the websites analysed it's the use of discount codes, especially on Visualsoft websites. This can be a strategy to adopt by Lightsource once it allows the brand to create specific discounts based on user preferences and activity on the website. For example, these discount codes can be distributed by email to a particular selection of clients or through a social media campaign.

All relevant charges details: additional charges should be visible and explained to the client why they are being applied, to prevent misunderstanding between company and buyer. From all the websites analysed, the only additional charge identified (besides the VAT) is the shipping cost. However, because it is impossible to show all the shipping costs that can be applied to the client on the product page for brands like Lightsource that ship almost globally, the exact cost can only be seen on the checkout page. This doesn't make it less critical that the user is warned that relevant charges can be applied to the shown price on the product page.

Price comparison: the same analysis described for the *Product Comparison* (p.37) is applied to this topic. Once a comparison feature allows comparing this element between products.

Promotion campaign: a lot was already explored and suggested about promotion campaigns in the topic *Competitive price* (p. 39). It is only necessary to mention that most of the websites analysed don't usually have promotional campaigns available on the website. Like Lightsource, most of the campaigns are communicated through newsletters, social media and Google Ads. The only two websites that had campaigns announced and highlighted on the homepage were Miltons and Lightology.

Reputation and credibility of the site: when the topic of *Product quality* (p. 39) was analysed, the reputation and credibility of the brand were already mentioned as having a pivotal role in the quality perception of the user towards the company, its products and service. However, the reputation and credibility of the website itself are extremely important for an eCommerce business and numerous factors are going to influence it: the customer service available, awards, branding strategy, the design, up-to-date content, and so many more. Most of these factors were already mentioned in topics before, except for the social proof. Social proof can refer to the reviews and testimonials that other clients

leave as feedback on their previous experiences with the company on the website. Lightsource website has only two reviews on the homepage made by B2B clients. Again, this might be related with the misunderstanding that the company only sells to trade clients. Other websites like Miltons, Only Home and Inspyer Lighting are connected to platforms like Trustpilot and Reviews.io that collect and manage reviews from clients and visitors of the website. This can create a more engaging and informative eCommerce experience, giving more confidence to the user to become a client.

Company and brand recognition: this topic is highly related to the *Reputation and credibility of the site* (previous topic) once the company and brand recognition can massively affect the trust that the user develops towards the brand's website (Khurram, Qadeer & Sheeraz, 2018). And as mentioned before, and in the specific case of Lightsource, the brand could gain a lot by promoting the awards and recognitions it has received in the past and recent years, as well as the big projects and companies it has partnered with.

Purchasing guarantee: when it comes to the *Purchasing Guarantee*, the main focus of this analysis was not to compare every company's guarantee policy *per se*, as it is not relevant for this study, but to analyse how easy it is to find it on each website, and how easy to read and understand it can be. Most eCommerce websites have this information easily accessed through the footer. From the set of websites analysed, this was confirmed, and overall was very easy to read and understand. The only two websites where this information wasn't found were Lightology and Only Home. This can negatively affect the user's credibility towards the brand and should be avoided.

Advertising and banner: having any type of advertising and banners like Google ads on an eCommerce website can distract and take the user away from purchasing. For this reason, having this type of advertising and banners doesn't make sense for a website like the ones analysed, and it wouldn't be coherent with the final goal. So, as expected, all the websites analysed didn't have this type of advertising.

Interactive communications: live chat is the most effective way to create interactive communication on an eCommerce website. The fact that a website can give the user accurate and personalised answers must be the highest level of interactivity you can offer in a business website. And in this specific element, Lightsource stands out for the interactive communication provided to the users through the live chat.

Customised service: creating a customised service can be an exciting way to exceed the user's expectations in a world where massive online competition forces brands to create innovative online experiences. Some simple suggestions to adopt a customised service include creating custom content for B2B and B2C clients (blog, email, ads, etc.), changing the display language and currency automatically based on the user's location, and investing in remarketing strategies. None of the websites analysed showed a customised service besides having specific pages with content for trade clients like Lightology. And in websites like the Only Home, where the user can change the currency, it could be interesting if it was automatically adjusted based on its location.

Privacy policy: the privacy policy analysis follows the same criteria as the topics *Purchasing guarantee* (p.41) and the *Easy to understand and read* (p.34).

Quick response to customer: giving a quick response to a customer online improves and shows customer care. To achieve it, as mentioned on the topic of *Interactive communications*, a live chat is the preferred option. The live chat promotes a quick and accurate answer and improves the support experience for customers, increases engagement, and helps make informed decisions. It's important to highlight that the only websites that don't have a live chat or an effective one are the Visualsoft websites.

Customer service support: the customer service support meets the requirements and suggestions mentioned on topics already explored like *Quick response to customer* (previous topic) and *Interactive Communications*. It is also important on an eCommerce website to have a specific section focused on customer service support. For example, Only Home has a subdomain dedicated to customer support with frequent questions bringing together some of the biggest doubts most clients have and the respective answer, giving the user the possibility to submit a ticket by filling a form to have a reply from the company.

Member community²²: none of the websites analysed had a member community. On the other hand, most of the websites studied, like the case of Lightsource, give a chance for the user to create a client account. The only problem found in the registration process of Lightsource is that the registration form is the same for B2B and B2C clients. That can be confusing for a B2C client when confronted with the "Looking for a discount?"

²² Evidence on Annex XI

message exclusively directed at B2B clients. It can confuse the user about the company's target and let down the user's expectations.

In the majority of the websites, after creating an account, the user receives an email from the company. However, in the case of Lightsource, the confirmation of registration email is very poor, the design is not appealing, and it only says welcome, the date and time that the account was created, and a link to log in. This could be improved to generate more engagement with the registered users.

Another interesting functionality used among many eCommerce websites is making the user able to register through Google, Facebook, and other social media network account. Lightsource does not use it, but it could be interesting to make the registration process quicker, easier, and a lot more convenient.

Order status inquiry and tracking: making the user able to see the order status and track the delivery makes the user more confident that the company is dependable and transparent. It can also reduce customer communications regarding the order status, which can take time from sales support time to help other clients' queries. The Visualsoft websites and Lightology allow the users to track their orders, see the order status, make order changes, or report issues. This is all extremely valuable to the user experience. It saves time for the user but also for the company. Lightsource has no features like this.

Valuable bundles or product suggestion: when talking about the lighting industry, making product suggestions or valuable bundles to a user based on its selections can be convenient for the client and the company. On the one hand, the user will receive a suggestion on a product that can perfectly complement another one bought, for example, the ideal bulb for a pendant. On the other hand, the company will be retaining the customer, making it buy more than just one product. The only website analysed that had this functionality of up-selling was The Lighting Company, a Visualsoft website. All the others only have suggestions on the bottom of the product details page of similar products and recently viewed. Lightology also has a recommendation on the bottom of the page of "Accessories for this product", which is identical to the up-selling functionality of The Lighting Company website. However, it is not as visible as the pop up from this second website.

Delivery product as promised: when a client makes a purchase, they have certain expectations about the delivery, like if it takes the exact time as promised and arrives in

perfect conditions. This can all depend on a third-party company that takes care of the delivery process. However, having all the details about it on the website is extremely important. Every product page should have information on the availability of the product and the time that it takes to be delivered. The fact that Lightsource ships to every part of the world makes it impossible to indicate a time for the delivery time scales on the website. This should be displayed to the user and calculated with maximum precision in the checkout process, as all the analysed websites showed.

Customised offerings: as seen before on the topic of *Customised service* (page 43), there is not much evidence of customised experience on the websites analysed. When it comes to customised offers, the only websites that stand out are the ones that target B2B and B2C clients, as is the case of Lightsource. The company offers customised price discounts for registered trade clients.

Convenient delivery options: similarly to the *Convenient payment methods* topic (p.35), the website should provide the customer with appealing and convenient delivery options. And the larger number of delivery options available, the more significant the chances of meeting each customer's preferences. For a company like Lightsource, the delivery options can be limited because of the high number of destinations that the brand can ship to. So, it makes sense that there is a single shipping option. The company does not offer “next day” or “fast” shipping on any order.

Related to the delivery, it is also essential to make sure that the contact and address forms asked to the client to fill are simple, quick and easy to do. And preferably, they autocomplete themselves with the maximum information possible (from the clients' account), saving time to the user.

Ease of registration: making the user register as a client and creating a client account on the website brings numerous advantages, such as, making it easier to develop marketing strategies based on the clients' activity on the website, generate personalised product and content suggestions or provide a faster checkout process. But the user will only register if this is an easy and quick process. When it comes to this topic, the main issue found on the set of websites analysed was the nonexistence of different registration forms for the two different targets, B2C and B2B. This was already explored in topics like *Easy to find target information* (p.34) and *Member community* (p.42). Overall, the Visualsoft websites

had the most straightforward registration with the advantage of having the option on the registration form to register as a trade client or not.

Easy to return a product: this element is similar to the *Easy to cancel or modify orders* (p.35) already explored, and as seen before, this can be extremely useful not only from a client perspective but also from a company viewpoint. From all the websites analysed, only Lithology had an option to start the process of returning a product on the website.

2.1.2 SEO Evaluation

Meta title²³: this is a complex element to compare, and it's impossible to analyse all the websites' meta titles. But overall, for all the websites selected, they are reasonable, usually with more characters than the recommended and could be more descriptive. The homepage meta title from the Designer Lighting Company website is an example of a poor meta title.

Meta description²⁴: just like the meta titles, the meta descriptions are a challenging element to compare between websites. Still, every website analysed uses meta descriptions, a lot of them with more than 230 characters and some lacking CTAs. The homepage meta description from the Designer Lighting Company website is also an example of a poor meta description.

Heading tags: the Lightsource website was the only website where H1 was missing on some pages. For example, the Lightsource homepage doesn't have an H1, and it could be as simple as making the logo an H1 for a better chance of ranking on search engines.

Hyperlinks: the hyperlinks are an element already explored on the *Well and quick linkage* topic (p.32). However, it is important to mention that Lightsource has some of the best results in the Domain Rank with backlinks from renowned brands in the industry with high online authority like Architecture Digest.

Sitemap: the only website without a sitemap file associated was Lightology.

Robots.txt: all the websites analysed use a robots.txt file.

Friendly URL²⁵: the Lightsource, The Designer Lighting Company, Only Home, Miltons and Lightology websites don't have friendly URLs. For example, *https://*

²³ Evidence on Annex XII

²⁴ Evidence on Annex XII

²⁵ Evidence on Annex XII

www.thelightsource.co.uk/light/elstead/cw8-old-brz is one URL from one product available. This doesn't tell the user anything about the page, just that it is one product from the brand Elstead. On the other hand, the Inspyer Lighting website has some great examples of good and friendly URLs like <https://www.inspyerlighting.co.uk/collections/ceiling-lights/products/orluna-dino-twin-downlight>.

Image Alt Text: as mentioned on the topic *Ease of access* (p.33), missing alt text elements were detected in almost all the websites analysed. Lightsource, The Lighting Company, Miltons, Only Home, Inspyer Lighting and Lightology all had some of the “img” tags empty or missing the “alt” attribute.

Favicon: it should be preferably the company's logo, but in most cases, the logo is too big to be used in its totality. For example, the Miltons website uses the full logo that ends up being too small to be seen and recognised. A simplification of the logo, like Lightsource has (just a simple icon of the brand image), works the best.

Site loading speed: all the suggestions and analysis made concerning site loading speed are already described on the *Loading and processing speed* topic (p.30).

Media query responsive: media query techniques are the basis for responsive design functionalities, being crucial for a mobile-friendly website. All the websites analysed were mobile-friendly, some more than others, and all are media query responsive.

Custom 404 error page: a page that is not found is always something negative to the user experience. However, the company can make those errors into something not as negative as they can be, by creating a way out of the error for the user. This is a usability guideline described by Nielsen on his 9th heuristic principle for interaction design — "Help users recognize, diagnose, and recover from errors" (Nielsen, 1994, para. 18). All the websites analysed use a custom 404 error page. However, some are not helpful and don't apply the good practices mentioned in the literature review chapter. This is the case with the Lightsource and the Lightology websites. Overall, the best custom 404 error pages are from the Visualsoft websites.

Mobile friendly: all the websites analysed are mobile-friendly. The only problems found on the interface were already mentioned on the *User-friendly interface* topic (p.29).

2.1.3 Results

The conducted evaluation was transcribed into a score grading and the results were summarised into tables²⁶. Based on the colour-grading scheme created, red represents the lowest score, one point, while the darkest green is the highest, five points. All the other colours have the corresponding sequential number of points between 1 and 5.

The goal of creating this evaluation grading was to transform all the subjective and qualitative information gathered into a quantitative attribute. Therefore, it was possible to give a final score (composed of an average score and the corresponding colour from the grading scheme) to each site and quickly compare the evaluation conducted.

The following table corresponds to the evaluation of the Lightsource old website:







Evaluation grading system	Overall website strategic factors	SEO factors	Total
 Stands out from the other websites	3	0	3
 Good work	7	6	13
 Similar to the average websites	17	2	19
 Need to improve	14	3	17
 Not taken into account	9	2	11
			Average  2,68

Table 3 - Lightsource's website evaluation results

As we can see, Lightsource gathered a total of three dark green elements — only Inspyer Lighting and Lightology got more (four and ten, correspondingly). And nine red elements, being as many reds as Designer Lighting and less three than Only Home (the one with the highest number of reds). But overall, the scored elements were very concentrated in the middle of the grading scheme, resulting in an average “Need to improve” close to “Similar to the average websites” score.

²⁶ The tables with the results for each website (besides Lightsource) are presented in the Appendix II

Summarily, Lightsource got the lowest final score (2,68), very close to the Only Home score (2,71), and Lightology earned the best result (3,27). Also, the two highest scores are from the only two websites that aren't from Visualsoft. Nevertheless, all the Visualsoft websites got higher results than Lightsource.

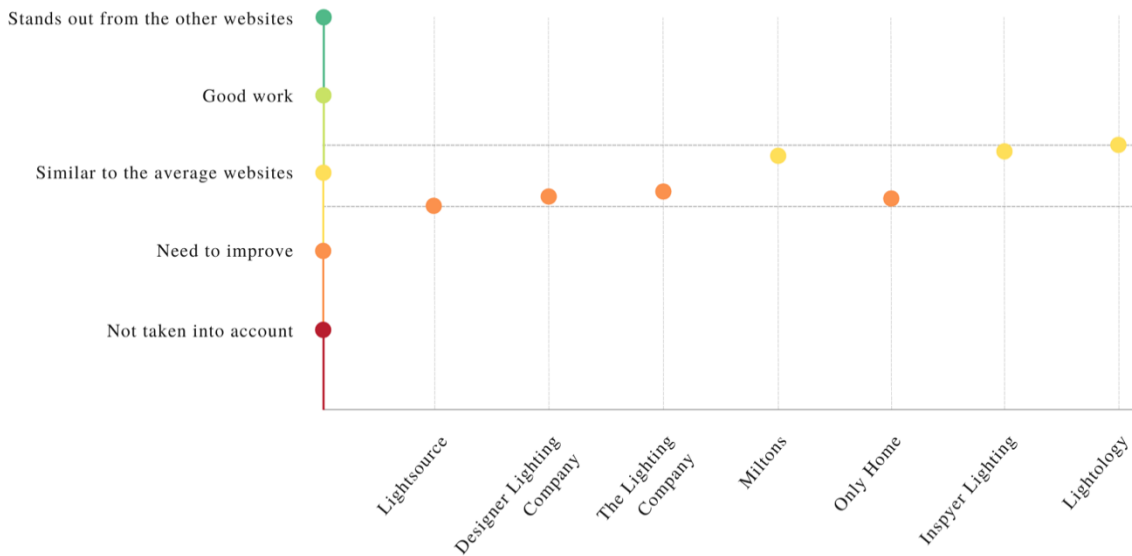


Figure 1 - Comparison of the websites' performance

This analysis makes it clear that the Lightsource site has clear room to improve. The company's previous website (the website analysed in this chapter) has brought high sales volumes, visibility in the market, and numerous leads to the lighting brand. But, when examined from a digital strategy point of view, there are certain elements that could be improved in the new website – namely, the factors evaluated with red. Analysing all these websites gives us a clear view of what is possible to achieve in a Visualsoft website, the features that can be included to enhance customer experience and the layouts that can be created. It is also an excellent opportunity to understand where Lightsource stands compared to its competition and learn from big players' online performance, particularly Inspyer Lighting and Lightology, the best-scored websites. And based on that, a table that summarises the insights collected from this study that are important to consider during the development of the new website was created and can be seen in Appendix III.

2.2 Website Design

Every technique and methodology applied in the process of creating the new website had a single goal – improving the user experience. This was a goal shared between Lightsource and the development team from Visualsoft, requiring that every outcome related to the platform and competitors' analysis conducted, the qualitative research carried out, and the lighting team's know-how would be reflected in the new software.

For this reason, every Monday, Wednesday, and Friday there were functional and technical discussion sessions counting with the presence of everyone involved in this project — Lightsource's eCommerce manager, Marketing manager, IT specialist, manager director and the Visualsoft team leader. I was also included in these sessions to share the research results and suggest functional and visual improvements, always with customer experience in mind.

In these meetings, as mentioned, were mainly discussed improvements to what was being created by Visualsoft. In brief, issues, needs, bugs, inconsistencies, and ambiguities were daily pointed out by the Lightsource team and were converted into tickets opened in the Visualsoft back-office platform for further implementation. These tickets were presented in the mentioned sessions for discussion and technical refinement.

Each ticket followed the same structure — a title, a description, and the possibility to attach a file. However, the attachment feature wasn't used at the beginning of the project to communicate with Visualsoft. So it was suggested to start incorporating a graphic artefact in every ticket to help guide the development team. All the images created and attached to each ticket were designed through Adobe XD.

Consequently, in every task performed during the internship, a graphic artefact would be created if a design suggestion was requested²⁷.

2.2.1 Pages Designed

As the first tasks of the internship were being performed, mainly the platform and competitors' analysis, it was asked to gather new suggestions for key pages that were being developed. These suggestions were mostly design changes and incorporation of

²⁷ Two examples of graphical artefacts created to attach to tickets can be seen on Appendix IV

content to improve the user experience, so it made all the sense to materialise these ideas into Adobe XD designs.

The key pages considered as priorities were the homepage, the checkout process, the individual product pages, and the comparison feature page. All of them are crucial pages for the website's success, and at the time, the Lightsource team was still thinking about new design options and layout improvements, so there was room for further suggestions.

The designs with the suggestions created and the corresponding pages previously developed by Visualsoft can be viewed [on this online Figma document](#)²⁸.

In brief, were made the following suggestions:

Homepage

- The Visualsoft prototype was lacking content. There was almost no contextualisation text, which was an important aspect to improve in alignment with the SEO strategy that was being implemented. Descriptions for every section on the page were written based on the best practices mentioned in the literature review (chapter 1.2);
- Alignments, font styles, sizes and weights were adjusted for a more coherent layout. The buttons were also all redesigned for a more consistent result;
- There was also an effort to make the website content more dynamic by suggesting content carousels for the displayed photos on the top of the page, the selection of brands section and the testimonials.

Checkout process

- The checkout pages were a big concern for the team because the Visualsoft layout was starting to divert from the goal of creating a simple and obvious transaction process. Overall, the use of the teal colour was exaggerated, as it was intended to be only used in small details and in buttons that lead the customer to the transaction through a straightforward path. Some pages, such as the basket page, had too many buttons to conduct the user to the same pages, making it confusing and too packed with information. So the number of buttons was reduced, and the

²⁸ Figma document link: <https://www.figma.com/file/tr7JFYv0Y2mbkFSbEgsrxx/Relatório-de-Estágio---Beatriz-Castro?node-id=0%3A1>

attention called by the teal blue was concentrated on only important buttons of the process;

- Important functional details, more related to the business and less to the design of the pages, were also highlighted in the suggestions. For example, it should not be an option to opt-in for text messages once Lightsource doesn't use this marketing strategy.

Individual product pages

- Just a few changes were requested for the individual product pages. It was important to rethink the share options, making them more consistent with the brand's social media networks and eliminating options that were repetitive on the page – the two buttons to "Ask a question" and "Email a friend" that should be only one and not a share option;
- It was also crucial to suggest a more uniform product specification layout, in which all the tables should be aligned and the comparing features presented in the same order;
- It also made sense to include in these pages product recommendations in two categories, "other products you might like" and "recently viewed items", to allow users to browse more easily and encourage possible purchases.

Comparison feature page

- The main problem with the layout created for this page by Visualsoft was the specifications tables. Having the specification categories organised in different orders and with the tables not aligned, makes it harder for the user to make a quick and easy comparison between products;
- Once again, the inconsistency in the design of the buttons can make the user experience less predictable and give an unprofessional look to the website;
- Like in some other pages already mentioned, it was also suggested to add to the bottom of the page product recommendations to improve the navigability between products and give a chance to the user to easily see another product that might be interesting to add to the comparison feature;
- This also requires Lightsource's commitment to continue to upload these details to each product page so that the comparison feature can be as valuable as possible.

2.3 Website Content

The value that Content Marketing incorporates in a website is evident, as highlighted in the literature review previously presented (p.13) by authors like Bill Gates and Joe Pulizzi. So it's reasonable that one of the main focuses of Lightsource in the process of creating the new website was the improvement of the website's content.

Lightsource, on the previous website, had specific sections dedicated to content distribution. There was already a blog, a portfolio, and architectural and bespoke pages where numerous contents about projects and lighting knowledge were gathered. But one of the major flaws of the Lightsource website, compared to other big players online in terms of content, was in the individual products, brands, designers, and categories pages content. There was no context on the different pages, and the few ones that had it didn't represent valuable content and were copy-paste paragraphs from the brands' official websites.

This lack of content represented an obstacle to the brand's SEO strategy. At that point, most of the products available online had poor or non-existent product descriptions and technical specifications. Also, not all brands and designers had an about section. The content wasn't covering product styles, details about the materials, recommendations, and suggestions on how to use them at home or in commercial projects. And in addition, many pages weren't following the best practices when it comes to SEO On-Page – poor title tags and meta descriptions, missing alt text attribute in images, and lack of keywords, just to name a few. Accordingly, writing and proofreading on-site content became one of the main tasks of this internship, targeting this gap in the new website and aiming for a better user experience and higher search rankings.

For five months, and intercalated with other tasks, I wrote content for the following website areas: brands, designers, ranges, top-level categories and subcategories from the navbar product's section. Withal, when it comes to the designers and ranges, it was decided to focus the work on creating the content only for the Visual Comfort brand. The reason for it is the fact that it is the brand that represents the highest volume of sales in the Lightsource catalogue, with the most extensive scope of designers and ranges involved. The following table summarises all the pages for which was written content:

Brands	B2C and B2B
Designers	All the Visual Comfort designers
Ranges	All the Visual Comfort ranges
Top-level categories	By room; Ceiling Lights; Wall Lights; Lamps, Bulbs & LEDs; Floor & Table; Bathroom Lights; Exterior Lights; Other
Subcategories	Bathroom Lights; Bedroom Lights; Chandeliers; Pendants; Recessed Downlights; Spotlights; Surface/Flush Mounted; Surface Downlights; Bedside Lights; Decorative Wall Lights; Spotlights; Picture Lights; Wall Washers; Recessed Wall Lights; LED Tape/Strip; Traditional/GLS; Candle Bulbs; Golf Ball; Globe; GU10; Floor Lamps; Desk Lamps; Table Lamps; Freestanding Uplights; Recessed Floor Lights; Bathroom Ceiling Lights; Bathroom Wall Lights; Illuminated Mirrors; Bathroom Recessed Uplights; Bathroom Recessed Wall Lights; Bathroom Downlights; Exterior Ceiling Lights; Exterior Wall Lights; Exterior Ground Lights; Exterior Portable Lights; Exterior Table & Floor Lamps; Exterior Posts & Bollards Lights; Light Shades; Lighting Accessories; Diming Systems; Ceiling Fans

Table 4 - List of pages and sections for which was written content

Based on the literature review conducted and aligned with the new website SEO strategy, the assignment of writing and proofreading on-site content comprised the creation of the following elements:

- **Page content:** consists of one or two paragraphs (usually around 600 characters) with a brief description of the brand, designer, range, top-level categories, or subcategories placed on the top of the correspondent pages below the H1. In the writing of the page content, it was always taken as a priority the inclusion of relevant keywords, internal links when pertinent, easy to read and short sentences, and the uniqueness of the content;
- **Meta title:** all the meta titles were created with a maximum of 60 characters. It was also defined that it was important to finish it with "| Lightsource" and include relevant keywords;
- **Meta description:** all the meta descriptions were created with a maximum of 158 characters, always incorporating pertinent keywords and including Calls To Action such as "Contact us online", "View 1000's of Lighting products online" or "Speak to a Lighting expert about your next project";
- **H1:** we created one H1 per page, in which every heading corresponded to the name of the brand, designer, range, top-level category, and subcategory. The goal was to make it short and obvious, making it as simple as the page's title;

- **Image alt text:** for all the brands and designers available online, an image of each logo was uploaded. So, it was essential to create an alt text element for each one, making it specific, concise and with keywords as much as possible;
- **Keywords:** for all the elements listed before, integrating keywords was a crucial part of the writing process. For that purpose, for every topic written, keyword research was conducted using Ahrefs and its keyword explorer tool, to determine relevant keywords with interesting search volumes and keyword difficulty.

Through these tasks, all best practices related to SEO and Content Marketing were followed, with a focus on quantity, quality, creation of captivating titles, and evergreen content²⁹.

Content creation is a time-consuming task and should be seen as a continuous work, especially on a website like lightsource.co.uk, with more than ten thousand products and hundreds of brands available. It was evident that during the six-month internship, it would be impossible to cover every page of the website, and that was not even the goal. Nevertheless, many of the new pages on the new website have now context that improves the user experience. This represents a good foundation for future work regarding this topic.

2.3.1 Testimonials Section

In line with what was written for the topic *Reputation and credibility of the site* during the Lightsource previous website strategic analysis (p.40), the brand lacked social proof elements on the website. The intangibility of the online is a challenge for eCommerce, and social proof is a powerful tool to fight this obstacle. Above all, in a position of uncertainty, it is in social proof elements that the client searches for information and guidance to make a decision (Roethke, Klumpe, Adam & Benlian, 2020). Therefore, it is of paramount importance that Lightsource raises trustworthiness through social proof.

In virtue of the reflection on what was the previous website and what are the possibilities offered by Visualsoft for the new one, it was decided that reviews and the presentation of prior lighting projects were going to be the main focus to improve social proof. For being a topic that we were very persistent on for its relevance to the reputation and credibility

²⁹ As an example, the content created for the Visual Comfort brand page can be reviewed in Appendix V

of the website, it was assigned as an internship task the responsibility for the Testimonials and Portfolio sections³⁰.

For the reviews, the suggestions presented to the Visualsoft team involved adding the tab Reviews to the details of every product page and a new section for Lightsource – the Testimonials³¹. The review tab allows the user to write a review for the products available online, and it was a simple feature added by Visualsoft. The Testimonials section is a page of reviews also written by clients, but that are not product focus. Instead, they are about the service and the brand itself, allowing the user to write a comment on its experience with Lightsource.

By the time the Testimonials page was developed, it felt relevant to include in it already existing reviews to fulfil the page and encourage future users and clients to share their experiences. These were reviews that the lighting team received every day through email and that were not being used as social proof elements until then. So, we had the task of contacting every member of Lightsource that has direct contact with clients daily and ask for reviews sent by previous customers or partnering brands. As a result, more than 50 reviews were collected, analysed, and adapted to convert from emails to testimonials that wouldn't compromise the customer's private information. The best ones were added to the website and are now an example of social proof online.

2.3.2 Portfolio Section

Like the *Testimonials* section, having a *Portfolio* of the Lightsource projects available on the website is a big step toward leveraging social proof. In addition, it is a way to communicate the brand's value proposition by showing its strengths that distinguish it from the competition.

Lightsource already had a space on the previous website highlighted in the navbar dedicated to the brand's Portfolio. This section has been gathering content from projects since 2008, but the post frequency was inconsistent. It was only at the end of 2021 and the beginning of 2022 that the portfolio content strategy became more consistent. The posts also started to have more contextualisation with more comprehensive descriptions

³⁰ The Portfolio section will be explored in the following chapter

³¹ Images of the testimonials elements on the website can be seen on Annex XIII

while they were complemented with photos of higher quality. So it was crucial to maintain these qualities in the new website by creating a layout that would support it.

One of the main challenges of working with Visualsoft was the limitations that developing a website based on a template demand. This is something that Lightsource was aware of since the beginning, but there was always the effort to get around this obstacle aiming for a unique and distinct online experience. But this was an issue mainly felt in the Portfolio section. The layout offered by Visualsoft was very static and limited, hard to adapt the existing content to it, and with a design that wasn't meeting the clean and modern expectations for the new website. So, as a solution, it was decided to integrate a WordPress theme into the Visualsoft platform. WordPress³² was chosen to complement the Visualsoft website because of its flexibility and ease of configuration. This allows Lightsource to autonomously design the Portfolio pages while adapting them for each post in specific, creating a more unified reading experience while meeting the brand's visual identity.

Once Visualsoft proceeded with the installation of the WordPress plugin, creating the layout and importing all the existing portfolio posts for the new website became an important task of this internship. Unfortunately, and due to the deadlines that were being tried to meet, there was no opportunity to follow a human-centred design approach in this process like in other phases of this project. Therefore, the design created was based on personal presumptions on what is a professional, persuasive and responsive design that would match Lightsource branding and the rest of the website developed by Visualsoft.

The goal for the Portfolio was to create a visual space that would resemble a gallery. An inspiring and creative collection with eye-catching photos on full display complemented with a text explanation of each project assignment and the products used linked at the bottom of the page. The headings and the text were kept simple and as similar as possible to the Visualsoft template for a consistent website.

A layout template was created, and the existing content on the previous website Portfolio was adapted to it³³. All the portfolio posts created and the original version from the previous Lightsource website can be found [in this Figma file](#)³⁴.

³² An open-source Content Management System (CMS)

³³ The sketch on Appendix VI is a wireframe of the layout structure created

³⁴ Figma document link: <https://www.figma.com/file/tr7JFYv0Y2mbkFSbEgsrxx/Relatório-de-Estágio---Beatriz-Castro?node-id=1%3A3>

2.4 Qualitative Research

This chapter will explain in detail the developed qualitative research applied in the process of redesigning the Lightsource website. We will present the human-centred design methodologies and techniques applied and all the processes related to them. Posteriorly, and for each method, the conclusions are presented, and a combination of resulting suggestions are also given.

2.4.1 Interviews

In line with the goal of the implemented qualitative research, interviews were selected as a research method to evaluate and interpret the user experience of actual users of the Lightsource old website. Aiming to determine possible obstacles and consequent improvements to benefit the new website, at the time at the beginning of the development phase, by creating a more positive user experience and a smooth online customer journey.

To reach that goal, three main questions conducted this research:

1. What barriers do potential buyers see to placing an order on the website?
2. What is the visitor satisfaction level using the search functionalities of the website?
3. What are the factors impacting visitors completing the checkout process?

These three questions resulted from the *Platform and Competitors Analysis* presented in chapter 2.1, and the main elements pointed out as highly important to improve for better performance. They are also a result of the feedback from the eCommerce manager, on what were significant elements negatively impacting the user experience.

2.4.1.1 Planning

The interviews were divided into two different targets — clients and key users. Were invited B2C and B2B clients that have placed an online order in the previous three months, and five key users of the website to gain a more comprehensive perspective on how efficiently the website covered lighting knowledge aspects.

The interviews with B2C and B2B clients were structured interviews guided with open-ended questions, while for the key users was followed a semi-structured format. For the clients' interviews, we created different scripts for B2C and B2B interviews³⁵ aiming to better cover the different needs and purchase paths of the two targets. For the key users'

³⁵ The script for the B2C interviews is available on Appendix VII and for the B2B on Appendix VIII

interviews, was used the same script for all the interviewees³⁶. And since for the key users was followed a semi-structured approach, the script created has five questions, but some others were added during the dialogue based on the respondents' answers.

In addition, the goal was to conduct the clients' interviews through phone calls and the key users through video calls. All the interviews were planned to be recorded by audio so that after could be transcribed partially and analysed, and this was previously mentioned to the participants.

2.4.1.2 Results

Starting with the clients' interviews, unfortunately, there was no cooperation from the contacted B2C and B2B clients. We contacted around 40 clients through a first email inviting for a phone call interview, and since there was no feedback, a second email was sent asking to the same clients and a few more to respond to an online survey. This survey reflected the same questions planned for the phone interview but adapted to a questionnaire³⁷. And even giving the participants the chance to win a 100 GBP voucher towards any of the Lightsource in-stock lights, only two clients completed the survey.

This is an extremely small sample of clients, so the answers weren't considered significant to conduct to any conclusion. For that reason, the focus of the interviews turned exclusively to the key users.

For the key users' interviews, five team members of Lightsource were selected to answer a few questions about their role in Lightsource and their vision of the company's current website. First, the interviews were made through video calls and recorded digitally, lasting approximately 15 minutes. Then they were transcribed partially. All the interviews were conducted by Beatriz Castro and Andrew Nesbitt and followed a semi-structured format, as already mentioned.

The objective of these interviews was to understand each member of the team's role in the company, how the website assists each role and corresponding daily tasks and responsibilities, the use applied to the website, and the individual opinion and perspective about the platform.

³⁶ The script for the Key Users interviews is available on Appendix IX

³⁷ The B2C survey is available on Appendix X and the B2B on Appendix XI

The participants were selected based on their role in Lightsource, aiming for a broader perspective on how the website helps each role and how each member uses it for their different and unique daily tasks. For this reason, two directors, two lighting consultants and one technical team member were selected. The following table summarises the participants invited, and the corresponding roles performed in Lightsource.

Participants	Role
P1	Sales Director
P2	CAD Technician
P3	Sales Coordinator
P4	Manager Director
P5	Sales Consultant

Table 5 - Interview participants and corresponding roles performed in Lightsource

After all the interviews were transcribed was carried out a thematic analysis³⁸ that identified three key themes:

1. The use of the search functionalities;
2. The quality of the product details;
3. The difficulty in reflecting the two company targets (B2C and B2B).

And the analysis of the insights collected will be presented based on these three key themes.

1. The use of the search functionalities

Of the five participants selected, four mentioned previous problems with the search functionalities. And that is related either to the search bar or the filters, and how as tools, they should be promoting a more accessible, quicker, and accurate search.

- **P1** reported that some of the search results are not accurate, especially regarding the results for finishes searches *"one thing I always find a little bit, won't say difficult but maybe not just totally accurate, is the finishes"*. However, considers that the price filter is the most positive aspect of the website *"a positive aspect of the website is that we can clearly filter the products by price band"*.
- **P2** mentioned the search bar as a negative aspect of the website based on the difficulty to get suggestions from the search *"one of the things I would say is a negative is*

³⁸ The thematic analysis is available on Appendix XII

sometimes when I go to look up it's quite sensitive as in you have to look up the exact thing to get it”.

- **P3** mentioned multiple times during the interview the inefficiency of the search functionalities and how hard that can make a sales support role *“I tried to use the filters, but they just don't work. So, I just found that it would take me even more time to go through that while I have the customer on the other side”*. Also named the filters as the most negative aspect of the website *“they [the filters] don't practically work, you use the filters, and you would expect more things to show, and they actually don't”*.
- **P5**, because of the role performed, has a similar experience to P3 with the search functionalities. Mentioned that very often finds the search bar inefficient and considers it the most negative aspect of the website for the problems that have been caused during daily work tasks *“the negative would be probably the search function. Because it does cause me problems”*. On the other hand, believes the filters are helpful but doesn't use them much *“I don't tend to use the filters a huge amount, but I do sometimes, and they have been helpful even just to identify the brands that I would need”*.
- **P4** never mentioned the search functionalities during the interview. However, as explained, uses the website differently from the other interviewees, never requiring searching for products *“I mean I am not on the site sourcing lights choosing in it. But I use it to go through the links of some products, to look up something, see how it's looking”*.

It is important to mention that the difficulties using the search functionalities are particularly felt by the sales support team, who said making their work harder and more time-consuming. Some of the solutions mentioned in the interviews and used by these members when facing problems and frustration with the search functionalities of the website are using the search engines to find the product on the actual website or turning to the brands and suppliers' websites to find the products more accessible and quicker.

2. The quality of the product details

Generally, the interviewees consider that the quality of the product details is not consistent. Some highlight the difficulty of understanding the product information, the

importance of using the technical data sheets to reduce that inconsistency, and the disadvantage of the vast range of available products.

- **P1** suggests that the product content can be hard to understand for an audience with little lighting knowledge *“that maybe not everyone who visits our website maybe understands that level of technical jargon”*. And that the technical names combined with the vast range of options available online can make it harder to help the customer make an informed and accurate purchase *“The negative would be the vast range of products that's on there, trying to help people make a selection and an informed decision can be difficult, especially if they don't understand some of the technical points”*.
- **P2** believes that, overall, there's enough information on the details of the products to help the customer make its purchase. And if in some cases there's not enough information expressed on the details, there's always a pdf file provided by the manufacturer on the product page that can be downloaded with the technical data to help the client *“because if there's not enough on the description, I would again download the technical card and I would need no more information than that”*.
- **P3** defends that the website doesn't have enough information to help the customer make its purchase. And reinforces that the lack of information doesn't help the client neither the sales team *“I don't think it has enough information. For the customer, and for us as well using it from this side”*. While the lack of accurate details about stock and lead times affects the client's trust in Lightsource *“it's not showing the right stocks or even lead time in terms of availability. So, it's why probably customers come and contact us, to double-check. Because I don't think they trust the information there”*. The user also mentions that it is usual to receive emails from clients asking for pictures of the products placed in a real setting, which would be essential to add to the product detail pages *“We have customers emailing us asking to see the lights on a real setting”*.
- **P4** thinks that the quality of the information provided to the client about each product is not consistent, and that needs to be improved. And that having the perfect info about availability, stocking, and lead time will always be hard to achieve *“I would say not consistently. If the products are filled out, and all the data is on the products, then yes, they would. (...) the data is not and always cannot be fully perfect”*.

- **P5** has a similar perspective to P4 towards the product details provided to the client. For the participant, it will depend on the brand's given information and datasheets, and it's something that is not consistent for all the website's products "*Yes and no, I would say in the majority of cases yes (...) Because there are elements which we are asked for and it depends on the information that has been uploaded there*". Something that considers important is to add to the product details the weight, especially for someone who, like her, works with shipping costs "*would be useful to have on there because that has an impact, if the light is too heavy, and also from our perspective, working on the shipping costs*", but also suggests adding more images of the lights in situ because it is something asked multiple times by clients "*we could add further imagery (...) of the light fittings in situ*". When asked about a positive aspect of the website, she answered the volume of items available, but at the same time admits that it can be a negative aspect too "*I think it is a positive I suppose but it can be confusing when I don't know what I am looking for*".

3. The difficulty in reflecting the two company targets (B2C and B2B)

The difficulty in reflecting through the website the two targets of the company (B2B and B2C) was expressly mentioned by two interviewees and in a not so straightforward way by one participant. The fact that on the website might not seem clear that the company as a trade service is marked as one of the main negative aspects of the website. However, one interviewee also mentioned that it might not be apparent for a B2C client that Lightsource doesn't work just with big projects and designs and can offer just the sourcing service.

- **P1**, as a Sales Director primarily for the commercial side of the business, doesn't feel that the Lightsource website is a helpful site for his segment of projects "*I would use it from time to time just to reference products but it's not my go-to website for our side of the business*". And because of that, he prefers using key suppliers' websites to carry out his daily work "*For the websites that I use on a daily basis, then some of our key suppliers*".
- **P4** thinks that the most negative aspect of the website is that it doesn't greatly reflect the B2B side of the business "*Negatively, it doesn't do a good job representing 70% of our business, which is commercial and hospitality lighting*". And because of that, a misunderstanding of the company's target can happen for a first-time visitor of the

website “*If you come across, at a first glimpse it can maybe come across as purely eCommerce site*”.

- **P5**, just like P4, believes that the company's target is not evident on the website “*so it's not visible really, I don't think as a website, whether we are trade only, whether are trade and domestic*”. However, she feels that the website doesn't do an excellent job on both sides of the business and not just only on the B2B side “*I just think we don't promote enough just the procurement service (...), you don't need the whole package we can just literally sourcing and finding the products, the best price and within the project time frame*”.

Other considerations

When asked to the participants to mention a negative and a positive aspect of the website the mentioned **positive aspects** were the **ability to filter the products by price**, the **loading speed**, the **design** (mentioned twice) and the **vast range of products available** (also mentioned as an aspect that can quickly become negative by the same participant that calls it a positive). While the **negative aspects** mentioned were the **vast range of products** (showing that is an aspect that divides opinions), the **sensibility of the search bar**, the **filters**, the **difficulty in reflecting the two company targets** and the **search functionalities**. From the answers collected to this question, the search functionalities are an evident problem for most interviewed team members. Both the search bar and the filters should be helping the users find what they want quickly and easily, but that's not the case. Most of the Lightsource members that use the website daily, especially for sales support tasks, reported multiple problems in these functionalities. They described it as a frustrating and complex process that can lead to a long wait for the clients until they receive an answer from a client support member. And this is making the team try other resources like Google as a search engine to find the product more accessibly and a lot faster, or simply by using other websites like suppliers' websites and losing an opportunity to send the client a Lightsource product page link.

Furthermore, P1 exposed concern towards the ease of understanding some of the technical jargon used on the website for the Lightsource audience. In addition, the sales director suggested that some of these lighting expressions could be replaced by diagrams or pictures. Simple examples that more visually would explain to the potential client what a

ceiling-mounted is or what a polished brass looks like, not by listing these finishes by name but by displaying them with pictures.

On top of that, both P5 and P3 referenced having clients asking for in situ pictures of the products available multiple times before. These photos give context to the user, help visualise how a lighting fixture can look in a real setting and influence the purchase decision. Therefore, adding further imagery could be beneficial not only for the client but also for the company. And even knowing that this is something that can highly depend on the content provided by the manufacturer is something that, based on the participant's opinion, should be improved on the website.

When it comes to the website sections more mentioned by the participants, the product pages take a prominent place. This is because most of the roles interviewed have daily tasks requiring the information displayed on these pages, making it an essential part of the website for the team. However, it is also important to mention the Portfolio section's relevance when Lightsource approaches a potential client. Both P1 and P4 considered the portfolio as a tool that can highlight the company's competency, credibility, and ability to deliver medium and large-scale projects, making it a section with a high pertinency on the website.

Even knowing that one of the interviewees mentioned the fast speed of loading of the website, this was not verified. In fact, based on the information provided by the online tool "PageSpeed Insights" by Google on the 7th of October of 2021, the day the interview occurred, the Lightsource website showed a very low result on speed. According to the Google service, the speed for mobile devices got a score of 25 out of 100, and for desktops a 24 out of 100.

Recommendations resulted from the interviews

- Create an accurate and fast search by optimising the search bar with a more significant error tolerance for an uninterrupted user journey, avoiding no results through displaying the products that match most closely to the searched term, extending the type of results for keyword results, and improving the accuracy of the outcomes;
- Improve the filter results for a more rigorous and quicker search and overcome what can be an overwhelming number of products available;
- Make the quality of the products' technical details more consistent by efficiently uploading all the product data provided by the manufacturer;

- Create a more efficient communication system between the company and the suppliers to improve the accuracy of the availability and lead times information displayed on the website;
- Use photos or diagrams to illustrate each type of mounting position and finishes available on every product page, showing support to clients with less lighting knowledge;
- Create a website design that keeps the elegant, professional, and sleek look that characterises Lightsource's brand image and is praised on the previous website;
- Improve the website page loading speed by optimising the code used;
- Create a better balance between B2C and B2B content and ensure that both services offered are equally promoted on the website.

2.4.2 Usability Testing

To better help identify design inconsistencies and usability issues with the interface and the website content, usability tests were applied as an evaluative method in this project. The goal behind applying this methodology was to perform a complete evaluation of what was Lightsource's previous website and propose suggestions to improve the new website in development based on what were the errors and obstacles from the old platform.

2.4.2.1 Planning

In the planning phase of the usability tests the following steps were followed: build the test tasks and scenarios, select and invite a sample of participants, prepare the needed material and the test environment.

For the test, a scenario was created as close as possible to the reality of a B2C Lightsource client, as well as three tasks that complemented this scenario and led the user from the start to the end of the test while exploring the website's interface. The presented scenario was: “You want to rebuild your home bathroom on a budget, and for the lights, you need to buy a new ceiling light. Some friends recommended to you a brand named Nordlux that you know it's available on the Lightsource website”. The three tasks asked the user to complete were:

- **Task 1:** create an account;
- **Task 2:** add to the basket the "Nordlux" bathroom ceiling light with the lowest price;
- **Task 3:** buy the product you added to the basket.

By experiencing the faced scenario and trying to complete the tasks presented, the goal was mainly to evaluate the website performance regarding the registration process, the search and the filters functionalities, and the checkout mechanism. And these were all relevant elements for assessing since in chapters like the *Platform and Competitors Analysis* and the *Interviews* were pointed out as obstacles to the user experience.

To make it easier for the facilitator to conduct the tests, a script was written that specified the research goals and some other important information for the participants³⁹.

To experience the mentioned scenario and tasks, five users were selected and invited to participate in this usability test. Only four requisites were considered when the participants were selected:

- Being 18 years old or older;
- Having a general English understanding level;
- Basic knowledge of using a computer and navigating in an eCommerce platform;
- Never purchased a product or visited the Lightsource website before.

These requisites reflect the goal of aiming for a fresh perspective on the website usability, so the participant must have never visited the Lightsource website before. And because the website is only available in English, the user should know the language basics to use it. And as we can confirm through Google Analytics, the Lightsource online client is consistently over 18⁴⁰, so only users over 18 years old participated in this research.

To make sure the invited users were eligible to participate in the test, all the participants were asked to fill out a questionnaire before the test to characterise the sample selected and confirm that the specified requirements were fulfilled⁴¹. And this questionnaire was sent to the participants in the inviting email that also explained the research goal, the procedure and privacy considerations (with a consent form attached) about the test⁴².

Due to issues related to the Covid-19 pandemic, the usability tests were conducted online and through a virtual call. The equipment used was the participant and the facilitator's computer and correspondent software, Google Chrome to access the website and the

³⁹ The script for the Usability Tests is available on Appendix XIII (English version) and Appendix XIV (Portuguese version)

⁴⁰ Data regarding the Lightsource website visitor's age can be seen on Annex XIV

⁴¹ The sample characterisation questionnaire is available in Appendix XV (English version) and Appendix XVI (Portuguese version)

⁴² The consent form is available in Appendix XVII (English version) and Appendix XVIII (Portuguese version)

Zoom app. The participants were asked to use Google Chrome during the test for a more consistent experience and evaluation between tests.

The test was recorded using QuickTime Player to hear the participants' verbal thoughts and interactions (related to the application of the think-aloud protocol) and Microsoft Clarity to record the session steps on the website. The responsible for the study was also using a sheet of paper to document the participants' performance and general notes.

It is important to mention that, like most studies analysed during the literature review, more than one evaluation method was used in this website assessment. Besides the usability testing, the think-aloud protocol and the System Usability Scale (SUS) questionnaire⁴³ were also applied. This combination of design methods allowed a more profound understanding of the users' interactions with the interface that only through usability testing wouldn't be possible⁴⁴.

In the end, and concerning the metrics evaluated during the testing process, it was assessed the:

- **Website efficiency:** time-based efficiency, number of clicks and number of pages;
- **Website effectiveness:** completion rate, critical errors, non-critical errors and needs of support;
- **Satisfaction:** SUS results.

The results of each user usability test are summarised individually in tables that can be seen from Appendix XIX to Appendix XXIV.

2.4.2.2 Results

Sample Characterisation Form Results

A summary table of the sample characterisation can be seen in Appendix XXV. For privacy reasons, the six users that participated in the usability tests will be called P6, P7, P8, P9, P10 and P11.

⁴³ The SUS questionnaire used and adapted from Brooke (1996) can be seen in Annex XV (English version) and Annex XVI (Portuguese version)

⁴⁴ This is an evaluative method that involves users. However, it wasn't the users that were being tested. It was exclusively tested the website interface, and this was communicated to the participants since they were invited for this research.

Website efficiency

Before any conclusion can be taken from the **time results**⁴⁵ is important to mention that it was asked to the users to follow the think-aloud protocol. This is important to consider once it can affect the time to conclude the test. For example, P6 and P8 were the ones who took longer to complete the test but were also the participants that talked more throughout the tasks.

Starting with task number 1, the participants spent, on average, 01:31 to finish creating an account. P8 and P11 were the ones who took longer to complete it and were also the only ones who had problems (non-critical issues) when doing the task, and that justifies why it took them significantly more time to complete it.

Task number 2 was the one overall that took longer for the users to complete. For this task it is important to list every path the users could take to complete it:

1. Use the search bar (requires the use of the category filters);
2. Use the Products section in the navbar (requires the use of the brand filters);
3. Use the Brands section in the navbar (requires the use of the category filters).

P10 and P11, decided to follow option number 2. P6 and P8, who were two of the ones who took longer to complete the task, also followed option number 2, and it was just the users who followed option number 2 that correctly completed the task. P7 and P9 decided to go through options 1 and 3 and couldn't finish it. It is also relevant to mention that P6, on a first try, chose to follow option 3, but after a few moments of frustration, gave up and opted for option 2, which then led her to complete it quickly. P6 and P9 were also the ones who used more clicks and pages to complete the task and were both users that tried to use option 3 to finish the task. This highlights how difficult, and sometimes impossible, it is for a user to find a specific product on the website by using the search bar and filters.

For task number 3, when it was asked the participants to go through the checkout, the time it took for every participant was highly diverse. For task number 2, multiple paths could be taken, but for a task like number 3, there was just one way to do it, which explains why they needed only 5 pages to complete it. So the fact that the P9 finished it in only 54 seconds is a good indicator that the current checkout can be completed in less than 1 minute, which is excellent. But this user was a native speaker, and he also used the

⁴⁵ The tables with the time, the number of clicks and pages of each test are available in Appendix XXVI

automatic filling that the browser suggested for the address details. These two factors probably explain how fast he was in completing the task. The only two other users completing the task in less than the average time (01:52) also used the autocomplete filling that Google Chrome suggested during the test. This also explains why these three participants (P9, P10 and P11) had the lowest number of clicks. Finally, it's important to mention that the task was considered completed once the users were on the payment stage (card details) of the checkout, which means that to end the conversion on the website will, on average, take longer than just one minute and fifty-two seconds.

Website effectiveness

The table on Appendix XXVII shows the **completion rate** for each participant. As we can see, P7 and P9 only correctly completed 2 tasks out of the 3. Both participants couldn't correctly complete task number 2 once both added a wrong product to the basket. P7 added a ceiling light that wasn't suitable for bathroom use, while P9 added a bulb and not a ceiling light. All the other four participants added the correct product to the basket.

It might be relevant to highlight that these results were a conclusion of a usability test, and that this context of evaluation might influence the users' behaviour. A clear example of that is P6 performance on task number 2. The user took a little more than four minutes to correctly complete the task, which is more than double compared to other users. In addition, she only finished it because of the time spent scrolling different website pages searching for the terms used on the stated task ("Nordlux" and "ceiling light"). If this wasn't a test scenario, but a real user visiting the website and trying to find that specific product, it could have led to frustration and a visitor leaving the website.

On average, the completion rate achieved was 89%. However, and as mentioned before, task number 2 represented an apparent problem in the correct conclusion of the test, not only for the participants who failed to complete it but also for the ones who showed to be close to giving up on the task and found it hard to select the asked product. This, like other metrics analysed, proves that the current website has significant searching issues that are negatively affecting the user experience.

The second table on Appendix XXVII shows each user's number of **critical errors**⁴⁶ and the corresponding task where they occurred. As we can see, only for P7 and P9 was

⁴⁶ Because we are evaluating the website and not the user, was considered as a critical error not only every mistake, deviation or missed click done by the user, but also when the system failed to drive the user to the desired action

registered a critical error. These two errors made the participants unable to correctly complete the 3 tasks presented and consequently only achieve a 67% completion rate. The errors happened in task number 2 for both of them, and in both cases was not a user mistake but the system's inaccuracy that led to a critical error.

P7, when asked to "Add to the basket the Nordlux bathroom ceiling light with the lowest price", opted to use the search bar to find it and searched for "nordlux bathroom ceiling light". For this inquiry, the website presented a random selection of Nordlux ceiling lights, but they weren't all suitable for bathroom use. And for a user like P7 who showed not having much lighting knowledge, this can be critical and lead a client to buy a product that will cause numerous problems because of a wrong search result. So using the search bar to search for "nordlux bathroom ceiling light" and the corresponding results presented by the website was the critical error considered. This highlights that the search bar on the current website is an obstacle to the user experience.

P9 also used the search bar to complete task number 2 but only searched for "Nordlux" in it. This led the user to the brand page, which confused the participant for not seeing a full page of products and nothing that suggested bathroom ceiling lights. Still, a few moments after analysing all the page clicked on "View all Nordlux Products" and found a full selection of the brand's lights. The problem only happened when the user started using the filters because when clicking on the "ceiling" filter, the "bathroom" filter disappeared. This is a malfunction from the website, and made not only the user spend a long time trying to complete the task but also give up with the frustration. The user ended up selecting a bulb from Nordlux, which is not a ceiling light and can show some lack of lighting knowledge from the participant. However, this selection happened mainly because of the website defect. So, in this case, the critical error considered was the selection of the "ceiling" filter before the "bathroom" filter and the corresponding website suggestions for that search.

The two critical errors identified in the six usability tests show that the website searching features are disturbing the user experience, compromising the search results and leading the user to a wrong selection of products multiple times.

The table on Appendix XXVII shows each user's number of **non-critical errors**⁴⁷ and the corresponding tasks where they happened. Unlike the critical errors, the non-critical errors identified only happened on tasks number 1 and 3. And task number 3 was the one that showed the most significant number of users committing a mistake (three users in total).

On task number 1 were detected two different non-critical errors. The first error happened with P8, who, after successfully creating an account, saw the message "Looking for a discount?" and clicked on "Apply for trade discount". After clicking on it and seeing the form requiring a "Business name" and a "Business website", the user quickly noticed that that discount section was exclusively for trade clients and moved on to the next task. This was considered an error because even know it didn't affect the user's completion of the task, it made him go out of the expected sequence of steps for a B2C user. This shows that the trade discount page after the registration can confuse a residential client who is not qualified to apply for special discounts. And in the worst scenario, the user can believe that Lightsource is only targeting the trade market and not selling to non-trade clients.

Still, on task number 1, P11 also showed a non-critical error. When asked to "Create an account", the user clicked straight on the login button with the profile icon. However, she didn't immediately see the register option at the bottom of the page. So, by mistake, she filled in the login details and clicked on "Login to account", which only after the error message of not having an account with those details available the user noticed the mistake and found the register link. This can point out that the register button is not clearly visible, and some design changes could be made to make it more evident. Nonetheless, it was an issue identified with only one user that probably can be explained by distraction on her behalf. Still, it will be considered like all the other errors pointed out in developing the new website.

On task number 3, the three participants that showed a non-critical error in this task made the same mistake. The error was writing the answer for the country in the space of the form for the county. This error was carried out by three out of the six participants. However, it is important to highlight that the three users who answer the country's name instead of the name of a county are all non-native speakers. Two of the participants were Portuguese and one was Italian, but all of them were interacting with the website in

⁴⁷ As a non-critical error was considered every action that made the user go out of the expected sequence of steps, but that didn't compromise the conclusion of the tasks, regardless of being a user mistake or a system malfunction

English. Two possible reasons can be pointed out for this non-critical error. First, the text font, size or colour can make it harder to read the word county. Yet the native speaker user didn't show the same problem and did not even hesitate to answer his county when asked on the website. This makes it believe that it is only a linguistic problem once non-native speakers, like the case of Portuguese speakers, are not used to the term county. And because of how close the word county can be to country when it comes to sound and writing, confusion can arise, making it a common mistake for international clients who aren't familiar with the term. Once Lightsource sells internationally and wants to grow the sales outside the UK and Ireland, this might be an important aspect of the checkout process to consider changing.

Lastly, it was also detailed on the table on Appendix XXVIII the number of **needs of help**⁴⁸ provided to each user. And after analysing all the tests, three moments of need of support were identified.

On task number 2, P7 and P9, after a long time trying to understand which light they should add to the basket, both showed uncertainty concerning what was supposed to select as a product. And because of that, and after multiple times reviewing the page of results from their searches, P7 asked, *“This type of product is a bathroom ceiling light, all of these are names of the products for bathroom ceiling lights? Right?”* and P9 asked, *“It can be any type of light?”*. Even knowing the two users verbally showed a support request and a clear pattern of frustration comments, the facilitator's decision was not to answer both questions from the participants. Simply because by responding to these two specific questions, the facilitator would influence the user performance, which wasn't the goal. It was important to test the users' doubtfulness about the search results and understand their final decisions to complete the task autonomously. And both failed in correctly completing it, but because it's not the user that is being tested but the website, these are extremely valuable insights.

On task number 3, P8 showed the need for support when completing the checkout form. This was related to the non-critical error identified when asked for the county on the address details. After writing the name of his country in the county field, the user noticed that the country was being asked a second time which led him to notice that the first field asked for the county and not the country. Seeing the user confused about the term, the

⁴⁸ A need or ask for support was considered every time the user showed verbally (or not) the necessity of assistance to accomplish a task

facilitator translated the word for the participant, who after that completed without any problem the task. The facilitator's help didn't influence the user's performance once it was clear that it was just unfamiliarity with the English word. And for the other users, the facilitator didn't intervene with the translation of the word because none of them noticed that was written the word county and the form accepts any answer, even when answered with a country name.

Website satisfaction

After completing the test, every user answered a post-study **SUS**, aiming to assess the satisfaction of each participant with the interface. The table on Appendix XXIX shows the scores obtained.

The most positive experiences were reflected in P8 and P9. Both had a SUS score higher than 85, which corresponds to an excellent experience regarding the Grading SUS Key⁴⁹ used. P8 score wasn't a surprise. He showed to be comfortable using the website and completing the tasks, demonstrating only minor issues related to linguistic barriers and not the interface itself. On the other hand, P9 gave a very high score for his experience, even knowing he didn't correctly complete one of the tasks and showed some uncertainties during the test.

The most negative experiences were reflected in the scores given by P6 and P7. Both users scored the website lower than 38, a grade corresponding to between worst imaginable and poor interface. P6 made a lot of considerations about the website during the test and multiple times showed displeasure with the experience and suggested changes to improve it. However, the user concluded all the tasks correctly, even considering it a bad interface. On the contrary, P7 wasn't successful in all the 3 tasks. The participant showed not being sure how to conclude task number 2 and some lack of lighting knowledge that, combined with uncertainty, ended in a completion rate of 67%. It is also important to mention that P7 answered the questionnaire twice – the first time before knowing that failed to add the right product to the basket and the reason why, and the second time after realising it and asked to give new answers on the questionnaire. As a result, the participant's SUS score went from 80 to 37.5, and it's a big difference that really shows how a user's opinion can drastically change after a bad experience, in this case, caused by the malfunction of the current website search functionalities.

⁴⁹ The Grading SUS Key used and adapted from Bangor, Kortum, and Miller (2009) can be seen in Annex XVII

P10 and P11 showed average satisfaction with the website. Both completed the test with no significant issues, so it was an expected score from both. It is also important to mention that for these two users, and only for these two, some checkout process steps were simplified by the browser that automatically filled out part of the forms. This made the two users do not experience issues like the county non-critical error that happened to some other participants and possibly led to a more positive perception of the website. But it's just an assumption for such distant results.

As a **final SUS score** for the website, the result achieved was **64.2**. This was calculated with the last answer from P7 to the questionnaire. If it were considered the first answer from the participant, the final result would have been 71.3 – a difference of 7.1 points. The literature tells us that 68 is the average SUS score (Sauro, 2011), meaning that the second result achieved for P7 had an impact on considering the website result below the average. Nevertheless, both results are significantly low and clearly show that the website has room for improvement. And considering both outcomes and the score grading previously used, the final score would always be below 72 and above 52, giving it a grading between Ok/fair and Good on the SUS grading key.

These extremely dissimilar scores and heterogeneous opinions between participants made it even more relevant to analyse the SUS questionnaire answers one by one. The following graphics show the average score given by the users through the Likert scale used on the questionnaire (1 corresponds to “Strongly Disagree” and 5 “Strongly Agree”).



Figure 2 – Average scores per SUS statement

The graphics make it clear that the participants' opinions were, on average, always very centred on the scale. Statement number 3 (“I thought the website was easy to use”) and Statement number 7 (“I would imagine that most people would learn to use this website very quickly”) were the ones where the users showed to agree the most. They can be both

related to learnability. Once the participants consider that the website is easy to use, it makes sense that they also believe it is primarily intuitive and learnable for an ordinary user. And the truth is none of the participants showed severe difficulty in learning how to use the website. The major problems detected weren't related to understanding how to use the interface, they were more connected to the website's performance.

Statements number 4 (“I think that I would need the support of a technical person to be able to use this website”) and number 10 (“I needed to learn a lot of things before I could get going with this website”) were by far the ones where the users showed the lowest level of agreement. This score is somehow related to the last two statements analysed, in which, once again, the users showed to be able to understand and use the website to accomplish basic tasks autonomously. Although, as we were able to see when previous metrics were analysed, not all the participants could complete the proposed tasks correctly. In some moments, they even asked for the facilitator's help. It's impossible to ignore the context that involves these results - it was a test. And even knowing that since the beginning, the users were warned that it was the website that was being tested and not them, it's human to want to do it successfully, being hard to admit difficulties and need for help.

All the other statements' average scores showed a very neutral level of agreement, being hard to take any solid conclusion from them.

Think-aloud protocol insights

It was also crucial to raise some of the users' most critical comments and suggestions through the think-aloud protocol. Therefore, all the most relevant comments were included in six tables (one per participant) divided into task and post-test comments⁵⁰. It was also used a colour scheme to highlight the expressions that showed doubt and frustration (red) and the ones that reflected user suggestions (blue).

Recommendations resulted from the usability testing

The following topics sum up the information gathered and some critical considerations and suggestions that were considered during the process of creating the new website:

⁵⁰ The think-aloud comments per user can be seen from the Appendix XXX to Appendix XXXV

- Review the registration form and follow the most common forms used in eCommerce websites to achieve a more intuitive and quicker to understand process;
 - Consider not having a brand/range page and just place the brand/range descriptions on the top of a full products page;
 - Change the label and icon “project basket” to something more intuitive and standard for the checkout;
 - Change the update function on the checkout to an automatic update of the total price when the quantity of products is modified;
 - Clearly mark every mandatory form field as mandatory with standard procedures like an asterisk (whether red or not) and the word “required”;
 - Confirm if requiring the phone country code and county are essential to identify the customer and proceed with the shipping;
 - Consider creating a dropdown list with limited options for country and city fields;
 - Fix the filters and search bar results;
 - Create easy to understand descriptions of the products that highlight especially the suitable use of each product;
 - Create separated registration and checkout forms for B2C and B2B users;
 - Automatically show the shipping cost based on the user’s location;
- Consider using labels below the icons like writing register or login below the profile icon.

2.4.3 Personas and Scenarios

The goal behind using the personas and scenario approach was to use this human-centred design method to evaluate and test the new website during its development to identify problems and suggest improvements. It is also an opportunity to display a completer and more accurate perception of who is the Lightsource client in this report.

The brand's client is not reflected in a unique type of customer. Lightsource offers a full spectrum of lighting services, either for a final client that goes to the website and buys a chandelier or a constructor company that needs support with lighting plans, CAD drawings or bespoke solutions. This shows the need to create multiple personas to better understand the different target audiences and analyse the design and development

decisions for the new website. For this reason, four different personas were conceived, in which two are B2C clients, and the other two are B2B.

As mentioned before, this technique was not applied before the project's design phase. Instead, it was used during the development phase. This was especially felt as a need during the process of testing the new website from a user perspective when it started to get closer to a final version. And for that purpose, specific features that were important to test in that phase of the project were listed and were considered when the personas and scenarios were built. These main features were divided into five groups - products, brands, ranges, types of profiles and discounts. For each, test entities were created on the administrator side of the website that reflected the following characteristics:

- **Testing Products:** was created a product with multiple finishes, a product with no variant options and a product with multiple finishes, sizes, and availability. It was also tested if there were different images for each product variation, how the POA (Price On Application) prices are shown, how the product descriptions are being shown, the availability information and the download of files attached;
- **Testing Brands:** a test brand was created to see how the search results for specific brands work, the filters and the overall view of all the products of a brand;
- **Testing Ranges:** a test range was added to the range tags to test the filters to search for specific ranges;
- **Testing Types of Profiles:** the two possible types of users were tested by creating a standard public user and a trade user account to evaluate the process of registering on the website and its usage with login done;
- **Test Discounts:** to test how the discounts are being applied to the products and shown to the user, a 10% discount for test products was created.

To each persona was given a name, a visual representation, an age, a living area, a salary, a level of tech proficiency and lighting knowledge, a method of purchase, a motivation to visit the Lightsource website, and the core needs and pain points that might be faced in a website⁵¹. All the demographic attributes were selected to showcase a heterogeneous group of clients who will interact with the website entirely differently, impacted by their needs and insights about lighting. And the assumed interaction that can emerge from these attributes combined with the different scenarios created explicitly for each persona is

⁵¹ The summary representation of each persona can be seen in Appendix XXXVI and Appendix XXXVII

presented in a diagram representing the user flow⁵², and each persona has its one user flow. It is essential to highlight that the user flow was created based on what we wanted to achieve with the new website and change from the old one. It's the Lightsource vision for how it wants the user to interact with the interface. This means that some interactions occurred in pages and with functionalities that weren't available when the user flows were pondered. Still, they were an essential instrument to guide the team in finding website sections that needed to be improved or even created.

Succinctly, each of the four personas represents a different type of client, briefly described in the following paragraphs:

- **Anne Hawkins (B2C):** represents the typical eCommerce client at Lightsouce.co.uk who occasionally buys a lighting product. Buys exclusively for home use and based on residential needs, shows little or no lighting knowledge, so searches for easy-to-understand content like photos, expert suggestions, and sales support. Because she doesn't have much knowledge to compare technical attributes, the price becomes a crucial decision factor;
- **Jean Laurent (B2C):** represents the international target that Lightsource aims to increase in the near future. This client is passionate about technology, high-quality and innovative design, so he is willing to look beyond borders to find great lighting solutions. He is driven by technology, and the price isn't a significant factor of consideration;
- **Sarah O'Donnell (B2B):** represents the designer-client that buys directly through the Lightsource website, which is not the most common for a designer who frequently contacts Lightsource through email or phone calls. However, it is something that the brand aims to change with the new website. As a B2B client is susceptible to factors like stock availability and delivery times, and because works under limited budgets is extremely sensitive to the price and shipping costs making trade discounts a bonus for this customer purchasing decision. Besides the fact that she is the user making the conversion, she's not the decision-maker in the buying process;
- **John Rees (B2B):** represents the type of client who specifies lighting for other people to purchase, a standard process in hospitality projects. Requires a good

⁵² The user flow of each persona can be seen in Appendix XXXVIII

lighting partner that showcases the capability to embrace small, medium, or big projects through its portfolio. The fact that he buys in a significant quantity and for projects that frequently need bespoke solutions, makes him prioritise brands that offer a trade service. As it is common for a B2B client, he uses the website more to explore the products, brands, ranges, and designers offered by the company than to purchase.

So based on what was mentioned for each persona, a correspondent user flow was created. And each flow was divided into three sections of activities: preparing for the event, experience on the website and conversion. The first section reflected on how the users could potentially access the website, being, for that reason, a reflection on traffic channels. The second one explores how the user might interact with the interface based on its needs and goals. And the last one follows the process of completing a transaction on the website. It is essential to mention that not all the personas created will have all the flow sections mentioned, and this happens because not all of them will go through the same process and have the same interaction with the website. For example, not all of them will purchase through the website, so for these specific personas, the conversion section doesn't make sense to be pondered.

As a result of this process, and after the user flows created being tested on desktop and mobile with the testing products, brands, ranges, profiles, and discounts previously explained, it was possible to come up with final and secondary results. The final results stand for the components identified as essential to add to the interface or obstacles to the user experience that need to be fixed. And in contrast, the secondary results represent a problem or a bug on the website that requires Visualsoft developers to adjust.

Final Results

- The brands on the navbar should be grouped by alphabetic order making it easier for the user to go through all the brands' names;
- In the follow us area, on the footer, the icon that links to the blog is not intuitive and might give the wrong idea to the user that it will lead to an email account and not the blog;
- The "Ask a Question" option on the products' page, instead of redirecting the user to a form, should open the live chat for a more dynamic and quick answer;

- There's no option on the product page for the user to add to the comparison page the selected product. So, if the user searches for the product through the navbar and goes to its product page, it must go to the all products section and find it again to add it to the comparison feature;
- The following automated emails need to be created: newsletter sign, trade account sign up, trade account approved, order placed, order status update, general account sign up, gift voucher, quote request, received quote request;
- Create the option to proceed with the payment as a guest;
- Try to incorporate more links on the blog and portfolio posts, and preferably next to where the products are mentioned and not just at the bottom of the page;
- Create knowledge resources to help customers, like a lighting glossary;
- Improve the SEO strategy;
- Integrate the save basket feature instead of the wishlist option;
- Create a content calendar to plan and schedule strategic content for the website with well-balanced B2C and B2B content;
- Keep the website categories, sections and labels updated through time, based on trends and keyword research.

Secondary Results (few examples)

- The value for the delivery cost is defined as the same for every country selected, which of course, is not possible to happen and requires the correct attribution of the expenses through the admin side of the website;
- The buttons' style is inconsistent, not following the standard style defined;
- The "Sort by Title A-Z" option on the products' page is ordered by brand's name and not by product's name;
- The quick view of a selected product has an inconsistent design with bad alignments and different text colours mixed;
- When a product is added to the basket, it is shown to the user two options, "View basket" and "Checkout", but both take the user to the same page;
- The search bar is showing inaccurate results (for example, when writing "chandelier", some of the suggestions for "Department" don't show chandeliers as results);
- The favicon assigned to the website looks stretched, making it look different from the Lightsource original logo;

- On the Test Product - Multiple Colours, the blue option is POA, but the price is shown when added to the basket;
- The "opt-in for SMS messages" feature on the checkout needs to be removed once the company doesn't use SMS marketing;
- The Reward Points feature should be turned off once the company doesn't currently use it.

Lightsource's new website was live on the 17th of March. This collaborative work between the lighting company and Visualsoft resulted in a more modern page layout that elevates user interaction. New features were integrated, the content was strategically created, and it's easier to navigate on this website. Overall, the final result is a clear improvement on the Lightsource digital presence that integrates the inputs collected during this research project⁵³.

The summary table from the *Platform and Competitor Analysis* final considerations⁵⁴, pointed out the main inputs collected and the actions that could be done to improve these elements evaluated. This was an important starting point to gather information then passed to Visualsoft for improvement. So it is interesting to analyse, once again, the performance and SEO elements from the literature and see how they were implemented on the new website. Combined with this evaluation, are also mentioned the applied recommendations that resulted from the qualitative research conducted.

Ease of navigation⁵⁵: the navbar is a lot easier to use. The sections are designed to promote a more consistent and user-friendly user experience with structured categories and subcategories and hoverable dropdowns. In addition, two new navbar sections were created, *Knowledge* and *Sale*, which are both an effort to interact with B2C users with helpful lighting content and discounts that aren't exclusive to trade clients. About the brands' subcategories on the navbar, the names are grouped by alphabetic order as suggested and represented on Appendix IV. And now, based on the usability testing outcomes, when the user clicks on a brand is redirected to a full page of the brand's products and not a brand information page. These brand pages still exist and can be accessed through the description on top of the full page of products.

There are significantly more links that help navigate the website, and also a button to scroll to the top always present on the pages. Furthermore, some icons mentioned multiple times in this report as little intuitive were replaced (for example, the project basket was substituted with a shopping bag).

Content relevancy and usefulness⁵⁶: in line with the work described in the *Website Content* chapter, there's more content on the new website pages. It is also more consistent

⁵³ The website link is <https://www.thelightsource.co.uk>

⁵⁴ The table can be seen on Appendix III

⁵⁵ The mentioned improvements can be seen in images in Annex XVIII

⁵⁶ The mentioned improvements can be seen in images in Annex XIX

and valuable from the user's perspective. For example, many more products have descriptions, and the categories and subcategories on the navbar also have associated descriptive text. It is also important to mention again that the *Knowledge* section was created, working as an easy and integrative lighting guide that helps the client understand topics like colour temperature and pendant sizing. In the Blog, there is also an effort to implement more diverse types of content, such as videos, and always create it in line with high volume searched keywords and trends.

Based on one of the interviewee's suggestions (p.63, para.3), a designer created illustrations representing the different mounting positions, such as recessed wall lights or flush-mounted, available for each product category. This was considered a more effortless and valuable representation than just text or a picture for the user to quickly understand the lighting jargon.

Appealing and consistent style: the new website's layout is more vibrant, with eye-catching pages that have the right amount of content. Overall is consistent and has the advantage, for the *Portfolio*, *Department*, *Knowledge*, *Blog* and *Bespoke* sections, of having an implemented CMS plugin that gives the freedom for the brand to creatively adapt the layout without being limited by the Visualsoft template and development work.

Security protection: Visualsoft guarantees a secure website, and all the information about it can be read on the *Privacy Policy* page available on the footer.

Logical structure: the navbar reflects the structure created for the website, and it was designed to balance B2C and B2B content, never compromising the user experience for each target. And all the labels used for top-level categories and subcategories were tested and compared to other options through keyword research. For example, *Ceiling Lights* was chosen over *Ceiling Lighting* because of the search volume it represents, and the same analysis was done for every keyword chosen.

Ease of online transaction⁵⁷: the steps required to fill to complete a transaction on the new website make the experience quite faster with autocomplete fields and dropdown lists with options for the delivery details. The currency and the country on the billing address are automatically adjusted based on the user's location. Another new feature

⁵⁷ The mentioned improvements can be seen in images in Annex XX

added is the save basket option that allows the user to save the list of products added to the shopping basket and buy them in the future.

It is important to mention that weren't conducted new usability tests to compare the efficiency and effectiveness of the new checkout process. However, internally the transaction was tested. The time required was significantly less than the average time the users took on the old website usability testing to complete it (one minute and fifty-two seconds) and involves less pages. Another point highlighted on the usability tests was the confusion the term "county" can create for non-native speakers, and this was solved through the new address verification system powered by Loqate.

Because of template limitations, some of the layout suggestions proposed on pages 50 and 51 were unfortunately impossible to apply.

User-friendly interface: the layout of the website adapts well to mobile use. It has a very similar experience on mobile and desktop, being easy to conclude a transaction on both devices.

Comprehensive content coverage: the new content was made to be easy to understand by a broad scope of users with different lighting knowledge levels. In addition, it has more information about the Lightsource products and services, brands available and projects involved to impact the brand's credibility. Making longer content was also important from an SEO perspective.

Loading and processing speed: the new website's speed was evaluated using the "Page Speed Insights" from Google and the "SEO Site Check-up" platform. The results are much higher than those for the old website, scoring 71 for mobile (before was 16) and 97 for desktop (previously was 61). And the loading time for the new website is around 1.02 seconds, while for the older website was 3.58 seconds⁵⁸.

Up-to-date content: the written content created never mentioned prices or time expressions to keep the content as evergreen as possible. There is also a commitment from the marketing team to create and upload content more frequently, especially for the *Portfolio* and *Blog*. Sections from the old website, like the "The design team's choices of the month" that weren't updated monthly as required, were removed.

⁵⁸ Numbers registered on the 2nd of June 2022

Proper multimedia⁵⁹: the new website has more space in the pages' layout dedicated to photos, and a great example of that is the new *Portfolio* in which the images are placed through the page and not just in a carousel like before.

Well and quick linkage: there are more links on the new website (then 154 and now 237), and no broken links were detected⁶⁰.

Searching mechanism⁶¹: the search bar is probably the most significant improvement in the new website. It's not as sensitive as the previous search bar and has better tolerance for spelling mistakes and not completed words. In addition, the suggestions retrieved are a lot more user-friendly. They have pictures of the products, and the names are not placed by product codes that don't give any relevant information to the majority of the website users like on the old website. Yet, the products can also be searched by the code or just part of it, making it easier for the Sales Team's daily work. It also gives the option to explore not just by products but also by brands and product categories.

This was one of the main problems pointed out during the interviews and the usability tests. The new searching mechanism addresses the users' needs and obstacles reported. And by taking as an example the search keywords that caused problems during the usability tests, "nordlux bathroom ceiling lights", now by searching it the navbar suggests categories of products for bathroom use or ceiling, the brand page, and products just from Nordlux for ceiling use and the bathroom. The results are, indeed, more accurate.

Ease of access: some of the same accessibility issues detected and mentioned on page 33 are still occurring on the new website, namely pages with more than one H1, which should be corrected as soon as possible. This is a problem mainly occurring in the pages where the CMS plugin was installed, so a conflict between the WordPress and the Visualsoft pages regarding the headings might be happening unexpectedly.

Easy to understand and read: the layout and text style chosen for the website makes the information easy to read. And it was also always avoided using very technical terminologies for a better understanding of the content.

⁵⁹ The mentioned improvements can be seen in images in Annex XXI

⁶⁰ Numbers registered on the 2nd of June 2022 using <https://ahrefs.com>

⁶¹ The mentioned improvements can be seen in images in Annex XXII

Accuracy: all the content created was reviewed by members of the technical team to guarantee expert accuracy.

Easy to find target information⁶²: simple changes were implemented on the new website that expect to help create a better experience for both targets, B2C and B2B. For example, there are different registration pages for the two types of clients. So now, a residential client is not confronted with the "Apply for a trade discount" message unless it is registering through the trade page. And on the other hand, a trade client has now a dedicated page to explain the advantages of registering as trade on the website and information about the Lightsource B2B services that didn't exist before.

Online assistance and help: it was kept the same live chat system powered by *Start Chat*, which was highlighted as one of the biggest strengths of Lightsource.

Convenient payment methods: now, in the checkout *Payment* phase, it is clear that there are two payment options — by card and by BACS. As suggested on page 50, different buttons and success pages were also created to distinguish the two payment types.

It wasn't considered a priority for the launch, but adding more payment methods to the website is in mind for Lightsource's team.

Know the present location: the website knows the user location, and on the Delivery phase of the Checkout, it automatically fills the country field. It also adapts the website's currency to the currency used on the location of the user.

Overview of selected items: the overview of a selected product follows the structure of every other Visualsoft website. After adding a product to the shopping basket, the number of products added to the purchase is now shown on the basket icon.

Easy to cancel or modify orders: there's no option on the website to cancel or modify an order. However, all the information about is available on a website's subdomain dedicated to supporting details. Some Visualsoft websites have the cancel option available for the user on the profile page, so in the future could be something to be adopted by Lightsource.

Product details⁶³: it is a work in progress once more than 10.000 products are available on the Lightsource website, constantly being updated. Still, there's the effort to create to

⁶² The mentioned improvements can be seen in images in Annex XXIII

⁶³ The mentioned improvements can be seen in images in Annex XXIV

each product a description and incorporate as many photos of it as possible. In these descriptions were also added internal links that redirect the user to the product brand page, designer, range, or product category to see different selections of products. And the technical card of each product (mentioned as something very useful during the interviews) was transformed into a tab named *Specifications* in the product details, to standardise the available information for all the products on the website. Another advantage of it is that it doesn't require download like the technical card.

Product comparison⁶⁴: a new feature was implemented that allows the user to select products and compare their technical specifications on a table that highlights categories like dimensions and functionalities. The layout suggestions described on page 51 for this page were accepted and implemented.

Product search or assortment⁶⁵: like the search bar, the filters were also improved and are now dynamic based on the research done. In addition, new categories were added to the filters, such as Height and Width, and some, like the Price, are now more flexible to use and accept the user input and not just a list of defined ranges of prices. Besides the filters placed on the left side of the products page, it's also possible to sort the products by different options. At the bottom of every product page is suggested a selection of products divided into two categories - "You may also like" and "Recently viewed items".

Product variety: the new website continues to reflect the massive range of products available for purchase. But the improved search mechanism represents an easier and more accurate tool to filter the catalogue of products available. And for the fact that now there's more content about brands and designers, it's highlighted the quality and the work of big partners that work with Lightsource to maintain a unique catalogue of lighting options.

Hierarchical product category: the products are logically divided into categories: by room, ceiling lights, wall lights, lamps, bulbs and LEDs, floor and table, bathroom lights, exterior lights, and other.

Product quality: there is now a *Testimonials* page⁶⁶ that gathers B2C and B2B comments about customers' experiences with the company, highlighting the quality of Lightsource's products and services.

⁶⁴ The mentioned improvements can be seen in images in Annex XXV

⁶⁵ The mentioned improvements can be seen in images in Annex XXVI

⁶⁶ Explored in-depth in chapter 2.3.1

Price details: on the new website, the user can change the currency displayed and decide if wants to see the prices with or without VAT. The currency options are the Euro, USD or GBP.

Competitive price: the new section, *Sale*, creates the opportunity for the clients to buy high-quality brands with significant discounts making the Lightsource catalogue a lot more competitive. It is also possible on this new website to create discount codes that can be used at the checkout, something that couldn't be done on the old website.

All relevant charges details: all the charges associated with a purchase are described on the product page (VAT charge) and the checkout (delivery costs).

Price comparison: the price is one of the features that can be compared through the *Compare* page.

Promotion campaign: the promotion campaigns are communicated through the main homepage banner and pop-ups. Some campaigns also have blog posts dedicated to their promotion.

Reputation and credibility of the site: once again, the *Testimonials* page and the reviews that can be written for each product are an attempt to boost the reputation and credibility of Lightsource as a high-quality lighting brand.

Company and brand recognition: it is highlighted on the new website's homepage some big brands that trusted Lightsource for their lighting projects, names like Hilton Hotels, PWC, and Volkswagen. Once again, the *Testimonials* are also an important aspect to increase the company and brand's recognition.

Purchasing guarantee: all the information about it can be read on the *Terms & Conditions* page available in the footer. The content is presented in the format of a numerated list to make it easier to find the needed topics.

Advertising and banner: there are no advertising banners on the website related to publicity.

Interactive communications: the live chat is the website's feature that creates the most interactive way to communicate with the client. It is a source of accurate and personalised answers that improves the user experience.

Customised service: more pages are now dedicated to specific targets on the new website, but the experience is similar to B2C and B2B clients. An existing difference is that the trade clients will see the products with the trade discount when logged on the website. The fact that the currency changes based on the user's location, is also a detail of customisation in the online experience.

Privacy policy: all the information about it can be read on the *Privacy Policy* page available in the footer. The content is presented in the format of a numerated list to make it easier to find the searched topics.

Quick response to customer: the Sales Team manages the live chat replying immediately to clients' doubts whenever queries are placed between 9 am and 5 pm, from Monday to Friday. When the live chat is used outside working hours, the customer is contacted by the team as soon as possible.

Customer service support: the live chat is the primary tool for customer service support, but the contact page has all the information about the different methods of contact that can be used to reach the Lightsource team.

Member community: the only option related to a member community is the possibility of registering as a trade client. The only difference between clients who register as trade and those who don't is the discounts available on some products.

Order status inquiry and tracking: there's no option on the website to see the order status and track the delivery. It is a feature offered by Visualsoft, but in the case of Lightsource, the delivery is a responsibility of a third-party company making it harder to give real-time information on the website about it. For now, the user to track an order must call, email or use the live chat to ask directly to the Sales Team, but it might be a future possibility to incorporate into the website.

Valuable bundles or product suggestion: on the website are only used product suggestions of similar products, but no other up-selling feature is available. This was something planned to improve post-launch since it wasn't a main priority at the time, yet the goal is to suggest complementary accessories like the correct bulb for a lighting product bought by the client.

Delivery product as promised: for every product, it is given the information if it is currently available in stock and how long it usually takes to be dispatched as it was

already given on the old website. This information still is highly dependent on the feedback given by the suppliers. Still, Lightsource is working to improve the communication between the brand and the supplying companies to benefit the website information.

Customised offerings: when the user is logged as a trade client can browse with the trade discounts applied.

Convenient delivery options: there is just one delivery option - the standard delivery.

Ease of registration: there are now two different registration pages (one for B2C and another for B2B clients), which makes the registration for the B2C clients a lot easier since they don't have to fill unnecessary form fields like Business Name. Something pointed out during the usability tests by the users when registering on the old website, was that the mandatory fields weren't explicitly marked as required. Now, in every form, it is marked with a red asterisk all the obligatory fields.

Easy to return a product: there's no option on the website to return a product. However, all its information is available on a website's subdomain dedicated to supporting details. Like the cancel an order feature, some Visualsoft websites have the return a product option available for the user on the profile page, so in the future could be something to be adopted by Lightsource.

Meta title and meta description⁶⁷: most of the pages have new meta titles and descriptions that are now more descriptive, follow as much as possible the Google number of characters recommended while incorporating Keywords and CTAs.

Headings: as already mentioned, some pages have multiple H1 tags, which should be fixed.

Hyperlinks: the new website has significantly more links, especially internal links between the content.

Sitemap and Robots.txt: there's a Sitemap and Robots.txt file associated to the website.

Friendly URL: most of the URLs are friendly, yet not all of them are, and this was an impediment presented by Visualsoft because of technical reasons.

⁶⁷ The mentioned improvements can be seen in images in Annex XXVII

Image Alt Text: some pictures are still missing the alt text element. However, it is a work in progress, and Lightsource is aware of it. All the pictures added to the *Portfolio* have an image alt text.

Favicon: it was kept the same favicon from the old website on the new — the icon used on the letter "O" in the logo.

Site loading speed: as already mentioned (page 85), the site loading speed had a significant improvement in the new website.

Media Query: the website uses media query, the base for a responsive design.

Custom 404 error page⁶⁸: the new custom 404 error page has an apology to the user for the page not being found, a link to go to the homepage and a search bar to continue to browse the website.

Mobile friendly: the experience on the website is adapted to the mobile when used on this type of device.

⁶⁸ The mentioned improvements can be seen in images in Annex XXVIII

The present report results from the curricular internship run at Lightsource. The main goal of this internship was to assist in the development of the new Lightsource website, with a focus on the redesign and content creation for this new eCommerce platform.

The theoretical support of this work is closely related to the goals and approaches followed to achieve the desired result for the new website. It highlights how eCommerce is a growing phenomenon impacting the consumers' buying habits and creating new opportunities for companies to strengthen bonds with customers. Making it evident that to be successful in this highly competitive digital world, a website is pivotal.

Withal, the success of a website requires strategy. On the one hand, there is the Content Marketing and SEO strategy, in which both work in sync to deliver relevant and consistent content to better rank the website in search engines. On the other hand, there is the design strategy adopted to enhance the user experience, which will impact the user perception of a brand and the interaction with the website. And dedicating the time and effort to recognise what type of functionalities and content might be relevant for different types of users, is the first step in creating a humanised problem-solving solution that will impact the success of an online business.

Overall, using a human-centred process to redesign the Lightsource website was a necessary action for an improved, more intuitive end-product. It made it possible to explore the varied audience of the website and shape this project to better meet the needs and expectations of users and team members.

Furthermore, the final result reflects substantial improvements in the representation of the varied audience of the website. It considers different targets with different lighting knowledge levels, needs and purchasing paths by introducing relevant tools and content for this mixed audience.

Further to this, the applied human-centred design methods proved to be helpful in recognising critical problems in the old UI impacting the decisions on the layout and functionalities of the new website. A clear example of that is the search mechanism. During the usability tests, the users struggled to complete the proposed tasks correctly when using the search bar and the filters, leading to mistakes and frustration. The Lightsource team members pointed out the exact same problem during the interviews, whom multiple times described the search mechanism as inefficient and inaccurate. This has influenced the decisions for the new search bar and filters. Now, the information

displayed, the categories created, and the error tolerance are a result of different users' perspectives.

Likewise, and in the testing stage of the project, the creation of personas and scenarios was highly supportive in projecting possible interactions with the interface of the new website and identifying bugs, inconsistencies, and improvements. For example, through this method, we identified that there was no button for the user to add a product to the comparison feature when seeing a specific product page. Instead, it would have to search for the product again to add it for comparison on the search results page. Furthermore, through the created scenarios, we also found that the delivery cost was being calculated as the same for every country selected, which was a critical bug that needed to be fixed.

Overall, the new content created to enhance the user experience and the decisions resulting from the human-centred design process, were valuable work that collected multiple insights that are now part of the new and improved Lightsource website.

On a final note, the whole internship experience was a very challenging opportunity to grow professionally and personally. Taking the risk of embracing this international opportunity was rewarded with a fantastic team at Lightsource that received me with open arms supporting me throughout the entire journey. Working on the new Lightsource website project gave me the tools and confidence to embrace new challenges that require not only Digital Marketing skills but also Design and Usability knowledge.

Limitations

Like any other study, this project also had its limitations. First, the period of the internship (six months) showed to be insufficient to support the process of moving to the new eCommerce platform from start to end. Once the internship started, there was already progress in the design of the new website made by Visualsoft, which did not allow for the implementation of human-centred design methods from the beginning of the process. Furthermore, by the time the internship ended, the website was not ready to go live, which impacted the evaluation of the final result of the site. Because of it, there was not enough time to evaluate the performance of this new platform and compare the analytic data to previous Lightsource results and confirm if the change had a positive impact on the company's results.

When it comes to the human-centred design methods applied, these also had some limitations. One such limitation, starting with the interviews, is that it was impossible to interview Lightsource clients. More than 40 clients were contacted multiple times to invite to participate in this study, but no feedback on the invitations was received. It would have been extremely valuable to analyse the interaction of Lightsource clients with the old interface to gather insights about the overall experience of searching and buying through the platform. Lamentably, it was impossible to conduct interviews with B2C and B2B clients, making the clients' perspectives on the website a gap in this qualitative research.

Another limitation is the sample size of the usability testing. As mentioned in the literature review (p.20), Nielsen and Landauer (2013) defend that five users are enough to catch 85% of the problems in most websites. Nonetheless, the usability testing results were pointed out as inconclusive. Only six users participated in the tests, and the final SUS scores were highly diverse, making it hard to make a final consistent conclusion about the old website. Furthermore, since the Lightsource target involves a very heterogeneous group of users, a bigger sample would benefit this study.

One more limitation related to the qualitative research conducted and the website recommendations that resulted from it, is the little flexibility that Visualsoft products provide. Visualsoft, like the majority of software development companies with a considerable client portfolio, creates digital products based on templates. This has advantages, like the fact that the final result is a responsive website already tested by multiple online businesses, but it is not a bespoke solution. Lightsource was aware of this limitation initially, but it became a more significant obstacle than expected. After the human-centred design methodologies outcomes were analysed and passed for Visualsoft, many of them were impossible to integrate into the new website because of the template and platform limitations. For example, a big part of the checkout pages suggestions and requests were not possible to accomplish. It is not possible to proceed with the payment as a guest, register through a social media network account, remove the "Choose Delivery Option Below" heading (once there are no delivery options available), reduce the number of "Proceed with payment" buttons, and more. These were all suggestions that resulted from users' inputs, so they were relevant to implement, but unfortunately was not possible.

Finally, and as a significant limitation, it should be mentioned that no interviews or usability tests were conducted for the new website. This resulted from time constraints

and constant delays to the website launch, but it would have been highly beneficial to be done.

Future work

Regarding the future work following the activities reported in this project, it is essential to start by addressing the limitations mentioned previously.

First, it would be important to analyse key metrics and compare the results of the new website with the old one. For example, interpret website traffic variations, conversion rates, bounce rate, average time on pages, and many more metrics to quantify the impact of the changes created with the new website, whether positive or not. It is important to adopt a "analyse and adjust" mindset to detect opportunities for improvement.

About the human-centred design methodologies used, it would be helpful to repeat them for the new website. This time, and without time constraints, with the participation of Lightsource clients in the interviews and usability tests with a bigger sample. This would certainly improve the results collected and the respective conclusions. Furthermore, because the new website was never the object of user testing, this should be a priority in future work.

Other essential tasks for future work are related to content creation. The effort done to include descriptions and SEO content in a considerable number of pages should become a constant focus for Lightsource. The same happens for the Testimonials and Portfolio sections. Both should be regularly updated following the practices used in the pages created during this internship.

Last but not least, some of the suggestions based on the insights collected during the qualitative research were viewed as a low priority. This was a decision related to the urge to make the website live. Now with more time and experience on the new platform, it would make sense to test the possibility of adding 3D versions of the products, more payment methods such as PayPal, an up-selling feature that suggests complementary products like bulbs, and a tracking option, just to name a few examples.

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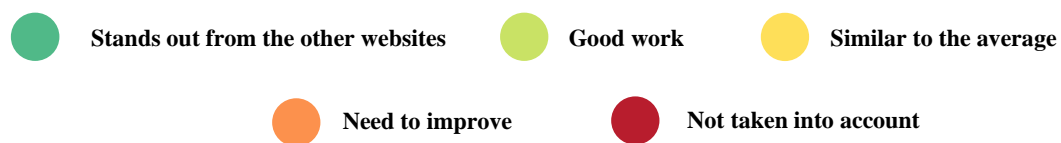
Appendix I – Gantt Chart

Internship Report

LIGHTSOURCE









Appendix II – Website Evaluation Colour Grading Scheme and Results









Colour grading scheme applied







Designer Lighting Company

Evaluation grading system	Overall website strategic factors	SEO factors	Total
 Stands out from the other websites	1	0	1
 Good work	8	8	16
 Similar to the average websites	23	2	25
 Need to improve	9	2	11
 Not taken into account	9	1	10
			Average  2,79







The Lighting Company

Evaluation grading system	Overall website strategic factors	SEO factors	Total
 Stands out from the other websites	2	0	2
 Good work	8	6	14
 Similar to the average websites	20	5	25
 Need to improve	13	2	15
 Not taken into account	7	0	7
			Average  2,83







Miltons

Evaluation grading system	Overall website strategic factors	SEO factors	Total
 Stands out from the other websites	1	1	2
 Good work	14	8	22
 Similar to the average websites	28	1	29
 Need to improve	3	2	5
 Not taken into account	5	1	6
			Average  3,19







Only Home

Evaluation grading system	Overall website strategic factors	SEO factors	Total
 Stands out from the other websites	1	0	1
 Good work	8	8	16
 Similar to the average websites	22	2	24
 Need to improve	7	1	8
 Not taken into account	12	2	14
			Average  2,71

Inspyer Lighting

Evaluation grading system	Overall website strategic factors	SEO factors	Total
 Stands out from the other websites	4	1	5
 Good work	16	8	24
 Similar to the average websites	19	2	21
 Need to improve	4	2	6
 Not taken into account	7	0	7
			Average  3,22

Lightology

Evaluation grading system	Overall website strategic factors	SEO factors	Total
 Stands out from the other websites	10	0	10
 Good work	13	6	19
 Similar to the average websites	16	3	19
 Need to improve	7	1	8
 Not taken into account	4	3	7
			Average  3,27

Appendix III – Platform and Competitors Analysis Summary Table

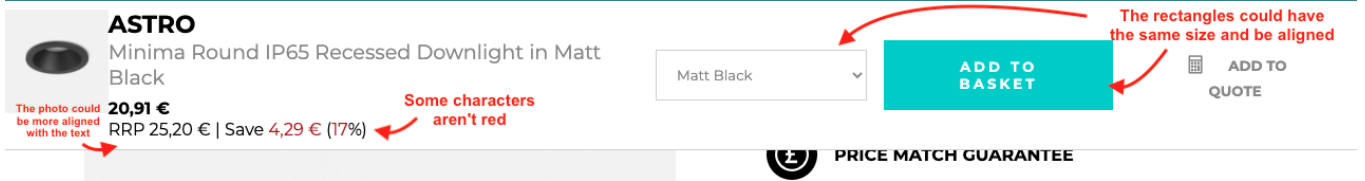
Analysed factor	Summary of main inputs collected
Ease of navigation	<ul style="list-style-type: none"> • Rethink the navbar structure and links to facilitate navigation • Incorporate hoverable dropdown menus • Test new icons (ex.: shopping bag)
Content relevancy and usefulness	<ul style="list-style-type: none"> • Improve written content of the pages • Incorporate links in the content • Prioritize keyword research • Consider a possible section of lighting knowledge content • Diversify the types of content (ex.: videos)
Appealing and consistent style	<ul style="list-style-type: none"> • Improve the consistency of the layout and design
Security protection	<ul style="list-style-type: none"> • Create a complete and easy to read page dedicated to the privacy policy and cookie policy (make it accessible from the footer)
Logical structure	<ul style="list-style-type: none"> • Review different options for unique and distinctive categories and subcategories for the navbar
Ease of online transaction	<ul style="list-style-type: none"> • Rethink the stages of the checkout process • Simplify the layout of the checkout pages
User-friendly interface	<ul style="list-style-type: none"> • Test the usage of the interface on desktop and mobile
Comprehensive content coverage	<ul style="list-style-type: none"> • Prioritize the creation of long-form content • Create relevant and useful content • Easy to understand content
Loading and processing speed	<ul style="list-style-type: none"> • Improve the website loading speed
Up-to-date content	<ul style="list-style-type: none"> • Prioritize ever-green content • Create a consistent content strategy (especially for the blog and portfolio)
Proper multimedia	<ul style="list-style-type: none"> • Continue the excellent partnership with the Airfolio for the creation of multimedia content • Keep innovating
Well and quick linkage	<ul style="list-style-type: none"> • Fix broken links • Usage of internal and external links
Searching mechanism	<ul style="list-style-type: none"> • Improve the search bar results • Improve the filters' results
Ease of access	<ul style="list-style-type: none"> • Fix accessibility issues • Test accessibility tools like accessiBe
Easy to understand and read	<ul style="list-style-type: none"> • Use appropriate font types, sizes, and colours to facilitate the reading • Create easy to read layouts of content (ex.: proper line height, text divided into paragraphs, lists) • Avoid technical terminology without lighting knowledge support
Accuracy	<ul style="list-style-type: none"> • Avoid spelling, grammar, and punctuation mistakes • Take the technical team as part of the process of creating content for technical accuracy

Easy to find target information	<ul style="list-style-type: none"> • Create target sections to collect relevant information and content • Balance B2C and B2B content on the main pages of the website • Create two types of registered clients (B2C and B2B)
Online assistance and help	<ul style="list-style-type: none"> • Keep the live chat functionality • Continue the excellent work of the sales team behind the live chat
Convenient payment methods	<ul style="list-style-type: none"> • Add more payment options • Clearly describe all the payment methods available
Know the present location	<ul style="list-style-type: none"> • Adapt the currency and shipping country to the user's location
Overview of selected items	<ul style="list-style-type: none"> • Build an easy process to select and buy a product • Make visible the number of items added to the shopping basket
Easy to cancel or modify orders	<ul style="list-style-type: none"> • Test the possibility of creating a user profile page with the options to track an order, cancel, change or return it
Product details	<ul style="list-style-type: none"> • Create more accurate, persuasive, informative and convincing product descriptions • Associate more photos to each product, from white background photos to pictures with the product displayed in a real-life setting • Test the possibility of adding 3D or 360° versions of the products (available on one of the Visualsoft websites analysed)
Product comparison	<ul style="list-style-type: none"> • Add a comparison feature to compare main lighting characteristics (available on the Visualsoft websites analysed)
Product search or assortment	<ul style="list-style-type: none"> • Improve the filters' results • Place the filters preferably on the left side of the products pages • Suggest related products by creating categories like "Looks good with", "You may also like", or "Recently viewed items" • Give the user the chance to sort the products by price and other relevant options
Product variety	<ul style="list-style-type: none"> • Keep the products catalogue updated with the finest lights on the market • Highlight the company's relationship with hundreds of high-quality brands and designers
Hierarchical product category	<ul style="list-style-type: none"> • Create a logical and structured distribution of the products • Make the navbar organised and simple to use with an adequate number of categories
Product Quality	<ul style="list-style-type: none"> • Highlight the company's relationship with hundreds of high-quality brands and designers • Promote big industry recognitions and reviews from clients
Price details	<ul style="list-style-type: none"> • Give the user the chance to see the prices with or without the VAT (functionality seen on other Visualsoft websites) • Give the user the chance to see the prices in different currencies (functionality seen on other Visualsoft websites)
Competitive price	<ul style="list-style-type: none"> • Have the chance to create seasonal discounts and discount codes • Create a sale category
All relevant charges details	<ul style="list-style-type: none"> • Detail all the charges the client may have detailed on the product page and in the checkout
Price comparison	<ul style="list-style-type: none"> • Make the price a comparable attribute through the comparison feature

Promotion campaign	<ul style="list-style-type: none"> • Communicate promotional offers on the website through pop-ups and banners
Reputation and credibility of the site	<ul style="list-style-type: none"> • Create a section dedicated to sharing clients' testimonials (from B2C and B2B clients)
Company and brand recognition	<ul style="list-style-type: none"> • Promote the awards and recognitions given to Lightsource to enhance credibility through recognition
Purchasing guarantee	<ul style="list-style-type: none"> • Create a complete and easy to read page dedicated to the purchasing guarantee (make it accessible from the footer)
Advertising and banner	<ul style="list-style-type: none"> • Do not use Google Ads inside the website
Interactive communications	<ul style="list-style-type: none"> • Answer the user's doubts through the live chat with an accurate and personalized answer
Customised service	<ul style="list-style-type: none"> • Ponder creating a different online experience for trade clients with target content and information • Adapt the currency to the user's location • Add an up-selling feature (functionality seen in other Visualsoft websites)
Privacy policy	<ul style="list-style-type: none"> • Create a complete and easy to read page dedicated to the privacy policy (make it accessible from the footer)
Quick response to customer	<ul style="list-style-type: none"> • Use the live chat to give quick responses to the users
Customer service support	<ul style="list-style-type: none"> • Use the live chat as the primary tool to support the customer • Create a contact page with all the details for the user to directly contact the customer service support
Member community	<ul style="list-style-type: none"> • Create distinctive registration pages (one for B2C clients and the other for B2B) • Improve the confirmation of registration email • Give the user the option to register through a social media network account
Order status inquiry and tracking	<ul style="list-style-type: none"> • Create a tracking feature
Valuable bundles or product suggestions	<ul style="list-style-type: none"> • Add an up-selling feature (functionality seen in other Visualsoft websites)
Delivery products as promised	<ul style="list-style-type: none"> • Detailed information about the shipping and delivery time as accurate as possible
Customised offerings	<ul style="list-style-type: none"> • Ponder creating a different online experience for trade clients with target content and information
Convenient delivery options	<ul style="list-style-type: none"> • Make sure that there are no delivery options available once Lightsource has only one type of delivery
Ease of registration	<ul style="list-style-type: none"> • Create distinctive registration pages (one for B2C clients and the other for B2B)
Easy to return a product	<ul style="list-style-type: none"> • Test the possibility of creating a user profile page with the options to start the process of returning an order
Meta title	<ul style="list-style-type: none"> • Create more descriptive meta titles no longer than 60 characters • Incorporate relevant keywords ad CTAs

Meta description	<ul style="list-style-type: none"> • Create more descriptive meta descriptions no longer than 160 characters • Incorporate relevant keywords ad CTAs
Heading Tags	<ul style="list-style-type: none"> • Keep a correct heading hierarchy, never skipping levels
Hyperlinks	<ul style="list-style-type: none"> • Create a strategy of link building
Sitemap	<ul style="list-style-type: none"> • Associate a sitemap file to the website
Robots.txt	<ul style="list-style-type: none"> • Associate a robots.txt file to the website
Friendly URL	<ul style="list-style-type: none"> • Create simple, meaningful and descriptive URLs
Image Alt Text	<ul style="list-style-type: none"> • Create an alt text attribute to every image on the website
Fav Icon	<ul style="list-style-type: none"> • Use a simplification of the logo
Site Loading Speed	<ul style="list-style-type: none"> • Improve the site loading speed
Media Query Responsive	<ul style="list-style-type: none"> • Make the website media query responsive
Custom 404 Error page	<ul style="list-style-type: none"> • Create a customised 404 error page that clearly shows the user that that specific page is not available, giving the chance to go to the homepage or search for something else
Mobile friendly	<ul style="list-style-type: none"> • Test the website on mobile devices

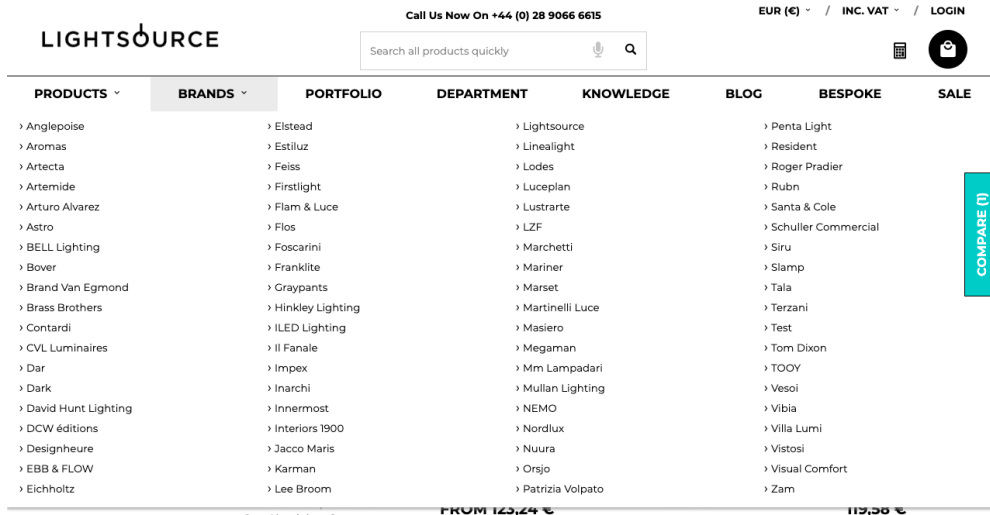
Appendix IV – Examples of Redesign Work



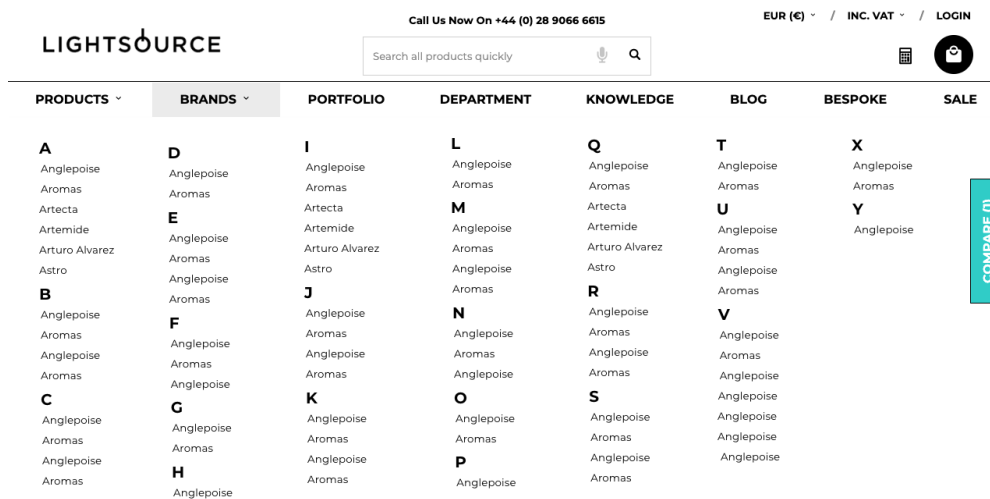
Screenshot of the Visualsoft quick view layout of the products with notes



Redesign suggestion submitted for Visualsoft



Screenshot of the Visualsoft brands' subcategories layout



Redesign suggestion submitted for Visualsoft

Appendix V – Example of Content created (Visual Comfort brand page)

Page Content



Visual Comfort



Visual Comfort & Co Lighting

Visual Comfort have been the premier design house for signature lighting since 1987. The brand attracts some of the most influential names in design with an emphasis on exceptional quality and natural materials. Visual Comfort Europe host the industry's largest range of decorative lighting of the finest quality and great value. On this page you will find all of our selected products and content about the beautiful brand.

Visual Comfort Best Selling Lights



Darfana Pendant

Melange Wall Light

Cleo Desk Lamp

Loire Pendant

SHOP ALL VISUAL COMFORT LIGHTING

Visual Comfort Gallery at Lightsource



Visual Comfort Lighting Designers

Visual Comfort & Co. attract some of the world's most creative and renowned designers from various backgrounds. The whole catalogue of lighting designers at Visual Comfort have one thing in common, the belief in the value of beautiful, decorative and functional lighting. Explore our 'top designer picks' to discover popular ranges such as the Melange by Kelly Wearstler, Goodman by Thomas O'Brien and Abelle by Aerin Lauder.



Kelly Wearstler

Barbara Barry

Ian K Fowler

Kate Spade

Aerin Lauder

Thomas O'Brien

Lightsource Projects Featuring Visual Comfort



Hinch Distillery

London Home

Chelsea Apartment

Visual Comfort Media



Brand Introduction Blog

Thomas O'Brien – Designer Focus

French Wiring Guide

SHOP ALL VISUAL COMFORT LIGHTING

H1 tags

Visual Comfort

H2 tags

Visual Comfort & Co Lighting

Visual Comfort Best Selling Lights

Visual Comfort Gallery at Lightsource

Visual Comfort Lighting Designers

Lightsource Projects Featuring Visual Comfort

Visual Comfort Media

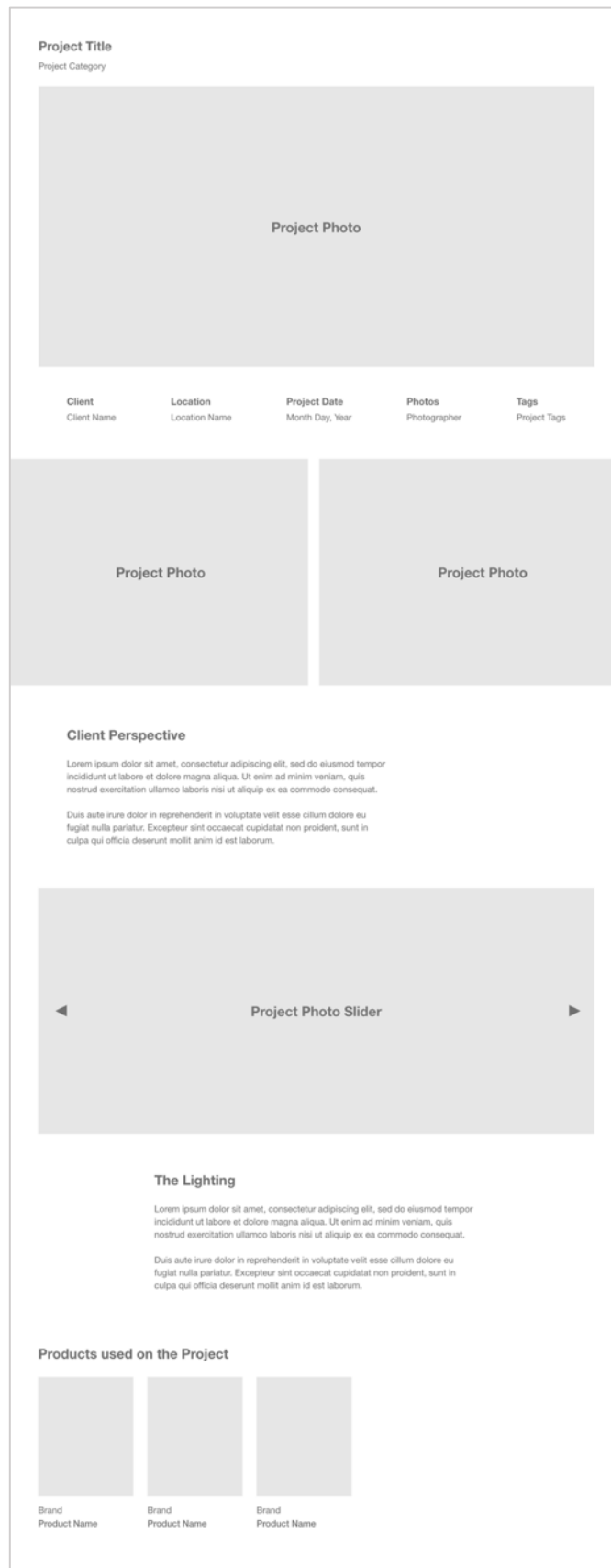
Meta Title and Meta Description

[Visual Comfort & Co Lighting - Designer Lights | Lightsource](https://www.thelightsource.co.uk/info/brands/visual-comfort)

<https://www.thelightsource.co.uk/info/brands/visual-comfort>

Read about Visual Comfort the premier design house for signature lighting since 1987. The American lighting designs offer affordable luxury lighting.

Appendix VI – Portfolio Wireframe



Appendix VII – B2C Phone Interview Script

Hello, how are you?

First of all, thank you for accepting the invitation to participate in this study. My name is Beatriz Castro, and I am an eCommerce and Marketing Intern at Lightsource. To proceed, I would like you to confirm that you accept me to record this phone call?

Thank you so much. As explained before, I want to invite you to participate in a User Experience study, which aims to help develop the new Lightsource website and will be part of my Digital Marketing Master's thesis at the Institute of Accounting and Administration of Porto, in Portugal.

This call is expected to last no longer than 15 minutes. You will be asked to answer some questions about your experience on our website. And I will record this interview on audio just for further analysis purposes.

There will be no payment or costs for you, and your data will be analysed by me and will not be shared with anyone outside this project and will be destroyed at the end of the study.

Do you have any questions about your participation or the study?

If you have any questions, you can contact me via email (beatriz@lightsource.co.uk) or phone (XXXXXXXXXX). Would you like to make a note of the contacts?

So, do you accept to participate in this study?

Fantastic. So, we can start the interview.

1. How did you hear about us?
2. What attracted you to buy from Lightsource's website?
3. Can you describe your experience on the website?
4. Did you feel it was hard to find the product you were looking for?

Did you used the search bar and/or the filters to help you with it? And did it help?

5. What did you think of the checkout process?
6. How likely are you to recommend the Lightsource website on a scale of 0 to 5, where 0 is not likely at all, and 5 is highly likely? Why?

The interview is complete. Thank you for your participation and contribution to this project.

Appendix VIII – B2B Phone Interview Script

Hello, how are you?

First of all, thank you for accepting the invitation to participate in this study. My name is Beatriz Castro, and I am an eCommerce and Marketing Intern at Lightsource. To proceed, I would like you to confirm that you accept me to record this phone call?

Thank you so much. As explained before, I want to invite you to participate in a User Experience study, which aims to help develop the new Lightsource website and will be part of my Digital Marketing Master's thesis at the Institute of Accounting and Administration of Porto, in Portugal.

This call is expected to last no longer than 15 minutes. You will be asked to answer some questions about your experience on our website. And I will record this interview on audio just for further analysis purposes.

There will be no payment or costs for you or your company. And your data will be analysed by me and will not be shared with anyone outside this project and will be destroyed at the end of the study.

Do you have any questions about your participation or the study?

If you have any questions, you can contact me via email (beatriz@lightsource.co.uk) or phone (XXXXXXXXXX). Would you like to make a note of the contacts?

So, do you accept to participate in this study?

Fantastic. So, we can start the interview.

1. How did you hear about us?
2. Did you make your purchase through the Lightsource website?

- If Yes**
- a. Can you describe your experience on the website?
 - b. Did you feel it was hard to find the product you were looking for? Did you used the search bar and/or the filters to help you with it? And did it help?
 - c. What did you think of the checkout process?
 - d. How likely are you to recommend the Lightsource website on a scale of 0 to 5, where 0 is not likely at all, and 5 is highly likely? Why?
 - e. Anything else you want to add related to your experience?

- If No**
- a. What made you not use the Lightsource website to purchase?
 - b. Do you usually purchase online?
 - c. What would encourage you to use the website in the future?
 - d. Anything else you want to add related to your experience?

The interview is complete. Thank you for your participation and contribution to this project.

Appendix IX – Key Users interview script

Hello, how are you?

First of all, thank you for accepting the invitation to participate in this study. As you know, I am an eCommerce and Marketing Intern here at Lightsource.

As explained before, I want to invite you to participate in a User Experience study, which aims to help develop the new Lightsource website and will be part of my Digital Marketing Master's thesis at the Institute of Accounting and Administration of Porto, in Portugal.

This video call is expected to last no longer than 15 minutes. You will be asked to answer some questions about your experience on our website. And I would like to record this interview just for further analysis purposes.

So, to proceed, I would like you to confirm that you accept me to record this video call?

Perfect. Do you have any questions about your participation or the study?

If you have any questions, you can always contact me via email.

So, do you accept to participate in this study?

Fantastic. So, we can start the interview.

1. What is your role in Lightsource?

2. Do you use the website on your daily basis work?

Does it help you perform your role?

3. Are you using the website as a tool to attract potential users to the brand?

4. In your professional opinion, do you think the website has enough information to help the customer make its purchase?

5. Could you mention a negative and a positive aspect of the website and justify your answer?

The interview is complete. Thank you for your participation and contribution to this project.

Appendix X – B2C Online Survey

LIGHTSOURCE

Lightsource Qualitative Research

Hello!

First of all, thank you for your recent visit to the Lightsource website. We would like to hear more about your experience on our website.

This survey aims to help develop the new Lightsource website and will be part of my Digital Marketing Master's thesis at the Institute of Accounting and Administration of Porto, in Portugal.

There will be no payment or costs for you, and by filling the form and indicating your email address, you will get the **chance to win a £100 voucher towards any of our in-stock lights***.

Your data will be analysed by me and will not be shared with anyone outside this project and will be destroyed at the end of the study.

If you have any questions, you can contact me via email (beatriz@lightsource.co.uk) or tel:00.

* anything from this [link](#) excluding bulbs

Start

Powered by [QuestionPro](#)

[Report Abuse](#)

LIGHTSOURCE

Lightsource Qualitative Research

Questions marked with a * are required

* How did you hear about us?

- Search Engine (Google, Yahoo, etc.)
- Online Advertising
- Recommended by Friend or Colleague
- Blog or Publication
- Social Media
- Other

→ What attracted you to buy from Lightsource's website?

→ Can you describe your experience on the website?

→ How would you rank your experience in our website?

Very dissatisfied Dissatisfied Neutral Satisfied Very Satisfied

→ Did you feel it was hard to find the product you were looking for?

Yes
 No

→ Could you explain why was it easy/hard to find the product(s) you were looking for?

→ Did the filters or the search bar help finding the product(s) you were looking for?

Yes
 No
 Didn't use them

→ How would you rate our checkout process?

Very dissatisfied Dissatisfied Neutral Satisfied Very Satisfied

→ How likely are you to recommend the Lightsource website on a scale of 0 (not likely at all) to 5 (highly likely)?

Your answer: 0 1 2 3 4 5

→ And to get the chance to win a £100 voucher just give us your email address

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Appendix XI – B2B Online Survey

LIGHTSOURCE

Lightsource Qualitative Research

Hello!

First of all, thank you for your recent visit to the Lightsource website. We would like to hear more about your experience on our website.

This survey aims to help develop the new Lightsource website and will be part of my Digital Marketing Master's thesis at the Institute of Accounting and Administration of Porto, in Portugal.

There will be no payment or costs for you, and by filling the form and indicating your email address, you will get the **chance to win a £100 voucher towards any of our in-stock lights***.

Your data will be analysed by me and will not be shared with anyone outside this project and will be destroyed at the end of the study.

If you have any questions, you can contact me via email (beatriz@lightsource.co.uk) or tel:00.

* anything from this [link](#) excluding bulbs

Start

Powered by [QuestionPro](#)

[Report Abuse](#)

LIGHTSOURCE

Lightsource Qualitative Research

Questions marked with a * are required

* How did you hear about us?

- Search Engine (Google, Yahoo, etc.)
- Online Advertising
- Recommended by Friend or Colleague
- Blog or Publication
- Social Media
- Other

Do you purchase lighting directly, or specify lighting for other people to purchase?

- Yes, I purchase it directly
- No, I specify lighting for other people to purchase

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LIGHTSOURCE

Lightsource Qualitative Research

Questions marked with a * are required

* Did you make your purchase through the Lightsource website?

- Yes
- No

Powered by [QuestionPro](#) [Report Abuse](#)


If the "Did you make your purchase through the Lightsource website?" answer is yes

LIGHTSOURCE


Lightsource Qualitative Research

Questions marked with a * are required


- Can you describe your experience on the website?
- How would you rank your experience in our website?




Very Unsatisfied




Unsatisfied




Neutral




Satisfied




Very Satisfied
- Did you feel it was hard to find the product you were looking for?
 Yes
 No
- Could you explain why was it easy/hard to find the product(s) you were looking for?
- Did the filters or the search bar help finding the product(s) you were looking for?
 Yes
 No
 Didn't use them
- How would you rate our checkout process?




Very Unsatisfied




Unsatisfied



Neutral



Satisfied



Very Satisfied
- How likely are you to recommend the Lightsource website on a scale of 0 (not likely at all) to 5 (highly likely)?
Your answer: ★ ★ ★ ★ ★
- And to get the chance to win a £100 voucher just give us your email address

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If the "Did you make your purchase through the Lightsource website?" answer is no

LIGHTSOURCE

Lightsource Qualitative Research

Questions marked with a * are required

* What made you not use the Lightsource website to purchase?

* Do you usually purchase online?

Yes, but not often

Yes, very often

No

* What would encourage you to use the website in the future?



Next

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[Report Abuse](#)

LIGHTSOURCE

Lightsource Qualitative Research

Questions marked with a * are required

* And to get the chance to win a £100 voucher just give us your email address



Done

Powered by [QuestionPro](#)

[Report Abuse](#)

Appendix XII - Key Users Interviews' Thematic Analysis

Interview 1

Interviewee: Participant 1, Sales Director
Interviewer: Beatriz and Andrew
Note-taker: Beatriz
Date + time: 07/10/2021, 11 am

Things to keep in mind:
 Works primarily for the commercial side of the business.

Notes Interview 1

Questions

- What is your role in Lightsource?
- Do you use the website on your daily basis? Does it help you perform your job?
- Are you using the website as a tool to attract potential users to the brand?
- In your professional opinion, do you think the website has enough information to help the customer make his purchase?
- Could you mention a negative aspect of the website and justify your answer?
- Could you mention a positive aspect of the website and justify your answer?

Notes Interview 1

- Sales Director primary role of the business
- Works primarily for the commercial side of the business
- Do you use the website on your daily basis? Does it help you perform your job?
- Are you using the website as a tool to attract potential users to the brand?
- In your professional opinion, do you think the website has enough information to help the customer make his purchase?
- Could you mention a negative aspect of the website and justify your answer?
- Could you mention a positive aspect of the website and justify your answer?

Interview 2

Interviewee: Participant 2, CAD Technician
Interviewer: Beatriz and Andrew
Note-taker: Beatriz
Date + time: 07/10/2021, 11:30 am

Things to keep in mind:
 Besides the CAD functions also has sales responsibilities.

Notes Interview 2

Questions

- What is your role in Lightsource?
- Do you use the website on your daily basis? Does it help you perform your job?
- Are you using the website as a tool to attract potential users to the brand?
- In your professional opinion, do you think the website has enough information to help the customer make his purchase?
- Could you mention a negative aspect of the website and justify your answer?
- Could you mention a positive aspect of the website and justify your answer?

Notes Interview 2

- Besides the CAD functions also has sales responsibilities
- Do you use the website on your daily basis? Does it help you perform your job?
- Are you using the website as a tool to attract potential users to the brand?
- In your professional opinion, do you think the website has enough information to help the customer make his purchase?
- Could you mention a negative aspect of the website and justify your answer?
- Could you mention a positive aspect of the website and justify your answer?

Interview 3

Interviewee: Participant 3, Sales Coordinator
Interviewer: Beatriz and Andrew
Note-taker: Beatriz
Date + time: 07/10/2021, 2:30 pm

Things to keep in mind:
 It's been part of the team addition associated that customer requirements take in the lighting website.

Notes Interview 3

Questions

- What is your role in Lightsource?
- Do you use the website on your daily basis? Does it help you perform your job?
- Are you using the website as a tool to attract potential users to the brand?
- In your professional opinion, do you think the website has enough information to help the customer make his purchase?
- Could you mention a negative aspect of the website and justify your answer?
- Could you mention a positive aspect of the website and justify your answer?

Notes Interview 3

- It's been part of the team addition associated that customer requirements take in the lighting website
- Do you use the website on your daily basis? Does it help you perform your job?
- Are you using the website as a tool to attract potential users to the brand?
- In your professional opinion, do you think the website has enough information to help the customer make his purchase?
- Could you mention a negative aspect of the website and justify your answer?
- Could you mention a positive aspect of the website and justify your answer?

Interview 4

Interviewee: Participant 4, Manager Director
Interviewer: Beatriz and Andrew
Note-taker: Beatriz
Date + time: 07/10/2021, 3:00 pm

Notes Interview 4

Questions

- What is your role in Lightsource?
- Do you use the website on your daily basis? Does it help you perform your job?
- Are you using the website as a tool to attract potential users to the brand?
- In your professional opinion, do you think the website has enough information to help the customer make his purchase?
- Could you mention a negative aspect of the website and justify your answer?
- Could you mention a positive aspect of the website and justify your answer?

Notes Interview 4

- Manager Director
- Do you use the website on your daily basis? Does it help you perform your job?
- Are you using the website as a tool to attract potential users to the brand?
- In your professional opinion, do you think the website has enough information to help the customer make his purchase?
- Could you mention a negative aspect of the website and justify your answer?
- Could you mention a positive aspect of the website and justify your answer?

Interview 5

Interviewee: Participant 5, Sales Consultant
Interviewer: Beatriz and Andrew
Note-taker: Beatriz
Date + time: 13/10/2021, 2:00 pm

Notes Interview 5

Questions

- What is your role in Lightsource?
- Do you use the website on your daily basis? Does it help you perform your job?
- Are you using the website as a tool to attract potential users to the brand?
- In your professional opinion, do you think the website has enough information to help the customer make his purchase?
- Could you mention a negative aspect of the website and justify your answer?
- Could you mention a positive aspect of the website and justify your answer?

Notes Interview 5

- Sales, focusing around inquiries that come through the website
- Do you use the website on your daily basis? Does it help you perform your job?
- Are you using the website as a tool to attract potential users to the brand?
- In your professional opinion, do you think the website has enough information to help the customer make his purchase?
- Could you mention a negative aspect of the website and justify your answer?
- Could you mention a positive aspect of the website and justify your answer?

Thematic Analysis



Appendix XIII – Usability Testing Script (English Version)

Hi, how are you?

First of all, thank you for accepting the invitation to participate in this study. My name is Beatriz Castro, and I'm a Marketing and eCommerce intern at Lightsource, a UK-based specialist in lighting projects.

This test aims to test the usability of the company's current website. The results obtained will be applied to develop the new website and also in my internship report to conclude my master's degree in Digital Marketing at ISCAP, my university in Portugal.

As explained before, the entire test is quite simple and won't take you more than 20 minutes. And to clarify, it is the website that is being evaluated and not the participant, so there are no errors or mistakes. All opinions and actions are entirely valid.

The informed consent, which you received earlier by email, explains what I have just said in more detail. And I will ask that if you have not yet submitted your signed consent, please do it now so we can begin.

Before moving on to the test, I asked you to fill out a brief sample characterization questionnaire. It is the questionnaire that was in the same email as the consent. So, if you have already filled it out, we can start the test.

→ After signed the consent and completed the questionnaire

To start the test, I'll leave some indications that will always be present in the chat of this call so that you can access it at any time and re-read them. And you can always ask me any questions throughout the test.

The test will take place on Lightsource's website (<https://www.thelightsource.co.uk>), which I ask you to access now using the Google Chrome browser and start sharing your screen after you open the website. Whenever you are asked to enter personal data such as name, email, etc., feel comfortable answering whatever you want. You don't need to enter your actual personal data if you don't want to. And for the email, if you prefer, you can use the user.test.lightsource@gmail.com address and not yours.

So, how will the test work? I'm going to spell out a little scenario and three tasks, one at a time. So, you're going to do each task based on the scenario, and when you think you've completed it, I'm going to ask you to say so, please. Whenever you complete a task, you must let me know that you are finished.

I ask you to try to carry out the tasks I'm going to give you as autonomously as possible as if I weren't here. And don't worry if at any point you experience any difficulties. I'll constantly be evaluating the website and not you.

As you progress with the tasks, I would also ask that you verbalize what you are doing and thinking and any opinion that may arise or any doubt. And if you need help during the tests, you can always ask for my help or give up on the task. But beyond that, I will never intervene.

Any questions you want to ask?

We can then start the test.

→ After finishing the test (card details page)

The test is complete. It ends precisely at this stage of the payment. We will not ask you to buy the product. Do you have any comments or questions?

Excellent. Now that you've visited and tried out the website we're testing, we're going to ask you to answer a questionnaire about the website's usability. It's pretty simple. Just assign a score to each statement presented on a scale from "Strongly Disagree" to "Totally agree".

→ Share the screen with the questionnaire

Thank you for your participation! And thanks for your time and your contribution to this project.

Appendix XIV – Usability testing script (Portuguese version)

Olá, como está?

Antes de mais obrigada por ter aceitado o convite de participar neste estudo. O meu nome é Beatriz Castro e sou estagiária no departamento de Marketing e eCommerce na empresa Lightsource, especialista em projetos de iluminação com sede no Reino Unido.

Este teste tem como objetivo testar a usabilidade do website atual da empresa e os resultados obtidos serão não só aplicados no desenvolvimento do novo website, mas também no meu relatório de estágio para conclusão do meu Mestrado em Marketing Digital no ISCAP.

Como já foi explicado antes, todo o teste é bastante simples e não irá demorar mais de 20 minutos. E para clarificar, é o website que está a ser avaliada e não o participante, por isso não existem erros, todas as opiniões e ações são totalmente válidas.

No consentimento informado, que recebeu antes por email, explica com mais detalhe aquilo que acabei de dizer e pedia que se ainda não submeteu o consentimento assinado o fizesse antes de começarmos por favor.

Antes de passarmos ao teste, pedia também que preenchesse apenas um breve questionário de caracterização da amostra. É o questionário que estava no mesmo email do consentimento, se já o preencheu podemos passar para o teste.

→ Depois de consentimento assinado e questionário preenchido

Para iniciarmos o teste, vou deixar algumas indicações que estarão sempre presentes no chat/bate-papo desta chamada, para que consiga aceder a qualquer momento. E pode sempre perguntar-me qualquer questão ao longo do teste.

O teste irá realizar no website da Lightsource (<https://www.thelightsource.co.uk>) que pedia que acesse através do browser Google Chrome e que partilhasse o seu ecrã assim que entrar no website. Sempre que lhe for pedido para inserir dados pessoais como nome, email, etc. sinta-se confortável para responder aquilo que quiser, não precisa de introduzir os seus dados reais se não o pretender. E para o email, se assim o preferir, poderá utilizar o endereço user.test.lightsource@gmail.com e não o seu pessoal.

Como vai funcionar o teste? Eu vou enunciar-lhe um pequeno cenário e 3 tarefas, uma de cada vez. Portanto, vai fazer cada tarefa com base no cenário e quando considerar que a completou, vou pedir que o diga. Sempre que completar uma tarefa, ou a der por terminada, deve indicar-me que já terminou.

Peço que tente realizar as tarefas que lhe vou indicar da forma mais autónoma possível, como se eu não estivesse aqui. E não se preocupe se em algum momento sentir alguma dificuldade, estarei sempre a avaliar o website e não a si.

Pedia-lhe também, por favor, que, à medida que for avançando nas tarefas, vá verbalizando aquilo que estiver a fazer e a pensar, bem como alguma opinião que lhe surja ou alguma dúvida. E caso alguma dúvida surja que lhe esteja a impedir de realizar a tarefa poderá sempre solicitar a minha ajuda ou desistir. Mas para além disso nunca irei intervir.

Alguma questão que queira colocar?

Podemos dar então início ao teste.

→ Depois de terminar o teste (chegar á página de pagamento)

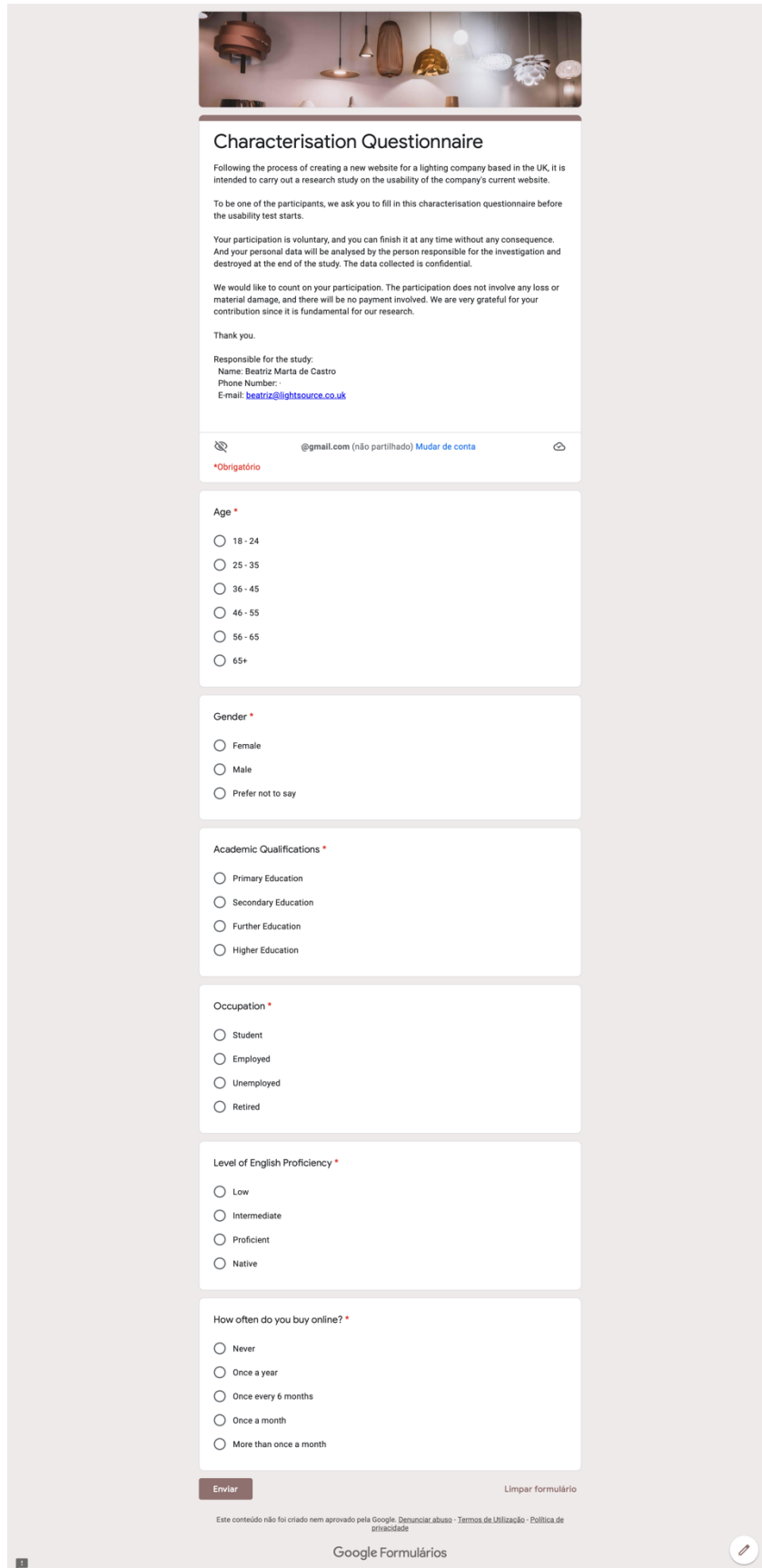
O teste está concluído. Termina exatamente nesta fase do pagamento não lhe vamos pedir que realmente compre o produto. Tem algum comentário a fazer ou alguma dúvida que possa esclarecer?

Ótimo. Agora que já visitou e experimentou o website que estamos a testar, vamos pedir-lhe que responda a um questionário sobre a usabilidade do website. É bastante simples, basta apenas atribuir uma pontuação a cada uma das afirmações apresentadas numa escala de “Concordo totalmente” a “Discordo totalmente”.

→ Eu começo a partilhar o ecrã com o questionário

Obrigada pela sua participação! Agradecemos muito pelo tempo disponibilizado e o seu contributo para este projeto.

Appendix XV – Sample Characterisation Questionnaire (English Version)



Characterisation Questionnaire

Following the process of creating a new website for a lighting company based in the UK, it is intended to carry out a research study on the usability of the company's current website.

To be one of the participants, we ask you to fill in this characterisation questionnaire before the usability test starts.

Your participation is voluntary, and you can finish it at any time without any consequence. And your personal data will be analysed by the person responsible for the investigation and destroyed at the end of the study. The data collected is confidential.

We would like to count on your participation. The participation does not involve any loss or material damage, and there will be no payment involved. We are very grateful for your contribution since it is fundamental for our research.

Thank you.

Responsible for the study:
Name: Beatriz Marta de Castro
Phone Number:
E-mail: beatriz@lightsource.co.uk

@gmail.com (não partilhado) [Mudar de conta](#)

*Obrigatório

Age *

18 - 24

25 - 35

36 - 45

46 - 55

56 - 65

65+

Gender *

Female

Male

Prefer not to say

Academic Qualifications *

Primary Education

Secondary Education

Further Education

Higher Education

Occupation *

Student

Employed

Unemployed

Retired

Level of English Proficiency *

Low

Intermediate

Proficient

Native

How often do you buy online? *

Never

Once a year

Once every 6 months

Once a month

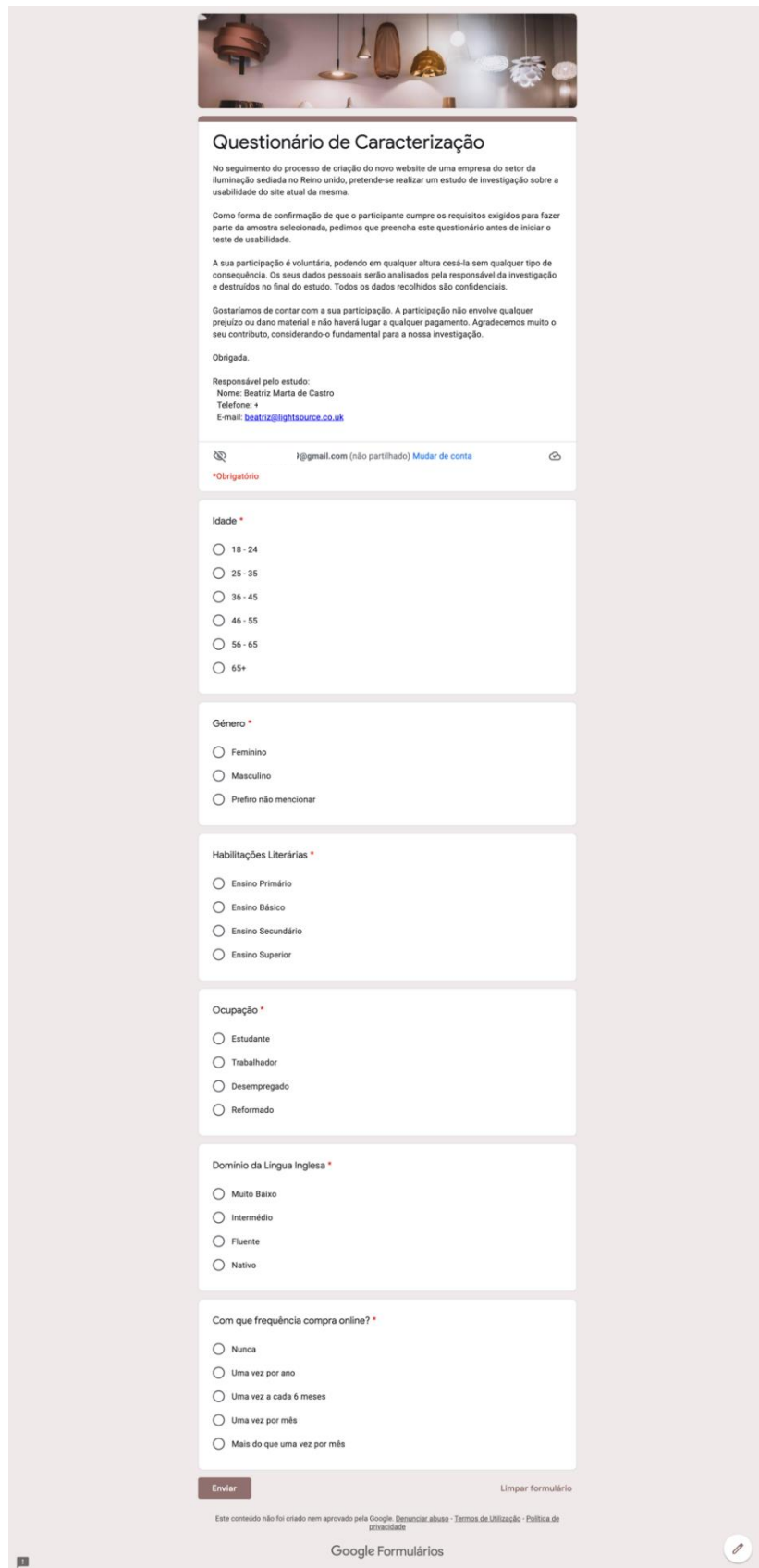
More than once a month

[Enviar](#) [Limpar formulário](#)

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Google Formulários

Appendix XVI – Sample Characterisation Questionnaire - Portuguese Version



Questionário de Caracterização

No seguimento do processo de criação do novo website de uma empresa do setor da iluminação sediada no Reino Unido, pretende-se realizar um estudo de investigação sobre a usabilidade do site atual da mesma.

Como forma de confirmação de que o participante cumpre os requisitos exigidos para fazer parte da amostra selecionada, pedimos que preencha este questionário antes de iniciar o teste de usabilidade.

A sua participação é voluntária, podendo em qualquer altura cessá-la sem qualquer tipo de consequência. Os seus dados pessoais serão analisados pela responsável da investigação e destruídos no final do estudo. Todos os dados recolhidos são confidenciais.

Gostaríamos de contar com a sua participação. A participação não envolve qualquer prejuízo ou dano material e não haverá lugar a qualquer pagamento. Agradecemos muito o seu contributo, considerando-o fundamental para a nossa investigação.

Obrigada.

Responsável pelo estudo:
Nome: Beatriz Marta de Castro
Telefone: +
E-mail: beatriz@lightsource.co.uk

(não partilhado) [Mudar de conta](#)

***Obrigatório**

Idade *

18 - 24
 25 - 35
 36 - 45
 46 - 55
 56 - 65
 65+

Género *

Feminino
 Masculino
 Prefiro não mencionar

Habilitações Literárias *

Ensino Primário
 Ensino Básico
 Ensino Secundário
 Ensino Superior

Ocupação *

Estudante
 Trabalhador
 Desempregado
 Reformado

Domínio da Língua Inglesa *

Muito Baixo
 Intermédio
 Fluente
 Nativo

Com que frequência compra online? *

Nunca
 Uma vez por ano
 Uma vez a cada 6 meses
 Uma vez por mês
 Mais do que uma vez por mês

[Enviar](#) [Limpar formulário](#)

Este conteúdo não foi criado nem aprovado pela Google. [Denunciar abuso](#) - [Termos de Utilização](#) - [Política de privacidade](#)

Google Formulários

Appendix XVII – Consent Form (English Version)

Consent Form to Participate in a Research Study

Following the process of creating Lightsource's new website, it is intended to carry out a research study on the usability of the company's current website.

Equipment Used

For this study, the participant will only need to use its computer and access Google Chrome and Zoom. During this process, the participant's screen will be recorded (video and audio).

Procedure

This study will be divided into two phases: first, you will be asked to complete the proposed tasks and then answering a satisfaction questionnaire.

Other Considerations

Your participation is voluntary, and you can finish it at any time without any kind of consequence. However, you may also ask for the rectification or destruction of the information collected at any time using the contact details mentioned at the end of this form.

Your personal data will be analyzed by the person responsible for the investigation and destroyed at the end of the study. The data collected is confidential.

We would like to count on your participation. The participation does not involve any loss or material damage, and there will be no payment involved. We are very grateful for your contribution since it is fundamental for our research.

The Participant

I declare that I have read and understood this document and the verbal information provided and agree to participate in this investigation. I allow the use of the data I provide voluntarily, trusting that it will only be used for research purposes and with the guarantees of confidentiality and anonymity given to me by the researcher.

Participant Name:

Signature: _____ Date: ___/___/___

Responsible for the study:

Name: Beatriz Marta de Castro

Signature: _____

Phone Number:

E-mail: beatriz@lightsource.co.uk

Date: 15 / 10 / 2021

Appendix XVIII – Consent Form (Portuguese Version)

Consentimento para Participação em Investigação

No seguimento do processo de criação do novo website da Lightsource, pretende-se realizar um estudo de investigação sobre a usabilidade do site atual da empresa.

Materiais Utilizados

Neste estudo, terá apenas de utilizar o seu portátil e fazer uso das plataformas Google Chrome e Zoom. Durante todo o processo será gravado o ecrã do participante (formato vídeo e áudio).

Procedimentos

Este estudo estará dividido em duas fases: realização das tarefas propostas e resposta a um questionário de satisfação.

Outras Considerações

A sua participação é voluntária, podendo em qualquer altura cesá-la sem qualquer tipo de consequência. Também poderá pedir a retificação ou destruição da informação recolhida a qualquer momento. Para isso, basta contactar o e-mail ou número de telefone fornecidos no fim deste consentimento.

Os seus dados pessoais serão analisados pela responsável da investigação e destruídos no final do estudo. Os dados recolhidos são confidenciais.

Gostaríamos de contar com a sua participação. A participação não envolve qualquer prejuízo ou dano material e não haverá lugar a qualquer pagamento. Agradecemos muito o seu contributo, considerando-o fundamental para a nossa investigação.

O/A participante:

Declaro ter lido e compreendido este documento, bem como as informações verbais fornecidas e aceito participar nesta investigação. Permito a utilização dos dados que forneço de forma voluntária, confiando que apenas serão utilizados para investigação e com as garantias de confidencialidade e anonimato que me são dadas pelo investigador.

Nome do participante:

Assinatura: _____ Data ____/____/____

Responsável pelo estudo:

Nome: Beatriz Marta de Castro

Assinatura: _____

Telefone:

E-mail: beatriz@lightsource.co.uk

Data 03 / 10 / 2020

Appendix XIX – P6 Usability Test Results

Note:

- **Computer:** MacOS
- **Option taken for the Task 2:** brand section

Start Time – Finish Time	7:06 pm – 7:16 pm
Number of pages	17 pages
Duration	09:13 (08:52 without the time to explain the tasks)
Number of clicks	41 clicks
Time to complete Task 1/N° of clicks/N° of pages	01:51/10 clicks/3 pages
Time to complete Task 2/N° of clicks/N° of pages	04:10/16 clicks/9 pages
Time to complete Task 3/N° of clicks/N° of pages	02:50/15 clicks/5 pages
Completion Rate	$CR = (3/3) \times 100\% = 100\%$
Critical Errors	0
Non-critical errors	2
Need of support	1 (non-related to the website)
Website Usability Scale	3 – 5 – 2 – 2 – 3 – 4 – 2 – 4 – 2 – 3

Appendix XX – P7 Usability Test Results

Note:

- **Computer:** Windows
- **Option taken for the Task 2:** search bar (“nordlux bathroom ceiling light”)

Start Time – Finish Time	7:34 pm – 7:40 pm
Number of pages	14 pages
Duration	08:32 (06:50 without the time to explain the tasks and technical problems with Zoom)
Number of clicks	31 clicks
Time to complete Task 1/N° of clicks/N° of pages	1:00/11 clicks/3 pages
Time to complete Task 2/N° of clicks/N° of pages	02:39/7 clicks/6 pages
Time to complete Task 3/N° of clicks/N° of pages	02:26/13 clicks/5 pages
Completion Rate	$CR = (2/3) \times 100\% = 67\%$
Critical Errors	1
Non-critical errors	1
Need of support	2 (non-related to the website) 1 (related to the website)
Website Usability Scale	1) 4 – 3 – 4 – 1 – 5 – 3 – 4 – 1 – 4 – 1 2) 1 – 3 – 2 – 1 – 1 – 4 – 4 – 3 – 1 – 3

Appendix XXI – P8 Usability Test Results

Note:

- **Computer:** Windows
- **Option taken for the Task 2:** product section + bathroom

Start Time – Finish Time	10:04 pm – 10:14 pm
Number of pages	14 pages
Duration	10:00 (09:31 without the time to explain the tasks)
Number of clicks	26 clicks
Time to complete Task 1/N° of clicks/N° of pages	02:33/5 clicks/4 pages
Time to complete Task 2/N° of clicks/N° of pages	02:26/8 clicks/5 pages
Time to complete Task 3/N° of clicks/N° of pages	04:32/13 clicks/5 pages
Completion Rate	$CR = (3/3) \times 100\% = 100\%$
Critical Errors	0
Non-critical errors	2
Need of support	1 (non-related to the website)
Website Usability Scale	4 – 1 – 4 – 1 – 4 – 1 – 5 – 1 – 4 – 1

Appendix XXII – P9 Usability Test Results

Note:

- **Computer:** Windows
- **Option taken for the Task 2:** search bar (“nordlux”)

Start Time – Finish Time	11:37 am – 11:41 am
Number of pages	22 pages
Duration	04:37 (04:18 without the time to explain the tasks)
Number of clicks	46 clicks
Time to complete Task 1/N° of clicks/N° of pages	01:11 /11 clicks/5 pages
Time to complete Task 2/N° of clicks/N° of pages	02:13/25 clicks/12 pages
Time to complete Task 3/N° of clicks/N° of pages	00:54/10 clicks/5 pages
Completion Rate	$CR = (2/3) \times 100\% = 67\%$
Critical Errors	1
Non-critical errors	0
Need of support	2 (1 non-related to the website)
Website Usability Scale	3 – 1 – 4 – 1 – 4 – 1 – 5 – 1 – 4 - 1

Appendix XXIII – P10 Usability Test Results

Note:

- **Computer:** MacOS
- **Option taken for the Task 2:** product section + bathroom

Start Time – Finish Time	5:07 pm – 5:12 pm
Number of pages	13 pages
Duration	04:02 (03:21 without the time to explain the tasks)
Number of clicks	26 clicks
Time to complete Task 1/N° of clicks/N° of pages	01:02/8 clicks/3 pages
Time to complete Task 2/N° of clicks/N° of pages	01:10/10 clicks/5 pages
Time to complete Task 3/N° of clicks/N° of pages	01:09/8 clicks/5 pages
Completion Rate	$CR = (3/3) \times 100\% = 100\%$
Critical Errors	0
Non-critical errors	1
Need of support	1
Website Usability Scale	3 – 4 – 3 – 2 – 2 – 1 – 2 – 3 – 3 – 2

Appendix XXIV – P11 Usability Test Results

Note:

- **Computer:** Windows
- **Option taken for the Task 2:** product section + bathroom

Start Time – Finish Time	10:53 am – 10:58 am
Number of pages	15 pages
Duration	05:25 (04:47 without the time to explain the tasks)
Number of clicks	32 clicks
Time to complete Task 1/N° of clicks/N° of pages	02:02/12 clicks/3 pages
Time to complete Task 2/N° of clicks/N° of pages	01:28/10 clicks/7 pages
Time to complete Task 3/N° of clicks/N° of pages	01:17/10 clicks/5 pages
Completion Rate	$CR = (3/3) \times 100\% = 100\%$
Critical Errors	0
Non-critical errors	1
Need of support	0
Website Usability Scale	4 - 2 - 4 - 2 - 4 - 2 - 5 - 1 - 4 - 1

Appendix XXV – Sample Characterisation Questionnaire Results

Participant	Date and Time	Age	Gender	Academic Qualifications	Occupation	Level of English Proficiency	How often do you buy online?
P6	03/10/2021 7:04 pm	18-24	Female	Higher Education	Student	Proficient	More than once a month
P7	06/10/2021 7:32 pm	25-35	Female	Higher Education	Employed	Intermediate	Once every 6 months
P8	06/10/2021 10:02 pm	36 - 45	Masculine	Higher Education	Employed	Proficient	Once a month
P9	22/10/2021 11:37 am	25-35	Masculine	Higher Education	Employed	Native	More than once a month
P10	22/10/2021 05:07 pm	18-24	Masculine	Further Education	Student	Proficient	Once every 6 months
P11	30/11/2021 10:53 am	46-55	Female	Higher Education	Employed	Low	Once a month

Appendix XXVI – Efficiency evaluation

Time

Participant	Task 1	Task 2	Task 3	Total
P6	01:51	04:10	02:50	08:52
P7	01:00	02:39	02:26	06:50
P8	02:33	02:26	04:32	09:31
P9	01:11	02:13	00:54	04:18
P10	01:02	01:10	01:09	03:21
P11	02:02	01:28	01:17	04:47
Average	01:31	02:02	01:52	05:48

Clicks

Participant	Task 1	Task 2	Task 3	Total
P6	10	16	15	41
P7	11	7	13	31
P8	5	8	13	26
P9	11	25	10	46
P10	8	10	8	26
P11	12	10	10	32
Average	10	13	12	34

Pages

Participant	Task 1	Task 2	Task 3	Total
P6	3	9	5	17
P7	3	6	5	14
P8	4	5	5	14
P9	5	12	5	22
P10	3	5	5	13
P11	3	7	5	15
Average	4	7	5	16

Appendix XXVII – Effectiveness Evaluation (I)

Completion Rate

Participant	Completion Rate
P6	100% (3/3)
P7	67% (2/3)
P8	100% (3/3)
P9	67% (2/3)
P10	100% (3/3)
P11	100% (3/3)
Average	89%

Critical Errors

Participant	Task 1	Task 2	Task 3	Total
P6	0	0	0	0
P7	0	1	0	1
P8	0	0	0	0
P9	0	1	0	1
P10	0	0	0	0
P11	0	0	0	0
Average	0	0,33	0	2

Non-critical Errors

Participant	Task 1	Task 2	Task 3	Total
P6	0	0	1	2
P7	0	0	1	1
P8	1	0	1	2
P9	0	0	0	0
P10	0	0	0	0
P11	1	0	0	1
Average	0,33	0	0,5	6

Appendix XXVIII – Effectiveness evaluation (II)

Needs of Support

Participant	Task 1	Task 2	Task 3	Total
P6	0	0	0	0
P7	0	1	0	1
P8	0	0	1	1
P9	0	1	0	1
P10	0	0	0	0
P11	0	0	0	0
Average	0	0,33	0,17	3

Appendix XXIX – Satisfaction Evaluation

Website Usability Scale (questionnaire results)

Participant	1	2	3	4	5	6	7	8	9	10	SUS Score
P6	3	5	2	2	3	4	2	4	2	3	35,0
P7	1	3	2	1	1	4	4	3	1	3	37,5
P8	4	1	4	1	4	1	5	1	4	1	90,0
P9	3	1	4	1	4	1	5	1	4	1	87,5
P10	3	4	3	2	2	1	2	3	3	2	52,5
P11	4	2	4	2	4	2	5	1	4	1	82,5
Average	3	2,67	3,17	1,50	3	2,17	3,83	2,17	3	1,83	64,2

Appendix XXX – Think-aloud P6 Comments

Codification: ● doubt and frustration ● user suggestions

P6 comments	Reflection
<p>Task 1 think-aloud comments</p> <ul style="list-style-type: none"> • “tenho aqui um ícone de uma cara e um login, por isso assumo que dará também para criar uma conta” • “Acho um bocado estranho pedir a password antes de pedir o nome, honestamente acho que não costuma ser assim” 	<ul style="list-style-type: none"> • The profile icon shows to be intuitive and obvious • The user considers that a standard registration form follows the order: name, email and password. Most websites from big retail companies in the UK follow the order mentioned by the user
<p>Task 2 think-aloud comments</p> <ul style="list-style-type: none"> • “eu penso que tenho duas hipóteses, porque posso ir ou pelo produto ou pela marca” • “Vou tentar começar pela marca para ver se encontro a marca referida ... ok. É com N (<i>utilizou o filtro do alfabeto</i>), está aqui a marca. Agora espero que apareçam os produtos” • “Se calhar tinha sido mais fácil se eu tivesse ido pelos produtos porque estava à espera de encontrar todos os produtos da marca” • “mas como é que eu sei que é para a casa de banho? Ok vou ler outra vez porque claramente não sei onde está a parte da casa de banho. (...) continuo sem perceber onde vou buscar a casa de banho” • “Estou muito perto de considerar que é esta (<i>primeiro produto com filtro Nordlux e Ceiling Lights</i>). Mas em lado nenhum diz casa de banho” • “posso tentar ir pelos produtos. Ok então produtos (...) Casa de banho ok, estamos a chegar lá (<i>carregou em ceiling lights</i>) ... e assim foi muito mais fácil” 	<ul style="list-style-type: none"> • The user didn't consider the search bar an option to complete the task. At the end of the test, explained it felt it was easier to search for the brand name on the brands' section • The alphabet filter made the search quicker • By clicking on the brand, the user expected to see a full page of products • After a long time scrolling, the user couldn't find any reference to bathroom on the products page • The user revealed apparent frustration • On a second try, and by using the product categories on the navbar, the user found the term “bathroom ceiling light” and considered it easy to complete the task from there
<p>Task 3 think-aloud comments</p> <ul style="list-style-type: none"> • “Não percebo porquê que se chama “view project”, mas se calhar é só uma questão do meu inglês” • “Porquê que tem um botão de “update”, também não percebo ... será que é por poder mudar a quantidade? E tenho de fazer update? Não sei” • “Acho que não é obrigatório porque não tem nada a indicar isso (<i>passou à frente a introdução do número de telemóvel e deu erro de campo obrigatório</i>). Ah ok, afinal é.” • “Por exemplo ali (<i>no número de telemóvel</i>) não deveria pedir o indicativo do país? Acho essa parte um bocado estranha também. Pronto, como aqui pede o country se calhar usam simplesmente isso não sei.” • “Também acho estranho aqui não ter dropdowns (<i>apontou para os campos City e County</i>) qualquer pessoa pode escrever uma coisa qualquer mesmo que não exista, não faz sentido ter tanta oportunidade de informação. Por exemplo aqui no country faz sentido (<i>refere-se ao ter um menu dropdown</i>)” • “mas porquê que pede o country duas vezes? Ok (<i>fez confusão com a palavra County e Country</i>)” 	<ul style="list-style-type: none"> • The user mentioned not understanding the relationship between the label “view project” and the checkout functionality. It might show is not an intuitive label • The update button function was confusing for the user but ended up understanding its purpose • The mandatory form fields aren't clearly marked as mandatory • Being an international user on a UK website, the user considered “weird” not requiring the phone country code • The user considers that not having a limited number of options for fields like City and County might give space for too many answers without criterion • The user confused the word county with country, writing the name of her country for both questions

Post-test

- “gostava mesmo de perceber como é que era suposto encontrar a casa de banho na parte das “Brands””
- “Acho que o site está muito confuso”
- “para um utilizador normal acho que não faz sentido ter tantas maneiras de chegar ao mesmo e que ainda por cima não são diretas”
- “Eu acho que depois de tentar ver as diferentes hipóteses eu chegaria lá daí diria que não (*não precisaria de ajuda de um técnico para conseguir utilizar este site*)”
- “Das poucas funcionalidades que eu vi, fiquei muito confusa em praticamente todas”
- “eu considero que tenho alguma experiência e se tive a dificuldade que tive a encontrar uma lâmpada para casa de banho acho que outro tipo de utilizadores podem ter ainda mais”
- “tive de repetir mais do que uma maneira de fazer a mesma ação o que acho que não faz sentido”
- “Eu achei que iria ser mais fácil como eu tinha o nome da brand ir diretamente ao nome, porque depois iria ter tudo o que era produtos deles. Mas só para encontrar essa página dos produtos já foi complicado, tive de ir para baixo e estava num botão bastante pequeno e pouco visível. Aquele quadrado (botão “View all products”) eu demorei bastante tempo a ver e acho que deveria estar bastante maior. Deveria ser a primeira coisa a ver-se”
- “mas se eu quero ver uma luz de casa de banho para o ceiling indo pelo ceiling também deveria ter o filtro de casa de banho disponível na minha opinião”
- “Acho que talvez para mim as categorias são um pouco estranhas, o ter as diferentes partes como ceiling e wall e depois ter casa de banho, parecem-me filtros muito diferentes. E mais uma vez fui diretamente para ceiling lights e não casa de banho, só fui para casa de banho depois porque não estava a encontrar o que queria”
- “(*em relação ao checkout*) acho mesmo que a única coisa que me confundiu foi o botão do update porque no início antes de fazer scroll só via esse botão e nada para continuar com o checkout. Porque ainda por cima tem uma cor diferente na border então chamou à atenção. Mas depois vi o botão para continuar e acho que foi fácil”
- The user recognised that would not be able to complete the test correctly by starting the search through the Brands page
- Considers the website very confusing
- Considers that there are too many paths that can be followed to achieve the same result and that those paths aren’t direct
- Even considering that doesn’t need the support of a technical person, the user says that would only conclude the task after trying to analyse all the potential paths (it’s not straightforward)
- Considers the functionalities used as confusing
- Acknowledge that is confident using websites, still had difficulty completing the task so believes users with less web knowledge will find it even harder
- For the user doesn’t make sense the fact that was obligated to try different ways to achieve the desired result
- When asked why starting through the brand’s section, the user said she thought it would be easier and expected to see all the brand’s products when clicking on the brand. Considers that the “view all products” button isn’t visible, and that should be the most evident element on the page
- Believes that the two filters should show even when one is selected
- Considers that the navbar has too many and confusing categories. Claims that only selected the bathroom category because on a first try wasn’t finding the term on the page (test context influence)
- The fact that the update button is on the top of the page confused the user, once it required her to scroll down and search for an option to continue the checkout

Appendix XXXI – Think-aloud P7 Comments

P7 comments	Reflection
<p>Task 1 think-aloud comments</p> <ul style="list-style-type: none"> • “So to create an account I think I can just go to Login ... and it should ask me if I want to ... exactly so I will register” • “Until now it was really clear” 	<ul style="list-style-type: none"> • The profile icon shows to be intuitive and obvious • The user considers the registration process clear
<p>Task 2 think-aloud comments</p> <ul style="list-style-type: none"> • “if I had to do it I think I would go to the search bar to do it faster ... so “Nordlux bathroom ceiling light” • “And ok, I need the one with the lowest price ... so I think I will search through the filters. Price low to high” • “I found this one “Rispir White Paper Pendant, large” that I think is the cheapest one. Ok but I don’t know ... This type of product is a bathroom ceiling light, all of these are names of the products for bathroom ceiling lights? Right?” • “because I guess all of these lights are ceiling lights, at least the pendants I am sure they are ceiling, the others I don’t know. Are they like for the wall? I don’t know. But for example, the cheapest one I find is the one and it is a pendant, so I think is right.” 	<ul style="list-style-type: none"> • The user chose the search bar to complete the task, considering it a faster option for search • Quickly saw the price order filter and showed no difficulty using it • Filtering the products by price was easy for the user. She didn’t try to find a way to filter the products for bathroom use, instead was trying to find the word bathroom in the listing products (test context influence) • Showed evident lack of lighting knowledge. Was confused with the mix of results (pendants and wall lights) when searching for ceiling lights. Even with all the uncertainty showed, selected the product with the lowest price, which was unsuitable for bathroom use
<p>Task 3 think-aloud comments</p> <ul style="list-style-type: none"> • “Ok so I have to go to shopping basket. I can go to “Order now” and now I have to put my details” • “The second step is to put my address (<i>wrote the name of the country on the county box</i>). Company name I think I can put my company, I guess” • “I really like this part, is really clear and divided by sections like billing address, shipping address ... and usually when you are buying something in an eCommerce website is in a column and it gets confused and harder to understand, and in this way is easy to understand and review the details” 	<ul style="list-style-type: none"> • The checkout process felt intuitive for the user • The user confused the word county with country, writing the name of her country for both questions. Decided to write her company name even knowing that it was never mentioned to the user to act as a B2B user or that that form field was required • The user praised the Review and Confirm page layout, considering it clear and easy to review
<p>Post-test (Before showing the user that Task 2 was wrong)</p> <ul style="list-style-type: none"> • “I think the website is really clear, I like it. But the only thing that really confused me was when I wrote the name of what I was looking for ... Is there a section where I can see all the products?” • “Why I went here? Because you gave me a really precise name of what you wanted me to buy so I thought that with the search would be easier. If you just told me “Ceiling light” I think I would have tried in the products. But because it was such as specific name, I think with the search bar was easier. Because for example here (<i>the user was showing the dropdown menu for the products in the navbar</i>) there are so many categories that I thought it would be harder to find what I need it.” 	<ul style="list-style-type: none"> • Even considering the website clear, the user mentioned being confused and not sure where to see all the products • Because the task 2 goal was to find a specific product which the brand and category was given to the user, she considered that through the search bar would be easier to find when compared to the use of the navbar categories

<p>(After showing the user that Task 2 was wrong)</p> <ul style="list-style-type: none"> • “So that makes it so confusing. And totally change my opinion about it.” • “Now that I just understood that is not correct and useful at all ... at least when it comes to the search” • “It’s not convenient and useful” • <i>(When asked if the website was easy to use)</i> “I thought but now I don’t think the same, it’s not easy, it is confusing” • “I don’t think I would need someone helping me” • <i>(When asked if the website functions were well integrated)</i> “Not at all right now, now that I couldn’t find a product” • “I think some parts can be confusing, but you can learn how to use it” • <i>(When asked if she felt confident using the website)</i> “Right now, absolutely not” 	<ul style="list-style-type: none"> • Once the user realised the task was wrongly concluded, the opinion about the website negatively changed • Classifies the search function as incorrect and useless • Considers that the website it’s inconvenient • Considers that the website isn’t easy to use, it’s confusing • Even considering it not easy to use and failed to complete the test correctly, recognises not needing help to use it • Classifies the use of the website as learnable • The user declares not feel confident using the website
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Appendix XXXII – Think-aloud P8 Comments

P8 comments	Reflection
<p>Task 1 think-aloud comments</p> <ul style="list-style-type: none"> • “se calhar vamos tentar simplesmente fazer login e esperar que ele diga que ... perguntar-me se tenho conta de cliente ou não. Pronto, exatamente aqui está, a opção de fazer login ou então de registar que é o que iremos fazer” • “Escolhendo uma password, primeiro e último nome, ... até agora como a maioria dos sites que costume utilizar” • “E sugere a obtenção de um desconto (<i>leu a informação relativa ao desconto</i>) ... ok e vou clicar em aplicar para obter um desconto mal eles estejam disponíveis. “Business name” ... ah ok, parece que não se aplica a nós e é mais para um cenário de uma empresa e não individual. Portanto vamos passar à frente” 	<ul style="list-style-type: none"> • The profile icon shows to be intuitive and obvious • The user considers the registration process similar to the websites that commonly uses • The discount appealed to the user, making him click to apply, but he quickly realised it was exclusively for trade clients.
<p>Task 2 think-aloud comments</p> <ul style="list-style-type: none"> • “Podemos fazê-lo se calhar por aqui (<i>refere-se à search bar</i>) ou então ver mesmo em produtos (clicou em Products), “ceiling”, “wall”, “floor & table” e “bathroom” ok, e aqui “ceiling lights”, e aqui encontramos o respetivo produto, aliás a respetiva gama de produtos que procuramos” 	<ul style="list-style-type: none"> • The user pondered to use the search bar, but it ended up using the navbar to carry on the task
<p>Task 3 think-aloud comments</p> <ul style="list-style-type: none"> • “Não temos um nome de empresa só mesmo individual por isso vou deixar por preencher. (<i>continuou a preencher todos os campos e em “County” leu país</i>). Ah ok aqui é County ...” 	<ul style="list-style-type: none"> • The user commented that the form asked for a company name but quickly decided to leave it empty. The user confused the word county with country, and the facilitator translated the word so that the user could continue the task
<p>Post-test</p> <ul style="list-style-type: none"> • “Assim de grosso modo, é muito empírico. Ficamos sempre às vezes com aquela sensação no preenchimento dos campos, quando nos pede “Business Name” ... é confuso” • “Podes interpretar quase como, não é o caso porque ele nem sequer te bloqueia nenhum campo de preenchimento, mas quase que te pode fazer acreditar num primeiro instante que precisas de ter uma empresa e um contribuinte para poderes comprar neste site. Mas percebes rapidamente que não.” • (<i>Foi perguntado ao utilizador o porquê de, numa primeira instância ter considerado o uso da search bar, mas depois ter rapidamente optado por utilizar a navbar</i>) “Só porque, porque às vezes, e aí não tem a ver com este site em específico, mas a maioria deles, sinto-me mais confortável a pesquisar em categorias do que propriamente a escolher, escrever um nome de um produto ou de uma marca e depois às vezes não encontro logo à primeira ou dá-me mais do que uma possibilidade, por exemplo escolhes Nordlux e depois dava-te wall lights e outras coisas à mistura e se calhar tinhas mais dificuldades em selecionar ... Eu pessoalmente prefiro escolher por categorias, subcategorias, encontrar a marca, ...” • (<i>Foi perguntado ao utilizador se sentiu confortável a utilizar os filtros</i>) “Sim, sim” • “achei muito normal. Chegas ao carrinho e depois os passos são intuitivos também. Como já tens o login feito ele mostra-te logo os campos onde o pode aplicar como o nome, o email, ... é só preencher o resto e continuar. Inclusive ele alude ao 	<ul style="list-style-type: none"> • The user considered the website very empiric but that the target of it can be confusing because of some form fields that ask for a business name • He believes that the trade-related form fields can mistakenly give the feeling that Lightsource only sells for trade clients • The user justified his choice of completing the task using the navbar and not the search bar with his personal preferences. Based on his experience with other websites, he was expecting the search bar results to show a less filtered selection of products and consequently harder to select the desired one • The user said that he felt comfortable using the website • He described the checkout process as normal and intuitive. Also mentioned the alert that the price might vary according to the delivery country as very useful

facto do preço final poder alterar em virtude do país de envio e destino. Mas dá o alerta o que acho que é bastante útil”	
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Appendix XXXIII – Think-aloud P9 Comments

P9 comments	Reflection
<p>Task 1 think-aloud comments</p> <ul style="list-style-type: none"> • “So create an account, let me see ... I will maybe go to login ... register here, not got an account” • <i>(The live chat makes a sound and opens)</i> “What is this? Nop, I don’t want a conversation” 	<ul style="list-style-type: none"> • It took some seconds for the user to try the login icon, so it gave the feeling that it wasn’t evident for the user that the login button was the right click to register • When interrupted by the chat pop up the user showed being a little confused but quickly closed it
<p>Task 2 think-aloud comments</p> <ul style="list-style-type: none"> • “I would just search here, hopefully the search function is working” • “Bathroom ceiling light <i>(looking for the term on the page)</i>. Maybe go to view all. Order by “Price, Low to High”, a ceiling light ... Ceiling <i>(clicked on the ceiling filter)</i>. It can be any type of light?” • “It might be one of these <i>(the first options with the filters “Price, Low to High” and ceiling)</i> but ... yes here we go ceiling <i>(it clicked in the ceiling filter and then in the lighting option and selected the first product that was a bulb)</i>. Ok, add to basket. Yes, I finished.” 	<ul style="list-style-type: none"> • Possibly a consequence of past experiences with websites, the user showed to be insecure with the usage of the search bar, but it used it anyway • The user scrolled multiple times through the page to find the words bathroom and ceiling together (test context influence). Showed lack of lighting knowledge and the number of options with no evident option to filter by the desired category made the user doubt what was the correct selection • Confused, the user gave up and selected the first product based on the results (a wrong selection). Showed frustration and will to choose any product in order to finish the test
<p>Task 3 think-aloud comments</p> <ul style="list-style-type: none"> • No comments were made on this task 	
<p>Post-test</p> <ul style="list-style-type: none"> • <i>(It was asked to the user if he felt it hard to use the website or a little lost in some stages of the test)</i> “Ahh ... I mean, pretty much it was good (...) I guess the only one was creating an account in the start it was a little hard to find, but it was generally ...” • <i>(It was asked to the user why he went straight to the search bar to complete the task)</i> “I just knew it before quicker, and look at it first, I guess.” • <i>(It was said to the user that task 2 wasn’t correctly concluded)</i> “Really?” • <i>(After explaining to the user the problem on the filters that might have stopped him from choosing the right product)</i> “Yes, it was confusing yes. At that stage it was confusing because it said ceiling and then five different options but never mentioned bathroom” 	<ul style="list-style-type: none"> • The user confirmed he felt hard to find the registration option for task 1 • The user justifies the use of the search bar as being the first option he saw to conduct the task • The user was surprised when finding out the selected product was wrong • The fact that the bathroom filter was not available when selecting the ceiling filter was confusing for the user, but he only mentioned it after the facilitator referred it

Appendix XXXIV – Think-aloud P10 Comments

P10 comments	Reflection
<p>Task 1 think-aloud comments</p> <ul style="list-style-type: none"> “Então criar uma conta eu diria que é no Login, e presumo que aqui tenha o registo ... exato” 	<ul style="list-style-type: none"> The profile icon shows to be intuitive and obvious
<p>Task 2 think-aloud comments</p> <ul style="list-style-type: none"> “Então presumo que tenha de ir aos produtos ... e a ceiling talvez, visto que é uma luz de teto. Ou se calhar, ... ok se calhar casa de banho, vamos para casa de banho e ceiling lights” 	<ul style="list-style-type: none"> The user went straight to the navbar, to the top-level category products, and quickly found the bathroom ceiling lights subcategory
<p>Task 3 think-aloud comments</p> <ul style="list-style-type: none"> “Presumo que possa aceder aqui no carrinho de compras ou project basket” “Isto posso deixar por completar?” 	<ul style="list-style-type: none"> The project basket icon showed to be an obvious button to proceed for the checkout, but even like that, the user referred to it first as a shopping car The fact that wasn't any indications of what form fields were required to fill and which ones weren't justified the user's doubt
<p>Post-test</p> <ul style="list-style-type: none"> <i>(Foi perguntado ao utilizador se tinha algum comentário ou dúvida em relação ao website) Acho que não. Relativamente ao site acho que ... se calhar na segunda task fiquei um bocadinho confuso entre como chegar ao que queria ... não sei se tinha dois caminhos paralelos, mas acho que sim.</i> <i>(Foi perguntado ao utilizador se considerou difícil chegar ao produto pedido) “Se calhar não difícil mas pouco intuitivo”</i> <i>(Foi perguntado ao utilizador o porquê de ter optado pela categoria produtos na navbar para realizar a tarefa) “Não sei, mas se calhar indo pelos produtos posso ver mais opções do que aquela que estava à procura e torna-se mais fácil, mais fácil até do que pela search bar que limita logo aquilo que vou encontrar.</i> <i>“normalmente associo mais a carrinho de compras ou ... pelo menos acho que é o termo que se usa mais daí ter estranhado um bocadinho. Mas sim acho que pode causar alguma confusão e fica um bocadinho mais difícil de encontrar, embora seja um termo que vi muitas vezes no site como quando “adicionar ao carrinho de compras” ... lá está não é carrinho de compras é Project basket, não fica difícil, mas fica menos intuitivo”</i> <i>(Foi perguntado ao utilizador se gostaria de utilizar este site com frequência) “acho que não é mau mas se calhar não seria a minha primeira escolha”</i> <i>(Foi perguntado ao utilizador se considera o site mais complexo do que necessário) “lá está a organização, o não perceber muito bem se ... qual é o caminho exato que deveria tomar para encontrar aquilo que quero encontrar e depois a questão do carrinho de compras”</i> <i>“achei que não era difícil de utilizar só achei que era pouco intuitivo”</i> <i>(Foi perguntado ao utilizador se sente a necessidade de ajuda de um técnico para conseguir utilizar este site) “Eu</i> 	<ul style="list-style-type: none"> The user considered that he felt confused on how to know how to achieve the goal of task 2, adding that he believes that there were two different paths possible Considers the process of finding the asked product not intuitive Assumes that going through the products top-level category would make it possible to see more product options and consequently easier to find a specific product Mentions how the icon and label project basket is unusual and can generate some confusion. However, also adds that the name is constant on the website, so it doesn't make it hard to understand, just less intuitive The experience with the website made the user state that if confronted with the necessity to use it, the Lightsource website wouldn't be his first choice Believing that there's more than one way to achieve the same goal makes the website confusing. And once again refers the project basket as a negative aspect Doesn't consider the website hard to use but considers it not intuitive

pessoalmente acho que não, mas como também sinto que tenho alguma experiência a comprar coisas online se calhar acho que conseguiria, mas não sei se qualquer pessoa conseguiria com facilidade”

- The user acknowledged having experience in buying online so that he wouldn't need support to use the website but mentions that he believes not everyone would have the same ease

Appendix XXXV – Think-aloud P11 Comments

P11 comments	Reflection
<p>Task 1 think-aloud comments</p> <ul style="list-style-type: none"> • “Apareceu aqui uma mensagem ... Ah ok é o chat” 	<ul style="list-style-type: none"> • When interrupted by the chat pop up the user showed being a little confused but quickly understood it was a chat feature and closed it
<p>Task 2 think-aloud comments</p> <ul style="list-style-type: none"> • No comments were made on this task 	
<p>Task 3 think-aloud comments</p> <ul style="list-style-type: none"> • “Preciso de preencher tudo?” 	<ul style="list-style-type: none"> • The user showed not being sure if it was required to fill in all the fields on the form. The user uncertainty could be related to the fact that there is no mention of required fields or simple questions to understand if it was necessary to complete the task (test context influence)
<p>Post-test</p> <ul style="list-style-type: none"> • <i>(Foi perguntado ao utilizador se tem alguma dúvida ou comentário em relação ao website ou ao teste)</i> “Ao teste não, ao website não acho que tenha tido tempo suficiente para o ver com calma, abrir mais páginas, ...” • “Não <i>(não achou difícil completar as tarefas)</i>, achei até que estava tudo bastante perceptível, a forma como estão expostos os produtos” • <i>(Quando questionada do porquê de ter utilizado a navbar e não a search bar)</i> Acho que por aí consegue ter, tens mais opção de escolha, e não ires logo diretamente ao produto. Achei que assim ia ser mais fácil encontrar o que queria” • <i>(Foi perguntado ao utilizador se considerava que as várias funcionalidades deste site estavam bem integradas)</i> “só pesquisei um produto, acabou por ser apenas uma funcionalidade diria eu” 	<ul style="list-style-type: none"> • The user considered that the short time that she used the website wasn’t enough to explore it • She affirms that she didn’t feel hard to complete the test and that everything was perceptible, mentioning as an example the products display • The user decided to use the navbar to complete the second task, considering that through it would access more product suggestions making it easier to find the requested product • The user didn’t show a firm opinion about the website functionalities, justifying it for only using the website to search for one product

Appendix XXXVI – Personas B2C



ANNE HAWKINS

Senior Lawyer at the Bank of Ireland

B2C Client

ABOUT

- 45 years old living in Belfast, UK
- \$58,000 per year
- Medium tech proficiency
- Purchases lighting directly for own use

MOTIVATIONS

Anne is renovating the Kitchen of her house, and one of the steps of this project is choosing new ceiling lighting. And during her free time has been gathering inspiration through Pinterest and sourcing for options on some lighting brands' websites. She has nothing in particular in her mind at this moment, so she is exploring many product categories, brands, and even lighting blogs for inspiration and overall lighting knowledge to help make the right decision.

CORE NEEDS IN A WEBSITE

- Expert sales support
- Easy to read and understand information
- Photos of the products placed in real settings
- Inspirational content

PAIN POINTS

- The lack of lighting knowledge makes it harder to understand the product specifications and make a choice
- Considers overwhelming the number of different options and technical specifications that has to take into account
- Find a good balance between price and quality

LIGHTING KNOWLEDGE

Anne has little or even no lighting knowledge at all. She doesn't buy lights often and finds it hard to understand the technical specifications and jargon.



JEAN LAURENT

Digital Consulting Analyst at Accenture

B2C Client

ABOUT

- 28 years old living in Paris, France
- €42,000 per year
- High tech proficiency
- Purchases lighting directly for own use

MOTIVATIONS

Jean is making a few changes in his apartment, so he bought some new furniture and lights. Since the pandemic has been working from home, so this decision to change his place is not just to make it a more workable space but also an attempt to implement less consuming light solutions and hopefully save energy and money. He has been researching online about energy-efficient light bulbs, and he's ready to try them.

CORE NEEDS

- A vast collection of energy-efficient light bulbs
- Enough information about the products to make an informed decision
- An easy way to compare products

PAIN POINTS

- Find brands online that ship worldwide
- Find reviews online of this new technology like customers testimonials
- Compare technical specifications between such different options

LIGHTING KNOWLEDGE

Even knowing that Jean was never related to the lighting industry and didn't know much about this specific sector, he has always been a massive fan of technology and innovation. Moreover, he is curious about it, so even when he doesn't feel comfortable with specific technical specifications, he is comfortable searching for it to better understand the topic.

Appendix XXXVII – Personas B2B



SARAH O'DONNELL

Interior Designer at Topology Interiors

ABOUT

-  33 years old living in London, UK
-  \$20,000 per year
-  High tech proficiency
-  Purchases lighting directly after specifying it to the client

MOTIVATIONS

After a phone or an online consultation with the client, Sarah handles everything from product purchasing to project managing. Every decoration item, furniture or light is sourced and ordered by the designer on behalf of the client after the approval of the layout. She prioritizes online websites to easily access the product catalogues and brand's that provide trade discounts.

CORE NEEDS IN A WEBSITE

- Find creative and innovative products within a budget
- Being able to easily see product details and compare technical features to ensure the right product for the client
- Online support for product queries
- In situ pictures of the products for inspiration
- Clear and accurate information about trade discounts, shipping costs and delivery time

PAIN POINTS


- Find great partners to collaborate on various design-based projects
- Match the vague idea of what the client wants to a selection of products
- Respect the brand mission of delivering affordable, friendly, and sophisticated interior designs

LIGHTING KNOWLEDGE

○○○○○○○○●●

With time and experience, Sarah has been gaining some knowledge about lighting. It's comfortable with finishes, materials and with choosing the right fits for specific spaces and rooms. She has more difficulty understanding technical specifications but overall feels comfortable selecting the right lights for her projects.





B2B client



JOHN REES

Entrepreneur and Owner of Bohemia Ltd

ABOUT

-  51 years old living in Belfast, UK
-  \$65,000 per year
-  Medium tech proficiency
-  Specify lighting for other people to purchase

MOTIVATIONS

John faces a good time for the business and decides to open a new restaurant in Belfast city centre. For this project, John is making all the decisions but has the support of an interior designer. The space isn't too ample, and the lighting scheme assumes a pivotal role to achieve the desired result. It's not the first time he has worked with Lightsource and has been a trade client for more than 6 years, so John uses the website to source and chooses the needed lighting options for then the interior design introduce them in her draws and purchase the final decisions.

CORE NEEDS IN A WEBSITE

- Have trade discounts and content
- Being able to see product details and compare technical features easily
- Find evidence that the company can work with big hospitality projects
- Clear and accurate information about trade discounts, shipping costs and delivery time

PAIN POINTS

- Find a good lighting partner that works with trade clients
- Find the portfolio of the lighting companies
- Easily ask for quotes and get a fast response

LIGHTING KNOWLEDGE

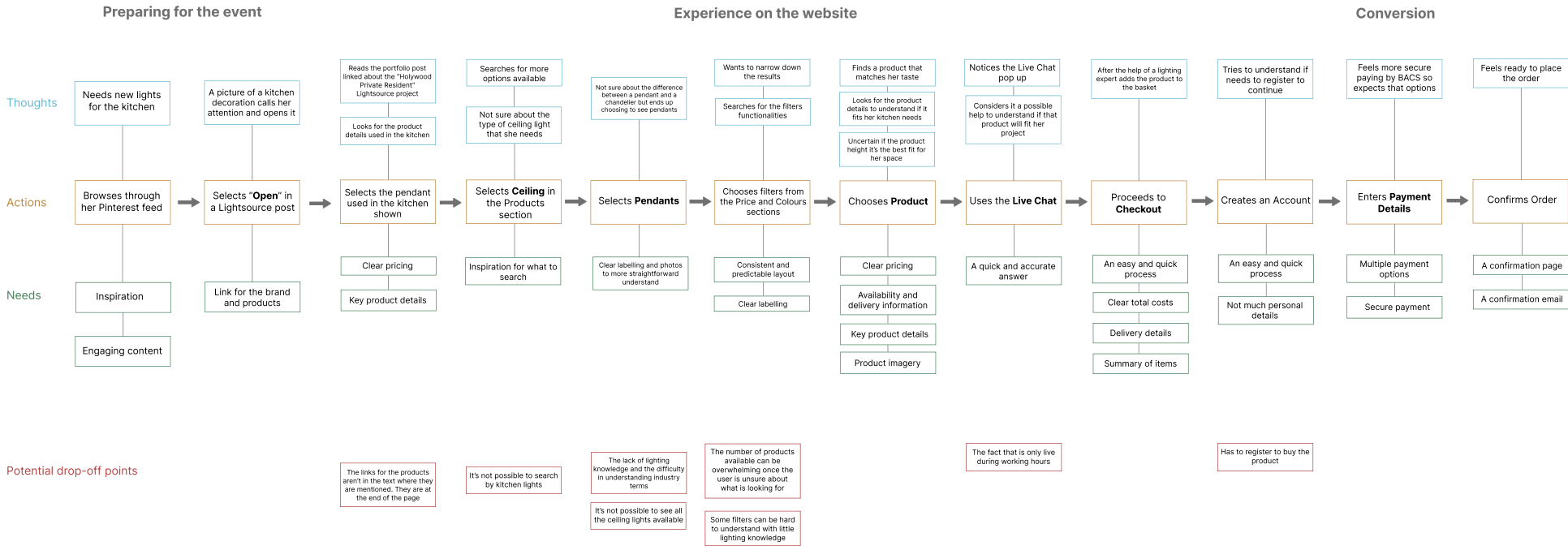
○○○○○○○○●●●●

It's not the first time John is working on a renovation project that requires a lighting project. And it's not even the first time that works with Lightsource. So the restaurant owner is comfortable choosing lights, he's aware of some of the most important technical features that he has to take into account and is familiarised with most of the finishes available.

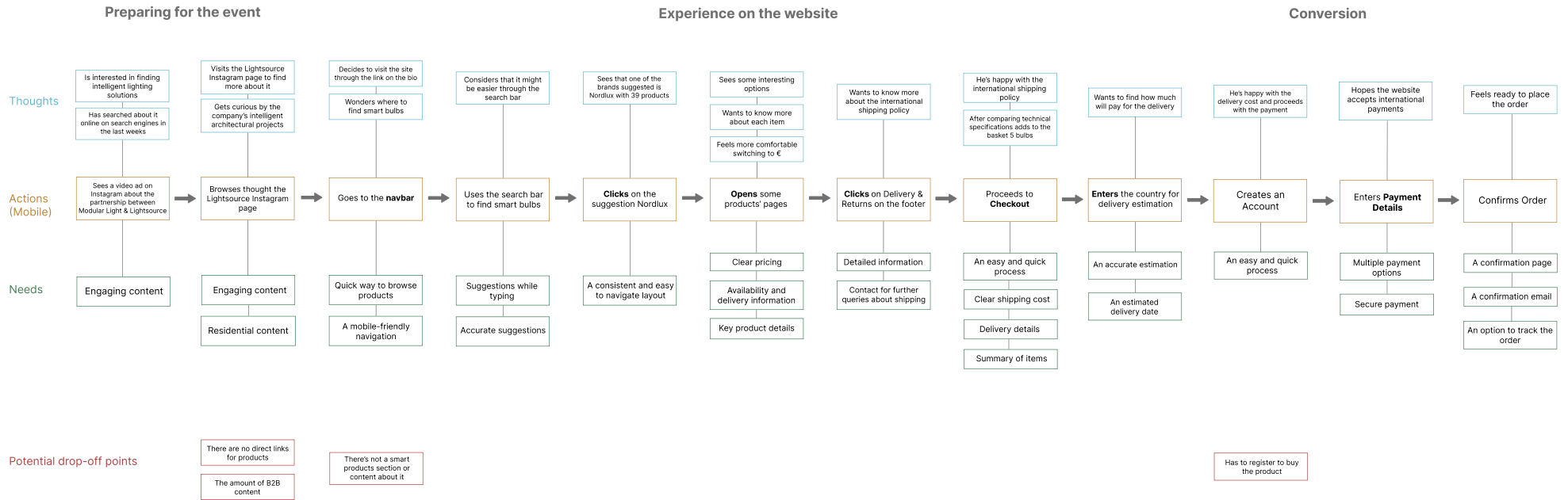
B2B Client

Appendix XXXVIII – User Flow

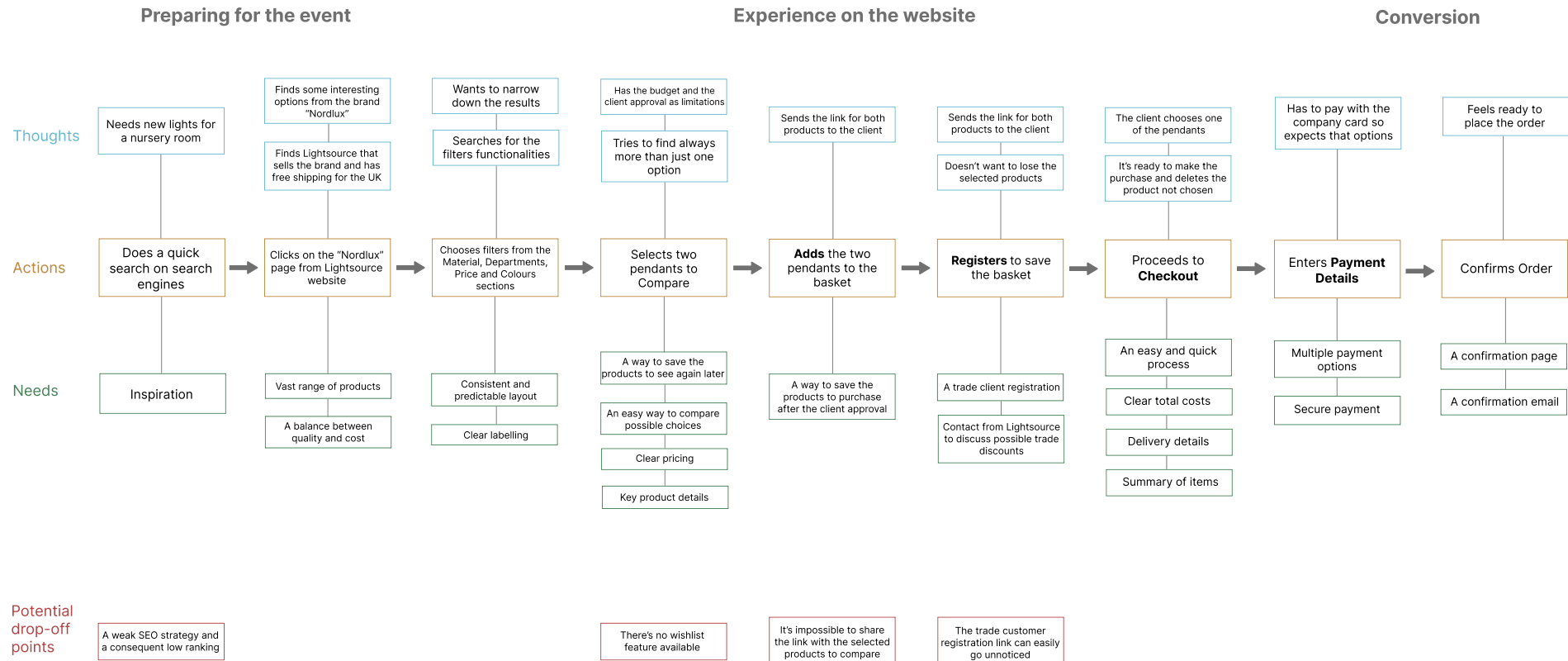
Anne Hawkins – B2C Client



Jean Laurent – B2C Client

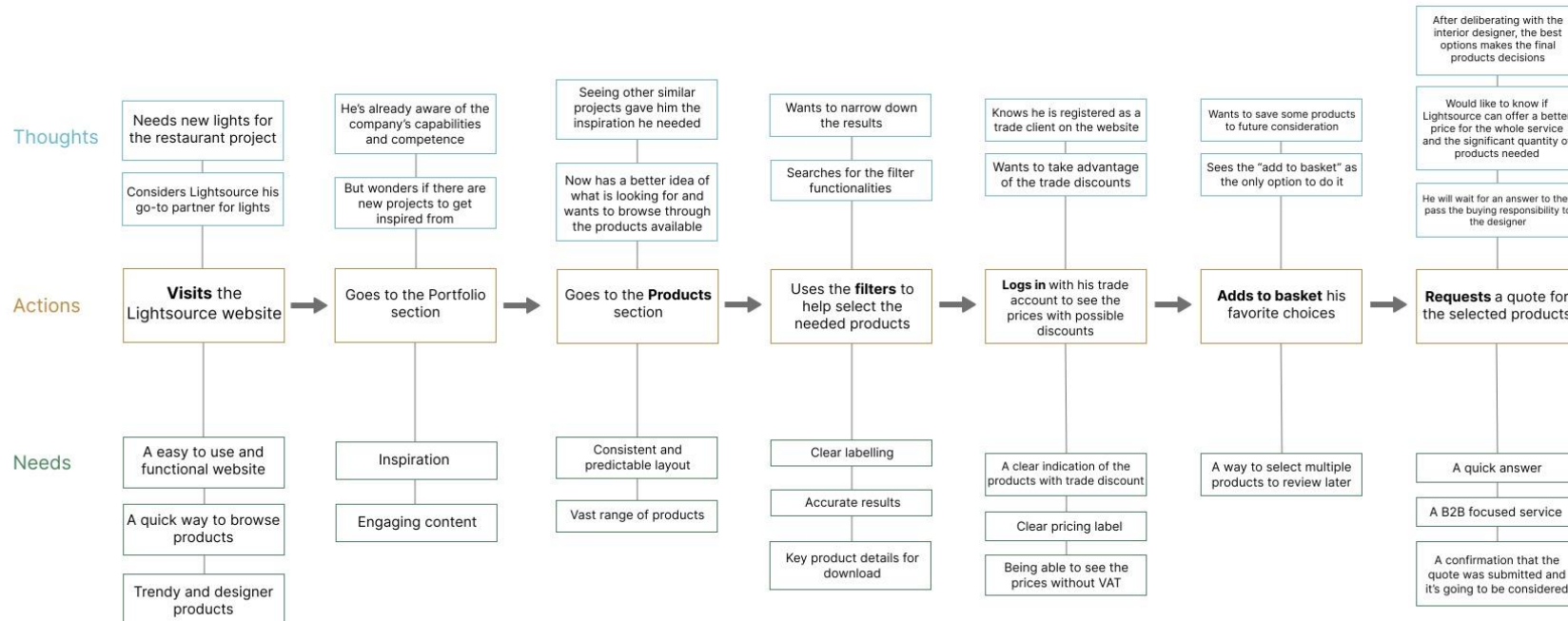


Sarah O'Donnel – B2B Client



John Rees – B2B Client

Experience on the website



Potential drop-off points

The links for the products aren't in the text where they are mentioned. They are at the end of the page

Not many projects have linked products

There's no wishlist feature available

It's only possible to select 3 products for comparison

Annex I – Internship Evaluation Table



INSTITUTO
SUPERIOR
DE CONTABILIDADE
E ADMINISTRAÇÃO
DO PORTO
POLITÉCNICO
DO PORTO

GEE

GABINETE DE ESTÁGIOS E EMPREGABILIDADE
GRELHA DE AVALIAÇÃO DO ESTÁGIO

Mestrado Marketing Digital
Licenciatura/Mestrado

Estagiário

Beatriz Marta de Castro

Nome:

Empresa

Lighting Enterprises Limited

Nome:

Richard Browbek

Orientador:

CLASSIFICAÇÃO* 1 2 3 4 5

1 - ASSIDUIDADE E PONTUALIDADE

- a – Assiduidade
- b - Pontualidade

				X
				X

2 – AMBIENTE ORGANIZACIONAL

- a - Adaptação ao meio (desempenho do Estagiário)
- b - Capacidade de integração
- c - Capacidade de iniciativa
- d - Capacidade de investigação técnica
- e - Capacidade de organização
- f - Capacidade de trabalhar em equipa
- g - Utilização de material informático
- h - Aplicação de conhecimentos
- i - _____

				X
				X
				X
				X
				X
				X
				X
				X

3 – PLANO DE ESTÁGIO

- a - Progressão durante o estágio
- b - Componente científica
- c - Componente prática
- d - Cumprimento do plano de estágio proposto
- e –Projeto de Intervenção desenvolvido ^(a)
- f - _____

				X
				X
				X
				X
				X

*Nota: para efeitos de classificação considerar: 1 – Mau; 2 – Fraco; 3 – Suficiente; 4 – Bom; 5 – Muito bom
(a) Caso se aplique

4 - POSTURA

- a - Aptidão técnico-profissional
- b - Idoneidade ética e deontológica
- c - _____

1	2	3	4	5
				X
				X

5 - OBSERVAÇÕES A REPORTAR AO ISCAP

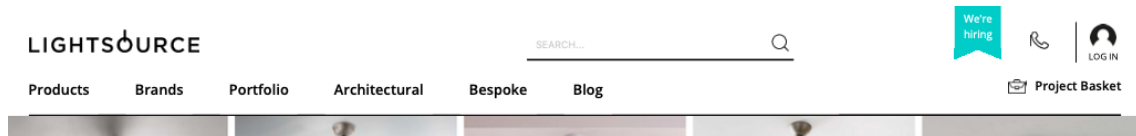
Beatriz was an excellent intern who showed enthusiasm for the work throughout the whole program. Beatriz added real value to our company and helped us with the transition to our new website. She has a great attention to detail and was able to spot many problems that a casual observer would not have detected. She showed a great work ethos and was able to maintain a good level of output the whole time. Beatriz was self-motivated and looked for opportunities to help and to help herself. Beatriz's opinions and input were valued by the whole team and she will be missed. I wish Beatriz all the best with her future endeavours and am sure she will do well in whatever path she chooses.

28/01/2022

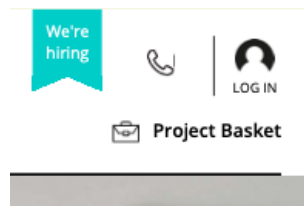
Assinatura e Carimbo da entidade de acolhimento:



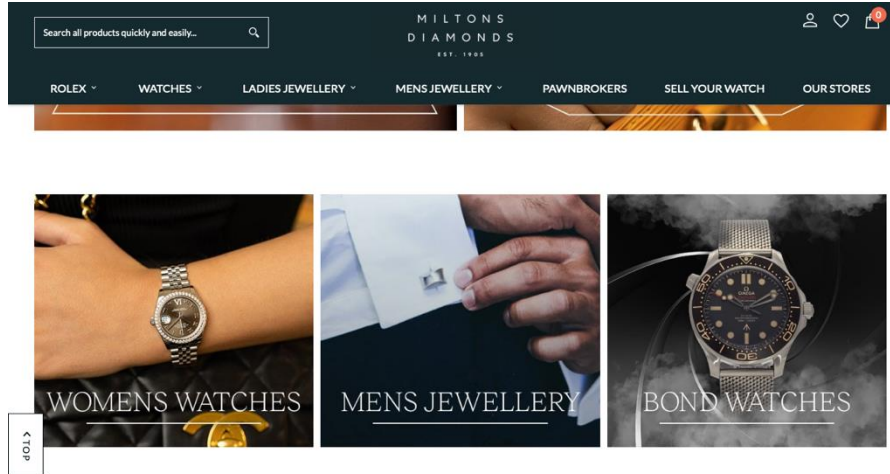
Annex II – Ease of Navigation



Lightsource old website navbar



Lightsource old website project basket icon

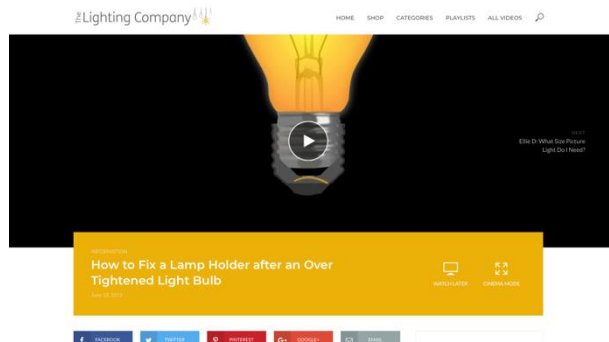


Example of scroll to the top button on
Miltons' website

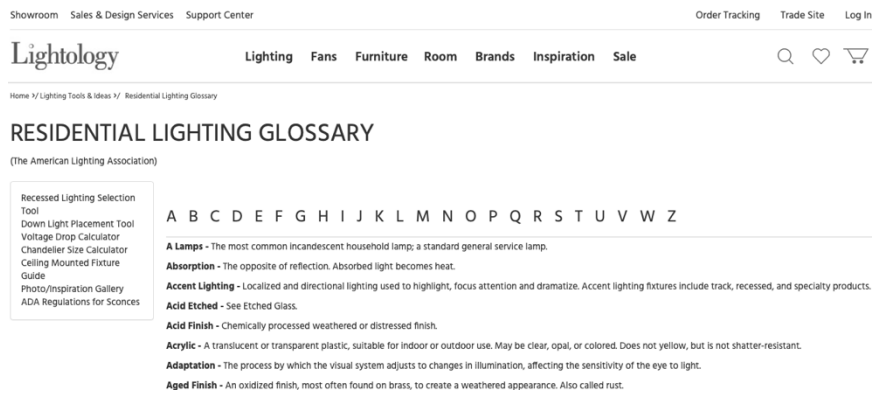
Annex III – Content Relevancy and Usefulness



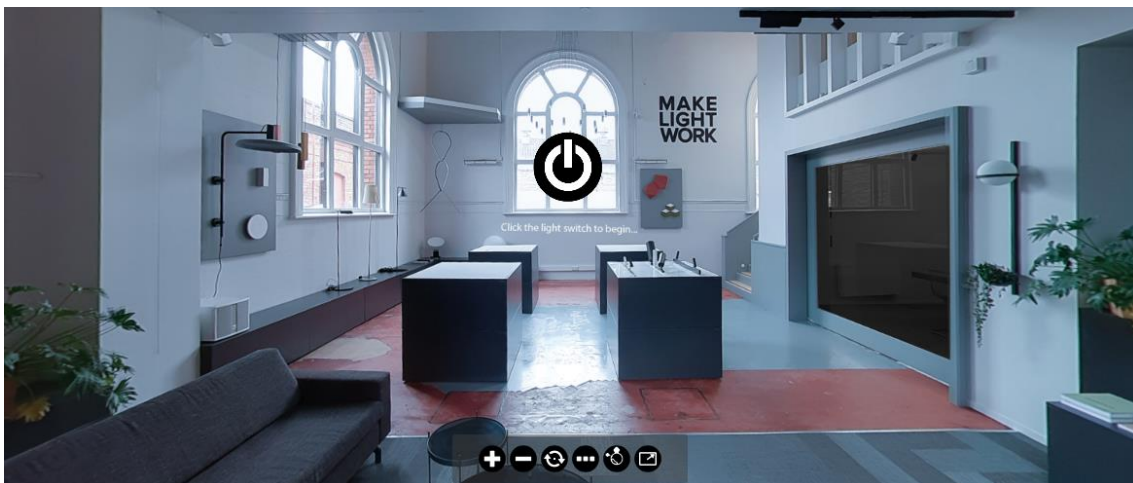
Lightsource old website blog categories



The Lighting Company video blog



Lightology's lighting glossary



Lightsource's showroom 3D virtual tour

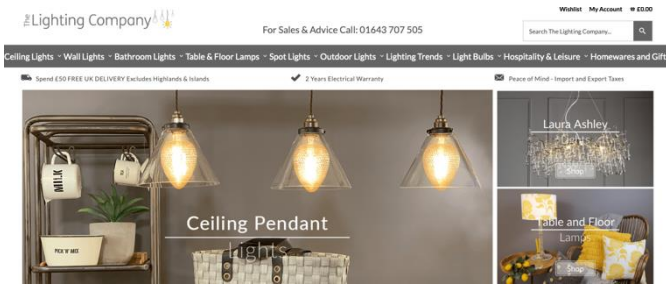
Annex IV – Appealing and Consistent Style



Designer Lighting Company homepage



Designer Lighting Company blog



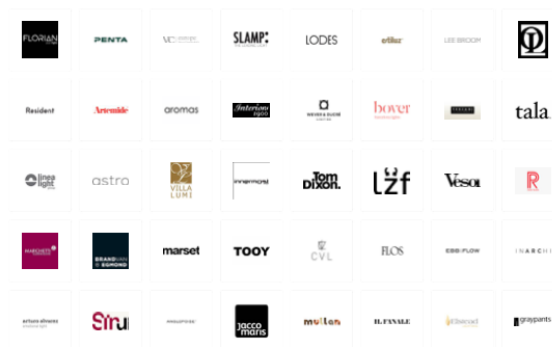
The Lighting Company homepage



The Lighting Company blog

JOIN NOW

With over 200 lighting partners it's hard to know who to pick! We can also add your favourites...



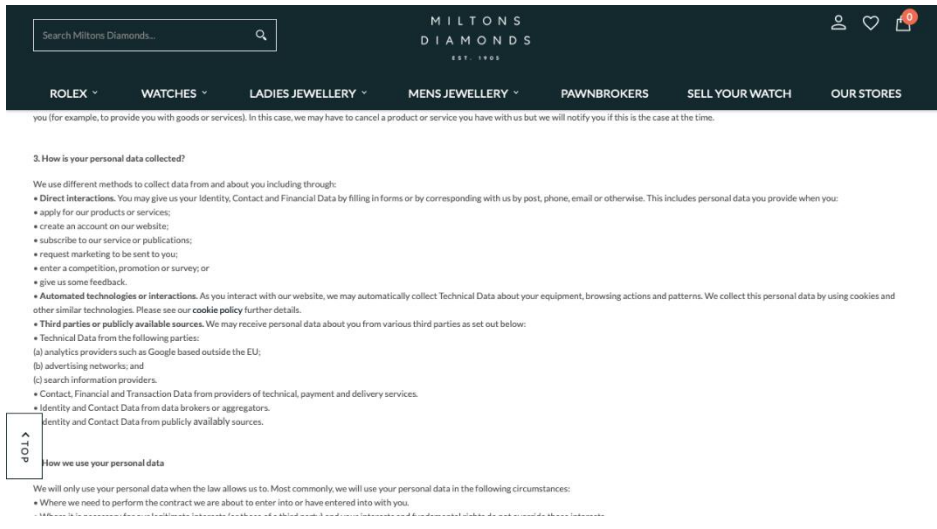
What our customers are saying

“ It is truly a pleasure to work with Lightsource. They are always able to answer your request. Exceptional service and exceptional catalogue.
 Javier Chavez, Interior Architect, Berlin

“ We are delighted to have been supplied with some beautiful lights and ceramic heaters at our coffee roastery & brew bar in Belfast. The care, attention and service we received in selecting and procuring these items from Lightsource was second to none.
 Eric, Co-Owner, Aest & Brand, Belfast

Section of the old Lightsource's homepage

Annex V – Security Protection



Miltons' Privacy Policy page

- We will always aim to give you the information that you need, when you need it, in clear and simple language wherever possible
- We never hide information in the "small print", instead we provide just-in-time and bite size information, rather than an extensive list of information that may be over complicated
- You can choose what you want to see. We do not automatically enrol subscribers to our newsletters. We want you to opt in and enjoy content that is useful and relevant. Examples of our content include, a free digital magazine along with useful inspirational email newsletters that include sale notifications and other relevant content via email.
- If you opt in and no longer find the information valuable you can easily opt out through your personal data control centre.

Below is an overview of our privacy statement in a short helpful video, providing you with a quick and convenient summary. This video has subtitles along with spoken word and images which we hope conveys the information which is accessible for all. The full version of the statement is below.



Your information will remain within our company; Hickin Electrical Wholesale Ltd.

We trade as the Lighting Company Group and our secure websites are:

- LightingCompany.co.uk
- BespokeLights.co.uk
- LightingAndLights.co.uk

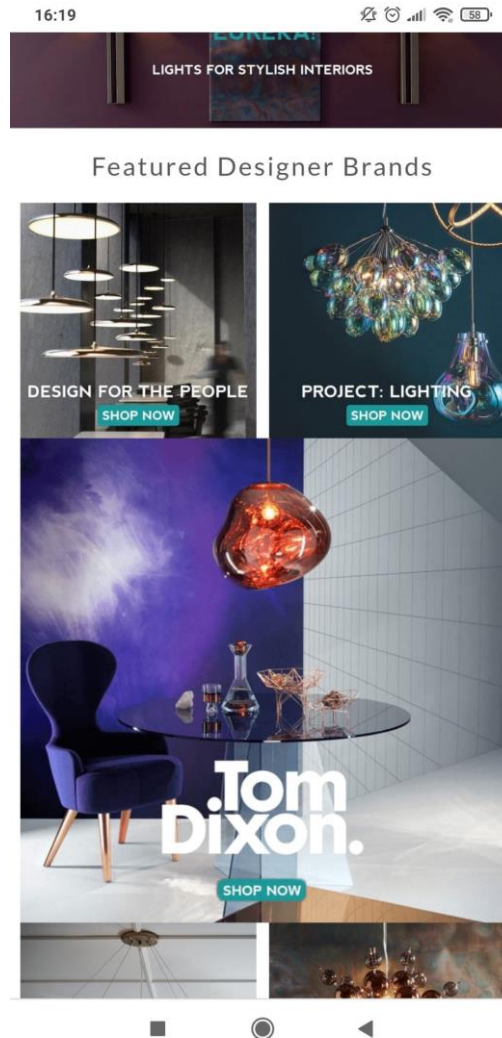
Designer Lighting Company's Privacy Policy page

Annex VI – Logical Structure



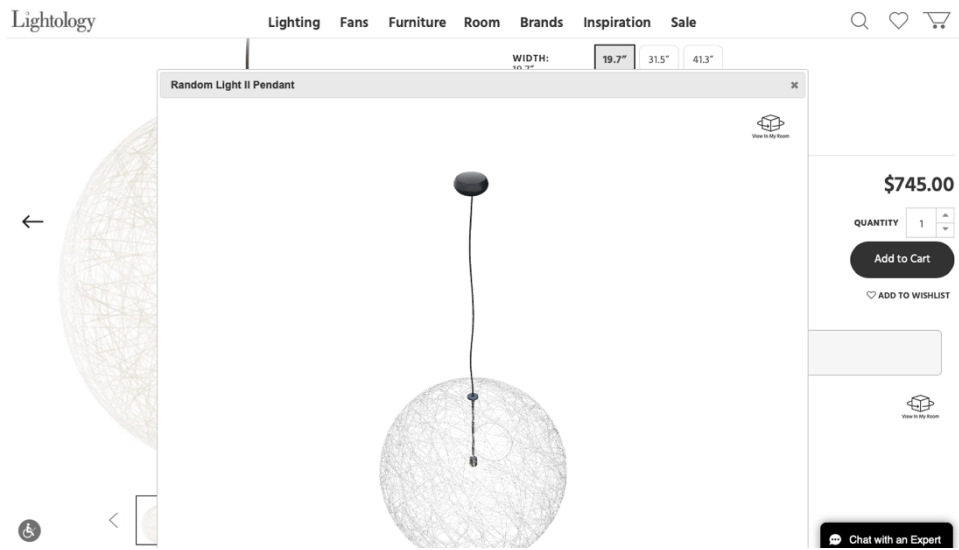
The Lighting Company's navbar

Annex VII – User-friendly Interface



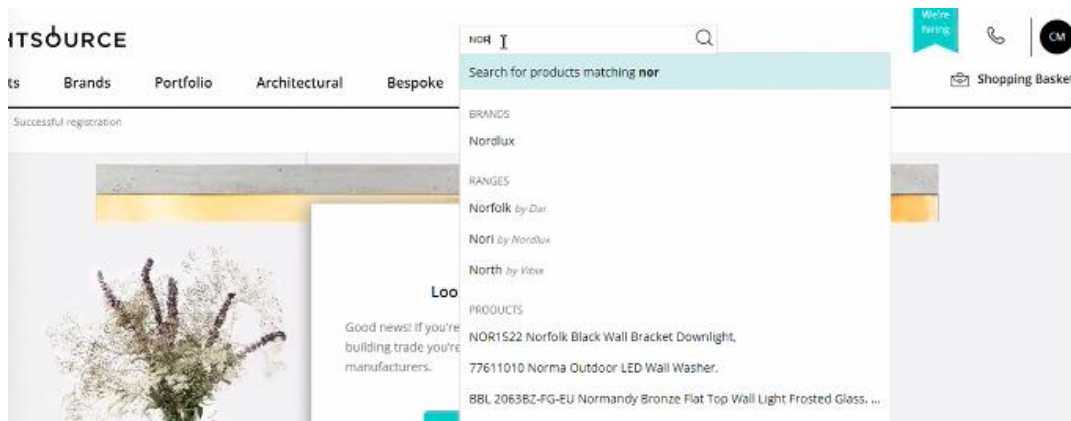
Designer Lighting Company homepage on mobile

Annex VIII – Proper Multimedia



Lightology 3D view of the products

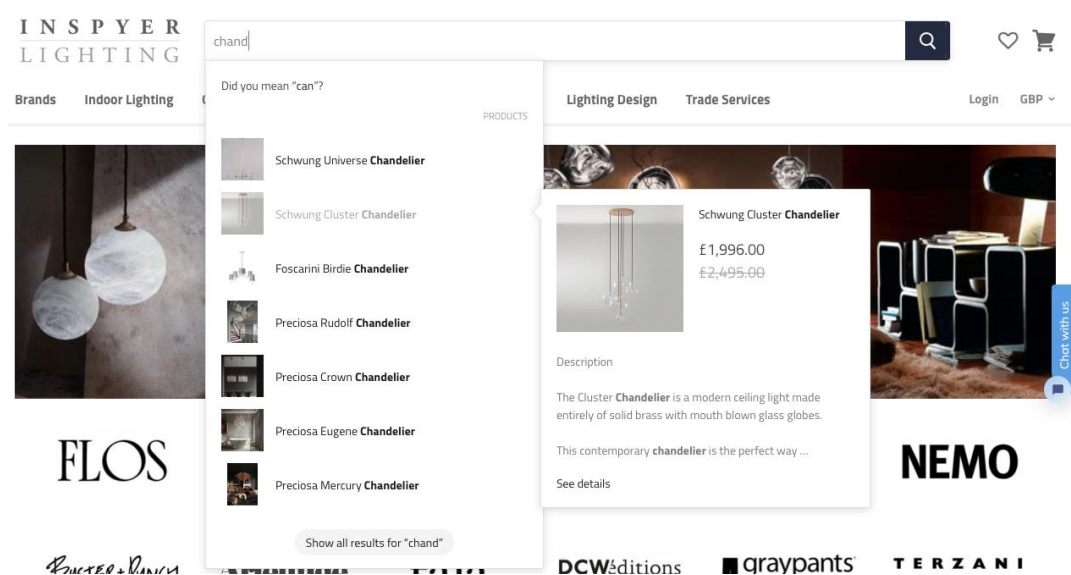
Annex IX – Searching Mechanism



Lightsource old website navbar search suggestions

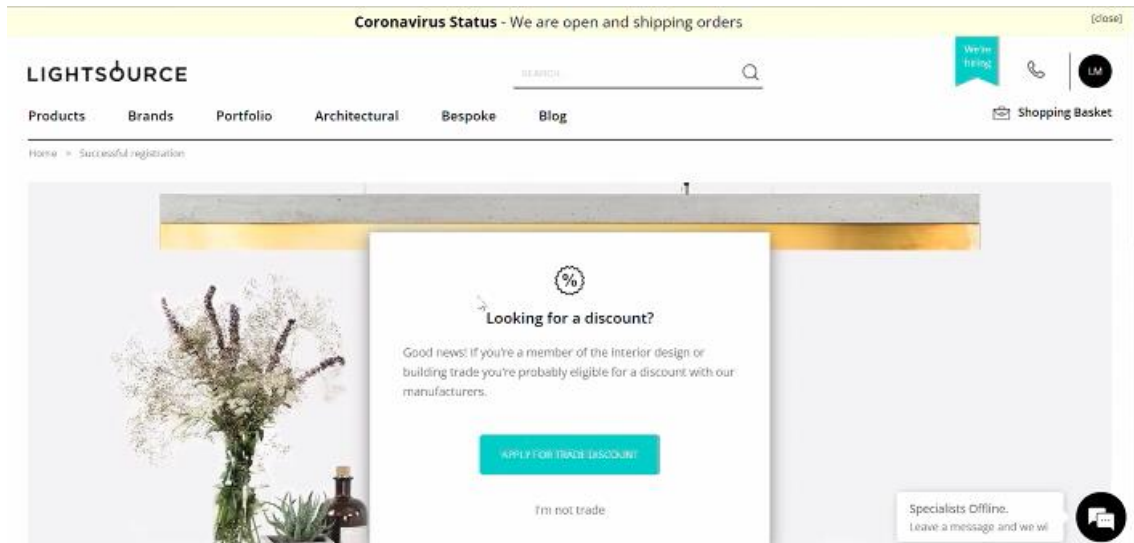


Miltons navbar search suggestions

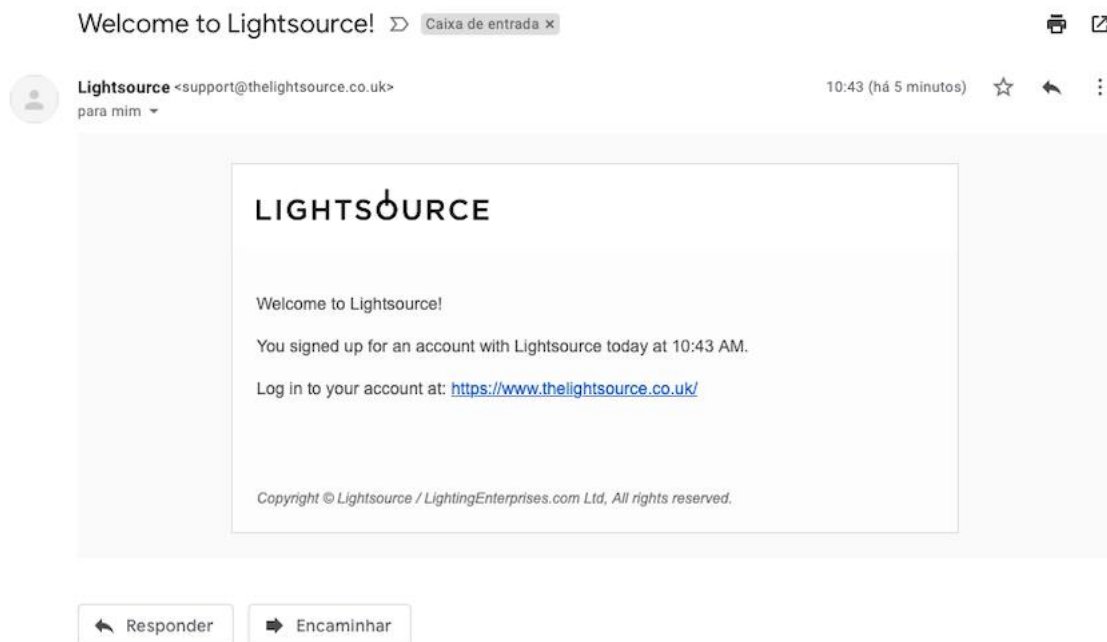


Inspyer Lighting navbar search suggestions

Annex XI – Member Community



Apply for a discount message after the registration on the Lightsource's website



Registration confirmation email

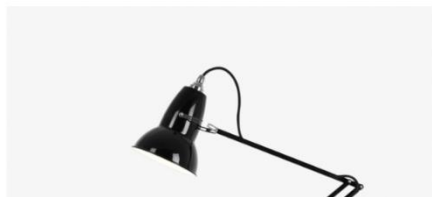
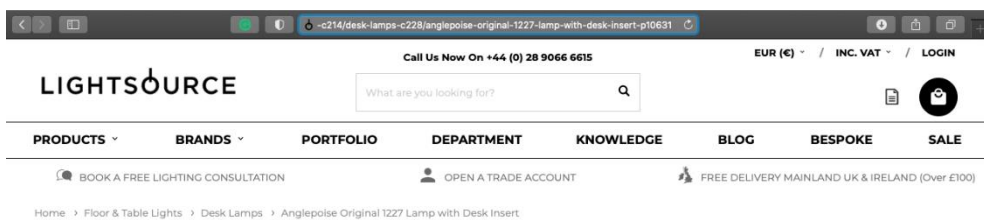
Annex XII – SEO

[Shop Designer Lights | Designer Lighting Company UK | Lighting Brands](#)

<https://www.designerlightingcompany.co.uk>

Discover Luxury Designer Lighting For Your Home | Designer Lights UK | Free 2 Year Warranty Included | Designer Lights For Every Room

Google search results for the Designer Lighting

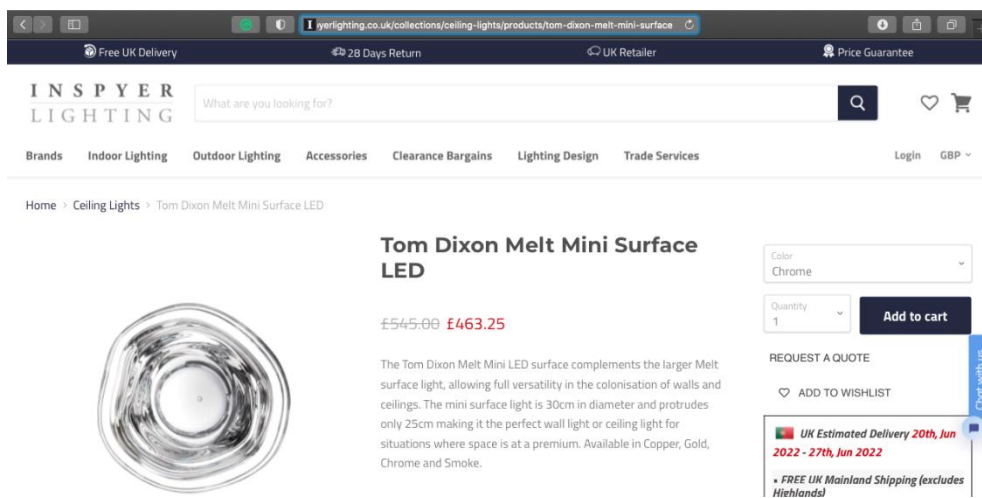


ANGLEPOISE
Original 1227 Lamp with Desk Insert
From 262,14 €

Choose an Appearance

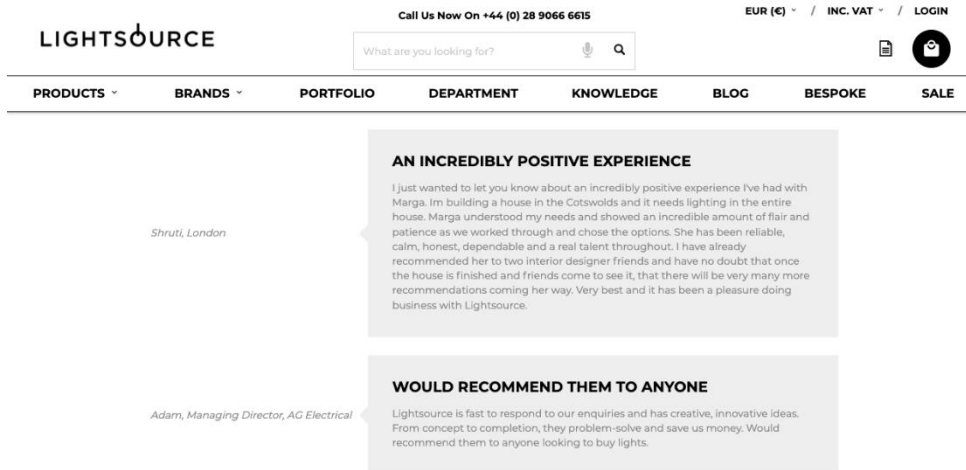
Bright Chrome Dove Grey Jet Black Linen White

Lightsource example of URL

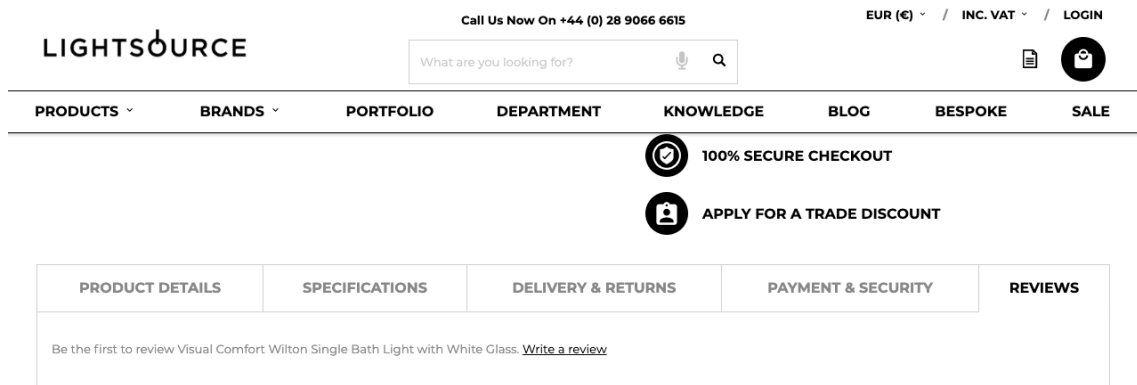


Inspyer Lighting example of URL

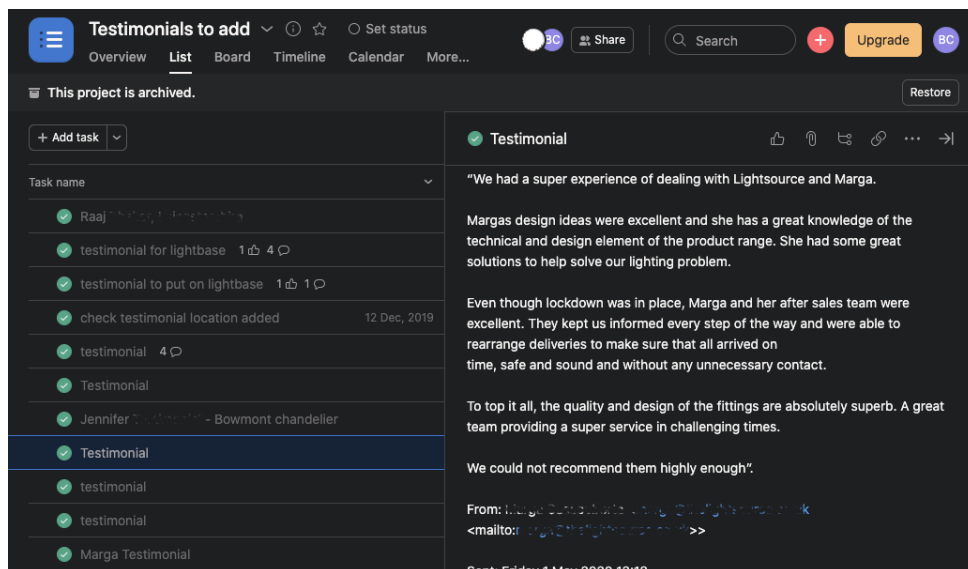
Annex XIII – Testimonials



The Testimonials page



Reviews tab added to the products' pages



Example of testimonial collected from an email

Annex XIV – Lightsource Website Visitor's Age (2nd of November 2021)

Primary Dimension: Age		Secondary dimension						
Age		Acquisition			Behaviour			Conversions
		Users	New Users	Sessions	Bounce Rate	Pages/Session	Avg. Session Duration	Transactions
		4,338 <small>% of Total: 26.50% (16,367)</small>	4,016 <small>% of Total: 25.46% (15,773)</small>	5,709 <small>% of Total: 26.71% (21,372)</small>	65.39% <small>Avg for View: 68.89% (-5.08%)</small>	2.62 <small>Avg for View: 2.39 (9.87%)</small>	00:02:40 <small>Avg for View: 00:02:10 (23.45%)</small>	20 <small>% of Total: 27.40% (73)</small>
<input checked="" type="checkbox"/>	1. 25-34	1,232 (28.38%)	1,124 (27.99%)	1,697 (29.72%)	64.88%	2.68	00:02:53	8 (40.00%)
<input checked="" type="checkbox"/>	2. 35-44	842 (19.40%)	765 (19.05%)	1,227 (21.49%)	62.67%	2.72	00:03:48	2 (10.00%)
<input checked="" type="checkbox"/>	3. 45-54	757 (17.44%)	702 (17.48%)	1,005 (17.60%)	64.98%	2.51	00:02:12	3 (15.00%)
<input checked="" type="checkbox"/>	4. 55-64	561 (12.92%)	528 (13.15%)	647 (11.33%)	69.09%	2.20	00:01:19	1 (5.00%)
<input checked="" type="checkbox"/>	5. 18-24	529 (12.19%)	491 (12.23%)	661 (11.58%)	66.41%	3.01	00:02:59	3 (15.00%)
<input checked="" type="checkbox"/>	6. 65+	420 (9.68%)	406 (10.11%)	472 (8.27%)	68.64%	2.46	00:01:25	3 (15.00%)

Annex XV – SUS Questionnaire (English Version)

		Strongly Disagree			Strongly Agree	
		1	2	3	4	5
1	I think that I would like to use this website frequently	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2	I found the website unnecessarily complex	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3	I thought the website was easy to use	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4	I think that I would need the support of a technical person to be able to use this website	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5	I found the various functions in this website were well-integrated	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6	I thought there was too much inconsistency in this website	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7	I would imagine that most people would learn to use this website very quickly	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8	I found the website very cumbersome to use	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9	I felt very confident using the website	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10	I needed to learn a lot of things before I could get going with this website	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

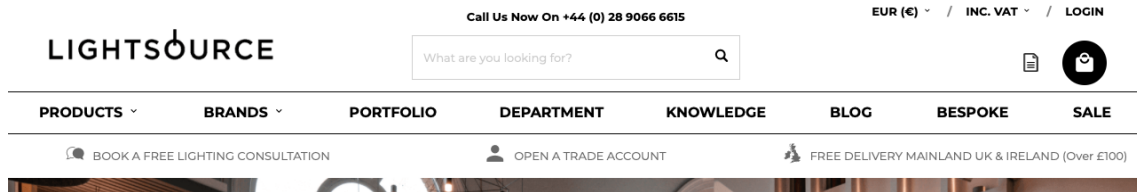
Annex XVI – SUS Questionnaire (Portuguese Version)

		Discordo completamente			Concordo completamente	
		1	2	3	4	5
1	Acho que gostaria de utilizar este site com frequência	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2	Considerei o site mais complexo do que necessário	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3	Achei o site fácil de utilizar	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4	Acho que necessitaria de ajuda de um técnico para conseguir utilizar este site	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5	Considerei que as várias funcionalidades deste site estavam bem integradas	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6	Achei que este site tinha muitas inconsistências	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7	Suponho que a maioria das pessoas aprenderia a utilizar rapidamente este site	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8	Considerei o site muito complicado de utilizar	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9	Senti-me muito confiante a utilizar este site	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10	Tive que aprender muito antes de conseguir lidar com este site	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

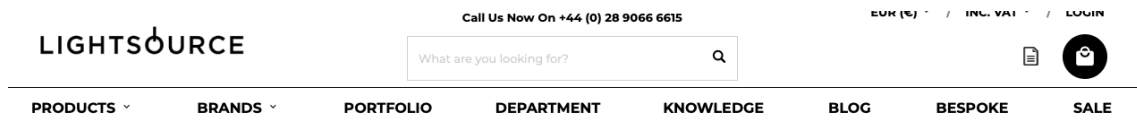
Annex XVII – Grading SUS Key

Grading SUS Key	
92	Best imaginable
85	Excellent
72	Good
52	Ok/Fair
38	Poor
25	Worst Imaginable

Annex XVIII – Ease of Navigation (Results)



Lightsource new navbar



VISUAL COMFORT LIGHTING

Visual Comfort is the ultimate exemplification of American high-quality designer lighting. The range of styles is endless, from the most traditional and elegant pieces to the most contemporary ones, reflected in an extensive collection of Pendants, Chandeliers, Wall Lights, Table Lights and Floor Lighting.

A unique brand with the touch of some of the world's leading lighting designers like [Aerin](#), [Kelly Wearstler](#), [Thomas O'Brien](#), [Alexa Hampton](#), [Barbara Barry](#) and the lighting icon [E.F. Chapman](#) - (Sandy). At the Helm of Visual Comfort Lighting, Sandy Chapman, who has been taking the lead of the brand for over 20 years. Trade discount is available for this brand. Stock is available from America and Europe.

Want to know more about Visual Comfort? Why not read our [Brand Page](#) and discover about the brand, designers, portfolio projects and more!



Brand description with internal link for the brand page



New shopping bag icon

Annex XIX – Content Relevancy and Usefulness (Results)

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LIGHTSOURCE

What are you looking for?

PRODUCTS ▾ BRANDS ▾ PORTFOLIO DEPARTMENT KNOWLEDGE BLOG BESPOKE SALE

CEILING LIGHTS

Are you searching for ceiling lights? Ceiling lights play a key part of interior design within any room of a home, office, restaurant or a hotel. They set the tone for the whole room. We have a fantastic collection of renowned brands across the UK & Ireland as well as internationally. We source quality ceiling lights that are modern, decorative or traditional. Ceiling lights can be used as the main lighting for a room or as background lighting. Are you looking for some advice about how to buy the best ceiling lights for you or do you want to discuss your ideas about an upcoming design project? We have a number of lighting experts you can talk to.

Chandeliers Pendants Recessed Downlights Spotlights

Top-level category description and subcategories illustration icons

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LIGHTSOURCE

What are you looking for?

PRODUCTS ▾ BRANDS ▾ PORTFOLIO DEPARTMENT KNOWLEDGE BLOG BESPOKE SALE

Lighting Guide

A collection of informative how to lighting guides, style lighting guides and documents to help you illuminate your space.

How To Light Your Garden How To Layer Light Lumens Explained

Chat with a Specialist Lighting Expert Available


Lighting guide on the Knowledge section

Annex XX – Ease of Online Transaction (Results)

The screenshot shows a checkout page with a progress bar at the top: 1 My Basket, 2 Details, 3 Delivery, 4 Payment. Below the progress bar, there are two main sections: 'New Customers' and 'Returning Customers'. The 'New Customers' section includes fields for 'Your Full Name' (Beatriz Castro), 'Email Address' (beatriz@gmail.com), 'Billing Address' (with a 'Select Country' dropdown), and 'Telephone No.'. There are also checkboxes for signing up to a newsletter, accepting terms and conditions, and a reCAPTCHA 'Não sou um robô' widget. A 'Continue' button is at the bottom. The 'Returning Customers' section has a 'Trade Customer? Please login by clicking here' link, an 'Email Address' field with a red error message 'Please enter your email address', a 'Password' field, and a 'Login' button. A 'Forgotten Password?' link is also present. A chat bubble at the bottom right says 'Chat with a Specialist Lighting Expert Available'.

Currency and country automatically adjusted based on the user location

The screenshot shows the shopping basket and payment options. At the top, the progress bar is: 1 My Basket, 2 Details, 3 Delivery, 4 Payment. Below the progress bar, there is a 'Proceed to Payment >' button. The main section is titled 'Your Basket Contains: 1 Item' and contains a table with the following data:

	Quantity	Price	Sub Total
 Marsjet Manhattan LED 63.5 Small Wall Lamp with Chromed Aluminium Structure Product Code: A2005-030	1	332,32 €	332,32 €

Below the table, there is a 'Sub Total: 332,32 €' and 'VAT (inclusive): 55,39 €'. A note indicates '+ delivery to Portugal [Change] at 69,89 €'. There are logos for Mastercard, VISA, and bacs. A 'Proceed to Payment >' button is present. Below the button, there is a confirmation message: 'By clicking to proceed to payment, you confirm that you have read, understood and accept our Terms & Conditions'. There is also a link for 'Got A Discount Code?' and a section for 'Other payment options' with a 'Pay by BACS' button. At the bottom, there is a 'Save Basket' button and a 'Your Basket Reference Number: 16545066772566834'.

Shopping basket page with the feature of Save Basket available

Annex XXI – Proper Multimedia (Results)


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[PRODUCTS](#) - [BRANDS](#) - [PORTFOLIO](#) - [DEPARTMENT](#) - [KNOWLEDGE](#) - [BLOG](#) - [RESPONSE](#) - [SALE](#)

AIB Bank

OFFICE LIGHTING






Client
AIB BANK

Location
BELFAST, UK

Project Date
SEP 11, 2021

Photos
A19F0109



Tags
Northern Ireland

The Project

Lightsource are delighted to have collaborated with the design and install team on the iconic AIB Head Quarters on the corner of Ann Street in Belfast.

Lightsource provided a supporting role in the supply and consultation of mood fittings throughout the building. Much consideration was given to both the overall aesthetic of the lighting and the overall performance. Factors such as beam angle, colour temperature and glare rating were of paramount importance to ensure the desired finish and lighting levels were achieved.


The Lighting

The design team selected the iconic Hexagon fitting by Intra Lighting for the main reception area in order to make this space stand out with a nod to the bank's Irish roots.

Intra Lighting's Pigna pendants have been used extensively due to their minimal and high quality finish with the ability to customise many of the lighting parameters.

Spot and downlighting from Lines Light and Intra Lighting provides a low glare, high output solution for many of the general consultation areas.

Pendants from Waver & Duce add depth and atmosphere to the break out area next to the busy wall feature.



The team at Lightsource would like to thank the Consulting Engineers at Sample M&G and installing Engineers at Branham Electrical for the opportunity to work on another iconic Belfast building.

PREV PROJECT
NEXT PROJECT

NEWSLETTER SIGNUP
FOLLOW US

To see how we protect your data visit our Privacy Policy

LEARN MORE	SERVICES	SALES TOOLS	LIGHTING KNOWLEDGE	CUSTOMER INFORMATION
About Us	Security	Trade Account Register	How to Light Your Bedroom	Furniture & Fixtures
Our Business Model	Lighting Design	Bank Free Lighting Consultation	How to Light Your Living Room	Delivery & Returns
Sustainability	Solutions	Local Products	How to Light Your Office	Terms & Conditions
FAQ	Rescue Lighting	Gift Vouchers	Going Green for Kitchen Remodel	Privacy Policy
Contact Us	Consultancy		Lighting	Donate Policy
Intra Lighting			What's New & What's Hot?	New Help

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Partnered by

Example of portfolio page











Annex XXII – Searching Mechanism (Results)

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LIGHTSOURCE

nordlux bathroom

CATEGORIES (11)	BRANDS (1)	PRODUCTS (70) VIEW ALL	
By Room » Bathroom Lights (13)	Nordlux (70)	 NORDLUX Sjaver Bathroom Wall Light White 61,46 €	 NORDLUX Tangens Double Wall Light 46,07 €
Bathroom Lights » Bathroom Wall Lights (4)		 NORDLUX Dorado 2700K 3-Kit Dim LED Recessed Light IP65 51,21 €	 NORDLUX Angle Wall Light 92,21 €
Ceiling Lights » Surface / Flush Mounted (14)		 NORDLUX Clarkson 2700K 3-Kit Square LED Ceiling Light IP65 35,83 €	 NORDLUX Otis 40 Wall Light 71,70 €
Wall Lights » Picture Lights (3)		 NORDLUX Leonis 2700K 3-Kit Recessed LED Ceiling Light IP65 28,64 €	 NORDLUX Otis 60 Wall Light 81,96 €
Ceiling Lights » Pendants (21)		 NORDLUX Tangens Wall Light 35,83 €	 NORDLUX Leonis 2700K 3-Kit LED Recessed Ceiling Light IP65 28,64 €
Exterior Lights » Wall Lights (6)			
Wall Lights » Decorative Wall Lights (7)			
Ceiling Lights » Spotlights (2)			
By Room » Bedroom Lights (1)			
Other » Lighting Accessories (1)			

New navbar search suggestions

Annex XXIII – Easy to Find Target Information (Results)

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LIGHTSOURCE What are you looking for?

PRODUCTS ▾ BRANDS ▾ PORTFOLIO DEPARTMENT KNOWLEDGE BLOG BESPOKE SALE

REGISTRATION

NEW CUSTOMERS

Creating an account with us is quick and easy, and will allow you to simply access your details when you return to the site. You can add multiple delivery addresses, track your order and much more.

Trade Customers - click [here](#) to register for a trade account.

Your Full Name

Email Address

Billing Address: Start typing your postcode, street & town
 Enter Address Manually

Telephone No.

Tick this box to sign up to our email newsletter. [Privacy Policy](#)

RETURNING CUSTOMER

Email Address

Password

[Forgotten Password?](#)

Registration page with option to access the registration for trade clients

5 Key Reasons to Sign-up for a Trade Account with Lightsource.

- 1
Access exclusive trade discounts on hundreds of lighting brands.
- 2
Browse our lighting collection online with your discount applied.
- 3
Free support from your dedicated lighting expert.
- 4
One free design consultation every month.
- 5
Free order grouping in our warehouse so the right light arrives at the right time.

Who Can Apply for a Trade Account?

Interior Designers

Architects

M&E Consultants

Electrical Engineers

Landscape Designers

Electrical Wholesale

Maintenance Companies

Hospitality Chains

Every trade account application is manually reviewed by an account manager to determine your eligibility. If you or your company works in the electrical, commercial, maintenance or design industry we encourage you to sign up online now! If you work in any other relevant industry, why not apply and a member of our team will be in touch to verify your application.

Sign-Up Now

Sign-Up For A Trade Account

Name *

First Name Last Name

Email *

Phone *

Address *

Street Address

Address Line 2

City Postcode/Town

Postal Zip Code Admin

Country

Business Name *

Website

Business Type *

If you have selected 'Other', please state your business type

Tick this box to sign-up to our email newsletter. [Privacy Policy](#) applies.

I have read this and accepted the [Terms & Conditions](#) *

Registration page for trade clients

Annex XXIV – Product Details (Results)

Call Us Now On +44 (0) 28 9066 6615

EUR (€) / INC. VAT / LOGIN

LIGHTSOURCE

What are you looking for?

PRODUCTS BRANDS PORTFOLIO DEPARTMENT KNOWLEDGE BLOG BESPOKE SALE

PRODUCT DETAILS	SPECIFICATIONS	DELIVERY & RETURNS	PAYMENT & SECURITY	REVIEWS
<ul style="list-style-type: none">Brand: MarsetRange: FollowMeDesigner: Inma BermudezProduct type: Portable LightStyle: Modern, Contemporary, FunColour: Oak handle, White, Blue, Pink, Terracotta, GreenArea / Room suitability: Outdoor, Garden, Patio, Conservatory, Office, Living Room, Bedroom, Dining RoomMaterial: Polycarbonate, Plywood, BrassWhat's Included: 1 Light and LED SMD 3,2W 2700k 478lm includedBattery Life: 5 hours in peak power - 10 hours in half power - 20 hours at quarter power		<p>The FollowMe Portable and Rechargeable LED Table Light rocking opal diffuser and a white matte polycarbonate body. Complete with a plywood handle, natural oak veneer, brass switch and construction details. The simple lines and tilting are what make the lamp beautiful yet practical, perfect for directing light when reading. The pastel colours fit well into children's rooms and with the soft, glowing light can create a warm and snug atmosphere. Five hours of battery life at peak performance - the FollowMe Portable Light is perfect for indoor and outdoor use. With the effortless design and tilting shade, this light will compliment any room style, great for your kitchen, night light for a children's room or your home office. The light uses a high-efficiency lithium ion battery that charges for 5 - 20 hours usage. There are two sizes available however both have the same charismatic style and colour selection.</p> <p>The charging port USB-C standard.</p> <p>Recommended bulbs</p> <p>1 x LED 4.7W Warm light (included)</p>		

< TOP

- View All Inma Bermudez
- View All Marset
- View All Portable Lights
- View All Table Lamps

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Example of product description

Annex XXV – Product Comparison (Results)

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COMPARE

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Actions	Buy ✕	Buy ✕	Buy ✕																																																																												

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Compare page

Annex XXVI – Product Search or Assortment (Results)

PRODUCTS ▾	BRANDS ▾	PORTFOLIO	DEPARTMENT	KNOWLEDGE	BLOG	BESPOKE	SALE
DIAMETER – 					COMPARE (3)		
SUSPENSION LENGTH – 	DAVID HUNT LIGHTING Hicks 5 Light Chandelier NOW 643,00 € WAS 803,75 € SAVE 160,75 € (20%)	MULLAN LIGHTING Hakone 6-Arm Industrial Chandelier NOW 802,63 € WAS 891,81 € SAVE 89,18 € (10%)	VISUAL COMFORT Go Lightly Medium Chandelier with Silk Shades FROM 1.285,97 €	HINKLEY Congress Four-Light Clear Glass Chandelier NOW 680,34 € WAS 755,94 € SAVE 75,60 € (10%)			
MAXIMUM DROP – 							
HEIGHT + WIDTH +							

Filters

YOU MAY ALSO LIKE

 <p>VISUAL COMFORT Lancaster Large Oval Chandelier 2.683,79 €</p>	 <p>VISUAL COMFORT Camille Small Four-Light Chandelier with Natural Paper Shade 1.298,81 €</p>	 <p>VISUAL COMFORT Darlana Medium Open Frame Chandelier in Aged Iron with Natural Paper Shades 2.599,92 €</p> <p>Buy View</p> <p>Compare</p>	 <p>VISUAL COMFORT Launceton Small Ring Chandelier FROM 2.040,79 €</p>
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Annex XXVII – SEO (Results)

[AIB Bank, Belfast Offices Lighting Case Study | Lightsource](#)
<https://www.thelightsource.co.uk/portfolio/projects/aib-bank>
Read about how Lightsource provided support in the supply and consultation of the desired Lighting for AIB Bank Head Quarters in Belfast. Contact us online.

Example of meta title and meta description created for one of the Portfolio pages

The screenshot shows the Lightsource website header with the logo, contact information, and navigation menu. A search bar contains the text 'nerrow'. Below the search bar, a message states: 'We're sorry, we couldn't find any results for 'Nerrow''. It provides a search tip and contact information. Below this are sections for 'POPULAR SEARCHES' and 'SHOP BY CATEGORY'. At the bottom, there is a 'TAKE A LOOK AT OUR LATEST PRODUCTS' section and a chat button.

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LIGHTSOURCE

Search:

PRODUCTS ▾ BRANDS ▾ PORTFOLIO DEPARTMENT KNOWLEDGE BLOG BESPOKE SALE

We're sorry, we couldn't find any results for 'Nerrow'.

Search was unable to find any results for "Nerrow". You may have typed your search phrase incorrectly, or are being too specific. Try using a broader search phrase or try one of our most popular search phrases.

If you need to speak with us, don't hesitate to phone us on +44 (0) 28 9066 6615. You can email us at support@thelightsource.co.uk should you have any queries.

POPULAR SEARCHES

- Osman
- Pendant
- Swing Arm Lamps
- Aromas
- Basalt
- Visual Comfort

SHOP BY CATEGORY

- Ceiling Lights
- Bulbs
- Bathroom Lights
- Other
- Wall Lights
- Floor & Table Lights
- Exterior Lights
- By Room

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Chat with a Specialist Lighting Expert Available

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