Digital Analytics

Table of Contents

DIGITAL ANALYTICS COURSEWORK 1
Part One and Part Two 3
Executive Summary 3
Introduction 3
Part 1: Practical Social Media Experiment 4
Section 1. Selection and Analysis of social media Experimental Area 4
Section 2. Method, Approaches, and Procedure for the experiment 5
Section 3. Data gathering, Analysis & Reflection 6
3.1. Overview of Page Performance 8
3.2. Reflections on Facebook Insights 11
3.3. Limitations of Facebook and Facebook Insights 11
Conclusion and Recommendations for Part one 12
Part 2: Case Study of Given www.johnlewis.com Website 13
Section 1. Analysis and Evaluation of the specified website www.johnlewis.com 13
Section 2. Discussion and Analysis about the combined use of Business Intelligence and Web Analytics for John Lewis Website 16
Section 3. Recommendations for John Lewis E-Commerce Webpage 17
3.1. Web Analytics Paradigm 2.0 17
3.2. SimilarWeb Tool 18
3.3. SAS Web Analytics Tool 18
3.4. Idea of Multiplicity and testing method Recommendations 18
Conclusion of Part Two 19
References 20
Appendices 22
Appendix 1: John Lewis main page Layout 22
Appendix 2: SimilarWeb Traffic Overview of John Lewis 22
Appendix 3: John Lewis Global Ranking 23
Appendix 4: Customer Services of John Lewis 23
Appendix 5: John Lewis Marketing Channel Distribution 24
Appendix 6: Social Analytics of John Lewis 25
Appendix 7: John Lewis Traffic by Countries 25
Appendix 8: John Lewis Competitors environment Information 26
Appendix 9: Google Trends of John Lewis 26

Part One and Part Two

Executive Summary

This report summarized the use of social media platform Facebook for practical digital experiments and analyzed the given website www.johnlewis.com. For this, it has been divided into two parts. The first part of this report involves using the social media platform Facebook to carry out the digital analytics module practical experiment. A Facebook page has been created by getting instructions from course module learning materials and tutors. The page named Shopper's Delight has been created concerning the services and products of the given www.johnlewis.com business. The practical experiment involves using multivariate testing by doing the variations in posted material on this page. The data of this experimental page has been collected and analyzed using Facebook insights. The second part of this report works on analysis and evaluation of the given website of john lewis. This part involves using web analytics and business intelligence in combination for studying the john lewis website. The web analytics 2.0 paradigm has also been introduced in the second part, which suggests the three elements using appropriate tools recommendations for john lewis's website that could work best to improve their business.

Introduction

This report aims to demonstrate the learning outcomes of the Digital Analytics module. For this purpose, the course module learning material has been practically implemented in part one of this course by making the experimental Facebook page concerning the given john Lewis website and developed research skills have been implemented in the second part through studying the given website. The main objective of this report is to practically implement the digital analytics course material to benefit and improve the new and existing organizations' business. The main goal of this piecework is the real-life application of experimented paradigms, tools, and frameworks to the existing organization's website and new business.

Part 1: Practical Social Media Experiment

Section 1. Selection and Analysis of social media Experimental Area

The main aim of the report's first part is the practical implementation of learning outcomes of the digital analytics coursework. For this social media platform, Facebook has been used to explore and examine digital analytics data. A page named Shopper's Delight has been created with the given www.johnlewis.com website for studying and extracting analytics data. The shopper's Delight is an experimental Facebook page created based on the products offered by john lewis business that concentrate mainly on shopping and retail business.

This report would involve using some testing strategies and methodologies for developing the successful experimental page business. For this, Facebook insights have been used for studying the digital analytics data of the experimental page. By varying the posted material on the created page, this report will answer the following questions. First, for the successful management of any organization's business, Facebook tools could prove effective. Second, what type of sources and posted content material proved most popular for grabbing the audience's attention to the created business page (Mochon, 2017).

The main goal of this report has been achieved by gaining more followers, likes, and comments on posted material of the experimental page. This purpose has been accomplished by using Facebook insights which give key information through data analysis and gathering of all users who interact at the experimental page. These pre-determined goals suggest adopting Mintzberg's 5 P's strategy, which is analyzed in the next section of this report (Song, 2017).

Section 2. Method, Approaches, and Procedure for the experiment

The selected method used in experimenting on the created page is the multivariate testing method. It is the method that involves multiple variations of the testing process by bringing the variations in a web page's elements. The main goal of this testing is to determine the best combination of various elements present on a web page that gives optimized results. This method has been applied to the created experimental Facebook page instead of A/B testing because it requires the creation of two web pages. This type of testing gives optimized results by choosing the best version of a single page out of two experimental pages. While, in the case of multivariate testing method, only single page creation requires multiple variations in elements present on-page helps in choosing the best combination for producing the optimized results (Kohavi, 2017).

The number of variations applied in multivariate testing depends on the elements number present on a web page like images, buttons, headlines, etc. The total number of pages variations can test by applying this formula:

Total page variations number = number of variations in first element X variations number in second element X number of variation of Nth element (Kohavi, 2017).

The procedure of this experiment involves the first creation of a Facebook account, which requires creating an experimental Facebook page. After this, Shopper's Delight experimental Facebook page has been created about the given website www.johnlewis.com products. Multivariate testing has been used in this experiment by changing the experimental page elements such as variated headlines, images, profile pictures, and posting variations in posting time and posting days. There are 20 variations in posted material tested on this experimental page for four weeks.

Section 3. Data gathering, Analysis & Reflection

This practical experiment has completed in a total of four weeks. Every week post variations have been used by changing various page elements like a profile picture and Facebook cover page. In the first week, the Shopper's Delight logo's Facebook page was created, and the specialized Fb cover page was also created according to the created page business. This logo and Fb cover page has been created through Canva according to the instructions given in the digital analytics module course. In the second week, images have posted on Shopper's Delight page according to the products offered by Johnlewis business. In the third week, a video related to the retail business has posted on the page with some images. The last week of this experiment mainly promotes the experimental page content with posts creation.

Table 1.1: Experiment Plan

Serial No.	Post Variations	Week 1	Week 2	Week 3	Week 4
1.	Page logo creation	✓			
2.	Fb cover page making	✓			
3.	Video Posting				✓
4.	Products posting	✓	✓	✓	✓
5.	Post during daytime	✓	✓		✓
6.	Profile Changes	✓	✓		
7.	Post during night		✓	✓	
8.	Use of hashtags	✓	✓	✓	✓
9.	Boosted Posts			✓	✓
10.	Post during midnight		✓		

A total of 20 post variations have been used in the total period of 4 weeks. The calculations of these post variation combinations are given as follows:

Table 1.2. Calculation of total number of Post Variations

Description	Formula
Calculation of Total number of post variations in multivariate test (Jiang, 2020, July).	[Variations of element A] X [Variations of element B] X [Nth number of variations] = Total number of variations
Calculations of total number of post variations on experimental page	2 [Profile changes] X 4 [weekdays] X 4 [Use of hashtags] X 3 [Time of the day] X 2 [Boosted Post] = 192 Variations
% Of Piloted Posts	20/192 = 0.104 0.104 X 100% = 10%

There have been complementary page visualizations created on the experimental Fb page by maintaining the harmony in page elements in terms of their colour and images. The aim of developing this page harmony is to get business popularity as it influences people's perception of the particular social media brand positively (Zailskaitė-Jakštė, 2017). The experimental page, Shopper's Delight's creation purpose is to promote products given Johnlewis website business. So, several posts based on retail business products of Johnlewis have been posted on this page. At the end of this experiment, this page got 76 likes and 112 followers.

Figure 1.1: Experimental Page (Shopper's Delight) main Page Layout with Logo and Cover Page

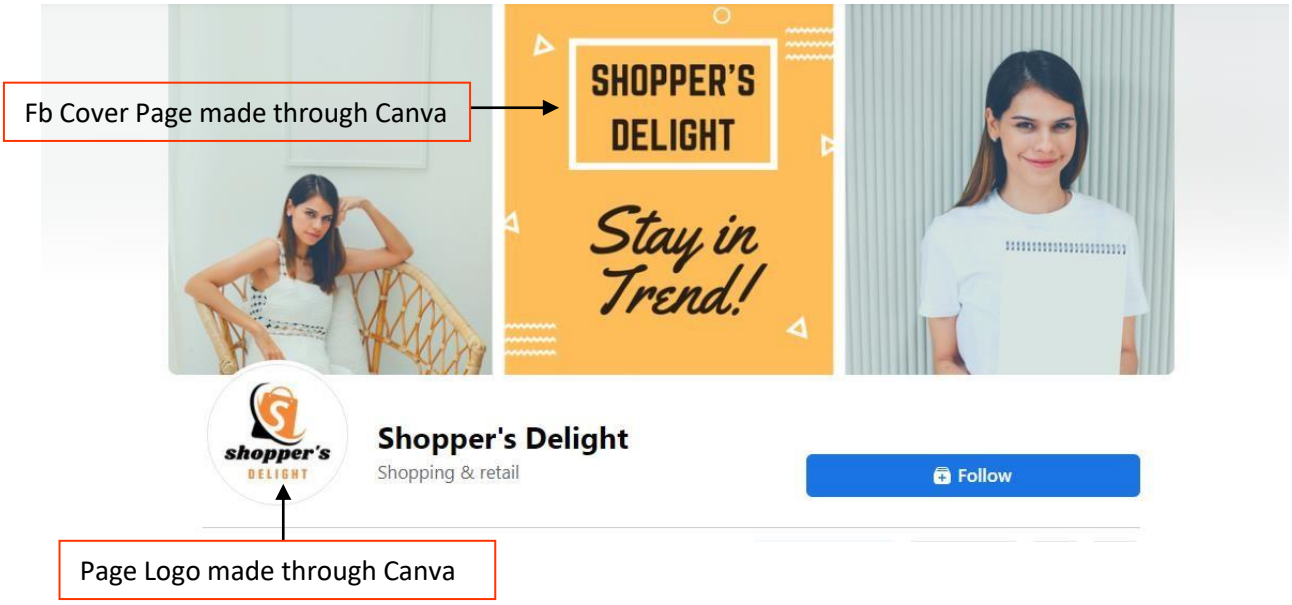
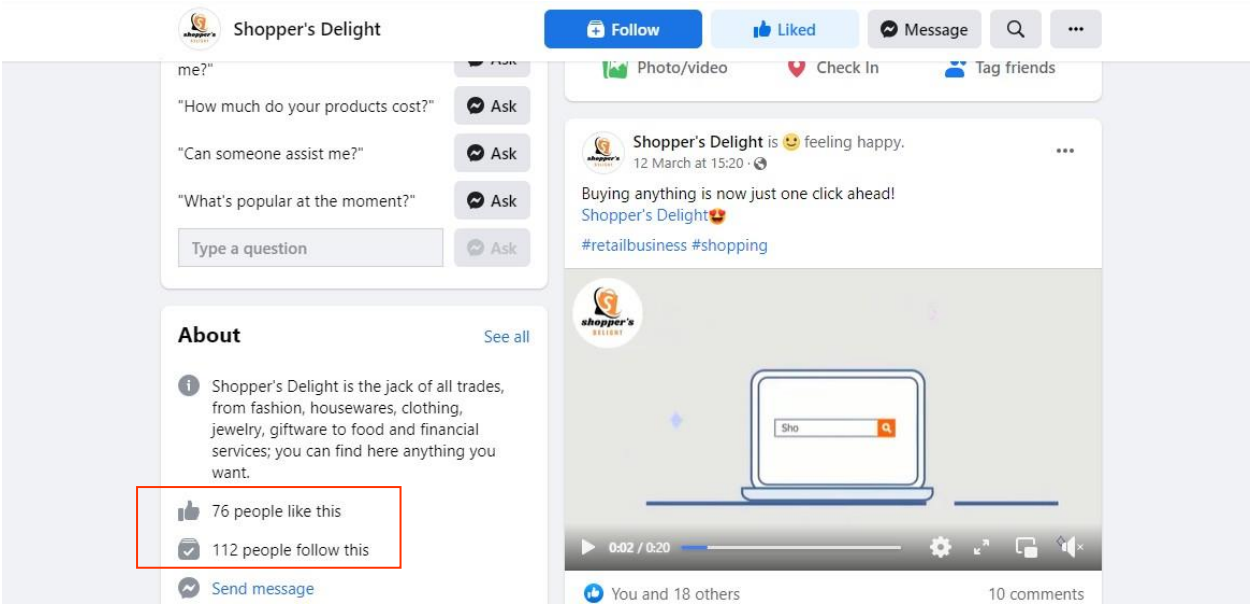


Figure 1.2: Experimental Page (Shopper's Delight) Total Followers and Likes



The data of this experimental page has been analyzed and collected using the Facebook analytics tool. The use of appropriate analytics tools is found very effective in capturing the user trends, which helps promote any business by following them. It is very useful in analyzing the metrics associated with page posted content like reach, engagement, and views. Facebook insights have been used to analyze and collect all the data of created experimental page. One of the most powerful analytics tools is included for tracking the posted content performance and analyzing user behaviour. This analytics tool also shows competitors of the business page, which in return help to improve and grow the business (Madila, 2021).

3.1. Overview of Page Performance

The experimental page, Shopper's Delight, has shown good performance in 4 weeks, as shown in figure (1.3). A total of 211 people reached the experimental page in a total time of 28 days. The percentage of these unique people who visited the page content has risen by 379.5%. There is an increase in post engagement percentage as 407%, which shows that the experimental page has attracted its unique fan audience by bringing variations and harmony in created posts.

Figure 1.3: Experimental Page (Shopper's Delight) Page Reach

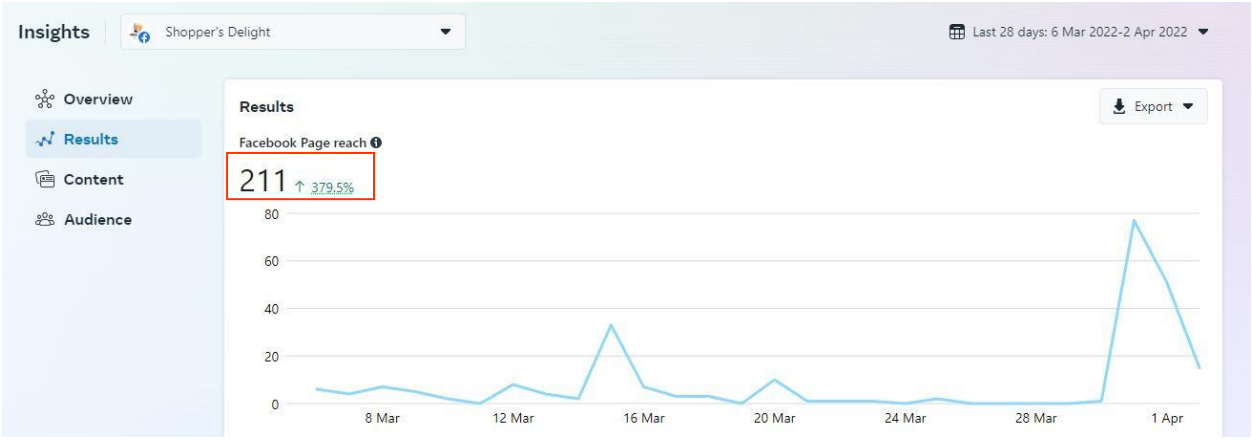
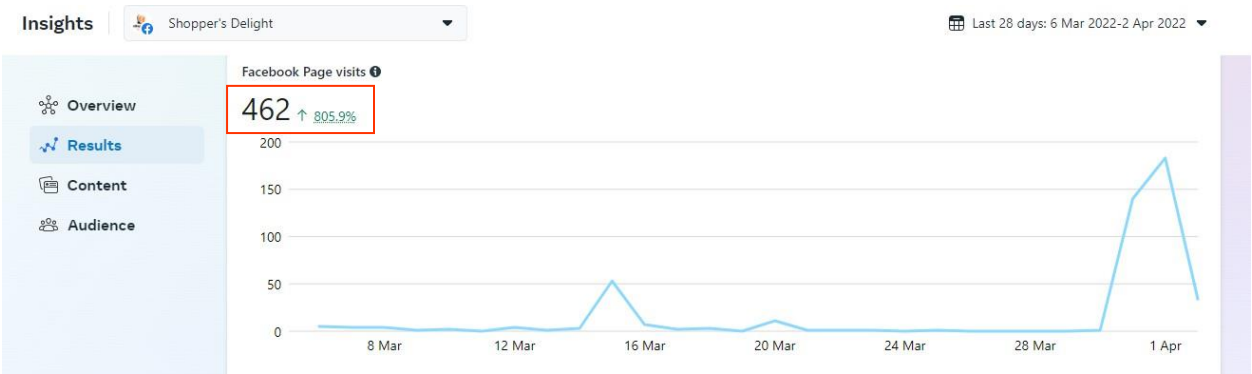
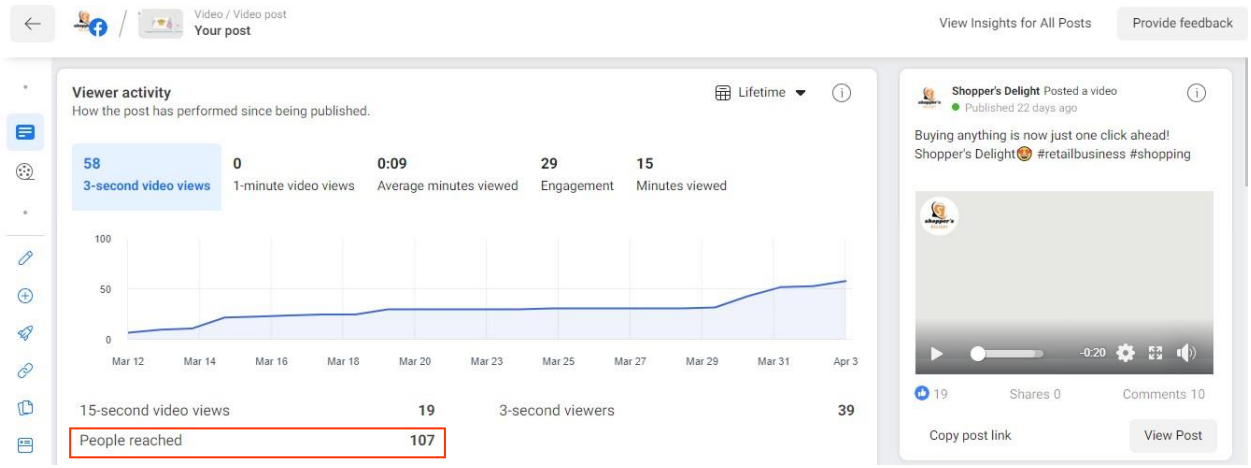


Figure 1.3: Experimental Page (Shopper's Delight) Page Visits



Posting a 20-second video on the experimental page has increased the views percentage up to 285%. There have been various times for creating posts has been used. The days when a new post has been uploaded on the experimental page. It has been shown by analyzing the Facebook insights data that maximum page fans reach individual page posts when uploaded within 2-3 days. It has also been included in the objective of experimental page work to determine which post content proved to be most popular in attracting more fans. It has been shown in figure (1.4) there is great fan reach of 107 people with more views to post when the video has been uploaded to the page related to the experimental page business. So, it has been proved that people like visual and animated things more than links, hashtags, and writing stuff. These types of visualizations attract the attention of most of its audience because it looks attractive interesting and gives more clear information about the business in the simplest way (Dolan, 2017).

Figure 1.4: Experimental Page (Shopper's Delight) Video Post Visits



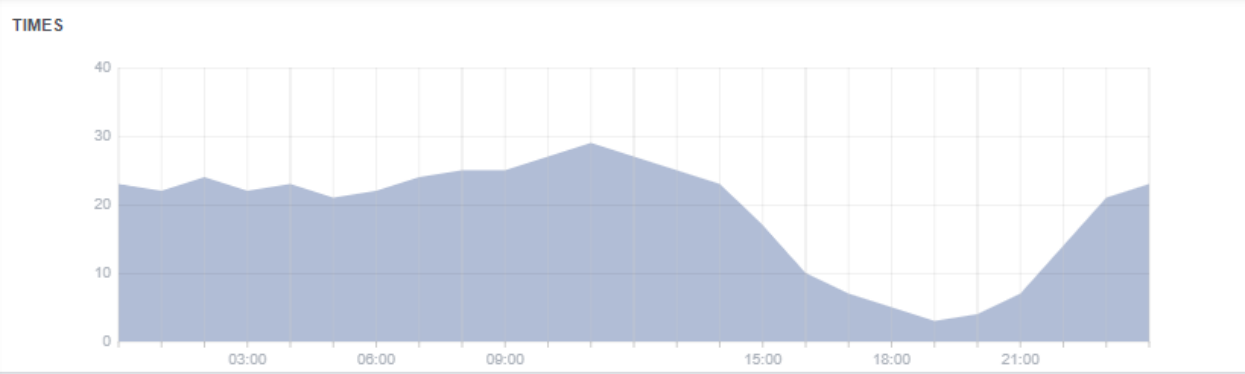
It has also been observed in analyzing the page performance that such posts where there is an emoji and hashtags used in the written text information about post attract more audience as shown in figure (1.5). The use of emojis attracted the audience as a friendly page and gained more likes comments with even sharing. It has also been observed that adding question-type text in the post or putting open-ended questions in it grabs the visitor's attention. These type of captions in the page post gives improved people reach, impressions, engagement, and clicks.

Figure 1.5: Experimental Page (Shopper's Delight) Post with Use of hashtags & Emoji

It has also been observed that audience engagement rate is higher at weekends as Thursday's Fridays gain more people engagement with a higher rate of 11% than other weekdays as shown in figure (1.6). Different posting timings have also been tested on the experimental page, it gave the results that night and midnight timings are the best time to post than daytime as it gains more page engagements. The main reason behind these findings may be that people are busy working during the daytime. That is why they are less likely to visit social media than the night timings when they get free after their daytime work (Antoniadis, 2019).

Figure 1.6: Experimental Page (Shopper's Delight) Weekend Engagements

Figure 1.7: Experimental Page (Shopper's Delight) Post Timings



3.2. Reflections on Facebook Insights

The Facebook built-in analytics dashboard tool, Facebook insights proved to be the good storyteller of experimental page, Shopper's Delight overall performance, especially in terms of posting type content. Its insights tabs give different metrics visualizations more comprehensively helps to quickly analyze the information, which could be expensive and difficult to access in the absence of this. Additionally, it has been proved very useful as exploring data on excel because it helps in conducting more data analysis and storing long-term statistics. The Facebook business page could be very useful in the future for improving the page business success rates by identifying the aspects of successful elements from the past.

3.3. Limitations of Facebook and Facebook Insights

Although the Facebook analytics tool, Facebook Insights, has been very used in collecting and analyzing the page data, it has some weaknesses too, which need to be acknowledged in using this tool. It has been found that it sometimes takes time as data access has been restricted with time, and also its metrics are also fairly shallow. One of the great limitations of Facebook insights has been found through experimental page experiments is that its insights results data has not been updated immediately; instead, it takes 24 hours to update data. It has also been found that in paid campaigns, effective targeting has been decreased due to lack of demographics data which in return did not give positive effects for page boosted posts. The Facebook business page has some drawbacks. Not everyone has a Facebook account because before starting a business on Facebook by creating a page in it, you need to have one Facebook account first. The Facebook business page could not fully brand your page as it has limited design options, giving you less access to your marketing and designs control. You have to update the page regularly to get targeted customers; otherwise, it gives bad impressions to the users.

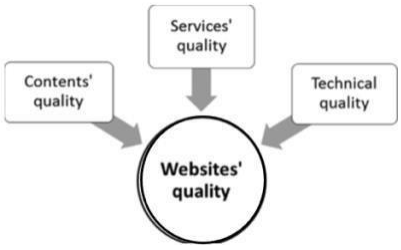
Conclusion and Recommendations for Part one

To summarize, an experimental Facebook page named Shopper's Delight has been created with the products of Johnlewis business. The performance of this page has been analyzed through the Facebook analytics tool, Facebook Insights, which gives information about which type of content, timings, and post variations give the best results in attracting more audience to the page. Through this whole four-week experiment, all research questions have been answered, which aimed at the beginning of this report: which type of popular content attracted more audience to the page. It has been found that the use of emojis, choosing night timings to post content, using visualize content more like videos, adding open-ended questions to the written post text, and use of hashtags proved to be the most popular content on the experimental page which gains more likes, comments, views and sharing than other posts on this page. For optimized analysis of business page performance, some other tools like Social Blade have been used in conjunction with Facebook insights. Another recommendation is to add a blog for page posted content that could support more engagement and traffic to the page.

Part 2: Case Study of Given www.johnlewis.com Website

Section 1. Analysis and Evaluation of the specified website www.johnlewis.com

John Lewis does the retail business of high-end department stores. It is a commercial B2C (Business-to-Customer) website that aims to market the department store brand products. It is included in their stated values that "Give More Than You Take", which means that they put a lot of effort in for giving benefits to people which is the main reason for their brand popularity. There is a framework that has been proposed by Rocha for global website quality evaluation. This framework has been utilized in this report for accessing the quality of John Lewis's E-commerce website. The structure of this framework consists of three innovative dimensions. This innovative concept includes dimensions of technical quality, service, content, and categories of them (Rocha, 2012).



(Rocha, 2012)

Table 1.3 given below has shown the website quality examination of John Lewis in various categories of transparency, website design, credibility, and content. The brands' homepage looks very simple in layout and also in the use of colours on the homepage. It has organized and appropriate use of pictures on it but the font which has been used over the page is not as very eye capturing. It has been stated by Malyshenko in his study that the use of background colour and images on the homepage with contrast plays a very important role in increasing the effectiveness of a website (Malyshenko, 2017). Their website also has not been categorized into high credibility because the page does not have a product review option for customers but possesses products with review ratings. In their service quality context, the website is performing very well.

Table 1.3: Global Quality Framework for Evaluation of John Lewis Website

Serial No.	Element	Category	Evaluation	Classification
1.	**Content Quality**	**Website design**	The home page aesthetics of the John Lewis website is average. The logo of this company is small as compared to other elements on their homepage. The logo is located on the left side of the homepage and also it is too small that its fonts are not visible. The good thing about the homepage is we do not need to scroll down to search for products we need to buy, instead just look at the top menu and we could find their all products information with clear distinction in the categories of services. **Colour Scheme**: Font used in black and white colours on their website mostly. The logo has a black background, so the fonts on the logo are white, whereas homepage fonts are black against the simple white background. The style of the company's webpage which includes background colour and colour scheme is consistent all over the website.	Reasonable-Good
		Content information	Fonts used over the websites are readable because the black colour of fonts has been used against the white background. This contrast makes text readable. The content presented over the website is exactly relevant to their services and it contains varsity in the provided information. **Experiment**: when I click on a special category of beds, then I found a lot of information regarding it like bed types with images, furniture material, colour, price, review ratings, brand, mattress size, finish, and delivery options. The website homepage has all the information which a user could need while buying some product online from product size, price, categories on basis of average review ratings to different delivery options.	Very Good
		Transparency	All the information is relevant to user demands and updated information	Very Good

			available on their website. There are no hidden delivery costs or hidden costs, instead, all policies and prices with delivery costs are clearly outlined for the customers.	
		Credibility	The business works 24/7 and has professional look. The company website has a help and feedback option for users to leave comments which could help them in improving their website but does not have any FAQ page. **Experiment**: When I click on add to basket option experimentally for buying a man shirt, then I easily got the checkout option to buy without needing any sign-in into their website but still need an email for placing an order. It is a very good option on their website for users to review the ratings and feedback of customers before buying any product of their choice.	Reasonable-Good
2.	**Service Quality**	**Privacy**	John Lewis has a privacy policy written on the bottom of their website page that data of their customers is safe. The same applies to buying products and making online payments.	Good
		Contact	The company has provided an email, the contact number, and a website link for the users to contact any time for inquiring about their products, services, or any media inquiries they want.	Good
3.	**Technical Quality**	**Navigation**	John Lewis has provided all links to their social media networking websites at bottom of their web page. There is a clearly outlined navigation area present at top of their all pages with a search bar option.	Good
		Usability	The website design is very user-friendly without asking any not a robot confirmation. Every potion of website page displays with average speed and has a user-centred design.	Good
		Responsiveness	The website is easily accessible through PC, mobile, and tablet devices. The company has its developed app too named John Lewis & Partners for buying products.	Very Good

			Experiment: The opening of this website from different browsers and devices does not distort its website design, speed, and content.	

This experiment has been conducted based on the global quality evaluation framework of the website. By applying this framework, a lot of information has been gathered regarding the technical, service, and content quality of the John Lewis website which has been listed in table 1.3. But the website still needs some improvements for its optimization as highlighted in the conducted evaluation framework and this could be possible by deploying the web analytics and business intelligence initiatives in combination.

Section 2. Discussion and Analysis about the combined use of Business Intelligence and Web Analytics for John Lewis Website

Business intelligence consists of technologies and strategies that have been used by enterprises for information management and data analysis of the business. This helps the organizations for best practice the data mining, infrastructure, business analytics, data tools and benefit them making more such decisions that are data-driven (Arnott, 2017). However, web analytics is the analysis and measurement of data for optimizing and understanding the behaviour of users across web pages (Neal, 2020). For optimization of given John Lewis website, it is very effective for the growth of their business that both advanced web analytics and business intelligence are used in combination. Both solutions would help make John Lewis's business more responsive by integrating data from various systems and then manipulating this data for conducting the analysis. However, there is a need for the most appropriate web and business intelligence tools for John Lewis company that would help their business growth.

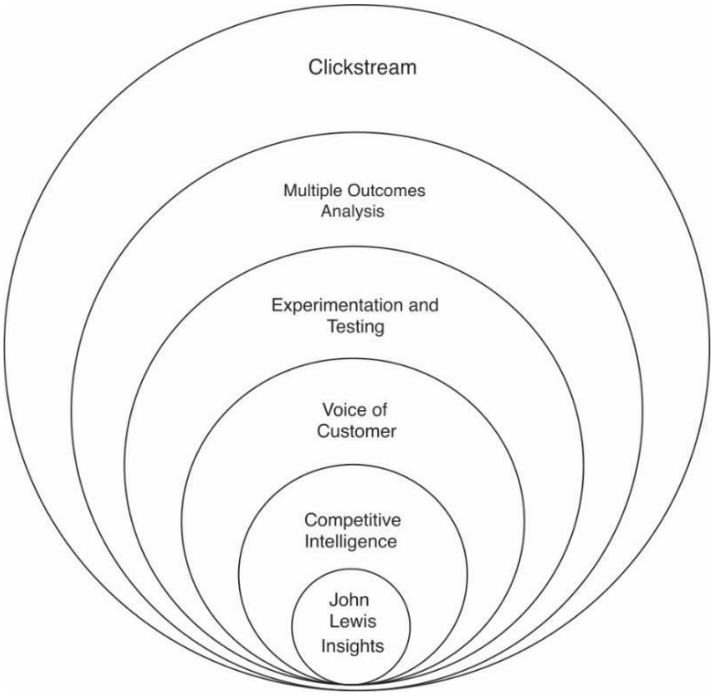
For this, Domo has been recommended as a business intelligence tool for large companies like John Lewis as it is an e-commerce business intelligence tool for accessing the business information to any user even without having any prior knowledge about BI experience. It has a collection of pre-built connectors which are more than 1, 000 for collecting data from different flat files, proprietary systems, and cloud platforms (Pioryshkina, 2020). Another web analytics tool that has been recommended is crazy egg because it offers user-friendly comprehensive graphs and heat maps. This tool helps the e-commerce website owners to look at the areas which they need to focus on and which areas their visitors have been simply ignoring. It is a very valuable tool for data collection of their website visitors and this tool's special feature "Confetti" shows visitor clicks in different colours (Shirey, 2021). At the end of this, similarWeb tool has been identified for estimating total website traffic and also helps you to see the competitor's top traffic sources which will be discussed in the next section of this report.

Section 3. Recommendations for John Lewis E-Commerce Webpage

The previous sections of this report evaluated and analyzed the given specified website of John Lewis and some areas have found in it which need to be improved. There is a need to work on the weak areas of their website for improving their business. For this, several tools and a paradigm has been recommended in this section of the report for their website optimization.

3.1. Web Analytics Paradigm 2.0

For improving the performance of the John Lewis website, the web analytics 2.0 paradigm has been recommended for it. It has been discussed in the week 5 ppt lecture of the digital analytics module that the web analytics paradigm gives the analysis of quantitative and qualitative data from websites and also studies the competition in the market. It also helps in the continual improvement of customers' online experience (Lee, 2017). The holistic picture of the John Lewis website could be improved by following the five pillars strategy of this paradigm. After combining the web analytics 2.0 paradigm's five pillars strategy, actionable insights could be obtained from this. The main focus in this analysis has been done over competitive intelligence, clickstream, customer voice, and experimentation. For the John Lewis website analysis based on this paradigm, there is a need to gather and analyze the foundational data from their website by applying the clickstream analysis technique of this web analytics 2.0 paradigm. This clickstream analysis technique of the 2.0 paradigm helps in tracking the online behaviour of customers through metrics like engagement visits, bounce rate, unique visitors, exit rate, time spent of them on-site, and the page (Kaushik, 2010).



Web Analytics Paradigm adapted from (Kaushik, 2010)

3.2. SimilarWeb Tool

It is a very effective tool in estimating the total amount of traffic on a variety of websites. It also helps in determining the top traffic sources of the competitors by breaking them into six categories which include top search keywords, social traffic, and referring sites. This tool helps tell the unique visitor data of their company websites by analyzing it on a monthly and even on daily basis (Tavosi, 2021). This tool has been recommended for John Lewis's website and experimentally applied to their website as shown in appendices 2 to 8. The John Lewis website click level data has been shown in appendix 2 where relevant analysis data has been generated by using this tool. This software is easy to navigate and learn by business employees for introducing its use into day-to-day company operations. Moreover, this tool's premium version helps in providing detailed customer solutions and more functions. There is intense competition in the retail business which is why John Lewis company needs to conduct an environmental scanning using competitive intelligence. It is the process of data analysis of the company's competitors throughout the entire web ecosystem, or the top-rated markets in the relevant business (Leidig, 2022). Additionally, this tool gives performance comparison for various brands which could be very helpful in providing actionable information for any company's competitive position in the whole web ecosystem. The analysis and data type which has been demonstrated in appendix 8 tells the John Lewis competitive environment information by using the SimilarWeb functions.

3.3. SAS Web Analytics Tool

The tool of SAS web analytics cleanses, organizes, and collects raw data of large volumes from the company website and integrates this data with offline sources. SAS web analytics could be used for data visualization and statistical analysis of large companies like John Lewis. The John Lewis company should consider using this tool as it is not only useful for organizing the internet data but also integrates this with offline sources (Johnson, 2022).

3.4. Idea of Multiplicity and testing method Recommendations

Another recommendation for John Lewis's website is the use of multiplicity ideas and various integrated web analytics sources for getting the complete picture. For this, Webtrends has been recommended for tracking the visitor data and also for understanding their navigation, purchase behaviour, and content preferences of them. As it has been evaluated in section one of part two report the homepage of John Lewis's websites lacks some elements on it, that is why it is essential to implement some testing and experimentation on the homepage for knowing what best elements combinations could give the optimized results. King (2017) has suggested the use of A/B testing in his book for experimenting with the landing homepage of any website and for making design decisions on everything. This testing method has been recommended for John Lewis's case for selecting the best combination of elements on the company's webpage. It has been highlighted in section one of this part report that John Lewis's webpage lacks proper colour and page design contrasts, that is why the use of

A/B testing recommended for experimenting with different web page designs could prove to be very helpful in choosing the best webpage design with excellent colour contrasts for John Lewis homepage (King, 2017). According to Koning (2022), performing online experiments is a risky thing but its outcomes give any company boosted revenue and improved online experience. That is why, A/B testing has been recommended for the John Lewis website as it would split their webpage traffic between the changed and current version of the page (Koning, 2022). It has also been suggested that John Lewis company should contract Optimizely which is a leading American company that gives digital platform experience as a service. It provides A/B testing tools, feature toggle capabilities, multivariate testing tools, and web content management services (Giri, 2019).

Conclusion of Part Two

Part two of this report does the evaluation and analysis of John Lewis's website and found some elements on their webpage which need to be improved for getting the optimized performance. For this, the combined use of web analytics and business intelligence tools has been recommended. At the end of this report, several tools and a paradigm have been suggested for the John Lewis company. These tools include Webtrends, SimilarWeb, SAS analytics tool, and web analytics 2.0 paradigm. It has been concluded that the John Lewis website could get optimized and have improved user experience by implementing the recommended tools, paradigm, and testing method suggestions which have been discussed in part two of this report.

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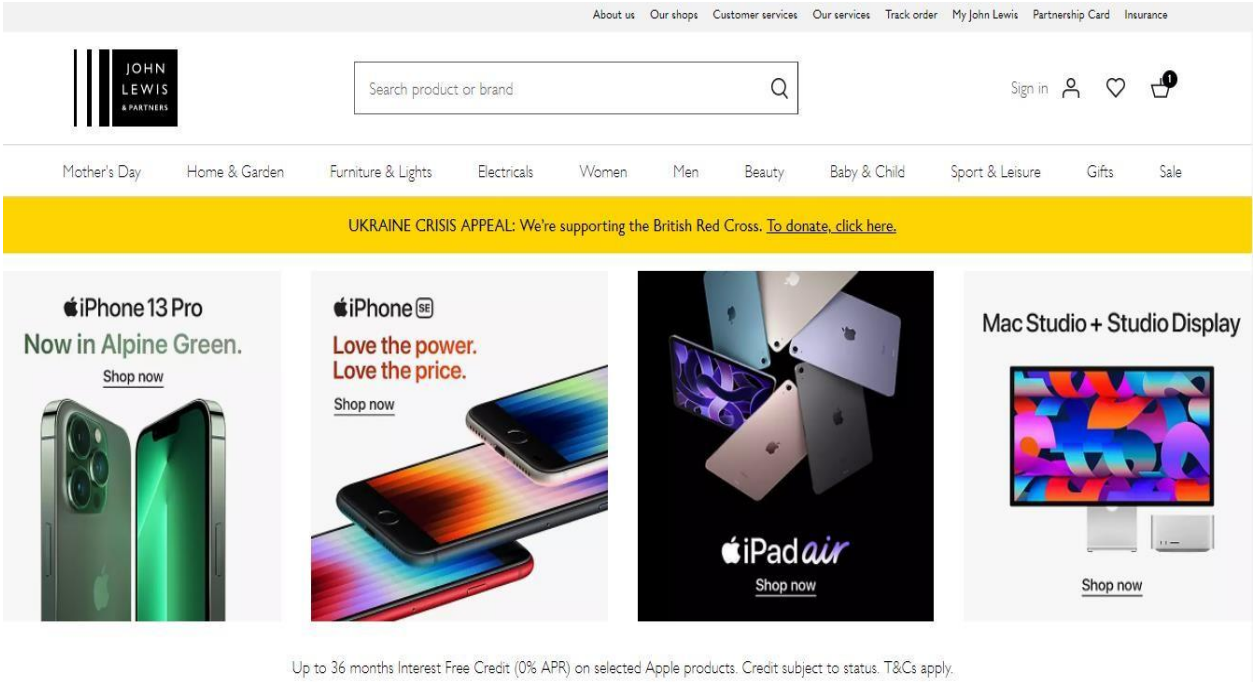
Appendices

Appendix 1: John Lewis main page Layout

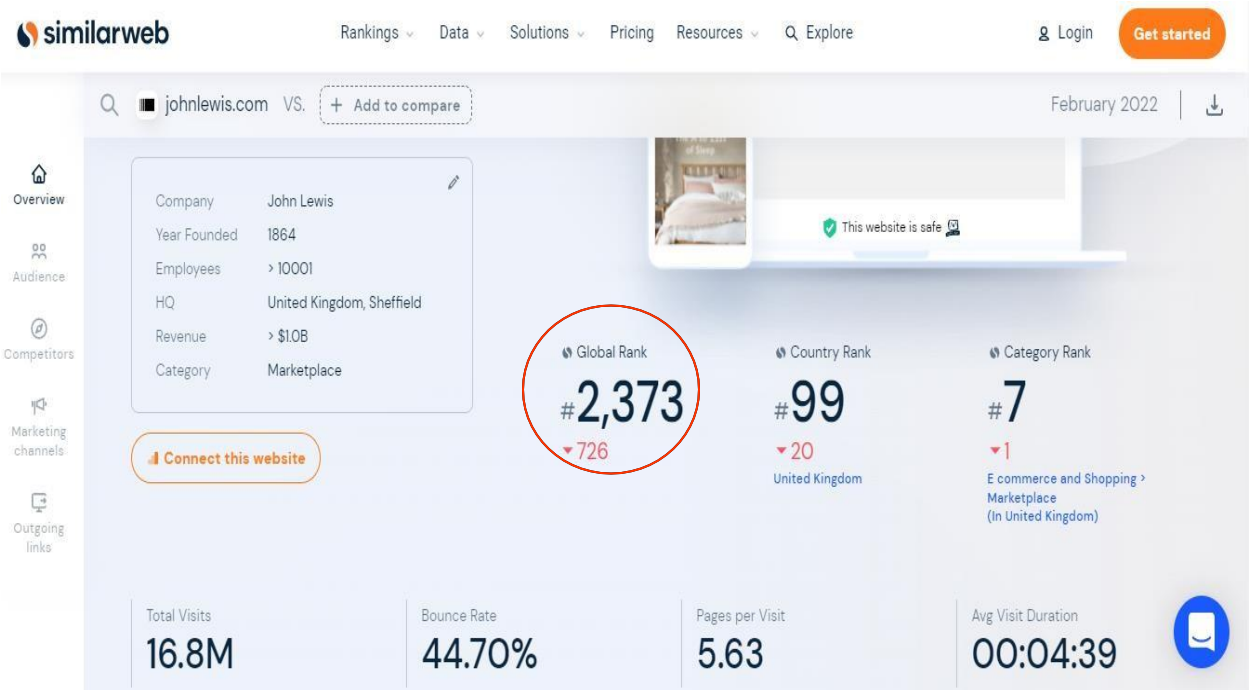


(johnlewis, 2022)

Appendix 2: SimilarWeb Traffic Overview of John Lewis

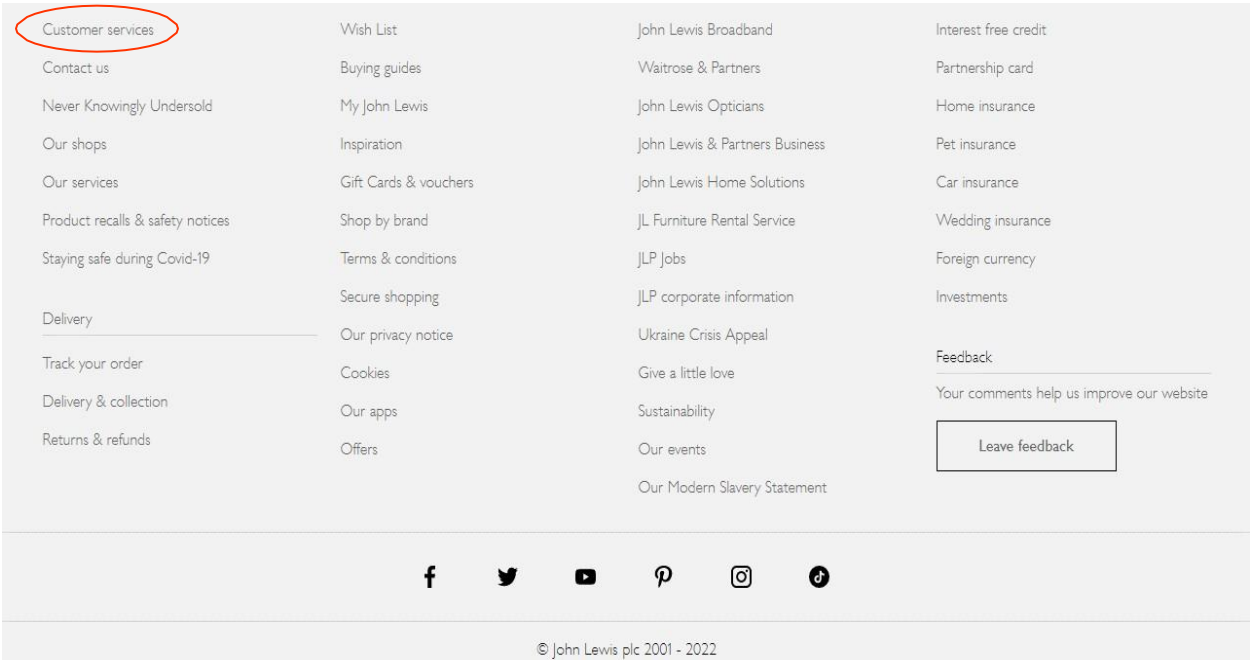
(similarweb, 2022)

Appendix 3: John Lewis Global Ranking

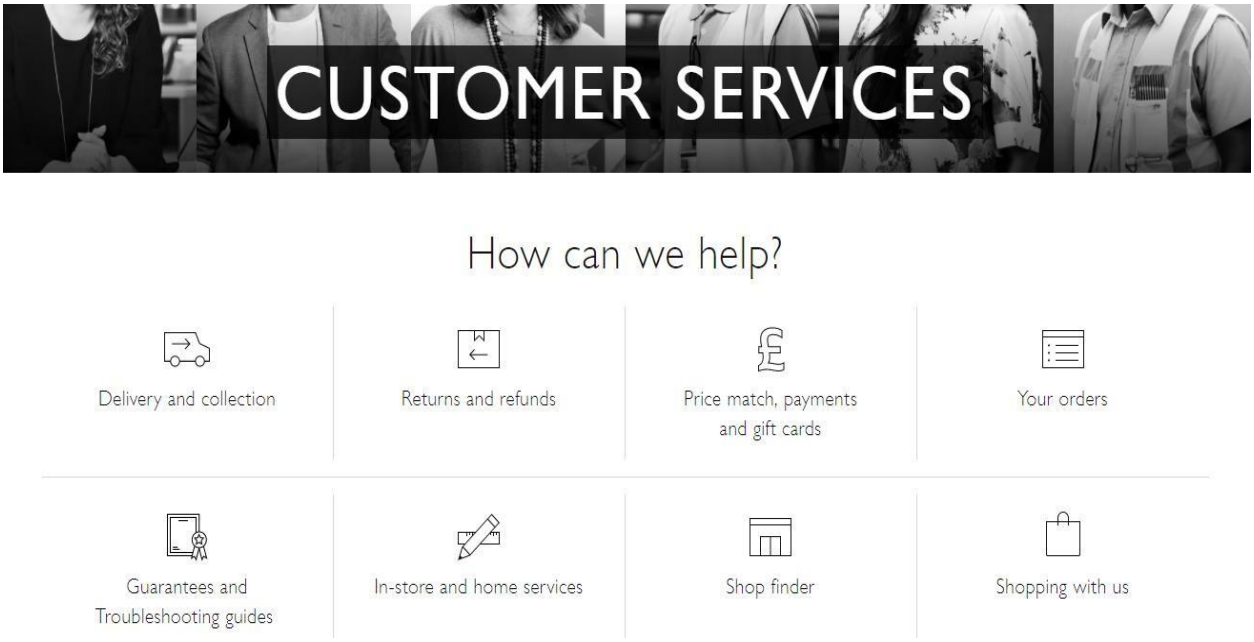


(similarweb, 2022)

Appendix 4: Customer Services of John Lewis

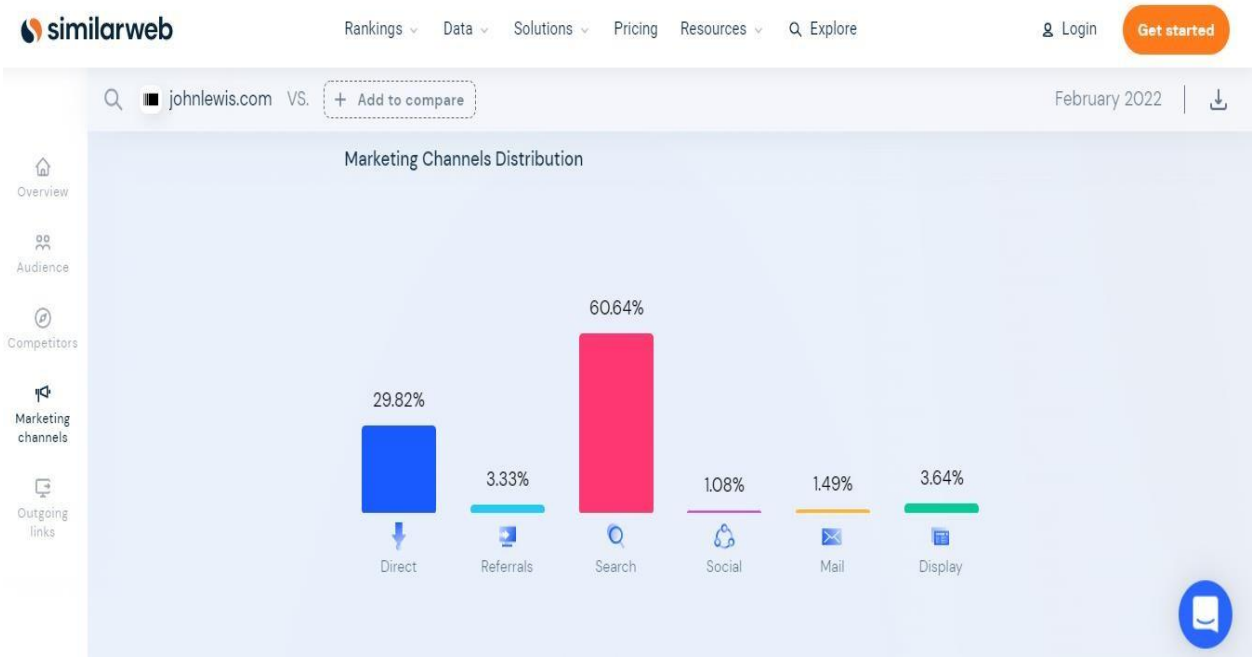


(johnlewis, 2022)



(johnlewis, 2022)

Appendix 5: John Lewis Marketing Channel Distribution

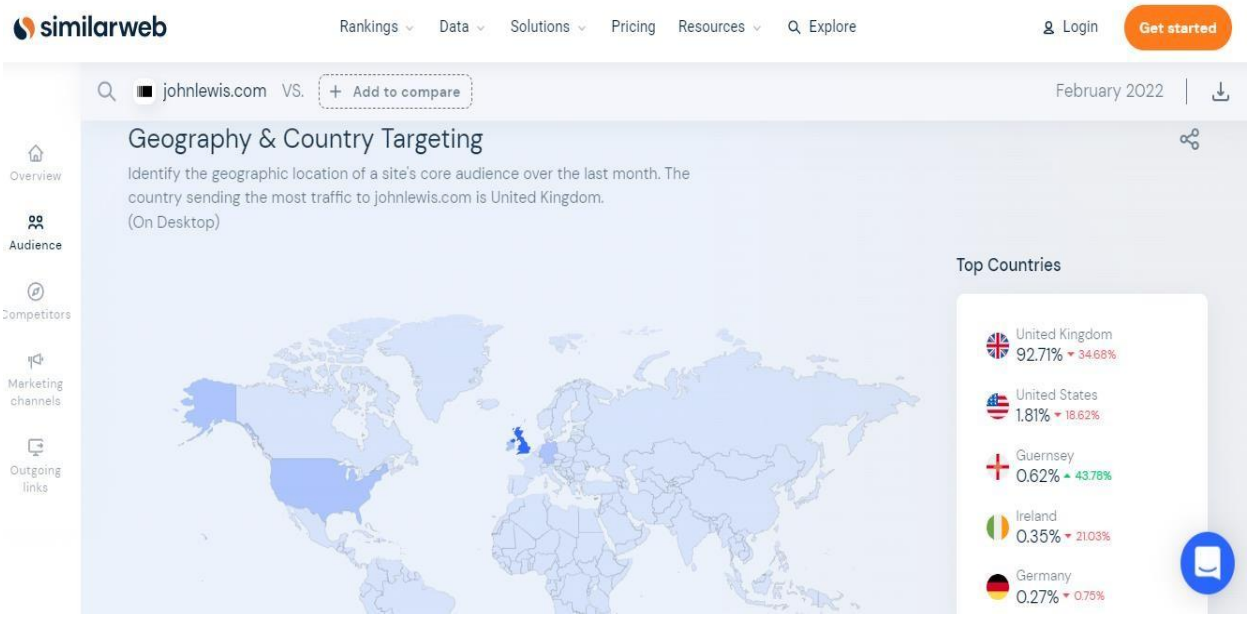


(similarweb, 2022)

Appendix 6: Social Analytics of John Lewis

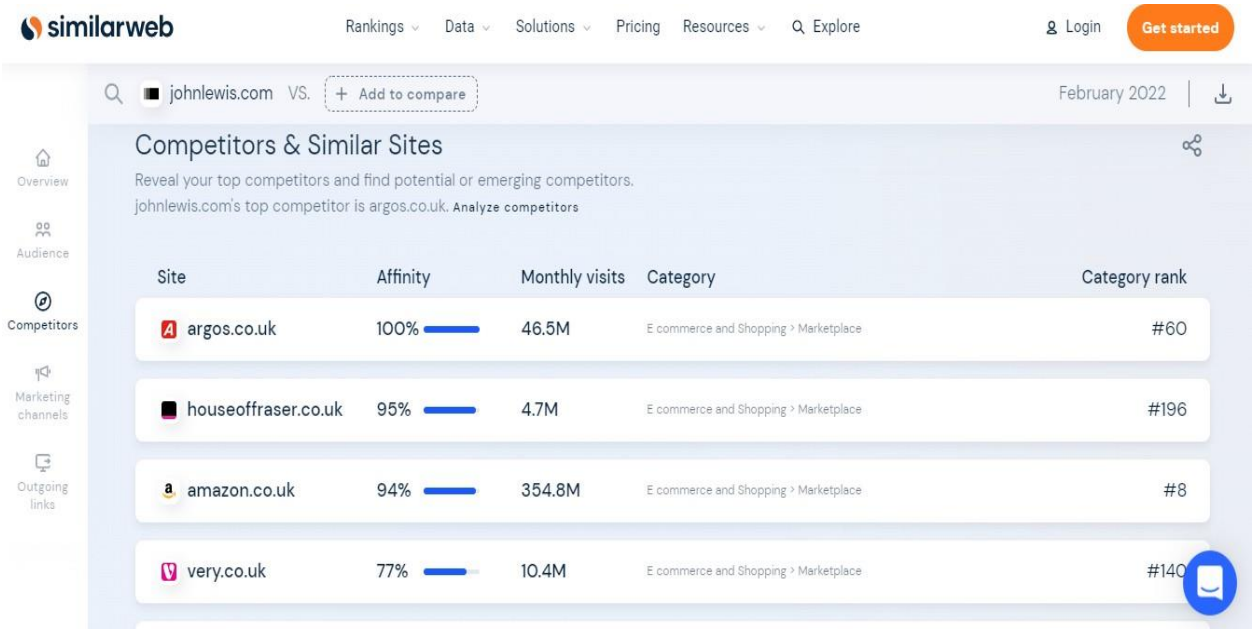
(similarweb, 2022)

Appendix 7: John Lewis Traffic by Countries



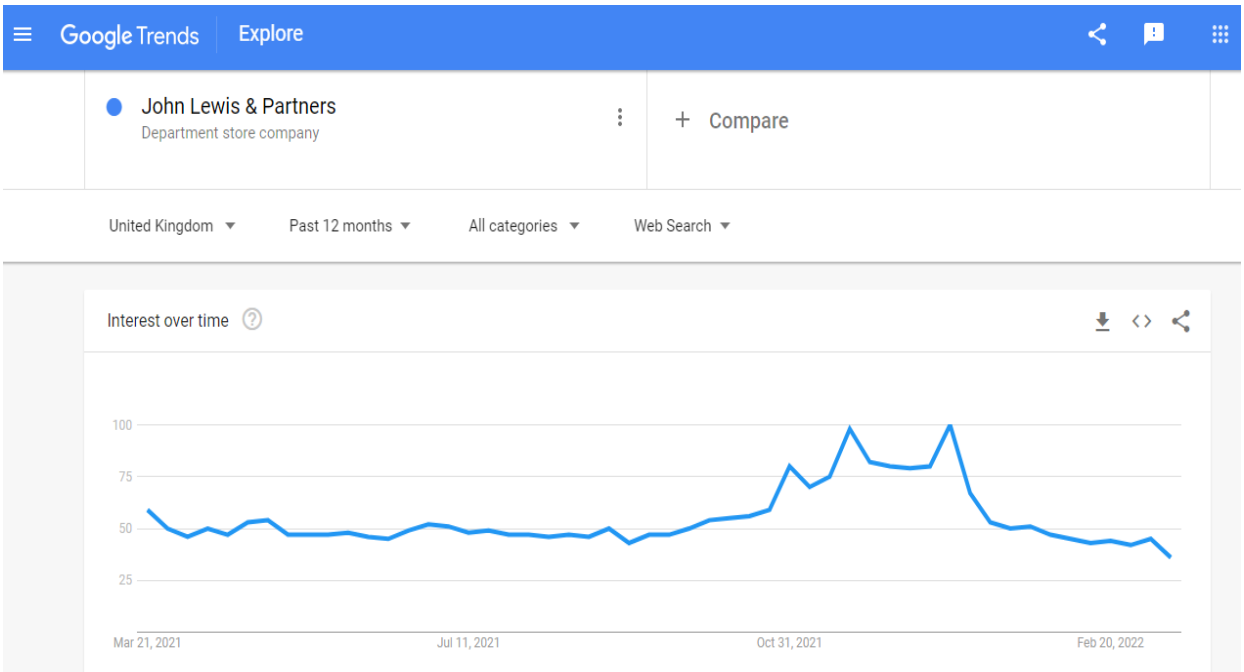
(similarweb, 2022)

Appendix 8: John Lewis Competitors environment Information

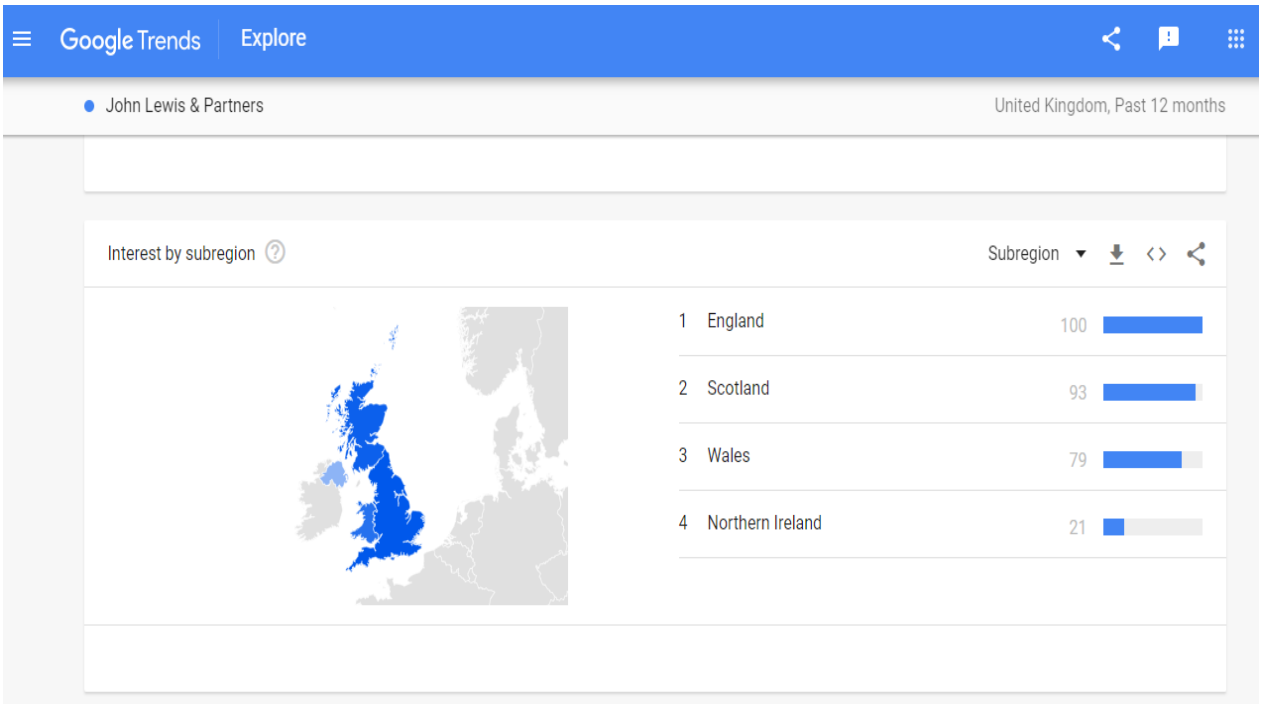


(similarweb, 2022)

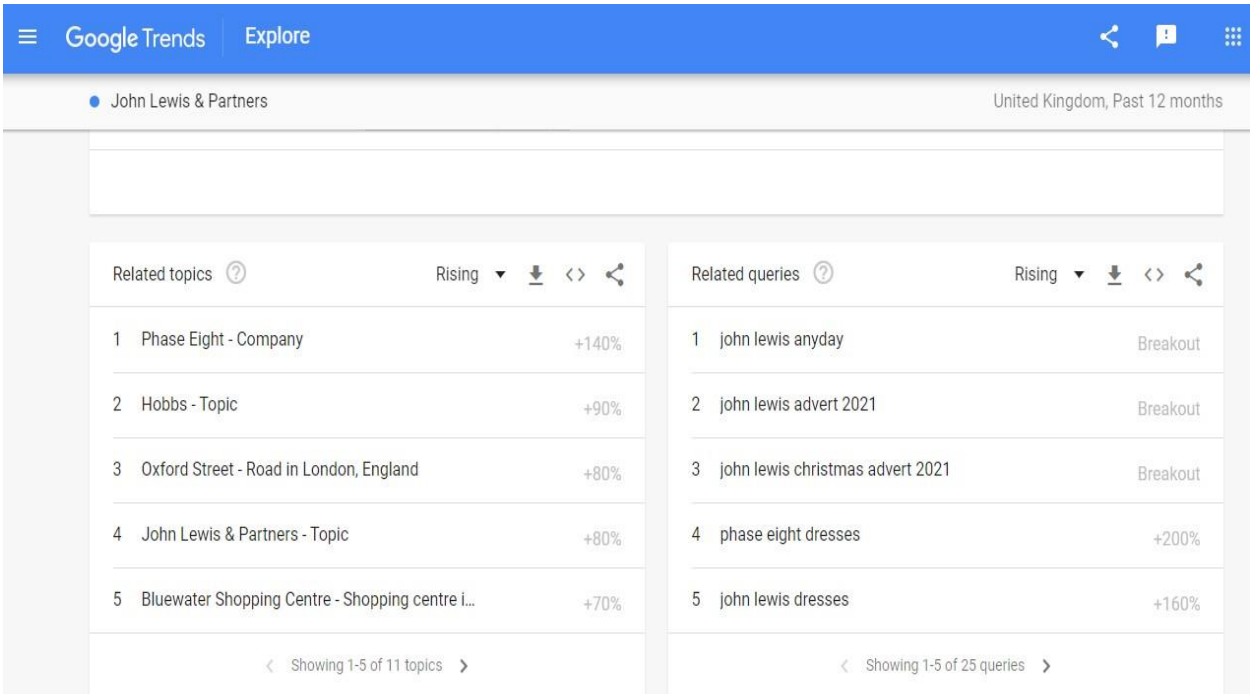
Appendix 9: Google Trends of John Lewis



(GoogleTrends, 2022)



(GoogleTrends, 2022)



(GoogleTrends, 2022)