JACOBS
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Web Analytics

by

Berk Dikici
Kevin Anum
Didier Iyamuremye

Final Report

Instructor: Prof. Dr. Sergey Kosov

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Contents

1 Introduction

We live in a world that can be characterized as a data-driven world. Data has changed and shaped the way our society operates currently and will continue to do so in the future. This is due to the continuous expansion of world wide web. With the start of its globalization in 1990 [1], it revolutionized the world with the main purpose of establishing a global network to allow constant connectivity amongst people. Currently over 3.9 billion people are on the network grid [2], sharing, downloading, uploading and generating data in different types and forms .

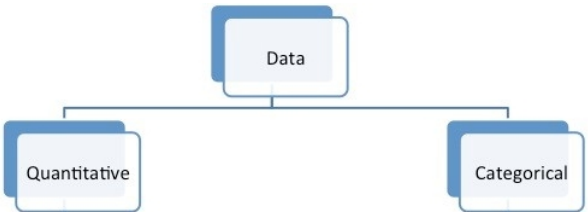


Figure 1: This figure displays what types of data is found [3].

Data is a distinct piece of information which is separated into two main groups namely qualitative and quantitative data. Qualitative/Categorical data is descriptive information for instance colors, names, smell whereas quantitative data is a numerical information such as score on exams, shoe size. Data is also flexible, for instance distinct data can be formed into a collective data such as to not only describe a current state but also a state in the past as well as a state in the future. Hence, data has become essential and valuable. The majority of data is found in the world wide web, which is growing on a daily basis. Nearly 2.5 quintillion bytes of data is generated on a daily basis, by individuals, systems and devices on the network grid [4]. Indeed, the gigantic amount of data rise new challenges especially in terms of data analysis. These challenges are tackled by a relatively young field called Web Analytics. Web Analytics emerged three years after the world wide web was created, namely in 1993 [5]. In the early years of this field log-files were used to gain insights. As years passed by, with the growth of the world wide web users as well as increase of web services such as ecommerce, social media, the web-analytics market began to expand slowly. Only in 2005 with the release of Google Analytics, the field started to boom. Since then, it has become a household buzzword. The field is still undergoing a continuous growth as varies innovative analytical tools and new analytical methods are developed. Nowadays, Web Analytical tools/methods have become a standard for companies, especially for companies who provide web service. These tools is seen as well as used as a mean to get a competitive advantage in the market in order to become or sustain their role as a global player.

In this project, Web Analytics was used to testing and explore the customer behaviour of the business intelligence market.

DDS

DATA.DRIVEN.SOLUTIONS

DDS is a business intelligence solutions company that helps companies gain a competitive edge in the digital age [6]. DDS provides the following service: consultation on the

infrastructure needed to optimize the essential data your company needs, detailed reports needed for decision support, automating processes, predicting outcomes based on the business data. To help businesses DDS offers three different packages; the consultation package, analysis package and develop package.

For the testing two analytical tools were used namely Yandex and Google Analytics. Furthermore, analytical methods such as A/B testing, goal setting and KPI identification (Key Performance Indicators) were applied to get a deeper insight into the websites performance, understand its user base and help to improve the quality of the websites content.

2 Goals and Key Performance Indicators

2.1 Goals

Goals setting is a pivotal part of a companys aim to become successful. Goal setting is devising a plan to achieve a certain outcome. At DDS the outcome is generating revenue. The first step was to set up a product testing website to is how customers interact with our website. Our business intelligence solution has three products(packages):

- Consultation package
- Analysis Package
- Develop Package

Since our main objective, outcome goal, is to make money, our process goals will lead as to our outcome goal. Our process goals are defined as the follows:

- Increase the number of potential projects per month
- Increase the amount of awareness about our services per month

2.2 Key Performance Indicators

KPIs (Key Performance Indicators) are a measure that can be used to track the success of defined goals. To keep track of each goal KPIs will be created for each goal [7].

2.2.1 Increase the number of potential clients

Since our website is a product testing website, no purchases can be made. If a user clicks on a product he wants to purchase, he will be redirected to a confirmation page. The number of clicks on a product is equivalent to the number of pageviews on the various confirmation pages. The current workforce at DDS is three people. The reasonable number of projects are as follows:

- One development project per month
- Four analysis projects per month
- Four consultation projects per month

Therefore, the KPIs are as follows:

- One pageview on ”develop_confrimation.html” per month
- Four pageviews on ”analysis_confrimation.html”
- Four pageviews on ”consultation_confrimation.html”

2.2.2 Increases the amount of awareness per month

Awareness can be defined in the following two ways:

- Number of users on the site The number of users on your site means the number of people that are aware of your company
- Number of different demographics on your site- The number of different demographics tells us the demographics that have awareness of are product.

The number of users on the site is a much better of an estimation than the number of different demographics as that will require a larger number of users to make implication as such. A user can visit the site for a second and leave. Can we define that as an aware user? To be certain that the user is aware of our products we must be sure that he has some interest in our services. We say that a user is aware of our services if the user clicks the learn more button and/or if the user spends more than forty-five seconds on our home page and feature page. Clicking the learn more tells as that the user wants to know more about our company and spending more than forty-five seconds (rough estimate of reading the content on the page) on the home page and feature page implies that the user knows about our services. Two evaluate this goal the following KPIs were defined:

- Average time spent on the index page and feature page is 45 seconds.
- Total number of pageviews on /thankyou.html (which can only be viewed when the user clicks learn more) should be twenty percent of all pageviews.

3 A/B Testing

A/B testing is a method that is used for conducting experiments to optimize customer experience. An alternative A version of the website is released to a subset of users while an alternative version B is released to another subset of users. Both versions are then compared and evaluated in order to decide which version achieves a higher conversion rate; a conversion is a desired action that we want the user to take (e.g visit a page, purchase) and a conversion rate is the conversion rate divided by number of visitors. Finally, the best performing version is published as the initial website.

The 4 steps of A/B testing [8]. To implement a B site , the following steps must be achieved

- Analyze data
- Form a hypothesis
- Construct an experiment
- Interpret results

3.1 Step 1: Analysis

The first step of A/B testing is analyzing the data from site. Fig 2 and Fig 3 are screenshots of how site A looked like. In this version of the site the aim was to mimic an original site. The following sections will seek to analyses the customers interactions on site A.

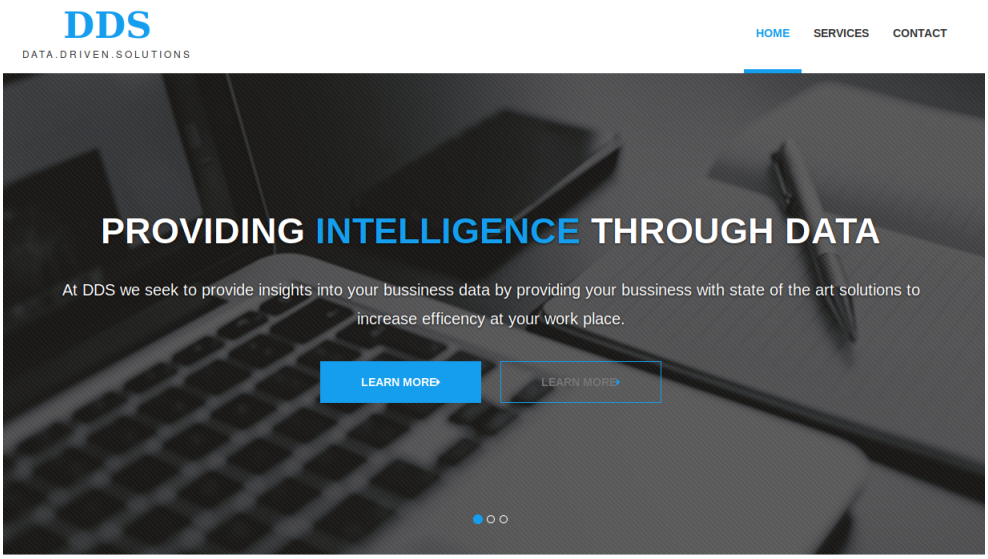


Figure 2: This figure shows the index page of version A

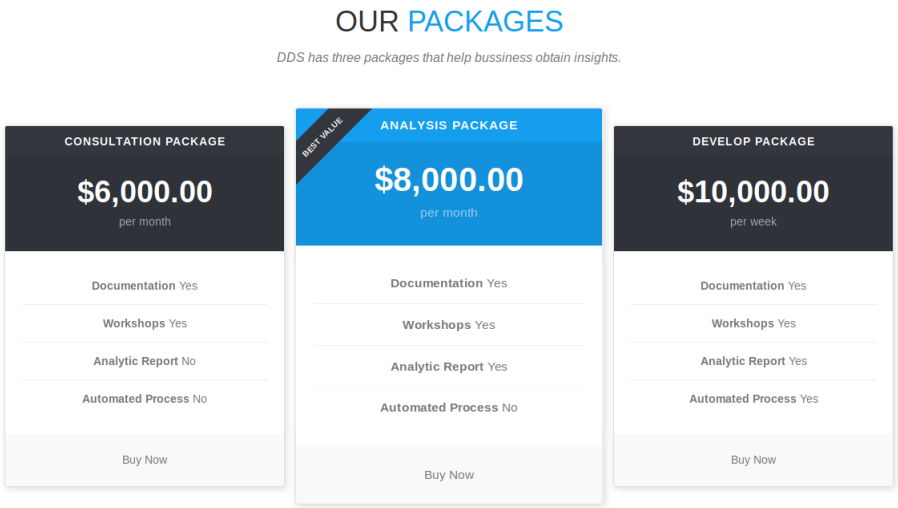


Figure 3: This figure displays package view in features page of version A

3.1.1 KPI Assessment

From table 1 ,it is evident that only one KPI was achieved. Table 1 shows that if the website was up and running DDS will be running at a loss, however DDS has gained some awareness in the month of September.

KPI	Complete
One pageview on ”develop_confrimation.html” per month	NO
Four pageviews on ”analysis_confrimation.html”	NO
Four pageviews on ”consultation_confrimation.html”	NO
Average time spent on the home page and feature page is 45 seconds	YES
Average time spent on the service page is 45 seconds	NO
Total number of pageviews on ”thankyou.html” should be twenty percent of all pageviews	YES

Table 1: The table above displays the selected KPI's

3.1.2 Behavior Flow

To get a better understanding of the users behavior on the DDS site the behavior flow will be studied. Behavior Flow is the visualization of the users path from one page to the next during a session [9]. From the behavior flow here are some important points:

- From the index page 63.6% of the users dropped off.
- From the feature page no user interacts with any of the packages

A drop-off of 63.6% from the index page (homepage) explains why the average time on the features page was less than 45 seconds. No interactions with buttons on the page package section yields to no pageviews on three confirmation pages. Now that it is evident that the percentage of drop-offs from the index page must be reduced to increase through traffic and the feature page must be optimized to increase the conversion rate.

The question is how can these points be improved. For that we put ourselves in the customers shoes and we explore the site. According to [10], user experience is important in reducing the bounce rate (percentage of users who land on the page and leave).So how to improve user experience? One way we can do that is improve the possible interactions on the page. For example, if I click on a button that does not work and I try another button that does work again frustration levels will increase and I will leave the page. In order to prevent that an improvement can be done by removing buttons that do not link to another page.

Increasing the conversion rate of the three packages is a three step process. Land on the index page, redirect to the service page(/feature.html) and select one or more of the three packages. So far, we have tried to reduce the bounce rate and the next task is to be redirected to the service page. This can be done by using call to action buttons and highlighting links with attractive colors.

On the service page, a way to increase conversion rate is placing the package section into the visible area without scrolling .This is because users usually decide within seconds if they want to stay in the site or not [11].Another way to increase the conversion rate is changing the price tag on the three packages or showing validation into why the price is high. Showing validation can be done by increasing the trust of our services by showing some of our high level clients, Since DDS is a new company, we do not have such clients. The only way to increase the conversion rate will be to change the price. Looking at the behavior flow the service page had a through traffic of 81.8 percent meaning 81.8 percentage may have viewed the price and thought it to be too high and left the page to another page. A reduced price may be the key to attracting them to our packages.

The following conclusions were made:

- Removing buttons that do not work will improve work experience, which will reduce the bounce rate on the home page.
- Increasing the number of call to action buttons and highlighting links will increase traffic on the linked page (service page)
- Removing the price tag and rearranging the package section to the top of the page will increase the number of pageviews on the confirmation pages
- Changing the call to action from buy now to try free demo will increase the number of pageviews on the confirmation pages.

3.2 Step 2: Hypothesis

Forming a hypothesis is the second step for conducting a successful A/B test. It will guide us towards a well developed design by applying our knowledge we gather from analyzing the previous data. In order to form a strong hypothesis, the following guideline was used:

If [Variable], then [Result], because [Rationale]

- Variable is the element that is modified (e.g button, form)
- Result describes the predicted outcome
- Rationale is the reason for the change with respect to the acquired customer knowledge

	Variable	Result	Rationale (because)
1	deleting inactive buttons	reduce bounce rate	it will hinder users from interacting with unimportant features.
2	reordering package section	increase conversion rate	offered packages will be the first thing the users will see once they land on the features page.
3	removing price tag	increase conversion rate	”try free demo” is more inviting then displaying the direct price for the offers.
4	highlighting service link	increase pageview	different color for the navigation link will catch users attention and lure them to interact.
5	increase number of buttons to features page	increase pageview	it will guide the users to features page for potential conversion.

3.3 Step 3: Construct an Experiment

In this step of A/B testing, the focus is on structuring and constructing our experiment. All experiments consist of three parts namely Content, Design, Tech.

3.3.1 Content

For a websites content, it is important to have clearly express a message and project it in a manner which fits to the context. Hence for the B version the following changes has been done:

1. Added more buttons with ”try free demo” text that lead to the features page

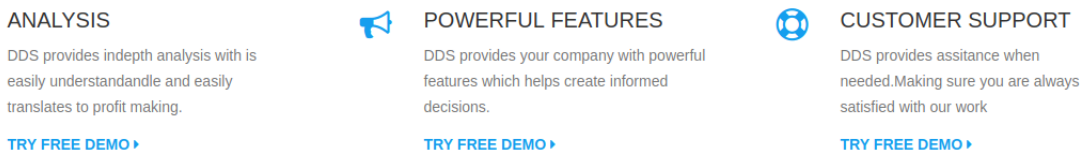


Figure 4: The figure above shows the additional button with ”Try Free Demo” text on the index page

2. Changed package text which was displaying the price per month into ”Free Demo for one month”, see Fig 5

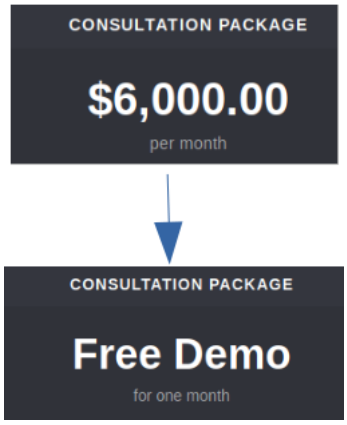


Figure 5: This figure displays change of the price label to ”Free Demo for one Month”

3.3.2 Design

In the design part of our experiment, the main objective is to focus on the different ways of displaying information and choosing the right one out of many.

1. First design change was recoloring the ”Services” link in the navigation bar from color ”black” to ”red”, see Fig 6

Figure 6: This figure display the color change of link ”Services”

2. Second design change was reordering the sections in the features page for instant visibility of packages offered

3.3.3 Tech

3.4 Step 4: Interpreting results

This section seeks to analyze the results from site B and compare them with site A to determine which site is better.

KPI	Complete
One pageview on ”develop_confrimation.html” per month	YES
Four pageviews on ”analysis_confrimation.html”	YES
Four pageviews on ”consultation_confrimation.html”	YES
Average time spent on the home page and feature page is 45 seconds	YES
Average time spent on the service page is 45 seconds	NO
Total number of pageviews on ”thankyou.html” should be twenty percent of all pageviews	NO

Table 2: The table above displays the selected KPI’s and the performance with version A

From table 2, all KPIs except one were forfilled from this alone one can say that site B is the better option in respect to site A. Looking closely at the two results, there is a trade off between awareness and the pageviews on the confirmation pages.

	Site A	Site B
Average time spent on index page	43 seconds	42 seconds
Average time spent on service page	12 seconds	20 seconds
Percentage of page views on thankyou.html	18 percent	6 percent

Table 3: The table shows the awareness level in both sites

The behavior flow of site B will be analyzed to obtain more insights into the customers behavior

3.4.1 Behavior Flow

Table 4 shows that the performance of site A and site B are almost identical with the exception of the number of interactions to the confirmation pages.The variations between the drop-offs and through traffic can be attributed to the variation of users and Sessions in both sites

	Site A	Site B
Drop-offs from index page	63.6%	73.2 %
Through traffic from homepage to service page	28.6 %	24.6 %
Average time spent on index page	17.8 %	21.8 %
Number of interactions to confirmation pages	0	2

Table 4: Table shows the compares the behavioral activities of the two sites

	Site A	Site B
Users	45	67
Sessions	73	121

Table 5: Table shows the compares the behavioral activities of the two sites

3.4.2 Analysis of hypothesis

- If inactive buttons are deleted, then bounce rate is reduced, because it will hinder users from interacting with unimportant features. Hypothesis is incorrect as the bounce rate did not improve.
- If package section is reordered, then pageviews on confirmation will increase, because offered packages will be the first thing the users will see once they land on the features page Hypothesis is true; however, it is combined with the success of the deletion of the price tag.
- If price tag is removed, pageviews on confirmation page will increase, because try free demo is more inviting than the direct price for the others. Hypothesis is true as the removal of the price tag yielded more pageviews on the various confirmation pages.
- If service link is highlighted, then pageviews on service page (feature.html) will increase, because a different color for navigation link will catch users attention and lure them to interact. Hypothesis is true, as pageviews increases on service page.
- If the number of buttons to the feature page increase, then pageviews on service page will increase because, it will guide the users to feature page for potential conversion.

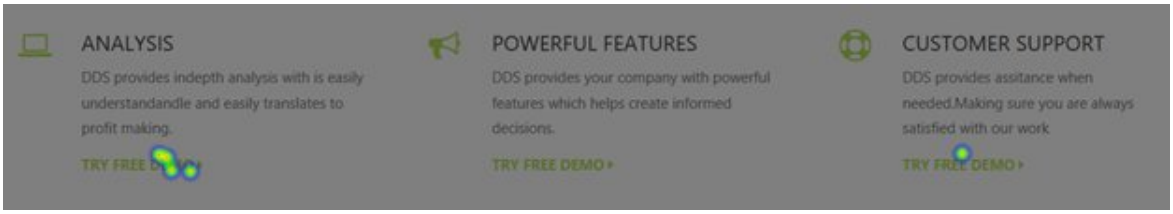


Figure 7: This is a screenshot from Yandex of the click map on the homepage.

The Fig 7 it shows that the additional buttons on the homepage helped increase the pageviews on the feature page. shows the variations in users and sessions between the two sites.

3.4.3 Winner

For the analysis in Table 2, it is clear that site B is the winner due to the increase of pageviews on the confirmation pages. If the company was up and running no revenue will still be generated; however it is evident that some users are interested in a demo of our products .Looking at our competition we see that they have the same approach of offering a free demo and removing the price tag. Therefore, more tests should be done in order to understand our audience.

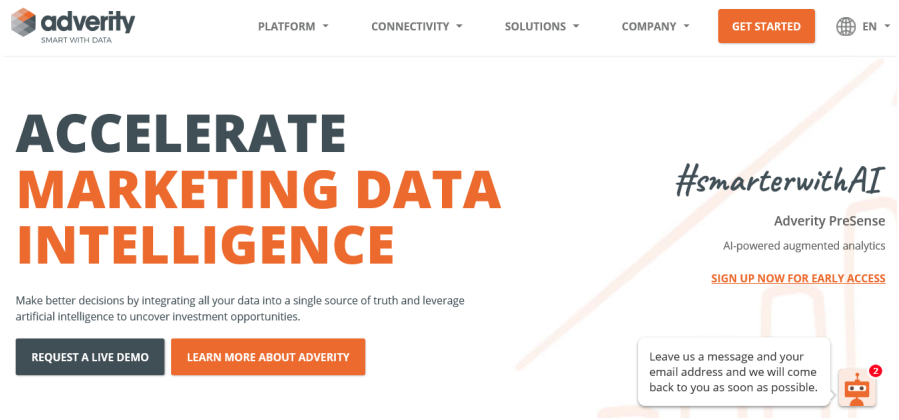


Figure 8: The picture shows the home page of our competitor(adverity).

4 Improvements

In this section we will look at the data obtained from site B and discover if new improvements in our website.

4.1 Scroll Map Analysis

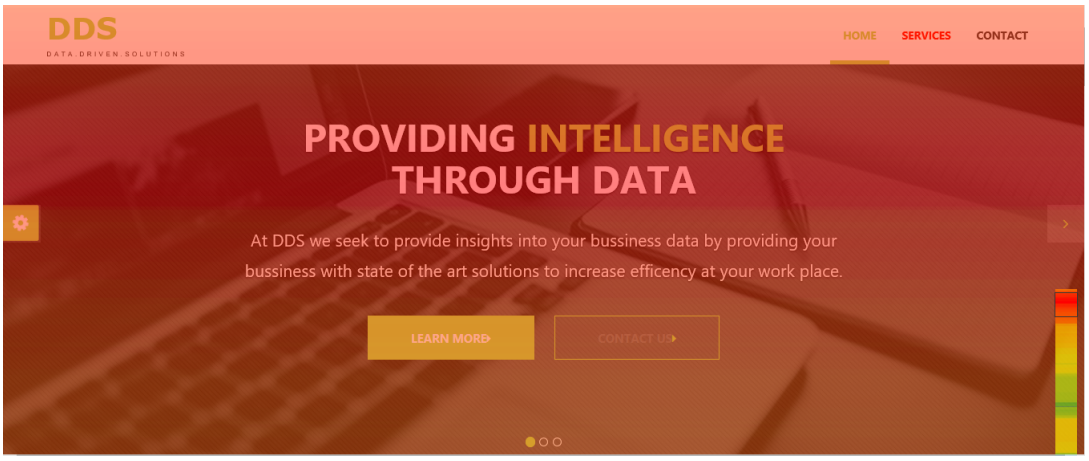


Figure 9: The image shows the scroll map of the most active part of our homepage

Looking at the scroll map, we can see that most viewed part of our website as doesnt have enough information. An improvement will be attracting users by increasing the information available in this section.

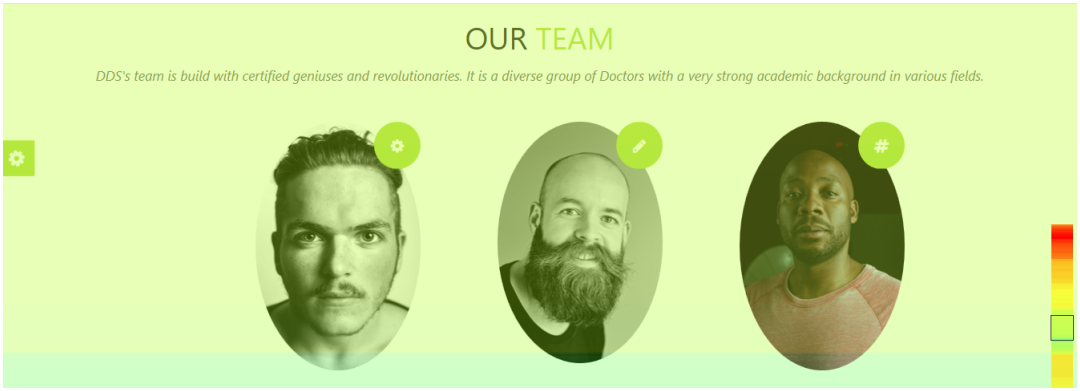


Figure 10: The image shows the scroll map of the least active part of our homepage

Our team section of the homepage is the least active part of the homepage. This section should either be replaced or changed.

4.1.1 Click Map

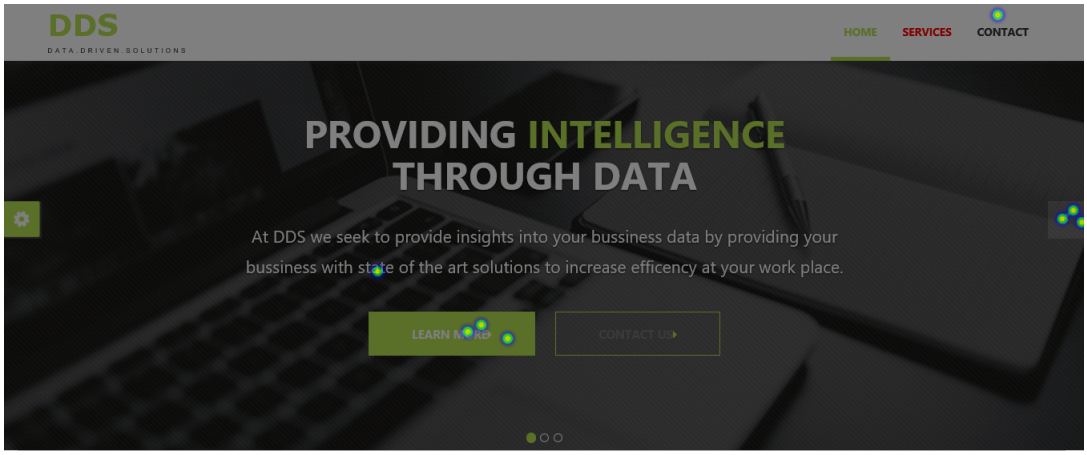


Figure 11: The image shows the click map of the homepage. This image and Fig 7 make the click map of the homepage.

Looking at the buttons clicked we can see that users are the users are interested in trying out a free demo when they read the analysis section Fig 7.This could mean that our users are interested in analytical aspect of business intelligence. Our website could use more analytical terminologies to attract more users. The same can be seen on the service site that more users are interests in analysis.

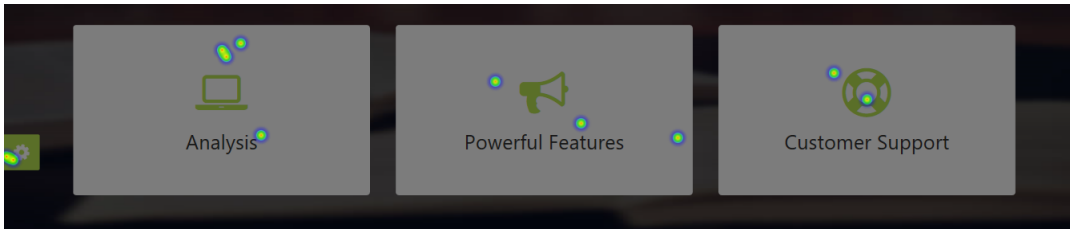


Figure 12: The image shows the scroll map of the least active part of our homepage

4.2 Audience Analysis

4.2.1 Demographics

Our audience base are spread over 4 continents, see Fig 13. From the figure, we can observe that most of the audiences who visit the website come from Europe with 33 users and Africa with 29 users. The number of users from Americas and Asia is relatively low with 4 and 1 respectively.

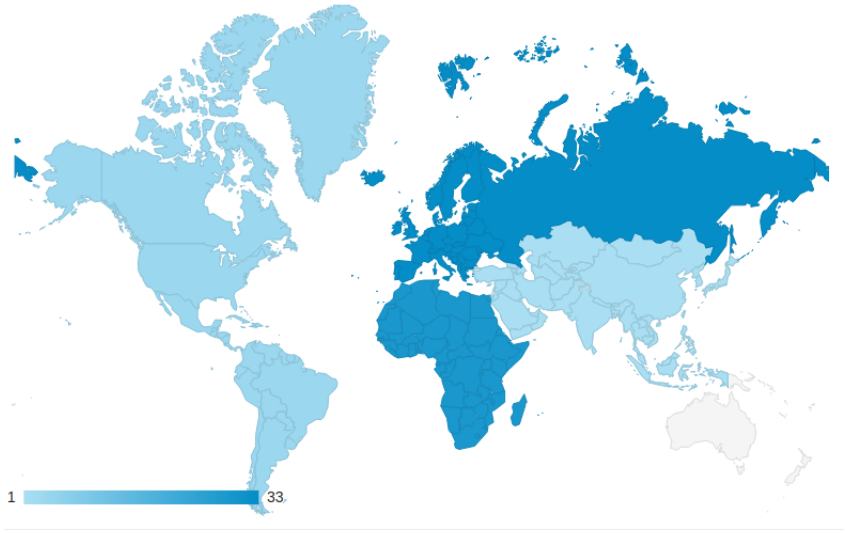


Figure 13: This image is a screenshot of the click map of service page indicating that users are interested in analytics.

Google Analytics allows us even further insight into the audience location by focusing on the country level, see Fig 14. The majority of the users come from Germany followed by Rwanda, Ghana, Switzerland etc. and each countries users display a different behavior. It is inevitable that there is a high interest from the users which visit the website from a European and African country. Hence, our focus should be mainly on those countries and therefore need to dig deeper into the behavioral differences. In the European countries the average Session Duration is much higher than the countries from Africa. Additionally, a similar phenomenon with the number of sessions. This observation leads us to conclude that even though there is a high interest from the African countries, the users who visit the website exit it quite fast. With this knowledge we can better target our audiences by further modification in order to increase the session duration.

Country	Acquisition			Behavior		
	Users ↓	New Users	Sessions	Bounce Rate	Pages / Session	Avg. Session Duration
	67 % of Total: 100.00% (67)	57 % of Total: 100.00% (57)	134 % of Total: 100.00% (134)	1.49% Avg for View: 1.49% (0.00%)	5.07 Avg for View: 5.07 (0.00%)	00:02:31 Avg for View: 00:02:31 (0.00%)
1. Germany	**22** (31.43%)	17 (29.82%)	34 (25.37%)	0.00%	6.26	00:03:22
2. Rwanda	**18** (25.71%)	14 (24.56%)	19 (14.18%)	5.26%	2.68	00:00:10
3. Ghana	**9** (12.86%)	9 (15.79%)	16 (11.94%)	6.25%	3.19	00:00:14
4. Switzerland	**5** (7.14%)	3 (5.26%)	44 (32.84%)	0.00%	6.73	00:04:02
5. United States	**4** (5.71%)	4 (7.02%)	5 (3.73%)	0.00%	3.20	00:01:21
6. France	**3** (4.29%)	3 (5.26%)	3 (2.24%)	0.00%	4.00	00:00:29
7. Ukraine	**2** (2.86%)	2 (3.51%)	5 (3.73%)	0.00%	2.00	00:00:00
8. Austria	**1** (1.43%)	0 (0.00%)	2 (1.49%)	0.00%	2.00	00:00:00
9. Belgium	**1** (1.43%)	0 (0.00%)	1 (0.75%)	0.00%	4.00	00:28:18
10. Burundi	**1** (1.43%)	1 (1.75%)	1 (0.75%)	0.00%	2.00	00:00:00
11. Spain	**1** (1.43%)	1 (1.75%)	1 (0.75%)	0.00%	6.00	00:00:16
12. United Kingdom	**1** (1.43%)	1 (1.75%)	1 (0.75%)	0.00%	2.00	00:00:00
13. India	**1** (1.43%)	1 (1.75%)	1 (0.75%)	0.00%	8.00	00:01:39
14. Kenya	**1** (1.43%)	1 (1.75%)	1 (0.75%)	0.00%	4.00	00:00:05

Figure 14: This figure represents the audience base based on the countries

The potential features and modifications are:

- Including varies number of languages on the website
- For each country cultural aspects could be included into the design as well as specific terminologies in the texts.

4.2.2 Age

Looking at the age demographic, one can ask if this is the right demographic. As this is a business intelligence solution company our target audience are people higher up in cooperations such as CEO and CFO. According to [12], CEOs range from 47 to 63. With this fact it could be possible that our target audience is wrong as or audience is a bit young. An improvement to the website will be to try to increase the age demographic. To increase the age demographic, [13] suggested that the choice of advertising must change to older friendly sites and the sites must be simple to navigate through.

4.3 Device Usage

A company which provides digital solutions has to provide a website which is available and interpretable on every device. The design, in general, should vary from device to device due to the change of screen size therefore it is important to consider to showcase only the most important content, designs (e.g button, layout) on small screen sizes such as mobiles and tablets.

Diving further into our audience base we from Table 6 that the majority of the users visit the website with a mobile followed by desktop and at last the tablet. However, the most

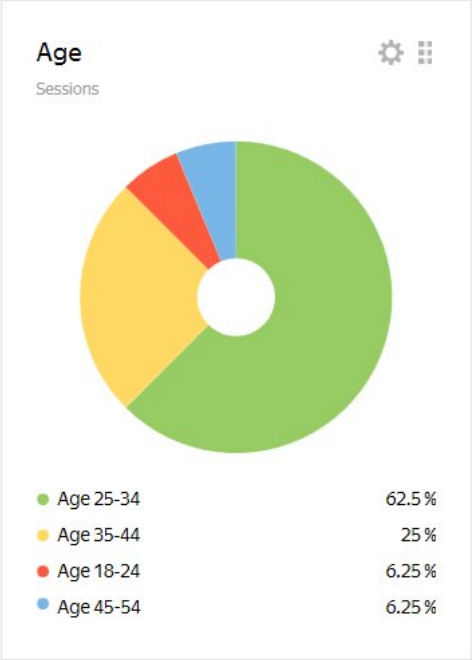


Figure 15: The picture shows the age demographic of are website.

Device Category	Users	Sessions
mobile	59	84
desktop	6	51
tablet	2	2

Table 6: The table above displays type of devices used by the customer base

important information is the number of sessions. There were 84 Sessions for 59 users whereas for 6 users it was 51 sessions. This phenomenon is interesting since a very small number of users had a large number of session in comparison to the mobile users. This could be due to the User Interface (UI) of our website for desktop in comparison to smaller devices.

The next improvement could be a redesigning of the website specifically for smaller device (in our user base case more on the mobile devices) users with the object of creating a more user friendly website that provides:

- all necessary information regarding the services offered
- smarter button allocation
- simple layout design to include only the important designs (e.g removing unnecessary images, buttons and text)
- Increase the visibility of the other links(Service,Contact)

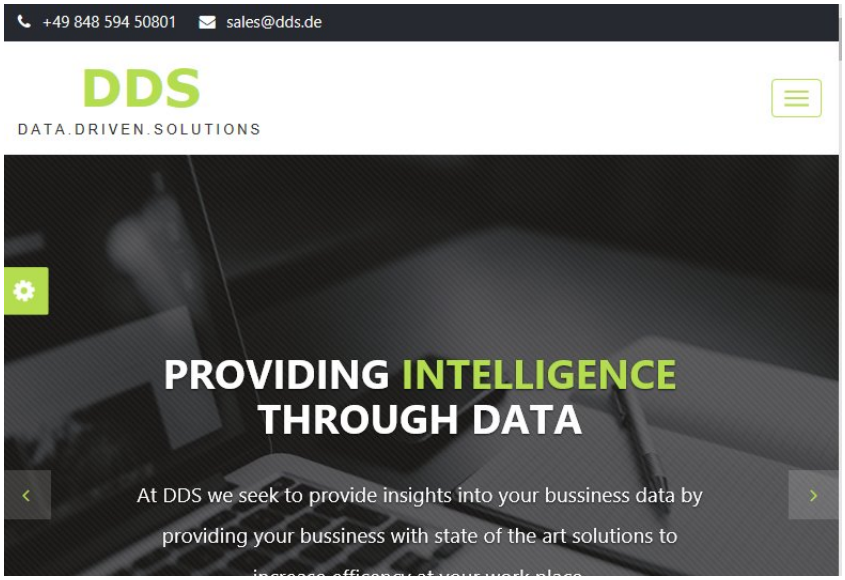


Figure 16: The figure is a screenshot of how the site appears on a mobile screen.

5 Yandex and Google Analytics Comparison

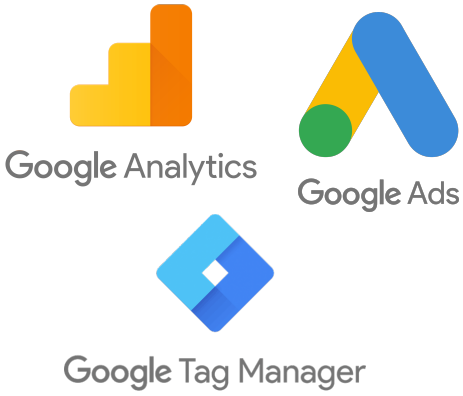
For our project, as we have explained earlier, we have developed our own website which is Data Driven Service platform. Then we used web analytics tools that can help us improve our website when it comes to business purposes. In this section we are briefly comparing two web analytical tools. The tools are google analytics which is offered by Google and yandex metrica offered by Yandex. Why do we do this? In order to gain valuable insights that can help us to shape the success strategy of our website.

Yandex Metrica is not only easier to use than Google Analytics but it's more intuitive,traffic and user behaviour, pleasant to navigate, user-friendly and has more information in regards to search terms. Yandex Metrica is much better than Google Analytics as it has functionalities that google analytics doesnt have such as heatmaps and live recordings of user sessions. After using both we have seen that though google analytics helped us in web analytics analysis as one of chosen web analytics tool, the business intelligence through data that we will need is provided using Yandex Metrica. These data help us to be able to do live recordings of user session and heat maps of the data in order to get the strategy to predict outcomes based on the business data and also using the maps function which shows us heatmaps on where users click the most on our website. The heatmap feature displayed to be the most important feature, since it provided us with a visualization that helps us to understand where visitors are going and what we can modify to improve on our site.

6 Google Analytics Features

In this section, two features for GA are briefly introduced namely Enhanced Ecommerce and Goolge Ads. Both features provide further means of tracking and collecting data on a websites performance and its customer behavior.

6.1 Enhanced Ecommerce



Enhanced Ecommerce is a feature in Google Analytics which enables further collection of data with the main focus of measuring product and sales performance. This feature is implemented using Google Tag Manager (GTM). It is a powerful tag management system that uses page tagging on the website to collect and send data to Google Analytics (GA) for more analysis [14]. The Enhanced Ecommerce option under GA setting needs to be enabled before usage. In order to send data to GA, Google provides two options namely [15]:

- using the Data Layer
- using a Custom Javascript Macro

In general, tagging using the Data Layer is recommended due its simple implementation. A data layer is a simple array which holds the data with a specified tag (word) to differentiate and group data into the respected categories.

Enhanced Ecommerce offers the following measurements [15]:

- Product Impressions
- Product Clicks
- Product Detail Impressions
- Add / Remove from Cart
- Promotion Impressions
- Promotion Clicks
- Checkout
- Purchases
- Refunds

Additional to the measurements above, custom variables which are not available in Enhanced Ecommerce can be tracked and send to GA (e.g type of user). Besides tracking, GTM is capable of inserting code fragments through tags on the website without changing the initial source code.

In case of our website, the best enhanced measurement to track would be Checkout, Purchases, Product Impressions. If our website was fully implemented (e.g without missing purchase page, missing detail page on each package) then all of the above measurement would be important to track with the exception of Add / Remove from Cart; our website is not an ecommerce.

6.2 Google Ads

In order to attract more customers and track further data on customer behavior, Google provides an online advertising platform service called Google Ads. It uses keywords defined by advertisers to place the ads on pages. Advertisers are charged when their ads lead users to divert into their website; this is known as Cost-Per-Click (CPC). However, Google Ads uses an auction system to determine which ads to display for a certain search of keywords on Google [16]. The auction takes three main factors into consideration namely:

- Advertisers Bid: maximum amount you're willing to pay for a click on your ad
- Ad quality: is a score from 1-10 and includes expected clickthrough rate, ad relevance and landing page experience
- Expected impact from advertisers ad: estimates ad performance by checking extensions (additional information e.g phone number) and other ad formats

The Google Ads platform provides an extensive amount of information for the advertisers to squeeze maximum performance from the ads. One of the information is the keyword performance, ads performance (clicks, conversions, spent).

7 Conclusion

In conclusion the A/B testing has helped us identify the best version of our website. It provided a four step guideline with the objective of not only picking the right website version but also improving the website performance. With the first step of analyzing data we were able to understand our customer base in terms of the way of interaction (behavior) and type. Through this analyzes it was simple to form strong hypothesis and to well construct an experiment. Additionally to A/B testing, we can conclude that Google Analytics displays to be a powerful as well as flexible tool by offering multiple means of collecting data of a website and providing a user friendly design.

8 Individual Pages

8.1 Berk Dikici

8.1.1 Lessons Learnt from Web analytics

In the Web Analytics course by Dr. Sergey Kosov, I have learned how a web analyst proceed and operates I have acquired the knowledge of the different existing analytical tools namely Goolge Analytics nad Yandex. Furthermore, I was able to grasp the techniques of how data is collected (e.g log file analysis and page tagging). This knowledge helped me in the procedure of understanding how the big analytical tools actually function.

Besides learning about how to collect data, I have learned what a KPIs are and their usage. The importance of KPIs was not missed and how to identify them was also clearly understood.

Furthermore, the course has given me a deep knowledge about A/B testing. The four steps that are needed to conduct it and analyze the final output and its purpose.

However, the most important aspect of the course that I appreciated was not only the theoretical but also the homeworks as well as the final project. These two hands on parts of the course has allowed me to apply the theoretical knowledge in real life. Doing so, it strengthened my understanding on topics such as A/B testing, identifying KPIs and my analytical skills.

What I take away from this course is the different means of analyzing data and the depth an analyst should go to fully understand insights and phenomenon (e.g understanding customer behavior). I learned how to operate an analytical tool (GA) and explored its features such as Google Tag Manager. I additionally, learned how to use GTM (Google Tag Manager) for further data collection through tagging and triggering. Lastly, I got to understand the importance of Web Analytics and the potential advantages it can bring for a person or a small or large enterprise.

8.1.2 Project contribution

My contribution for the project as followed. I was responsible for diving deeper into Google Analytics features and contributed to the A/B testing and on the improvements that need to be done.

- if highlighting service link with a different color then pageviews will increase because a different color for the navigation link will catch users attention and lure them to an interaction.
- if number of buttons that lead to features page is increased then it will increase the pageviews since there will exist more means of that guide them to features page for potential conversion.

For the improvements I analyzed the audiences demographic and suggested potential improvements that can be done.

8.2 Kevin Anum

8.2.1 Lessons Learnt from Web analytics

In this course I learnt the importance of web analytics when analyzing a website. This course gave be the opportunity to take numerous google analytic classes and helped me discover use web analytic tools such as Yandex. The course helped be understand the science of wed designing in that little this you take for granted such as the positioning of certain pictures, font style and color scheme you choose could all affect your conversion rate. Obtain this knowledge has helped be understand that different demographics have different behavioral patterns and in order to attract a specific target group you must adjust your website to suite that target group.

Another important lesson I learnt from this course is understanding the different terminologies in web analytics. This helped me analyses the I obtained from google analytics. For example, understanding what the bonce rate means or understanding what metrics and dimensions are.

Another important concept I learn from this course is how to construct KPIs. This is an important skill to have as KPIs are not just in Web analytics but also in other fields. I learn that in order to construct a good KPI, it must be Specific, Measurable, Achievable and Time-bound. Setting good KPIs are very important as they shape the direction in which your company goes so it is always important to evaluate your KPIs as frequent as possible.

For me, the takeaway message from Web analytics is understanding your audience and using every bit of information to help you gain more insights. This course has equipped me with tools such as A/B testing, analyses of scroll maps and click maps to better understand my audience. I have learnt to question every aspect of my data and not consider it to chance. For example, if there is a higher conversion rate in apple users (with a confidence interval of 95 %) I have to examine my site to see if the user experience on Safari could yield a better conversion rate.

8.2.2 Project contribution

In this project I was responsible in constructing the KPIs and goals that needed to be meet. I also contributed to the design of the A/b testing and suggested some improvement that may be needed to construct a third site.

For the A/B testing, came up with the following hypothesis:

- If price tag is removed, pageviews on confirmation page will increase, because try free demo is more inviting than the direct price for the others.
- If package section is reordered, then pageviews on confirmation will increase, because offered packages will be the first thing the users will see once they land on the features page

For the improvements I analyzed the flowing section:

- Scroll map
- Click map

8.3 Didier Iyamuremye

8.3.1 Lessons Learnt from Web analytics

As from the course Web analytics,we have learned that Web analytics, it is the process of analyzing the behavior of visitors to a Web site which can even do the report of web data for purposes of understanding and optimizing web usage.

Our group has developed a web site named Data Driven Softwarewhich is providing the intelligence through data with the ambition of using it for our web analytics purposes, through the course itself I have firstly acquired the knowledge that supported me to be able to get a general understanding of how to do web analytics,but me particularly, I have learned the following key points:

- I have learned how to add tags which can add analytics tracking in order to create additional site functionality by the purpose of doing google analytics.And I have understood very well how to distinguish some different google analytics tools needed in web analytics analysis such as google analytics and Yandex Metrica
- I have learned how to identify and design the Key Performance Indicators(KPIs) which defined as metric that actually helps us to understand how we are doing against our objectives by establishing goals, collect measures and even calculate metrics from measures.
- After doing the analysis of our website specifically using the web analytics tools, I got the knowledge that helped us to choose which tool is the best for our site referencing to the business target and functionalities we want to improve on our website.
- In order to monitor and track Web traffic, I have learned how to set up and configure a Web Analytics tool,I have learned how to use AB testing which is essentially an experiment whereby two or more variants of a page are shown to users at random and perform statistical analysis on it as well
- As i have registered from Google analytics academy as a beginner, though I haven't finished it yet to be able to get a certificate but so far i got the opportunity to put into practice the various theory concepts I learnt from web analytics course.

8.3.2 Project Contribution

Furthermore, during our group project, firstly we all have participated in building the website, I was responsible in comparing yandex metrica and google analytics with one another.

We have split the tasks in subdivision role, for AB testing hypothesis:

- if inactive buttons are identified and removed then the bounce rate will reduce because users will be hindered from interacting with unimportant features.

For the improvement:

- Device Usage

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