

Bachelor Thesis

Effect of different types of access devices on people's interaction with rich media blog articles

Author: Lena Baekler
University of Twente
P.O. Box 217, 7500AE Enschede
The Netherlands

ABSTRACT

The aim of this research is to identify how consumers interact with blog articles which are optimised for search engines, with the skyscraper technique. While this technique works in regards to Google rankings, it is not researched on how consumers perceive the technique. Furthermore the impact of different device types will be researched. In order to investigate this, data on such a skyscraper/rich media blog was collected. Google Analytics Data as well as Hotjar Data was analysed. Furthermore, a survey was done. This combination of methods is new. The survey was filled out by visitors of the webpage. A limitation to this research is the fact that the data is only collected on one blog article on one Dutch webpage. New about this research is the fact that a new and popular technique of writing good blog articles will be scientifically researched, as well as the research itself. It was found that this type of search engine optimization works for Google rankings, but the long articles are not fully read by users. One aspect of the rich media article is an infographic. It was found that this is not used, especially from smartphone users, but also from the other device types. Therefore the Google factors for rankings are not very user friendly and do not comply with what users actually use. Furthermore in the evening, more of the content is read.

Paper category: Research paper / Case study

First Supervisor: Sjoerd de Vries

Second Supervisor: Petra de Weerd-Nederhof

Keywords

Skyscraper, blog, device type, smartphone, tablet, desktop

Permission to make digital or hard copies of all or part of this work for personal or classroom use is granted without fee provided that copies are not made or distributed for profit or commercial advantage and that copies bear this notice and the full citation on the first page. To copy otherwise, or republish, to post on servers or to redistribute to lists, requires prior specific permission and/or a fee.

9th IBA Bachelor Thesis Conference, July 5th, 2017, Enschede, The Netherlands.
Copyright 2017 by Lena Baekler

1. PROBLEM ANALYSIS

1.1 Background on rationale

In recent times there was a development towards an increase in blogs. In 2014 60% American Internet users read blogs (eMarketer, 2010). EMarketer states that in mainstream media, blogs will continue to gain importance. Forbes put Neil Patel on the second place in their list of important Marketing Influencers in 2017 (Schroeder, 2016). He has a blog about online marketing. Patel describes on his blog how he manages to generate traffic on his site. This also includes an article about the length of content (Patel, 2017). Here he says that the length of blog articles has influence on the Google rankings. The longer, the better. He cites Brian Dean who implemented a blog writing technique which is called skyscraper technique. Here, all the information available in the internet should be combined with own, new information in order to make the most informative and best blog article which is findable. Therefore the articles are very long. Furthermore, this technique helps with link building. When using the information of other webpages, one can link to the other webpage and ask the owners to link to one's own webpage (Dean, 2016a). Link building is an important part of online marketing as links also increase the page ranks in Google. And a high rank in Google is important in order to be findable for customers. According to Lee (2013) the first position in Google gives a webpage 33% of the whole traffic. Of course, there are a lot of different techniques which should help increase Google rankings. But this one is the most popular one at the moment. Also, it is interesting as the length of the articles increases a lot. Therefore the skyscraper technique has implications on usability and customer friendliness and questions are coming up if customers are willing to read those articles.

Of all online experiences, 93% start with searching in a search engine (Abramovich, G. 2016). Google has a market share of 70-90% in the search engine market with more than 3.5 billion searches per day (Google Search Statistics n.d). Therefore one can say that Google is a very important part of doing business online. If a company wants to be findable online, the company has to be findable in Google. Google has around 200 factors which determines the ranking of a webpage (Dean, 2016b). There is a correlation between the length of the content and the ranking in Google (Espiritu, 2012) and according to Dean (2016c) he managed to increase his traffic to the site only by applying the skyscraper technique.

Companies operating online do need to worry about online marketing. Depending on the type of company, this also involves content marketing. Content Marketing can be defined as follows: '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.' (Anonymous, 2016). As defined by eMarketer (2014b) the most important content marketing objective is to increase the number of leads generated. This means that due to content marketing, the company should get the data of more qualified interested customers. This data then can be used for remarketing and analytical practices.

The next important objective is to increase the brand and product awareness. Brand awareness is an important factor regarding consumer trust and loyalty. As described by Sastika et al (2016) those factors have an influence, but also the quality of the website. The quality is directly linked with the content which is provided. Without good content, a website cannot have high quality.

The Skyscraper Technique is working in regards to Google rankings, which helps a company to be findable in the internet. With this technique the content of a webpage can be extended what can be part of a content marketing strategy. It was not researched how users actually perceive Skyscraper Blog articles. Does this technique only works in regards to Google Rankings, or do users like the type of content? The term Skyscraper technique describes only the technique itself. In this study, because of the writing style and the fact that a video and an infographic is included, the blog article will be called 'rich media' blog article. This leads to the first part of the research question:

People interaction with rich media blog articles

In the marketing world, mobile devices become increasingly important. eMarketer (2014a) expects that one-third of consumers will use a smartphone in 2018. The topic mobile marketing is one of the research priorities of the Marketing Science Institute (2016). The money spend on mobile advertising grows constantly. In 2016 more than half of the money spend on digital advertising is for mobile advertising (eMarketer, 2015a). According to eMarketer (2016) every third out of four internet users is accessing the internet through a mobile device, such as smartphone or tablet. Mobile becomes increasingly important in marketing as it is now possible to access the internet from a bigger variety of places than in the past.

As exemplified, content is an important influencer in a modern marketing world. Next to that industry is shifting from large devices such as desktop PC's to smaller and less heavier devices. Smart devices such as tablets or smartphones becoming more popular among users. This leads to questions concerning the implications those devices have on consumer behaviour. Currently there is a gap in knowledge regarding the consumption behaviour of content by users on different devices. Consumption means how users interact with the content when visiting the webpage. The gap comes from the combination of new device types and mobile internet and with the shift in content marketing strategy that leads to longer and media rich articles. Therefore the implications different devices have on media consumption need to be researched. This leads to the second part of the research question:

What is the effect of using different types of access devices

This research can help the company to understand their customers more. Kim and Hong (2010) found out that this is crucial in order to have a good relationship with the users of the webpage.

In the following thesis the presented research problems will be analysed. In order to do so, first the research objective including the research question and sub-questions will be shown. Afterwards, already existing theories, findings and models regarding the issue will be explained. Then the methodology is explained. This includes the research design, the data collection and limitations. Afterwards the data collected will be analysed. In the end a conclusion can be drawn, recommendations can be given and a discussion.

1.2 Research objective

The term 'rich media' blog articles are articles which incorporate a few different media types into one article. There is a lot of text in the article, a video and pictures or infographics. Therefore one can also call those blog articles long read. 'Different devices' can be defined as follows: Smartphones, tablets and desktop devices.

With the background from the last paragraph, one can now define a research objective. There is a gap in knowledge regarding the difference between customers coming from different devices and how they interact with the content provided. Therefore the following research question can be formulated:

What is the effect of using different types of access devices (smartphone, desktop, tablet) on people's interaction with rich media blog posts?

In order to specify the research question, one now formulates sub-questions which help define the research question more in detail.

Sub-Question 1:

Is there a difference in device preference when reading blog articles?

Sub-Question 2:

Do people who read blogs from smartphones read less of the content than people coming from a desktop or tablet?

Sub-Question 3:

Does the timing of access affect the consumption of blog content?

Sub-Question 4:

Do people use the rich media parts offered (video and infographic)?

The sub-questions will help answer the main research question, because they define the variables more in detail. The first sub-question is there in order to see generally which device type is used by the people reading blog articles. Here, also the age of the visitors will be checked as it is a variable which influences the choice of device type. The term 'people's interaction' is very crucial and general. Therefore the sub-questions all focus on the different device types and then a variable which defines 'people's interaction' more. These variables are: Amount of content read, timing of access and use of rich media parts. Especially the first and third variable are in connection with the skyscraper technique, as these are characteristics of this technique. Therefore the relation between the sub-questions and the main research question is the following: the sub-questions define terms of the research question in more detail.

The answer to this question can help companies develop content which is more suitable for the different devices. The research can scientifically prove if and why the trend towards long and rich media content is successful and how it is perceived by customers. Next to that it provides grounds for future research on how the device type is influencing consumption behaviour of written media as well as general consumer behaviour caused by device type. But there are also limitations of the study, especially because it is only researched on one blog article, on one webpage. But the research can define trends and show up future research problems, as well as grounds for future methodology.

2. LITERATURE REVIEW / THEORETICAL FRAMEWORK

2.1 Theoretical Frameworks

In this part of the thesis, the already existing theories, models and frameworks will be explained. This helps determine what is already known and which theories can help with answering the research question. In this first part, the theoretical frameworks will be presented. Afterwards, theory which is already related to the different sub-questions are explained. In order to do so the Sub-Questions will be translated into hypotheses which are easier to analyse.

It was found that generally seen, there is no difference between factors influencing web behaviour of people and factors which influence real life behaviour (Cheung et al, 2003). This means that findings from different research settings such as real life observation can be applied to this case as well.

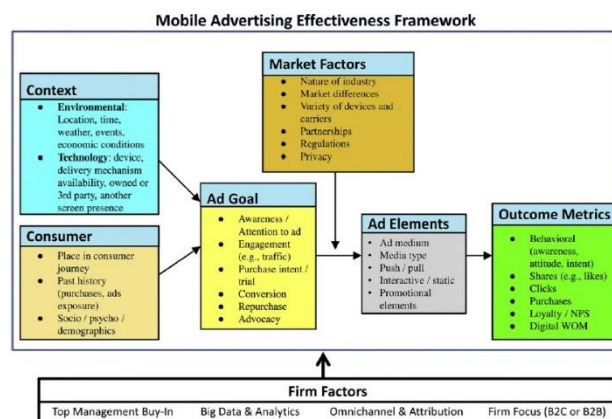


Fig. 1: Mobile advertising effectiveness framework, Grewal et al

In the paper from Grewal et al (2016) a mobile advertising framework is developed (figure 1). This framework highlights that mobile advertising is very complex and the effectiveness of the advertising depends on a lot of different factors. Furthermore it highlights that context is important and plays a central role in determining the effectiveness of mobile advertising. This framework is very well adapted and shows the complexity. It can be used for this research as a guidance on which factors influence customers. It can be translated into a conceptual framework for this research. The factors described in the 'Context' of the framework, can be checked with the Google Analytics data. It is, due to technical limitations, not possible to consider all of the factors. But the time will be checked in sub-question 3, the device is in sub-question 1. Some parts of the 'Consumer' part can be checked using the survey. The demographics are asked in the survey and will be included in sub-question 1. The Ad Goal can be transmitted into the goals which one wants to achieve with the blog article. These are described in the introduction. The market factors also play a role in this study, but cannot be measured. The ad elements can be translated for this study into blog characteristics. These are part of sub-question 2 and 4. In the end, the 'outcome metrics' can be described as a successful blog article, where customers like it.

2.2 Additional factors influencing customer behavior

Here, additional factors which influence people's behaviour in the online environment, are presented. These factors cannot be researched due to the limitations of this study. This part describes some of the market factors from the framework.

Andrews et al (2015) found that the surrounding of a person highly influences the purchasing behaviour of that person. In this study, the example of people on crowded trains is given. Here people are more likely to purchase a product than people on empty trains. This research gives the idea that the surrounding of a customer also effects on how people interact with content and the way content is consumed by users.

Moreover the usability of the web page is an important factor. This was researched by Constantinides and Geurts (2005) in regards to purchasing behaviour.

Another important factor which influences how customers behave, is the stage before they see the content. It was found that privacy issues are a factor which negatively influence how customers see the brand. This research applies when one looks at traffic which comes from paid sources (Tsai et al, 2011). This effect also happens when advertising is very bothersome and ads appear very often. Customers perceive a brand negatively and do not click on the ad (Aguirre et al, 2015). Here one can see that one needs to be careful with marketing efforts and how much and often it can be advertised.

2.3 Hypothesis 1

The smartphone is the preferred device to read blog articles.

It was found that touch screens have an endowment effect. This means that people react better to advertisement when using a touch screen (Brasel and Gips, 2014). This endowment effect can also play a role in regards to how consumers perceive content.

The traffic source is an important factor when researching about the online environment. In former years, one was only able to reach the internet with a desktop pc. Until 2018 the number of tablet users will increase to 1.43 billion people (eMarketer, 2015b). The desktop pc will lose its importance which can be seen from the fact that the budget for desktop advertising reached its highest point in 2014 (McDermott, 2013) and will now decrease constantly.

For this hypothesis, also the age of the users plays a role in determining which device is the preferred one. Here, Tsai, Tseng and Chang (2017) found a difference on how people of different age groups (children, adults and elderly) interact with the touch screen of a smartphone coming in three different sizes. It was found that children and adults perform better in operating gestures on the smartphones.

2.4 Hypothesis 2

People reading articles from smartphones read less of the content than people coming from desktop or tablet.

Ghose, Goldfarb, and Han (2013), found that the smaller the screen, the higher the search costs as it requires more time to search there. Mobile devices have a lot of benefits because of their size, but at the same time, the size influences how people are searching there. One can see that the device type has a big influence on how customers behave in the internet. Another important factor which influences, if people read the content or skip after the first two sentences, is the fact that nowadays users have unlimited access to entertainment and information. Horrigan (2016) found out that a problem in the online world is that users do not keep their attention on one thing, but get distracted very fast. This is also a point which can influence how much of the content people read. Unfortunately in this study it is not possible to measure where the people go after reading the content, so what distracted them.

In a study from Liebe et al (2015) it was researched how long people spend filling out a survey depending on the device type they used. One finding from them was that smartphone users spend more time filling out a survey than people on a desktop pc or a tablet. This research is important when analysing the data of the survey.

This hypothesis can also be answered using click-maps. Depending on the traffic source, people might click on different parts of the website. When people click on a certain part, it means that there is a point of interest for the user (Kaur and Singh, 2015).

2.5 Hypothesis 3

In the evening people read more of the content than in the morning.

Presman, 2015 found out that customers who are reached by mail advertising between 8am and 1pm and between 5pm and 6pm are most likely to react on that mail. One can see from this that the time of the day is an important factor in how consumers react. Therefore this hypothesis covers the aspect of timing of access.

In two studies it was found out that external factors are very important for the way an ad is perceived by a customer. Here also the time of the day plays a role but also how crowded a place is (Baker, Fang and Luo, 2014; Andrews et al, 2015). The fact that the external environment plays an important role, was also researched by Molitor, Reichhard and Spann (2014). In their studies, they found out that the response rate for SMS coupons was dependent on place, weather, mobility of customers and time. In this study, only the time can be measured.

2.6 Hypothesis 4

People reading articles from smartphones do not use the rich media parts offered (video and infographic).

Interesting studies which would contribute to this hypothesis would be about the acceptance of videos on different device types or how the acceptance of video advertisement is on different device types. Unfortunately nothing was found in the existing literature. Therefore one assumes that there is a difference in the perception of videos and infographics when people come from different device types.

A model which helps understand this part of the research, is the technology acceptance model (TAM). This model describes two factors which are important for users in order to fully use a webpage. These factors are the perceived ease of use and the perceived usefulness (Davis, Bagozzi & Warshaw, 1989). Therefore one can say that the rich media parts of the blog article need to be easy to use and also useful for the users in order to be used.

Also for this hypothesis, the study from Ghose, Goldfarb and Han (2013) is from importance. The screen size could also influence, if customers use the rich media parts or not. The search costs are higher on a smartphone because it requires more time to search on such a small screen.

3. RESEARCH DESIGN / METHODOLOGICAL APPROACH

3.1 Overview

The research design, which will be used in order to analyse the question is an explorative field experiment on a Dutch webpage. One Blog Article which is written in the Skyscraper Technique will be analysed using Google Analytics and Hotjar. Here patterns will be analysed. After a few weeks of analysis, a small survey will be used in order to validate the findings and get some insights into the reasons lying behind some behaviour. Therefore the research will be conducted in a two-step approach. First the pattern analysis on the blog article with Google Analytics and Hotjar and then the survey. The survey is used in order to get more insights into the behaviour of the visitors and in order to validate some findings from the first step. This method is new and combines already existing data collection methods into one. The three different data collection points alone do not provide enough grounds to fully answer the research question. Therefore the three methods are combined. Furthermore, the demographics of the three methods will be compared, which ensures more

validity. This means that the number of users coming from the different device types will be compared. Therefore, Analytics, Hotjar and Survey data will be used in order to find patterns related to the research question and the sub-questions. The combined use of different methods allows observation of behaviour, discovery of underlying reasons for certain patterns as well as cross validation due to new use of methods.

3.2 Description of Webpage

The page provides content about a specific issue which includes e-books, blog articles and a comparison page for products of different retailers. Customers can search for example for 'food' and then see all the different products from online shops. The customer can see product details and then continue onto the page of the shop. Therefore the webpage is not selling products themselves. The web page is comparing over 50.000 products and has around 2.500 visitors a day as of February 2017. The pages are also optimised for mobile devices.

3.3 Design

The research will be conducted on the blog part of the webpage. Here, one rich media blog article will be used for the data gathering. This article is the first article which is written including a video about the issue and also a big infographic. It is written according to the skyscraper technique of Brian Dean. This means that all the information available on the issue was found and included in one big article. A video was produced which summarises the content and an infographic with all the important information was realised.

The article is also about an issue which can be described as evergreen content. Evergreen content can be defined as content which will always be relevant and interesting. The content can also help bring new people to the page as it stimulates with its not-outdating content, new people to also read other articles on the page (Patel, 2013). Therefore the article will not lose its relevance during the data collection period which influences the validity of the findings as no seasonal effects or bias is expected.

Also, one can define the blog article which is researched, as an informational blog article. People might read this article with the intention of purchasing a product afterwards. In the article, are processes described for which a product is needed. The product is then linked. According to the four stages in a purchasing process, this article is needed for users in the first two stages. The four stages are the following: need recognition, pre-purchase activities, purchase decision, post-purchase activities (Puccinelli et al, 2009).

3.4 Data Collection

The data collection will be done by installing heat maps on the page. With the tool Hotjar one can do that. Here one can see how far customers travel on the page and what they exactly do on the page. Also the clicking behaviour can be measured. Moreover one can see how far people scroll down in the page and which area of the page is most interesting for the customer. Here the page will be divided into 6 parts, based on Sub-Headings inside the article and the rich media parts. This gives insights in to what extent the content provided is interesting for the customer. This means that maybe with too much content the customers gets bored and stops reading and goes to another page.

With Google Analytics, one can measure similar patterns. Here the device from which consumers are coming, can be seen. Also

the age of the consumers and how long they are on the page can be measured.

With this data collection approach, a problem in normal observation is bypassed. The fact that people know they are observed, changes their behaviour (Dooley, 2001). In this case, people do not know they are observed. Ethical doubts about this research approach are ruled out because, by using the web page, customers directly agree with the use of cookies. This means that they agree that data about them is collected. The tools used do not differ from the tools used by the company regularly, thus the privacy policies do not need to be adapted. Therefore the data collection is with the agreement of the users, but they still do not know which data exactly will be measured and it is an unobtrusive research.

Data will be collected over a period of 6,5 weeks in order to rule out biasing the data by seasonal patterns or any other external events. One can assume that the population size generally is around 10.000 people per month of site visitors. When a confidence interval of 80% is applied together with a margin of error of 3%, then there needs to be a sample size of 436 people. Therefore the goal is to have around 80 visitors per week on the pages which ensures a reliable and valid outcome. This can be achieved as there are already more visitors on the web page at the moment.

3.4.1 Survey

There will also be a small survey send out, the questions can be found in the Appendix. The survey was designed during the time of data collection in Analytics and Hotjar. Therefore some patterns were already there and questions were designed in order to validate and explain these patterns. That also means that the questions were chosen according to the research question. Furthermore, the survey was send out together with another researcher, therefore not all the questions asked are related to this study. Due to technical limitations it is not possible to do a survey on the page directly. This also means that it is not possible to send out the survey to the exact same sample as in Analytics and Hotjar. As the survey will be send out to a newsletter email list from the company, and therefore to people who know the page, one can assume that the two samples belong to the same population. The type of survey will be a web-based self-completion survey. This means that the respondents will get an online link where they can fill out the questions. The webpage sends out a weekly newsletter to all the people who subscribed to it. The survey link was included in one of those newsletters. Also on the Facebook page of the webpage, the survey was promoted. This type of survey is not as obtrusive as the respondents only sit in front of their computer in order to fill it out. An interview for example is more obtrusive as respondents will feel more that they are observed. Advantages of this type of survey are that it is very cheap to do and quick. Respondents only need to invest around 10 minutes, depending on the amount of questions. As people tend to trust their own computer more than any interviewee, it is possible to ask sensitive questions. Due to the fact that everything is done with a computer, the human error rate is reduced. Some mistakes, like the interviewer writes down the answer of the respondent wrong, are eliminated. The limitations of this type of survey are that there is probably a low respondent rate. In order to get as much respondents as possible, a prize was drawn from the respondents. It is also not possible to ask difficult questions as one cannot explain them to the respondents. Furthermore it is difficult to ask open questions and follow up questions which are based on the answers of the respondents. Due to the fact that one does not meet the person

and sees the person while he/she is filling out the survey, one cannot check if the respondent understands the questions fully.

In order to rule out response bias, the survey will ask general questions about the website and for improvements of the page. And then the relevant questions about their consuming behaviour and the motivation behind it will be added as well. The questions will be based on patterns already discovered through the other data collection methods. Also, filter questions are used so that e.g. people who do not read blog articles, do not get those questions. This makes the survey results more reliable.

3.4.2 Sample Statistics

The total sample size of the data collected in Google Analytics is 433 unique page views. 30.6% of the customers were in the age of 25-34 years. 88.09% of the users were female.

Hotjar is a tool which creates heat maps based on a random sample of webpage visitors. Therefore there are only 197 users recorded. 48 users were recorded coming from a desktop pc. 32 users came from a tablet and 117 users from a smartphone.

The survey got a total responses of 395. Only the answers which were fully completed will be taken into account. Those were 300 people. Also there was one question asking if the people actually ever visited the webpage. Only the people who answered that with 'yes' will be taken into consideration. This means that there are 286 responses which are to be considered. 90.49% were woman. In this case the majority (29,37%) of the people were in the age of 45-54.

3.5 Limitations

With this research are also some limitations coming. A big problem is that the data is only collected on one blog article and only on one webpage. Thus one cannot draw a general conclusion about all consumers of rich media blog articles. The research would gain more validity and reliability when data from more webpages and on each webpage, different blog articles would be collected. A larger field study would provide more insights. Another limitation is the effect of returning visitors. In this study it is not possible to make a distinction between new visitors and returning visitors. Technically it is possible to measure this, but there are legal problems which do not make it possible. Customers would need to give their consent prior to the research in order to be able to measure this. The effect of returning/new customers is an issue which should be researched further. Furthermore it is not possible to do cross-device tracking. Therefore one is not able to determine whether people visited the page on the smartphone and then came back on their desktop pc.

This research cannot cover all the elements which would be interesting on such an article page. Suggested further research could be about the exact impact of a video and a graphic in a text. Also the behaviour of the people after reading the content could be issue of further research. Here the question comes up how the content has influence on the follow up behaviour of a customer.

4. DATA ANALYSIS

4.1 Hypothesis 1

The smartphone is the preferred device to read blog articles.

Regarding the device types used in order to visit the page, one can say that the desktop was the most used (Table 4). 48,73% of the total users visited the page with the desktop. After that are the

Gerätekategorie	Einzelne Seitenaufrufe	Durchschn. Zeit auf der Seite	Absprungrate
	433	00:05:57	73,41 %
desktop	211 (48,73 %)	00:06:07	58,55 %
mobile	161 (37,18 %)	00:05:47	85,82 %
tablet	61 (14,09 %)	00:05:12	83,02 %

Table 4: Device Type

smartphones. Only 14,09% of the visitors came from a tablet device. This data complies with the results from the survey. In the survey a question was asked with which device people prefer to read blog articles. This can be seen in Appendix Figure 4. Only 27,23% of the people ranked the tablet first. But more interesting is that 41,31% of the respondents said that the tablet is the device with which they do not want to read a blog article. Therefore one can say that the tablet is not the first choice when visiting the webpage. In the survey 47,44% of the people ranked the smartphone first and 41,28% said that the desktop is the first choice. This data is slightly different than the one from Google Analytics. But the trend is the same. Also the Hotjar data shows the same trend. Even though this data is not totally reliable, as it is only a sample from the total visitors. Only 32 tablet visitors were recorded. But 117 people came from smartphones. The desktop number differs from the survey and analytics data. Only 48 people in Hotjar came from a desktop device. This difference can be explained by the fact that Hotjar only takes a sample from the total visitors. Therefore one can say that desktop and mobile phone are the first choices and tablets are not considered a lot.

Another important factor which might influence the choice of device type is the age. In the Appendix, Table 1 the data is visible. Google Analytics measures the age of people with some algorithms. Therefore the data is not totally reliable in regards to the age. Still, one can draw conclusions from the data. An interesting point which is directly visible, is the fact that in all age groups except 55-64 no tablet was used. This value is probably not totally true, but it is for sure that there are few tablets used. Due to the fact that in the age groups 18-24 and 65+, no smartphone and no tablet was used, but the number for 'all users' is higher, the data is not reliable and therefore these two age groups will not be taken into account and the data will not be used. From the other age groups, one can see that in the age group 25-34, the desktop is the most frequently used device. In the age groups 35-44, 45-54 and 55-64 the smartphone is used more than the desktop device.

4.1.1 Survey Results

In the survey, a question was asked for which activity the people use a certain device type the most. The answer possibilities were: information search, compare service providers, compare products, read blogs, by products, watch videos, games, listen to music, social media or nothing from the above. It was possible to choose more than one option. These questions help determine general trends regarding the use of desktop, tablet and smartphone. It is clearly visible that smartphone users use the device mainly for social media and for the search for information (Figure 3). The percentages are a lot higher than from the other alternatives. Both percentages are above 70%. The other options are clearly behind those two. The next one would be 'buy products' with only 43,86%. Regarding blog articles, they can also be a source of information. Therefore a blog article is

Voor welke van onderstaande redenen zou je je mobiele telefoon gebruiken?

Answered: 285 Skipped: 1

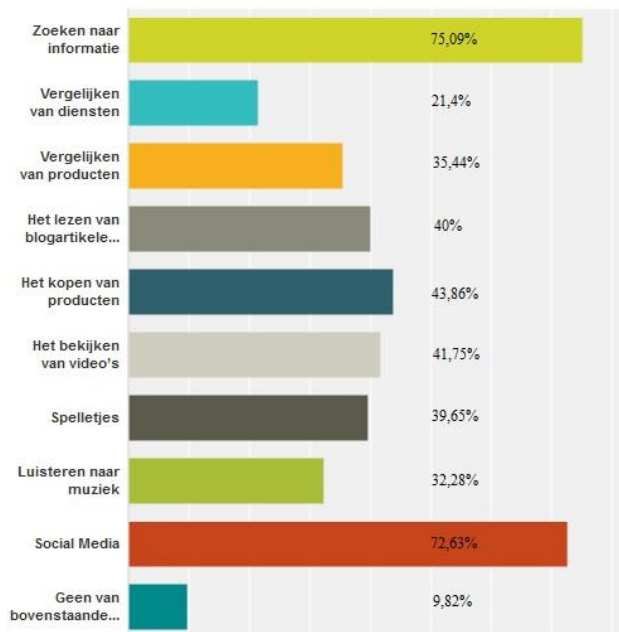


Fig. 3: Smartphone use

something which is interesting for smartphone users. But the point 'read blogs' is not so big, compared to social media and information search. Only 40% of the respondents say that they use their smartphone for that.

Regarding the use of tablets, no clear trend is identifiable. The data can be seen in the Appendix Figure 1. The biggest point is searching for information. 52,13% of the people use their tablet for that. The lowest number is the one from listening to music. But it also seems that the tablet is not so widespread as the smartphone because 45,04% of the respondents said that they do not use it for any of the activities. The tablet seems to be not a

Stel je voor dat je een blogartikel leest op een website. Welke van de volgende punten is volgens jou het meest storend?

Answered: 240 Skipped: 46

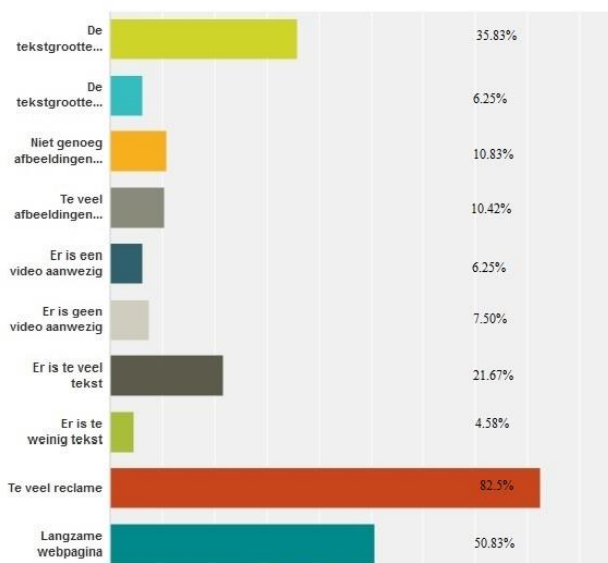


Fig. 2: Disturbance in a blog article

device type which is suitable for reading blog articles. Only 29.79% of the people use their tablet in order to read blog articles.

A desktop pc seems to be the device with which nearly everything is done. In Appendix Figure 2, the data is visible. All of the options reach percentages above 30%. The highest one is 75% for the information search. 41,55% of the desktop users use their device in order to read blog articles. This percentage is very low compared to the other options.

Another question regarding the device type was if devices with a bigger screen are more comfortable than with a smaller screen. In Appendix Figure 3, the whole data is available. Here the results are very clear. 70,07% of the people strongly agree and agree with that statement. The sizes of screens vary between 3.5 inches and 12.9 inches for the biggest tablet. Therefore it can be said that the screen size is an important factor influencing people's behavior.

4.1.2 Conclusion

When connecting these findings with the theoretical framework (Fig. 1), one can say that the 'Context' part and the 'Consumer' part of the framework, more detailed, the device type used and the age of users, plays an important role. There are clear patterns identifiable that, depending on the device type, different actions are preferred. Furthermore, the trends are the same from all the data sources, which ensures reliability and validity.

Therefore one can conclude that in general, blog articles are not the first choice of the people when using their devices. When comparing the percentages within the device type, one can see that probably the smartphone and the desktop are the device types on which blog articles are used the most. Tablets are not used.

4.2 Hypothesis 2

People reading articles from smartphones read less of the content than people coming from desktop or tablet.

In Table 1 one can see how far the visitors scroll on the page. In order to make it better analysable, the blog page was divided into 6 segments, based on Sub-Headings and the video and infographic. It is directly noticeable that Smartphone users do not come far in the article. There is a significant difference. 16% more users reach the end of the infographic from a desktop device than from a smartphone.

	Desktop	Tablet	Smartphone
Video	77,1%	87,5%	72,4%
Heading 1	64,6%	56,3%	44%
Heading 2	52,1%	53,1%	36,2%
Heading 3	41,7%	50%	28,4%
Infographic	33,3%	37,5%	14,7%
End of Infographic	22,9%	21,9%	6,9%

Table 1: Scroll Percentages

Also in the click map one can see that the lower parts of the article are not used a lot. From desktop users, only one click was recorded on the infographic, out of 32 clicks totally recorded. In table 2 the Clicks recorded are listed. The number of clicks until the video is there is e.g. 12 for desktop users. The number of clicks or tabs is decreasing for each device type. Smartphone

users did not tab at all at the very end of the article. In Google Analytics, one is able to see that smartphone users and tablet users spend less time on the page. Desktop users spend on average 6 minutes on the page, tablet users 5:12 minutes and smartphone users 5:47 minutes. These numbers all show a strong trend: smartphone users do not travel far on the webpage.

	Desktop	Tablet	Smartphone
Video	12	7	24
Heading 1	0	2	3
Heading 2	4	3	8
Heading 3	5	6	6
Infographic	6	3	7
End of Infographic	5	0	0
Total	32	21	48

Table 2: Clicks / Tabs

4.2.1 Survey Results

According to Nelson (2012) the average adult reads around 300 words per minute. The blog article which is researched about has 3631 words, which means that an average adult needs 12:1 minutes in order to read the article. This time does not include

Hour	Unique page visits	Time on page	Entrance	Bounce Rate	Exits
23	19	0:03:09	17	82,35 %	80,95 %
22	24	0:06:08	18	77,78 %	81,48 %
21	26	0:06:46	23	73,91 %	76,67 %
20	19	0:07:20	17	82,35 %	81,82 %
19	15	0:07:55	13	84,62 %	82,35 %
18	15	0:11:48	12	83,33 %	76,47 %
17	21	0:03:40	16	75,00 %	75,00 %
16	27	0:04:35	20	55,00 %	53,12 %
15	33	0:04:40	20	65,00 %	52,38 %
14	34	0:05:52	29	75,86 %	70,00 %
13	24	0:03:12	19	57,89 %	60,71 %
12	28	0:03:50	21	80,95 %	64,52 %
11	22	0:06:18	18	66,67 %	61,29 %
10	32	0:08:07	27	74,07 %	64,10 %
9	30	0:08:50	19	63,16 %	43,59 %
8	28	0:06:20	25	68,00 %	65,52 %
7	9	0:03:59	7	85,71 %	66,67 %
6	6	0:01:43	6	83,33 %	85,71 %
5	2	0:00:00	2	100,00 %	100,00 %
3	2	0:00:00	1	100,00 %	100,00 %
2	2	0:00:00	2	100,00 %	100,00 %
1	2	0:05:09	1	100,00 %	50,00 %
0	13	0:03:56	13	76,92 %	80,00 %
	433	0:05:57	346	73,41 %	66,93 %

Table 3: Time of the Day

the time spend for watching the video or looking at the infographic. In the survey, the question was asked what the maximum time is the person wants to spend on reading a blog article. The majority (33,68%) of the people would only spend 5-6 minutes for one article. 23.86% would spend 8-10 minutes and 25.26% would spend 3-4 minutes. This means that the blog article is too long for the customers in order for them to finish reading it.

Another question was about the disturbing points when reading a blog article. This question can be seen in Figure 2. It is very interesting that 21.67% of the people thought that there is too much text in a blog article. About the video, the people do not

really have an opinion. That means that the users do not need to have a video, but are also not really disturbed by one.

4.2.2 Conclusion

Even though it was found that people coming from smartphones do read less of the content compared to people coming from desktop or tablet, it seems that the smartphone is the device type with which blog articles are most frequently read. This can be seen from the survey question where it was asked with which device type the users prefer to read blog articles. 46.67% of the people ranked the smartphone as their priority. According to the skyscraper technique there is a big amount of content. This helps with SEO, but it is not customer friendly. One question which should be researched further is in regards to cross-device tracking. It might be an option that customers come back with another device and continue reading the article.

Regarding the framework, one can say that the blog characteristic are an important part of how the people interact with the content. Here the length of the article was researched about. And the length is crucial whether or not consumers read the whole article or not.

4.3 Hypothesis 3

In the evening people read more of the content than in the morning.

In table 3 one can see the Google Analytics Data related to this issue. From 6pm onwards, the average time on the page is a lot higher than beforehand. Between 6pm and 10pm the time spend on the page is always above 6 minutes. Between 12pm and 5pm, the time varies between 3 minutes and 5 minutes. The time between 8am and 11am is a little higher again. It varies between 6 minutes and 9 minutes. Before 8am, nothing is really happening. Only at 1am in the night a strange value comes up. During the night some outliers were observed. These will not be considered as regular visitors. The regular visiting time for the webpage is between 7am and 11pm.

The time spend on the page is a variable which shows how much content the people read. As described before, an average adult reads 300 words per minute. At 7pm for example, the time spend on the page is 7:55 minutes. Therefore at 7pm, the average person read 2370 words. During the early afternoon, so for example at 3pm, the average person read 1410 words. And at 9am, it is 2655 words. The most words were read at 6pm with around 3540 words. The article has 3631 words. These are only estimates based on averages, but it is clearly noticeable that people are reading more of the content in the evening. Of course, with this data there is not distinction possible between the people who spend the time in order to watch the video and the people who actually read the content. But it is definitely recognisable that there is a trend towards reading more content in the evening.

As Hotjar measures no demographic data, this tool could not be used to draw inferences about this question. In the future, tools that would allow this differentiation, could be useful in order to get more insights.

4.4 Hypothesis 4

People reading articles from smartphones do not use the rich media parts offered (video and infographic).

From table 1, one is able to see that people coming from a smartphone do not scroll down until the infographic. Only 6.9% of Smartphone visitors reach the end of the infographic. This is

significantly lower than the numbers from desktop and tablet users. A little over 20% of the desktop and tablet users reach the end of the infographic in the article. Also the number of users who reach the beginning of the infographic is higher for desktop and tablet users than for smartphone users. More than 30% of desktop and tablet users reach that point, while only around 15% of the smartphone users do so. Therefore one can say that smartphone users do not use the infographic.

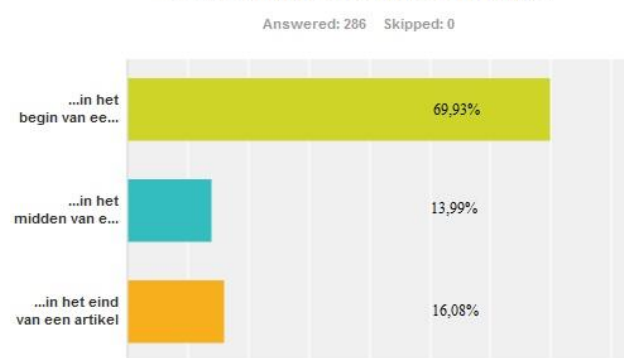
Also the click map shows that the infographic is not used by smartphone users. On top of the page is a table of contents where people can go directly to certain parts of the article and there was not a single click recorded on the shortcut to reach the infographic. But this was the same for desktop and tablet users.

It is different with the video. 14 clicks were recorded from smartphone users directly on the video itself. This means 25,45% of the total clicks from smartphone users were directly on the video. Desktop users clicked only 5 times on the video itself which is 12,82% of the total clicks from desktop users. Tablet users clicked 4 times on the video itself which is 13,33% of the total click recorded from tablet users. Therefore the video, which is on top of the page, is a lot more used than the infographic. This can be explained by the fact that the video is on top of the page and a lot more people actually see it. But it also seems that videos are more likely to be watched from smartphones than from desktop or tablets, as the percentage of clicks is a lot higher.

4.4.1 Survey Results

In the survey, the question was asked if a blog article with a video is perceived as interesting or not. Over half of the respondents (56,89%) have a neutral feeling about that. Only 22,97% agree to that. This shows that users do not have the need of a video inside blog articles. But if there is a video, it is also not perceived as negative.

Een samenvattende infographic (de inhoud van een artikel weergegeven in een afbeelding) is het meest nuttig...



Another question was, where a summarizing infographic should be located in an article. In figure 4 one can see the results. The results are very clear, as 69,93% of the people think that it should be in the beginning of an article. Only 30,07% of the people think it should be in the middle or at the end.

4.4.2 Conclusion

To conclude, one can say that the video is used by smartphone users. And it is even more used by them, than by desktop and tablet users. The infographic is not really useful at the moment. Nearly no people looked at it. And from the survey it was found out that the end of the article is not a good place to put it. The apparent reason to use an infographic comes from SEO efforts in

the first place. In fact those efforts lead to a better ranking in Google but does not affect the customer. Therefore with the current SEO techniques there is no extra value created for customers.

5. CONCLUSION

Generally saying, this research also shows that there are significant differences in the interaction of people with the content, depending on the device type they come from.

The first sub-question, Is there a difference in device preference when reading blog articles, can be answered clearly. There is a difference in device preference for certain device types. It was clearly identifiable that tablets are not used in order to read blog articles. Smartphone and desktop devices are the preferred choice in order to read blog articles.

Do people who read blogs from smartphones read less of the content than people coming from a desktop or tablet? This question can be answered very clearly as well. The data showed a clear trend that smartphone users do read less of the content. Still, the smartphone is the device type on which blog articles are most frequently read.

The time of the day also plays an important role for people reading blog articles. Does the timing of access affect the consumption of blog content? The answer to that question can also be seen in the Google Analytics data. In the evening people read more of the content. During the day the time spent on the webpage was lower.

The answer to the fourth and last sub-question was interesting. The video was mostly watched from smartphone devices. And the infographic was not used at all from all device types.

With the answers to the sub-questions, one is now able to answer the main research question.

What is the effect of using different types of access devices (smartphone, desktop, tablet) on people's interaction with rich media blog posts?

It is to mention, that the choice of device type has an influence on people's interaction. Depending on the device types, the variables which define 'people's interaction' where all differently pronounced. Clear patterns were identifiable in regards to the variables. It is to say, that variables which are the key characteristics of rich media blog articles, like the length of the article, the video and the infographic, are not used by most users. Especially smartphone users do not use them. In regards to the fact that smartphone users are the ones who prefer to read blog articles, the blog articles should be adapted to those users. In the following more recommendations will be outlined.

6. RECOMMENDATION

With this research, the blog articles of the company will become more user friendly than beforehand. The first recommendation is if there is an infographic, it should not be at the end of an article. Infographics are a lot of work and this work is not valued at the moment because the picture is at the very end of the article and nearly no one actually sees it. Infographics can only provide value if they are at the right point of the page. The survey results show that the infographic should be at the beginning of the article. In order to find the perfect place, there should be a testing phase where different places in the article are checked.

Furthermore, as one can see from everyday Google search results and from the success stories of marketing blogs, that the skyscraper technique works in regards to the Google rankings.

Google has more than 200 factors which determine the ranking of a page. And Google is updating them constantly. That's why people are not allowed to get lazy with updating their website in regards to Google in order to be findable. But this research also shows that the Google factors are not always user friendly. Google ranks blog articles higher which have 3000 words or more. In order to read 3000 words, an average adult needs 10 minutes. According to the findings of the survey, 10 minutes are too long for a blog article and people are not willing to spend this time for one article. Also the analytics data shows that 10 minutes are very long to spend on one article. At only one time during the day, the average time spend on the article was above 10 minutes. Moreover, the Hotjar data reveals the same. The lower parts of the article are barely visited by people. This is especially the case for smartphone users. Therefore one can say that the strategies in order to improve Google rankings, are not always very user friendly. The Google ranking factors, in this case the one giving higher rankings to longer articles, do not make sense in regards to customer friendliness.

Furthermore, a recommendation regarding content marketing efforts can be given. These efforts should be focused on the evening hours and the morning hours when people drive to work. During normal working hours, blog articles are not read.

When splitting this finding, it is to say that especially for the smartphone, articles above 3000 words are not useful. The hotjar data revealed that especially smartphone users do not reach the lower parts of the article. More than 10% less people with smartphone reach the end of the article than from tablet or desktop devices. Therefore companies aiming for smartphone users on their webpage should not consider writing such big articles. When desktop users are targeted, a long article might be used by the users. But still, it should not be too long.

7. DISCUSSION

This research helps identify some problems which come with the Google rankings. It was based on already existing theories about the usage of different device types and the perception of users from advertising. This research was focused on SEO with a special look for the skyscraper technique and how users interact with it. Due to this research, some new points need to be added to the existing theory. Already existing research was also mostly based on small scale problems. This research is only focused on another small point. Here only the device types in connection with one skyscraper blog article was researched about. One contribution of this research to the existing theory is, that videos are more frequently watched by smartphone users than by desktop or tablet users. This research strengthens some of the existing research. This is the case with the general finding, the device type makes a difference. But now, it adds other small findings to the existing theory. This is also about the length of content. In order to make good content for users, the length has to be taken into account a lot. The findings can be used for other research regarding media consumption in general.

With the data collected, other questions come up where further research is needed. First of all, further research about the usage of tablets is needed. Here it was found that tablets are not very frequently used in order to read blog articles. The question comes up, why this is the case. Is it because people just do not use a tablet in order to read blog articles, or is it because the tablet does not show the content properly?

Another interesting point would be, to repeat the research on a bigger scale. Then the findings would be more valid and reliable and could be generalised on blog articles in general. In this

research it was not possible to ensure total validity and reliability. This is due to the fact that it was on a small scale and with a new method of using different data gathering tools together. Still, everything was done in order to get usable results. As one can see from this research, this method does provide results. Therefore the combination of the three methods can be interesting for further research.

Furthermore it was not possible to do cross-device tracking. This would add more reliability to the research and probably more interesting findings. One thing which could come out of such a research, could be that people watch first the video on their smartphone and then purchase products described in there from their desktop device.

8. REFERENCES

1. Abramovich, G. (n.d.). 15 Mind-Blowing Stats About Search Engine Marketing. Retrieved May 14, 2017 from <http://www.cmo.com/articles/2014/7/25/mind-blowing-stats-search-marketing.html>
2. Aguirre, E.M., Mahr, D., Grewal, D., de Ruyter, K. and Wetzels, M. (2015). Unraveling the Personalization Paradox: The Effect of Information Collection and Trust-building Strategies on Online Advertisement Effectiveness. Retrieved April 12, 2017 from <http://www.sciencedirect.com/science/article/pii/S0022435914000669>
3. Andrews, M., Luo, X., Zheng, F., and Ghose, A. (2015). Mobile Ad Effectiveness: Hyper-contextual Targeting with Crowdedness, Marketing Science. Retrieved March 20, 2017 from [http://www.sciencedirect.com/science/refhub/S1094-9968\(16\)30003-2/rf0025](http://www.sciencedirect.com/science/refhub/S1094-9968(16)30003-2/rf0025)
4. Anonymous. (2016). What is Content Marketing?. Retrieved April 14, 2017 from <http://contentmarketinginstitute.com/what-is-content-marketing/>
5. Baker, B., Fang, Z., and Luo, X., (2014). Hour-by-hour Sales Impact of Mobile Advertising (Available at SSRN 2439396).
6. Brasel, A.S., Gips, J., (2014), "Tablets, Touchscreens, and Touchpads: How Varying Touch Interfaces Trigger Psychological Ownership and Endowment," *Journal of Consumer Psychology*, 24, 2, 226–33.
7. Cheung, C.M.K., Zhu, I., Kwong, T., Chan, G.W.W. and Limayem, M. (2003). Online Consumer Behaviour: A review and Agenda for Future Research. Retrieved April 3, 2017 from <http://aisel.aisnet.org/cgi/viewcontent.cgi?article=1112&context=ble2003>
8. Constantinides, E., Geurts, P. (2005). The Impact of Web Experience on Virtual Buying Behaviour: An Empirical Study. Retrieved April 4, 2017 from <http://realities.id.tue.nl/wp-content/uploads/2010/03/constantinides-geurts-20051.pdf>
9. Davis, F.D., Bagozzi, R.P., Warshaw, P.R. (1989). User acceptance of computer technology: A comparison of two theoretical models, *Management Science*. Retrieved June 11, 2017 from <http://pubsonline.informs.org/doi/abs/10.1287/mnsc.35.8.982>
10. Dean, B., (2016a). Link Building Case Study: How I Increased My Search Traffic by 110% in 14 Days. Retrieved April 13, 2017 from <http://backlinko.com/skyscraper-technique>
11. Dean, B., (2016b). Google's 200 Ranking Factors: The Complete List. Retrieved May 26, 2017 from <http://backlinko.com/google-ranking-factors>
12. Dean, B., (2016c). Link Building Case Study: How I Increased My Search Traffic by 110% in 14 Days. Retrieved May 29, 2017 from <http://backlinko.com/skyscraper-technique>
13. Dooley, D. (2001). *Social research methods* (4th ed.). Upper Saddle River, N.J.: Prentice Hall
14. eMarketer, (2010). The Continued Rise of Blogging. Retrieved April 1, 2017 from <https://www.emarketer.com/Article/Continued-Rise-of-Blogging/1007941>
15. eMarketer, (2014a). 2 Billion Consumers Worldwide to Get Smart(phones) by 2016. Retrieved April 14, 2017 from <https://www.emarketer.com/Article/2-Billion-Consumers-Worldwide-Smartphones-by-2016/1011694>
16. eMarketer, (2014b). Charting Content Marketing Trends. Retrieved April 11, 2017 from <https://www.emarketer.com/go/coverage/contentmarketingtrends>
17. eMarketer, (2015a). Mobile Ad Spend to Top \$100 Billion Worldwide in 2016, 51% of Digital Market. Retrieved April 12, 2017 from <https://www.emarketer.com/Article/Mobile-Ad-Spend-Top-100-Billion-Worldwide-2016-51-of-Digital-Market/1012299>
18. eMarketer, (2015b). Tablet Users to Surpass 1 Billion Worldwide in 2015. Retrieved June 9, 2017 from <https://www.emarketer.com/Article/Tablet-Users-Surpass-1-Billion-Worldwide-2015/1011806>
19. eMarketer, (2016). Worldwide Internet and Mobile Users: eMarketer's Updated Estimates and Forecast for 2015–2020. Retrieved April 14, 2017 from <https://www.emarketer.com/Report/Worldwide-Internet-Mobile-Users-eMarketers-Updated-Estimates-Forecast-20152020/2001897#moreReport>
20. Espiritu, K. (2012). How Important is Content Length? Why Data-Driven SEO Trumps Guru Opinions. Retrieved May 20, 2017 from <http://blog.serpiq.com/how-important-is-content-length-why-data-driven-seo-trumps-guru-opinions/>
21. Ghose, A., Goldfarb, A., Han, S.P. (2013). How is the Mobile Internet Different? Search Costs and Local Activities. Retrieved April 1, 2017 from <http://pubsonline.informs.org/doi/abs/10.1287/isre.1120.0453>
22. Google Search Statistics. (n.d.). Retrieved May 15, 2017 from <http://www.internetlivestats.com/google-search-statistics/>
23. Grewal, D., and Levy, M. (2016). *Marketing*, 5th ed. Burr Ridge, IL: McGraw-Hill/Irwin.

24. Horrigan, J. (2016). Pew Research Center, Information Overload. Retrieved June 11, 2017 from <http://www.pewinternet.org/2016/12/07/information-overload/>
25. Kaur, K., Singh, H. (2015). "Analysis of Website using Click Analytics", IJCSET, 5,
26. Kim, E., Hong, T. (2010). Segmentating Customers in Online Stores from Factors that Affect the Customer's Intention to Purchase
27. Lee, J. (2013). No. 1 Position in Google Gets 33% of Search Traffic [Study]. Retrieve June 29, 2017 from <https://searchenginewatch.com/sew/study/2276184/no-1-position-in-google-gets-33-of-search-traffic-study>
28. Marketing Science Institute. (2016). "Research Priorities 2016-2018." Cambridge, Mass.: Marketing Science Institute.
29. McDermott, J. (2013). Adage, Mobile Desktop is Cannibalizing Desktop Ad Budgets. Retrieved June 1, 2017 from <http://adage.com/article/digital/emarketer-desktop-pc-web-advertising-peak-2014/242030/>
30. Molitor, D., Reichhart, P., and Spann, M. (2014). Location-based Advertising: Measuring the Impact of Context-specific Factors on Consumers' Choice Behavior. Working Paper . Munich: LMU
31. Nelson, B. (2012). Do you read fast enough to be successful?. Retrieved June 12, 2017 from <https://www.forbes.com/sites/brettnelson/2012/06/04/do-you-read-fast-enough-to-be-successful/#24f0ca4f462e>
32. Patel, S. (2013). What is evergreen content and why should you care?. Retrieved April 13, 2017 from <https://www.searchenginejournal.com/what-is-evergreen-content-and-why-should-you-care/56811/>
33. Patel, N. (2017). Why 3000+ Word Blog Posts get more traffic (A data driven answer). Retrieved April 14, 2017 from <http://neilpatel.com/blog/why-you-need-to-create-evergreen-long-form-content-and-how-to-produce-it/>
34. Presman, J. (2015). Remarkety, What's the difference? Email Marketing Vs Email Remarketing. Retrieved April 12, 2017 from <https://www.remarkety.com/whats-the-difference-email-marketing-vs-email-remarketing>
35. Puccinelli, N., Goodstein, R.C., Grewal, D., Price, R., Raghubir, P., and Stewart, D. (2009). Customer Experience Management in Retailing: Understanding the Buying Process, Journal of Retailing. Retrieved June 11, 2017 from <http://www.sciencedirect.com/science/article/pii/S002435908000869>
36. Sastika, W., Suryawardani, B., Hanifa, FH. (2016). Analysis of Website Quality, Brand Awareness on Trust and its Impact on Customer Loyalty
37. Schroeder, J. (2016). 25 Marketing Influencers To Watch in 2017. Retrieved April 3, 2017 from <https://www.forbes.com/sites/juleschroeder/2016/11/29/25-marketing-influencers-to-watch-in-2017/#7439c3f3343d>
38. Tsai, Egelman, S., Cranor, L., and Acquisti, A. (2011). The Effect of Online Privacy Information on Purchasing Behavior: An Experimental Study. Retrieved April 4, 2017 from <http://pubsonline.informs.org/doi/abs/10.1287/isre.1090.0260>
39. Tsai, T-H., Tseng, K.C., Chang, Y-S. (2017). Testing the usability of smartphone surface gestures on different sizes of smartphones by different age groups of users. Retrieved June 28, 2017 from http://ac.els-cdn.com/S0747563217303254/1-s2.0-S0747563217303254-main.pdf?_tid=4a641af0-5bde-11e7-a2c6-00000aacb35d&acdnat=1498639774_b6f18207746e01bbc71fa9772fccb65e

9. APPENDIX

9.1 Survey Question

5%

1. Wat is je geslacht? 

☐ Man

☐ Vrouw

☐ Geen informatie

2. Wat is je leeftijd? 

☐ Jonger dan 25

☐ 25 - 34

☐ 35 - 44

☐ 45 - 54

☐ 55 - 64

☐ Ouder dan 65

Volg.

10%

3. Heb je de website van (name) wel eens bezocht? 

☐ Ja

☐ Nee

Vor.

Volg.

15%

4. Met welk apparaat bezoek je het liefste de website van (name) (1= gebruik ik het liefst; 3= gebruik ik het minst liefst) 

::

⌵

Mobiele telefoon

::

⌵

Tablet / iPad

::

⌵

Computer / Laptop

Vor.

Volg.

20%

5. Voor welke van onderstaande redenen zou je je mobiele telefoon gebruiken? 

☐ Zoeken naar informatie

☐ Vergelijken van diensten

☐ Vergelijken van producten

☐ Het lezen van blogartikelen (Een informatief artikel op een website)

☐ Het kopen van producten

☐ Het bekijken van video's

☐ Spelletjes

☐ Luisteren naar muziek

☐ Social Media

☐ Geen van bovenstaande redenen

Vor.

Volg.

6. Voor welke van onderstaande redenen zou je je tablet / iPad gebruiken? 


- ☐ Zoeken naar informatie
- ☐ Vergelijken van diensten
- ☐ Vergelijken van producten
- ☐ Het lezen van blogartikelen (Een informatief artikel op een website)
- ☐ Het kopen van producten
- ☐ Het bekijken van video's
- ☐ Spelletjes
- ☐ Luisteren naar muziek
- ☐ Social Media
- ☐ Geen van bovenstaande redenen

Vor. Volg.

7. Voor welke van onderstaande redenen zou je je computer / laptop gebruiken? 


- ☐ Zoeken naar informatie
- ☐ Vergelijken van diensten
- ☐ Vergelijken van producten
- ☐ Het lezen van blogartikelen (Een informatief artikel op een website)
- ☐ Het kopen van producten
- ☐ Het bekijken van video's
- ☐ Spelletjes
- ☐ Luisteren naar de muziek
- ☐ Social Media
- ☐ Geen van bovenstaande redenen

Vor. Volg.

8. Lees je wel eens blogartikelen? (Een informatief artikel op een website) 

- ☐ Ja
- ☐ Nee

Vor. Volg.

9. Het liefste lees ik blogartikelen (informatief artikel op een website) op: (1= gebruik ik het liefst; 3= gebruik ik het minst liefst) 

::

⌵

Mijn mobiele telefoon

::

⌵

Mijn tablet / iPad

::

⌵

Mijn computer / laptop

Vor. Volg.

10. Stel je voor dat je een blogartikel leest op een website. Welke van de volgende punten is volgens jou het meest storend? 🗣️

- ☐ De tekstgrootte is te klein
- ☐ De tekstgrootte is te groot
- ☐ Niet genoeg afbeeldingen / foto's
- ☐ Te veel afbeeldingen / foto's
- ☐ Er is een video aanwezig
- ☐ Er is geen video aanwezig
- ☐ Er is te veel tekst
- ☐ Er is te weinig tekst
- ☐ Te veel reclame
- ☐ Langzame webpagina

Vor. Volg.

50%

11. Koop je wel eens producten online? 🗣️

- ☐ Ja
- ☐ Nee

Vor. Volg.

55%

12. Tijdens het online shoppen gebruik ik het liefste: (1= gebruik ik het liefst; 3= gebruik ik het minst liefst)

::	⌵	Mijn mobiele telefoon
::	⌵	Mijn tablet / iPad
::	⌵	Mijn computer / laptop

Vor. Volg.

60%

13. Stel je voor dat je aan het surfen (internetten) bent en je een product ziet welke je graag zou willen kopen. Welke apparaten gebruik je bij het bestellen van je product het liefste? (1= gebruik ik het liefst; 3= gebruik ik het minst liefst) 🗣️

::	⌵	Mijn mobiele telefoon
::	⌵	Mijn tablet / iPad
::	⌵	Mijn computer / laptop

Vor. Volg.

65%

14. Stel je voor dat je aan het winkelen bent bij een webwinkel. Welke van de volgende kenmerken van de webpagina is volgens jou het meest storend? 🗣️

- ☐ Te kleine productafbeeldingen
- ☐ Te grote productafbeeldingen
- ☐ Te veel tekst op de webpagina
- ☐ Niet genoeg tekst op de webpagina
- ☐ Te lange productbeschrijvingen
- ☐ Te korte productbeschrijvingen
- ☐ Langzame webpagina
- ☐ De vooraf ingestelde sortering van de producten

Vor. Volg.

15. Wat is de maximale tijd die je zou besteden aan het lezen van een blogartikel? (Een informatief artikel op een website) 🗣️

- ☐ 1-2min
- ☐ 3-4min
- ☐ 5-6min
- ☐ 7-8min
- ☐ 8-10min
- ☐ Ik lees geen blogartikelen

Vor. Volg.

75%

16. Een goede productafbeelding is belangrijk voor het kopen van een product online? 🗣️

- ☐ Zeer eens
- ☐ Eens
- ☐ Neutraal
- ☐ Oneens
- ☐ Zeer oneens
- ☐ Geen Informatie

Vor. Volg.

80%

17. Blog artikelen (Een informatief artikel op een website) zouden (ook) een video moeten bevatten? 🗣️

- ☐ Zeer eens
- ☐ Eens
- ☐ Neutraal
- ☐ Oneens
- ☐ Zeer oneens
- ☐ Geen Informatie

Vor. Volg.

85%

18. Wanneer je aan het surfen bent op het internet, zijn apparaten met een groter scherm (tablet/computer) comfortabeler dan apparaten met een kleiner scherm (mobiele telefoon). 🗣️

- ☐ Zeer eens
- ☐ Eens
- ☐ Neutraal
- ☐ Oneens
- ☐ Zeer Oneens
- ☐ Geen Informatie

Vor. Volg.

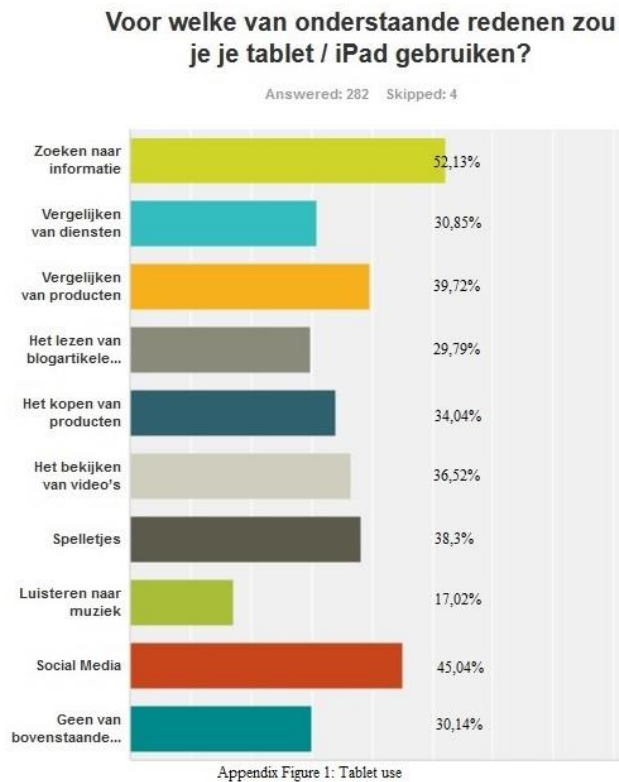
90%

19. Een samenvattende infographic (de inhoud van een artikel weergegeven in een afbeelding) is het meest nuttig... 🗣️

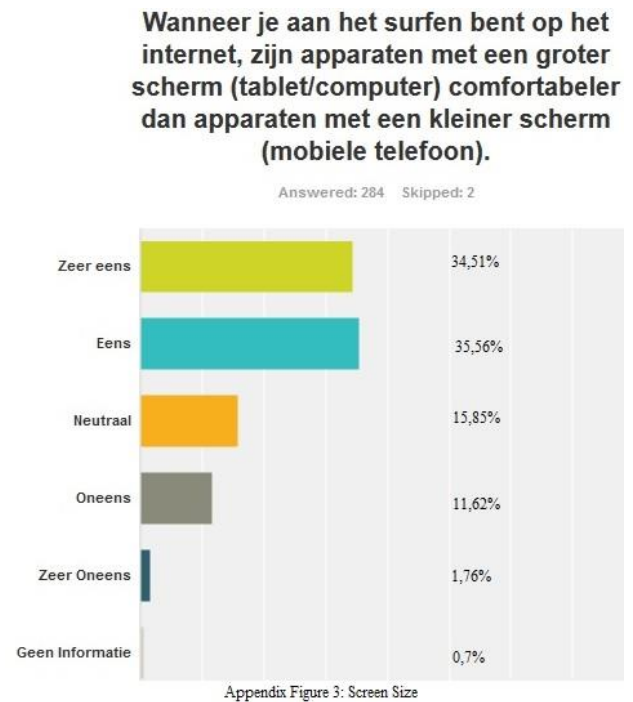
- ☐ ...in het begin van een artikel
- ☐ ...in het midden van een artikel
- ☐ ...in het eind van een artikel

Vor. Volg.

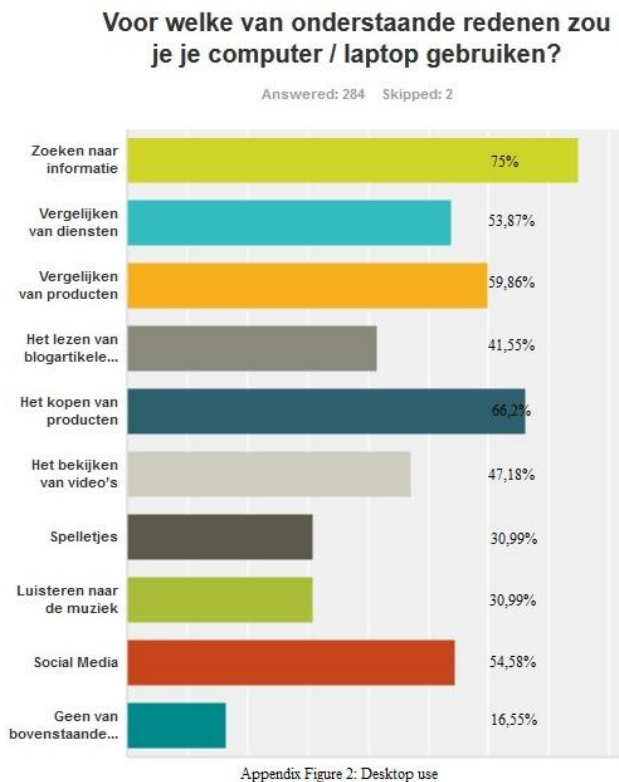
9.2 Appendix Figure 1: Tablet use



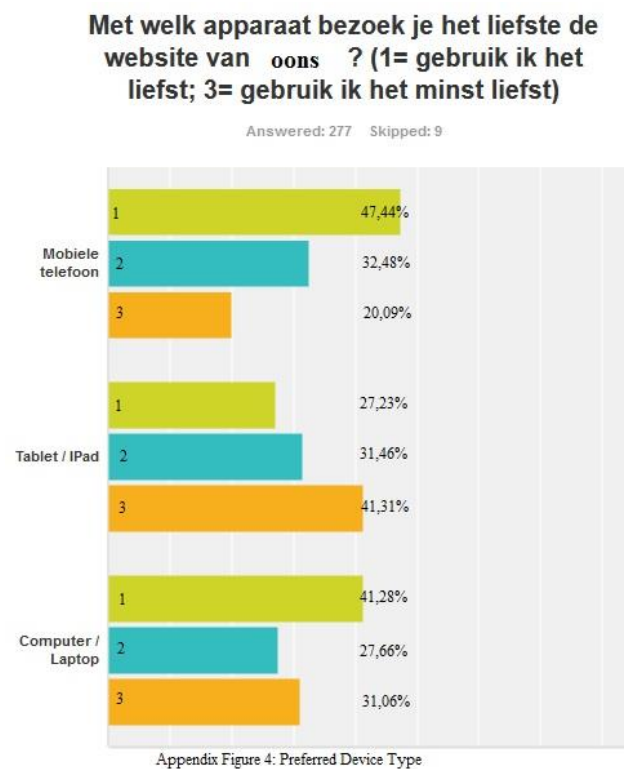
9.4 Appendix Figure 3: Screen Size



9.3 Appendix Figure 2: Desktop use



9.5 Appendix Figure 4: Preferred Device Type



9.6 Appendix Table 1: Age over Device Type

Alter		Seitenaufrufe	Einzelne Seitenaufrufe	Durchschn. Zeit auf der Seite	Absprungrate	% Ausstiege
Desktop		184	143	00:06:21	51,49 %	51,63 %
Mobile		111	102	00:04:51	85,06 %	82,88 %
Tablet		17	15	00:05:05	78,57 %	64,71 %
18-24	All users	51 (13,53 %)	40 (12,62 %)	00:02:18	52,17 %	49,02 %
	Desktop	44 (23,91 %)	34 (23,78 %)	00:02:20	41,18 %	43,18 %
	Mobile	0 (0,00 %)	0 (0,00 %)	00:00:00	0,00 %	0,00 %
	Tablet	0 (0,00 %)	0 (0,00 %)	00:00:00	0,00 %	0,00 %
25-34	All users	125 (33,16 %)	97 (30,60 %)	00:08:53	62,03 %	58,40 %
	Desktop	102 (55,43 %)	76 (53,15 %)	00:09:13	55,56 %	53,92 %
	Mobile	21 (18,92 %)	19 (18,63 %)	00:05:47	86,67 %	76,19 %
	Tablet	0 (0,00 %)	0 (0,00 %)	00:00:00	0,00 %	0,00 %
35-44	All users	51 (13,53 %)	47 (14,83 %)	00:04:01	75,00 %	74,51 %
	Desktop	17 (9,24 %)	14 (9,79 %)	00:03:07	45,45 %	58,82 %
	Mobile	27 (24,32 %)	26 (25,49 %)	00:03:30	90,91 %	85,19 %
	Tablet	0 (0,00 %)	0 (0,00 %)	00:00:00	0,00 %	0,00 %
45-54	All users	75 (19,89 %)	67 (21,14 %)	00:05:05	73,58 %	70,67 %
	Desktop	21 (11,41 %)	19 (13,29 %)	00:05:13	50,00 %	52,38 %
	Mobile	41 (36,94 %)	37 (36,27 %)	00:05:35	79,41 %	80,49 %
	Tablet	0 (0,00 %)	0 (0,00 %)	00:00:00	0,00 %	0,00 %
55-64	All users	56 (14,85 %)	50 (15,77 %)	00:05:30	83,33 %	76,79 %
	Desktop	0 (0,00 %)	0 (0,00 %)	00:00:00	0,00 %	0,00 %
	Mobile	22 (19,82 %)	20 (19,61 %)	00:02:20	87,50 %	90,91 %
	Tablet	17 (100,00 %)	15 (100,00 %)	00:05:05	78,57 %	64,71 %
65+	All users	19 (5,04 %)	16 (5,05 %)	00:01:46	85,71 %	68,42 %
	Desktop	0 (0,00 %)	0 (0,00 %)	00:00:00	0,00 %	0,00 %
	Mobile	0 (0,00 %)	0 (0,00 %)	00:00:00	0,00 %	0,00 %
	Tablet	0 (0,00 %)	0 (0,00 %)	00:00:00	0,00 %	0,00 %

Appendix Table 1: Age over Device Type